



**NATIONAL HIGHWAYS AUTHORITY OF INDIA
(MINISTRY OF ROAD TRANSPORT & HIGHWAYS, GOVT. OF INDIA)**

Request For Proposal

For

Laying of Underground Gas Pipeline in NH-716 of Tirupati – Tiruthani – Chennai Section along the Road from Km. 61/510 to Km. 81/540 (RHS) and Km. 107/600 to Km. 115/600 in the State of Andhra Pradesh and from Km. 45/500 to Km. 61/510 (RHS) in the State of Tamil Nadu.

**Regional Office, Chennai,
National Highways Authority of India,
CMRL Building, 5th Floor,
Poonamalle High Road, Koyambedu,
Chennai-600 107.**

Phone No: 044 - 2225 2635

E mail: rochennai@nhai.org.

JULY 2025

Tender No. NHAI/ROC/2025-26/ Gas Pipeline shifting/222

MASTERINDEX

(BIDDINGDOCUMENTNO.:)

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SECTION-I

INVITATIONFORBID

(IFB)

(E-TENDERING MODEONLY)

SECTION-I**"INVITATION FOR BID (IFB)"****(National Competitive Bidding through e-Tendering mode only)****NIT No: NHAI/ROC/2025-26/Gas Pipeline shifting/222****Date: 08.07.2025****To,****PROSPECTIVE BIDDERS****SUB: Tender Document for Laying and Associated Works For CNG Pipeline in Tirupati – Tiruthani – Chennai Section of NH-205****Dear Sir/Madam,**

1.0 National Highways Authority of India is engaged in the development of National Highways and as part of this endeavor, invites bids for the subject job, in complete accordance with the following details and enclosed Tender Documents.

2.0 The brief details of the tender are as under:

(A)	NAME OF JOB/BRIEF SCOPE OF WORK	Laying of Underground Gas Pipeline in NH-716 of Tirupati – Tiruthani – Chennai Section along the Road from Km. 61/510 to Km. 81/540 (RHS) and Km. 107/600 to Km. 115/600 in the State of Andhra Pradesh and from Km. 45/500 to Km. 61/510 (RHS) in the State of Tamil Nadu. Procurement, Fabrication, Construction including HDD, Installation, Testing, Pre-commissioning and Commissioning of 12” inch x 45 km (approx.) long Compressed Natural Gas Pipeline and associated works etc.					
(B)	TENDER NO. & DATE	NHAI/ROC/2025-26/Gas Pipeline shifting/222, 08.07.2025.					
(C)	TYPE OF BIDDING SYSTEM	<table><tr><td>SINGLE BID SYSTEM</td><td></td></tr><tr><td>TWO BID SYSTEM</td><td>✓</td></tr></table>		SINGLE BID SYSTEM		TWO BID SYSTEM	✓
SINGLE BID SYSTEM							
TWO BID SYSTEM	✓						
(D)	TYPE OF TENDER	<table><tr><td>E-TENDER</td><td>✓</td></tr><tr><td>MANUAL TENDER</td><td></td></tr></table>		E-TENDER	✓	MANUAL TENDER	
E-TENDER	✓						
MANUAL TENDER							

(E)	COMPLETIONPERIOD	6 months from the date of Appointed Date as below: ➤ 5 (Five) months from the date of issue of Appointed Date for Mechanical completion including mobilization period of 15 (Fifteen) days. ➤ Pre-commissioning and Commissioning 01 (One) month from Mechanical Completion	
(F)	AVAILABILITY OF TENDER DOCUMENT ON WEBSITE(S)	From 08.07.2025(17:00Hrs.,IST) to 07.08.2025 (17:00Hrs.,IST) on e-tender portal – https://etenders.gov.in	
(G)	BID EVALUATION CRITERIA (BEC)	APPLICABLE	✓
		NOT APPLICABLE	
(H)	DATE, TIME&VENUEOF PRE-BID MEETING	NA	
(I)	DUE DATE& TIME OF BID-SUBMISSION	07.08.2025 (17:00Hrs.,IST)	
(J)	DATE AND TIME OF UN-PRICED BID OPENING	08.08.2025 (17:00Hrs.,IST)	
(K)	CONTACT DETAILS OF ALTERNATE OFFICER	Name: Project Director, Chennai-II Email: piuchennai2@nhai.org Phone: 044 - 4782 4985	

		APPLICABLE	✓
		NOTAPPLICABLE	
(L)	EARNEST MONEY DEPOSIT (EMD) / BID SECURITY	EMD/Bid Security Amount: 183.23 lakhs Note: EMD exemption is not applicable to MSE Bidders. MSE Bidders must submit EMD in order to participate in this tender. (Refer clause no.16 of ITB)	
(M)	SITE VISIT	Bidders may visit site and thoroughly acquaint themselves of the site conditions as per following: Date: Time: Hrs. (IST) onwards Contact Person: 1. Sh. M. RAVINDRA RAO, Project Director, Mob: +91-81300 06110	
(N)	DEALING NHAI OFFICE ADDRESS	CMRL Building, 5th Floor, Poonamalle High Road, Koyambedu, Chennai – 600107, Tel: 044 - 2225 2635	

In case of the days specified above happens to be a holiday in NHAI, the next working day shall be implied.

- 3.0 Bids must be submitted strictly in accordance with Clause No. 11 of ITB (Section-III) depending upon Type of Tender [refer Clause no.2.0 (D) above]. The IFB is an integral and inseparable part of the Tender Document.
- 4.0 Bid must be submitted only on <https://etenders.gov.in>. Further, the following documents in addition to uploading the bid on e-tender portal shall also be submitted in Original (in physical form) within 7 (seven) days from the bid due date provided the scanned copies of the same have been uploaded in e-tender by the Bidder along with e-bid within the due date and time to the address mentioned in Bidding Data Sheet (BDS) [Annexure-IV to Section-III]:-
 - i) EMD/Bid Security
 - ii) Declaration for Bid Security(F-2A), if applicable
 - iii) Power of Attorney
 - iv) Integrity Pact
 - v) Line of Credit (if applicable)
 - vi) Affidavit/Undertaking of Self Certification regarding Domestic Value Addition in Iron & Steel Products.
- 5.0 Bidder(s) are advised to quote strictly as per terms and conditions of the tender documents and not to stipulate any deviations/exceptions.
- 6.0 Any Bidder, who meets the Bid Evaluation Criteria (BEC) and wishes to quote against this Tender Document, may download the complete Tender Document along with its amendment(s) if any from websites as mentioned at 2.0(F) of IFB and submit

the Bid complete in all respect as per terms & conditions of Tender Document on or before the Due Date & Time of Bid Submission.

- 7.0 Bid(s) received from Bidders to whom tender/information regarding this Tender Document has been issued as well as offers received from the Bidder(s) by downloading Tender Document from above mentioned website(s) shall be taken into consideration for evaluation & award provided that the Bidder is found responsive subject to provisions contained in Clause No. 2 of ITB (Section-III).
- 8.0 The Tender Document calls for offers on single point “Sole Bidder” responsibility basis (except where JV/Consortium bid is allowed pursuant to clause no. 3.0 of ITB) and in total compliance of Scope of Works as specified in Tender Document.
- 9.0 Any revision, clarification, corrigendum, time extension, etc. to this Tender Document will be hosted on the above-mentioned website(s) only. Bidders are requested to visit the website regularly to keep themselves updated. In case of manual tendering, Clarification(s)/Corrigendum(s), if any, shall be sent to the prospective Bidder(s) by email/post.
- 10.0 All Bidders including those who are not willing to submit their bid are required to submit F-6 (Acknowledgement cum Consent letter) duly filled within 7 days from date of receipt of tender information.
- 11.0 **The subject enquiry is issued on domestic basis. Hence, as per provisions of MII policy, only Class-I local supplier and Class-II local supplier (for definition, refer Policy provisions) shall be eligible to bid for this enquiry. However, Purchase Preference under (PP-MII policy) shall be applicable only to Class-I Local Supplier.**
- 12.0 SAP generated Request for Quotation (RFQ), if any shall also form an integral part of the Tender Document. Further, for all purpose the bid document no. shall be read as _____[TENDER-ID:]
Irrespective of any reference no. mentioned elsewhere in the tender document.
- 13.0 NHAI reserves the right to reject any or all the bids received at its discretion without assigning any reason whatsoever

This is not an Order.

For & on behalf of NHAI

Name :

Designation :

E-mail ID :

Contact No. :

DO NOT OPEN - THIS IS A QUOTATION

Tender Document No.:

[Tender ID:]

Description: LAYING AND ASSOCIATED WORKS FOR PART-A (TAMIL NADU & ANDHRA PRADESH SECTION) OF UNDERGROUND AG&P GAS PIPELINE PROJECT

Due Date & Time:

From:

To:

..... 	
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[To be pasted on the envelope containing Originals of Power of Attorney, Integrity Pact, EMD/ Declaration for Bid Security (as applicable), Affidavit/Undertaking of Self Certification regarding Domestic Value Addition in Iron & Steel Products, Line of Credit (if applicable); refer clause 4.0 of IFB.]

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SECTION-II

BID EVALUATION **CRITERIA & EVALUATION** **METHODOLOGY**

SECTION-II

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BANKRUPTCY CODE

BID EVALUATION CRITERIA & EVALUATION METHODOLOGY

A. Technical Criteria

- A.1 The bidder should have completed/executed the fabrication and installation of a natural gas metering and regulation system/skid for commercial and industrial connectivity for any city gas distribution project, with a minimum value as mentioned below in the last seven years, reckoned from the bid due date.

OR

Bidder must have successfully executed work(s) for laying of PE pipeline network for natural gas service, for any city gas distribution project, with a minimum value as mentioned below in the last seven years, reckoned from the bid due date.

OR

The Bidder must have successfully executed / completed carbon steel underground pipeline network/ above ground piping work of natural gas / hydrocarbon application for any city gas distribution project, with a minimum value as mentioned below in the last seven years, reckoned from the bid due date.

Experience of at least one completed (*) works with executed value not less than **Rs. 4,886.06 Lakhs.**

OR

Experience of at least Two completed (*) works with executed value of each work not less than **Rs. 3,053.79 Lakhs.**

OR

Experience of at least Three completed (*) works with executed value of each work not less than **Rs. 2,443.03 Lakhs.**

(*)

- (i) In case more than one contract is emanating against one tender, all such individual contracts are to be considered as a single contract for the evaluation of credentials of a bidder for meeting their experience criteria.
- (ii) Further in the case of a rate contract, the cumulative value of all release orders emanating from one rate contract shall be considered as a single contract for the evaluation of the credential of a bidder for meeting their experience criteria.
- (iii) In case the bidder is executing a rate contract of the above nature that is still running, and the contract executed value till one day prior to the due date of submission is equal to or more than the minimum prescribed value as mentioned above, such experience will also be taken into consideration provided that the bidder has submitted satisfactory work execution certificate to this effect issued by the end user/owner/authorized consultant.

Notes to Technical Criteria:

- (i) A Job executed by a Bidder for its own plant/project cannot be considered as experience for the purpose of meeting the BEC of the tender. However, jobs executed for subsidiary/Fellow subsidiary/Holding company will be considered as experience for the purpose of meeting BEC subject to submission of tax paid invoice(s) duly certified by Statutory Auditor of the Bidder towards payments of statutory tax in support of the job executed for subsidiary/Fellow subsidiary/Holding company. Such bidders are to submit these documents in addition to the documents specified to meet BEC.
- (ii) Execution certificate issued by the end user/owner/authorized consultant submitted by a bidder against work contracts can also be considered in place of a completion certificate for meeting the stipulated experience criteria provided that the certified work has been completed satisfactorily by the bidder and duly certified by the End User Owner/ Authorized Consultant.
- (iii) In case the bidder has an experience as a consortium member and such member has executed earlier a job within its scope as a member of the consortium, which is required as experience as per the qualification criteria in clause no. A.1 will be considered Documentary evidence as stipulated in the bidding document is to be submitted to establish such experience.
- (iv) Experience of bidder acquired as a sub-contractor can be accepted against submission of certificate from the end user (Owner) by such bidder along with other specified documents.
- (v) Only documents (Work Order, Completion certificate, Execution Certificate etc.) that have been referred/ specified in the bid shall be considered in reply to queries during the evaluation of Bids. After submission of bid, only related shortfall documents will be asked for in TQ/CQ and considered for evaluation. For example, if the bidder has submitted a contract without its completion certificate, the certificate will be asked for and considered. However, no new reference/PO/WO/LOA is to be submitted by bidder in response to TQ/CQ so as to qualify and such documents will not be considered by GAIL for evaluation of Bid.
- (vi) **Eligibility criteria incase bid is submitted on the basis of technical experience of FOREIGN BASED ANOTHER COMPANY (SUPPORTING COMPANY) which holds more than fifty percent of the paid up share capital of the bidder company or vice versa:**

Offers of those bidders (not under consortium arrangement) who themselves do not meet the technical experience criteria as stipulated in the BEC and are quoting based on the experience of Foreign based another company (Supporting Company) can also be considered. In such case the supporting company should hold more than fifty percent of the paid up share capital of the bidding company or vice versa.

However, the supporting company should on its own meet the technical experience as stipulated in the BEC and should not rely on any other company or through any other arrangement like Technical collaboration agreement.

In that case as the bidding company is dependent upon the technical experience of another company with a view to ensure commitment and involvement of the companies involved for successful execution of the contract, the participating bidder should enclose the following Agreements/ Guarantees/ Undertakings along with the techno-commercial bid:

- (i) An Agreement (*as per format enclosed at Appendix- A1 to Section*

- II) between the bidder and the supporting company.
- (ii) Guarantee (*as per format enclosed at Appendix- A2 to Section II*) by the supporting company to GAIL for fulfilling the obligation under the Agreement along with certificate issued by Company Secretary as per *Appendix- A2A to Section II*.
- (iii) Undertaking by Supporting Company to provide a Performance Bank Guarantee (*as per format and instructions enclosed at Appendix- A3 to Section II*), equivalent to 50% of the value of the PBG which is to be submitted by the bidding company, in case of being the successful bidder.

In cases where foreign based supporting company does not have Permanent Establishment in India as per Indian Income Tax Act, the bidding company can furnish Performance Bank Guarantee for an amount which is sum of PBG amount to be submitted by the bidder and additional PBG amount required to be submitted by the supporting company subject to the condition that supporting company have 100% paid up equity share capital of the bidder either directly or through intermediate subsidiaries or vice versa.

In such case bidding company shall furnish an undertaking that their foreign based supporting company is not having any Permanent Establishment in India in terms of Income Tax Act of India.

- (iv) Undertaking from the supporting company to the effect that in addition to invoking the PBG submitted by the bidding company, the PBG provided by supporting company shall be invoked by GAIL due to non-performance of the bidding company.

Note:

- 1.0 In case Supporting Company fails to submit Bank Guarantee as per (iii) above, EMD/SD submitted by the bidder shall be forfeited.
- 2.0 The Financial BEC of tender is to be met by bidder on their own.
- 3.0 The Supporting Company shall meet conditions of 'Eligible Bidder', as per clause no. 2 of Section-III (ITB).
- 4.0 The clause I (Procurement from a bidder which shares a Land Border with India) shall be applicable to above supporting company also.

B. Financial Criteria

B.1 Annual Turnover:

The minimum average annual turnover (i.e. Revenue from Operations) of the Bidder as per their audited financial statement during the three immediately preceding Financial Years shall be **Rs. 3,053.79** Lakhs.

B.2 Net Worth:

The net worth of the bidder should be positive as per the last audited financial statement of immediate preceding financial year. For the purpose of Net Worth for this tender, the same shall be as defined in the "Format for Chartered Accountant Certificate/ Certified Public Accountant (CPA) for Financial Capability of the Bidder" enclosed in the tender document.

B.3 Working Capital:

The minimum working capital of the Bidder as per the last audited Financial Year for quoted Part(s) shall be minimum 10% of the value of the work.

Note to Clause no. B.:

- (i) If the Bidder's Working Capital is negative or inadequate, the Bidder shall submit a letter from their bank having net worth not less than Rs.100 crores (or equivalent USD), confirming the availability of Line of Credit for the amount mentioned herein above. The Line of Credit letter from bank to be submitted strictly as per format at F-9.

The Declaration Letter/Certificate for Line of Credit due to short fall of working capital shall be from single bank only. Letters from multiple banks shall not be applicable. However, banking syndicate will also be acceptable wherein a group of banks can jointly provide Line of Credit to the Bidder.

The bank shall be required to issue the letter for declaration/ certificate of Line of Credit on their letter head along with the contact details of the issuing authority like email id, contact number etc.

- (ii) Annual Turnover: Preceding 3 Financial years mentioned in aforesaid BEC refer to immediate 3 preceding financial years wherever the closing date of the bid is after 30th September of the relevant financial year. In case the tenders having the due date for submission of bid up to 30th September (or as amended by Government time to time) of the relevant financial year, and audited financial results of the immediate 3 preceding financial years are not available, the audited financial results of the 3 years immediately prior to that will be considered.

In case the date of constitution/incorporation of the Bidder is less than 3 years old, the average turnover in respect of the completed financial years after the date of constitution/incorporation shall be taken into account for minimum Average Annual Financial Turnover criteria.

Further, Bidders may submit format F-10 accordingly.

- (iii) Net Worth/Working Capital: Immediate preceding financial year mentioned in aforesaid BEC refer to audited financial results for the immediate preceding financial year wherever the closing date of the bid is after 30th September of the relevant financial year. In case the tenders having the due date for submission of bid up to 30th September (or as amended by Government time to time) of the relevant financial year, and audited financial results of the immediate preceding financial year is not available, in such case the audited financial results of the year immediately prior to that year will be considered.

The original document for 'Line of Credit' should be submitted along with other physical documents required as per tender conditions, or in response to commercial query failing which bid shall be rejected. Bidder to note that Line of Credit requirement is not for shortfall amount but for the entire working capital requirement.

Bidder is to submit Audited Financial Statement of immediate preceding financial year (as mentioned above) along with format F-10 accordingly for Net-worth / Working Capital.

- (iv) Formula for Calculation of Annual Turnover, Net Worth and Working Capital are available in Format F-10.

C. EQUIPMENT DEPLOYMENT CRITERIA:

Bidder is required to meet the Equipment Deployment Criteria of BEC as per the list of minimum construction equipment requirement specified in the bidding document (Annexure-9 to SCC).

D. Deleted.

E. RELAXATION OF PRIOR TURNOVER AND PRIOR EXPERIENCE FOR STARTUPS (AS DEFINED IN GAZETTE NOTIFICATION NO. D.L-33004/99 DATED 18.02.2016 AND 23.05.2017 OF MINISTRY OF COMMERCE AND INDUSTRY), AS AMENDMED TIME TO TIME:

NOT APPLICABLE, No relaxation of prior turnover and prior experience for startups is allowed.

F. DOCUMENTS TO BE SUBMITTED FOR COMPLIANCE TO BEC

The list consisting of details of documents required towards compliance of above BEC shall be as per Annexure-B to BEC.

Bidder shall also furnish the duly filled and signed Check list for submission of documents for qualification for Bid Evaluation Criteria (BEC) as per format F- 8 (B).

G. AUTHENTICATION OF DOCUMENTS TO BE SUBMITTED IN SUPPORT OF BEC:

All the documents submitted towards compliance of BEC (Technical as well Financial and Equipment deployment Criteria) must be authenticated as per Annexure-C to Section-II (BEC).

H. In absence of requisite documents, NHAI reserve the right to reject the bid without making any reference to the Bidder.

I. Apart from above, Bidder must submit all other relevant documents/ information as specified in the Scope of Work/Special conditions of Contract (SCC) for Technical Evaluation of bid or specified elsewhere in the Tender Document, towards proof of its responsiveness.

J. RESTRICTING PARTICIPATION OF NCLT REFERRED BIDDERS

(i) Offer from the following type of Bidders will not be considered:

- Bidders who are undergoing insolvency resolution process or liquidation or bankruptcy proceeding under Insolvency and Bankruptcy Code, 2016 (Code).
- Bidders whose resolution process or liquidation or bankruptcy proceeding is initiated under the Code at any stage of evaluation of bid.

(ii) It will be responsibility of the Bidder/contractor/vendor to inform NHAI within 15 (Fifteen) days from the date of order of insolvency resolution process or liquidation or bankruptcy proceeding passed by the Adjudating Authority Namely National Company Law Tribunal (NCLT) or Debt Recovery Tribunal (DRT) or any other similar authority under the Code.

(iii) If Bidder fails to share the information regarding their status of insolvency resolution process or liquidation or bankruptcy proceeding in their bid or at any latter stage, their offer is liable to be rejected by NHAI.

(iv) NHAI reserve the right to cancel / terminate the contract without any liability on the part of NHAI immediately on the commencement of insolvency resolution process or liquidation or bankruptcy proceeding of any party under the contract.

A declaration in this regard shall be furnished by the Bidder as per proforma at Annexure-D to Section-II.

K. EVALUATION METHODOLOGY:

K.1 The “BOQ/ Schedule of Rates” for entire work (i.e. for all items) shall be taken up for evaluation & award.

K.2 The evaluation of all techno-commercially acceptable bids, to arrive at the lowest evaluated bid, shall be carried out by adding following:

- (i) Total quoted price/ evaluated price, inclusive of all taxes & duties except GST.

(ii) GST applicable on Sl. No. (i) above.

K.3 Preferences:

- (i) Purchase Preference for Make in India (MII) policy shall be applicable as per Government Guideline in vogue;
- (ii) MSE Purchase Preference is not applicable.
- (iii) Relaxation to Startup Enterprise: Not Applicable.
- (iv) Domestically Manufactured Iron & Steel Products: Applicable

**DECLARATION ON PROCEEDINGS UNDER INSOLVENCY AND
BANKRUPTCY CODE 2016**

To,

The Regional Officer,
National Highways Authority of India,
Regional Office, Chennai,
CMRL Building, 5th Floor,
Poonamalle High Road, Koyambedu,
Chennai-600 107.

SUB:

TENDER NO:

Dear Sir,

I/ We hereby declare that I/We ,M/s _____, declare that: I/We am/are not undergoing insolvency resolution process or liquidation or bankruptcy proceeding as on date.

OR

I/We am/are undergoing insolvency resolution process or liquidation or bankruptcy proceeding as on date as per details mentioned below.

- (a) _____
(b) _____
(c) _____

(Attach details in separate sheet)

Further, I/We also confirms that in case there is any change in status of this declaration at any stage of tendering/ execution (in case of award), the same will be promptly informed to NHAI.

Note: Strike out either (i) or (ii) as applicable.

It is understood that if this declaration is found to be false, NHAI shall have the right to reject my/our bid, and forfeit the EMD/ CPS. If the bid has resulted in a contract, the contract will be liable for termination without prejudice to any other right or remedy (including banning or holiday listing) available to NHAI.

Place: [Signature of Authorized Signatory of
Bidder]

Date: Name:

Designation:

Seal:

UNDERTAKING ON LETTERHEAD
(Applicable in case of Transfer of Technology cases only)

To,

The Regional Officer,
National Highways Authority of India,
Regional Office, Chennai,
CMRL Building, 5th Floor,
Poonamalle High Road, Koyambedu,
Chennai-600 107

SUB:

TENDER NO:

REF:

()

Dear Sir

We, M/s _____ (*Name of Bidder*), have read the clause regarding restrictions on Procurement from a Bidder of a Country having Transfer of Technology (ToT) arrangement as mentioned in the tender document in line with the above referred guidelines dated 23.02.2023 for Procurement from a Bidder which shares a land border with India and We certify that

- (i) The Bidder does not have ToT with such a country []
- (iii) If the Bidder is having ToT from such a country []
which share a land border with India, has been registered
with the Competent Authority.
(Evidence of valid registration by the
Competent Authority to be attached by the Bidder)

(Bidder is to tick appropriate option (☐) above).

We hereby certify that we fulfill all requirements in this regard and is eligible to be considered against the subject tender.

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

Schedule I

List of Category-I Sensitive sectors:

Sr. No.	Sector
(i)	Atomic Energy
(ii)	Broadcasting / Print and Digital Media
(iii)	Defense
(iv)	Space
(v)	Telecommunications

Schedule II

List of Category-II Sensitive sectors:

Sr.No.	Sector
(i)	Power and Energy (including exploration/ generation/transmission/ distribution/ pipeline)
(ii)	Banking and Finance including Insurance
(iii)	Civil Aviation
(iv)	Construction of ports and dams & river valley projects
(v)	Electronics and Microelectronics
(vi)	Meteorology and Ocean Observation
(vii)	Mining and extraction (including deep sea projects)
(viii)	Railways
(ix)	Pharmaceuticals & Medical Devices
(x)	Agriculture
(xi)	Health
(xii)	Urban Transportation

Schedule III

List of Sensitive Technologies:

Sr.No.	Sensitive Technologies
(i)	Additive Manufacturing (e.g. 3D Printing)
(ii)	Any equipment having electronic programmable components or autonomous systems (e.g. SCADA systems)
(iii)	Any technology used for uploading and streaming of data including broadcasting, satellite communication etc.
(iv)	Chemical Technologies
(v)	Biotechnologies including Genetic Engineering and Biological Technologies
(vi)	Information and Communication Technologies
(vii)	Software

SECTION-III

INSTRUCTION TO **BIDDERS**

(TO BE READ IN CONJUNCTION WITH
BIDDING DATA SHEET (BDS)

INSTRUCTION TO BIDDERS
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3. BIDS FROM CONSORTIUM
4. ONE BID PER BIDDER
5. COST OF BIDDING
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[B] BIDDING DOCUMENTS:

7. CONTENTS OF BIDDING DOCUMENTS
8. CLARIFICATION OF TENDER DOCUMENTS
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[C] PREPARATION OF BIDS:

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11. DOCUMENTS COMPRISING THE BID
12. BID PRICES
13. GST (CGST & SGST/ UTGST or IGST)
14. BID CURRENCIES
15. BID VALIDITY
16. EARNEST MONEY DEPOSIT / BID SECURITY
17. PRE-BID MEETING
18. FORMAT AND SIGNING OF BID
19. ZERO DEVIATION & REJECTION CRITERIA
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[D] SUBMISSION OF BIDS:

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22. DEADLINE FOR SUBMISSION OF BIDS
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24. MODIFICATION AND WITHDRAWAL OF BIDS

[E] BID OPENING AND EVALUATION:

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26. BID OPENING
27. CONFIDENTIALITY
28. CONTACTING THE EMPLOYER
29. EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS
30. CORRECTION OF ERRORS
31. CONVERSION TO SINGLE CURRENCY FOR COMPARISON OF BIDS
32. EVALUATION AND COMPARISON OF BIDS
33. COMPENSATION FOR EXTENDED STAY
34. PURCHASE PREFERENCE

[F] AWARD OF CONTRACT:

35. AWARD
36. NOTIFICATION OF AWARD / LETTER OF ACCEPTANCE [LOA]

37. SIGNING OF AGREEMENT
38. CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT
39. PROCEDURE FOR ACTION IN CASE
CORRUPT/FRAUDULENT/COLLUSIVE/COERCIVE PRACTICES
40. PUBLIC PROCUREMENT POLICY FOR MICRO AND SMALL ENTERPRISE
41. AHR ITEMS
42. VENDOR EVALUATION PROCEDURE
43. INCOME TAX & CORPORATE TAX
44. DISPUTE RESOLUTION MECHANISM
45. DISPUTES BETWEEN CPSE'S/GOVERNMENT DEPARTMENT'S/
ORGANIZATIONS
46. INAM-PRO (PLATFORM FOR INFRASTRUCTURE AND MATERIALS
PROVIDERS)
47. PROMOTION OF PAYMENT THROUGH CARDS AND DIGITAL MEANS
48. CONTRACTOR TO ENGAGE CONTRACT MANPOWER BELONGING TO
SCHEDULED CASTES AND WEAKER SECTIONS OF THE SOCIETY
49. PROVISION FOR STARTUPS
50. PROVISION REGARDING INVOICE FOR REDUCED VALUE OR CREDIT NOTE
TOWARDS PRS
51. UNIQUE DOCUMENT IDENTIFICATION NUMBER BY PRACTICING
CHARTERED ACCOUNTANTS
52. ANJANI PORTAL
53. DOCUMENTS FOR PAYMENT
54. ORDER TRANSMITTAL SYSTEM
55. SUBLETTING AND ASSIGNMENT
56. VENDOR INVOICE MANAGEMENT (VIM)

[G] ANNEXURES:

1. ANNEXURE-I: PROCEDURE FOR ACTION IN CASE
CORRUPT/FRAUDULENT/COLLUSIVE/COERCIVE PRACTICES
2. ANNEXURE-II: VENDOR PERFORMANCE EVALUATION PROCEDURE
3. ANNEXURE-III : ADDENDUM TO INSTRUCTIONS TO BIDDERS
(INSTRUCTION FOR PARTICIPATION IN E-TENDER)
4. ANNEXURE-IV: BIDDING DATA SHEET (BDS)
5. ANNEXURE-V: POLICY TO PROVIDE PURCHASE PREFERENCE AS PER
PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017
6. ANNEXURE-VI: PROVISION REGARDING POLICY TO PROVIDE
PREFERENCE TO DOMESTICALLY MANUFACTURED IRON & STEEL
PRODUCTS (DMI&SP)
7. ANNEXURE-VII TO SECTION-III- THIRD PARTY DEPOSIT CONFIRMATION
LETTER

INSTRUCTIONS TO BIDDERS [ITB]
(TO BE READ IN CONJUNCTION WITH BIDDING DATA SHEET (BDS))

[A] – GENERAL

1 SCOPE OF BID

- 1.1 The Employer as defined in the "General Conditions of Contract [GCC]", wishes to receive Bids as described in the Invitation For Bid (the “**Tender Document /Bid Document**”) issued by Employer. Employer/INDEPENDENT ENGINEER/NHAI occurring herein under shall be considered synonymous.
- 1.2 SCOPE OF BID: The scope of work/ Services shall be as defined in the Tender documents.
- 1.3 The successful Bidder will be expected to complete the scope of Bid within the period stated in Special Conditions of Contract.
- 1.4 Throughout the Tender Documents, the terms 'Bid', 'Tender' & 'Offer' and their derivatives [Bidder/Tenderer, Bid/Tender/Offer etc.] are synonymous. Further, 'Day' means 'Calendar Day' and 'Singular' also means 'Plural'.

2 ELIGIBLE BIDDERS

- 2.1 The Bidder shall not be under a declaration of ineligibility by Employer for Corrupt/ Fraudulent/ Collusive/ Coercive practices, as defined in "Instructions to Bidders [ITB], Clause No. 39” (Action in case Corrupt/ Fraudulent/ Collusive/ Coercive Practices).

2.2 The Bidder is not put on ‘Holiday’ by NHAI or Public Sector Project Management Consultant (like EIL, Mecon only due to “poor performance” or “corrupt and fraudulent practices”) or banned/blacklisted by Government department/ Public Sector on due date of submission of bid. Further, neither Bidder nor their allied agency/(ies) (as defined in the Procedure for Action in case of Corrupt/ Fraudulent/ Collusive/ Coercive Practices) are on banning list of NHAI or the Ministry of Petroleum and Natural Gas. If the bidding documents were issued inadvertently/ downloaded from website, offers submitted by such Bidders shall not be considered for opening/ evaluation/Award and will be returned immediately to such Bidders. In case there is any change in status of the declaration prior to award of contract, the same has to be promptly informed to NHAI by the Bidder.

It shall be the sole responsibility of the Bidder to inform about their status regarding para 1 of clause 2.2 herein above on due date of submission of bid and during the course of finalization of the tender. Concealment of the facts shall tantamount to misrepresentation of facts and shall lead to action against such Bidders as per clause 39 of ITB.

- 2.3 The Bidder should not be under any liquidation court receivership or similar proceedings on due date of submission of bid. In case there is any change in status of the declaration prior to award of contract, the same has to be promptly informed to NHAI by the Bidder. It shall be the sole responsibility of the Bidder to inform NHAI there status on above on due date of submission of bid and during the course of finalization of the tender. Concealment of the facts shall tantamount to misrepresentation of facts and shall lead to action against such Bidders as per clause no.39 of ITB.
- 2.4 Bidder shall not be affiliated with a firm or entity:
- (i) that has provided consulting services related to the work to the Employer during the preparatory stages of the work or of the project of which the works/services forms a part of or
 - (ii) that has been hired (proposed to be hired) by the Employer as an Engineer/ Consultant for the contract.

- 2.5 Neither the firm/entity appointed as the Project Management Consultant (PMC) for a contract nor its affiliates/ JV'S/ Subsidiaries shall be allowed to participate in the tendering process unless it is the sole Licensor/Licensor nominated agent/ vendor.
- 2.6 Pursuant to qualification criteria set forth in the bidding document, the Bidder shall furnish all necessary supporting documentary evidence to establish Bidder's claim of meeting qualification criteria.
- 2.7 Power of Attorney:
Power of Attorney (POA) to be issued by the Bidder in favour of the authorised employee(s), in respect of the particular tender, for purpose of signing the documents including bid, all subsequent communications, agreements, documents etc. pertaining to the tender and act and take any and all decision on behalf of the Bidder (including Consortium). Any consequence resulting due to such signing shall be binding on the Bidder (including Consortium).
- (I) In case of a Single Bidder, the Power of Attorney shall be issued as per the constitution of the Bidder as below:
- a) **In case of Proprietorship:** by Proprietor
 - b) **In case of Partnership:** by all Partners or Managing Partner
 - c) **In case of Limited Liability Partnership:** by any Bidder's employee authorized in terms of Deed of LLP
 - d) **In case of Public / Limited Company:** PoA in favour of authorized employee(s) by Board of Directors through Board Resolution or by the designated officer authorized by Board to do so. Such Board Resolution should be duly countersigned by Company Secretary / MD / CMD / CEO.
- (II) In case of a Consortium, Power of Attorney shall be issued both by Leader as well as Consortium Member(s) of the Consortium as per procedure defined herein above in favor of employee of Leader of Consortium.
The Power of Attorney should be valid till award of contract / order to successful Bidder.
- 2.8 In case of change of constitution of Bidder after submission of bid, the same shall be informed by the Bidder to NHAH promptly. Failure to same shall be considered as misrepresentation by the Bidder.

3 BIDS FROM "CONSORTIUM": Not applicable

4 ONE BID PER BIDDER

- 4.1 A Bidder shall submit only 'one [01] Bid' in the same Bidding Process either as single entity or as a member of any consortium (wherever consortium bid is allowed). A Bidder who submits or participates in more than 'one [01] Bid' will cause all the proposals in which the Bidder has participated to be disqualified.
- 4.2 A Bidder shall not have conflict of interest with other Bidders. Such conflict of interest can lead to anti-competitive practices. The Bidder found to have a conflict of interest shall be disqualified. A Bidder shall be considered to have a conflict of interest with one or more Bidders in this bidding process, if:
- a) they have controlling partner (s) in common; or
 - b) they receive or have received any direct or indirect subsidy/ financial stake from any of them; or

- c) they have the same legal representative/authorized signatory/agent for purposes of this bid; or
- d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder; or
- e) Bidder participates in more than one bid in bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid.
- f) a Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid;
- g) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business.

Bidders are required to submit a confirmation for no conflict of interest with other Bidders in Format F-5.

Failure to comply this clause during tendering process will disqualify all such Bidders from process of evaluation of bids.

4.3 Alternative Bids shall not be considered.

4.4 The provisions mentioned at sl. no. 4.1 and 4.2 shall not be applicable wherein Bidders are quoting for different Items / Sections / Parts / Groups/ SOR items of the same tender which specifies evaluation on Items / Sections / Parts / Groups/ SOR items basis.

4.5 Bidders are required to provide complete details of all Directors/Partners/Proprietors etc. including Father's name, Residential address, AADHAR, PAN Card details & DIN Nos. in Form F-1 & F-1(A) of ITB **and corresponding documents duly notarized by Notary Public.**

It is the responsibility of the participating Bidder(s) to assess the relationship as mentioned above.

In case any undertaking/declaration given by a Bidder(s) in this regard is found to be false, this would be a sufficient ground for rejection of Bid(s) /termination of contract and also initiation of further action as per "Procedure for Action in case of Corrupt/Fraudulent/ Collusive / Coercive Practices" of tender document.

5 **COST OF BIDDING**

To participate for bidding, bidder have to pay a non-refundable fee of tender document i.e. Rs. 50,000/- through Online Mode Only on or prior to last date & time of submission of bid documents.

The Payment Should be made to:

Account Name : National Highways Authority of India

Bank Account No. : C. A/c. 60341010004225

Bank & Branch : Canara Bank Nerkundram Branch, Chennai – 600 107.

IFSC Code : CNRB0001039

The Bidder must upload Copy of Receipt (Indicating Reference No./Transaction ID) towards payment of cost of Bid document. The amendments /clarifications to the bid document if any will be hosted on the above website.

The bid should be submitted online in the prescribed format given in the website. No other mode of submission is acceptable.

The Bidder shall bear all costs associated with the preparation and submission of the Bid including but not limited to Documentation Charges, Bank charges, all courier charges, translation charges, authentication charges and any associated charges including taxes & duties thereon. Further, NHAI will in no case, be responsible or liable for these costs, regardless of the outcome of the bidding process.

6 SITE VISIT

- 6.1 The Bidder is advised to visit and examine the site of works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a Contract for the required job. The costs of visiting the site shall be borne by the Bidder.
- 6.2 The Bidder or any of its personnel or agents shall be granted permission by the Employer to enter upon its premises and land for the purpose of such visits, but only upon the express conditions that the Bidder, its personnel and agents will release and indemnify the Employer and its personnel, agents from and against all liabilities in respect thereof, and will be responsible for death or injury, loss or damage to property, and any other loss, damage, costs, and expenses incurred as a result of inspection.
- 6.3 The Bidder shall not be entitled to hold any claim against NHAI for non-compliance due to lack of any kind of pre-requisite information as it is the sole responsibility of the Bidder to obtain all the necessary information with regard to site, surrounding, working conditions, weather etc. on its own before submission of the bid.

[B] – BIDDING DOCUMENTS

7 CONTENTS OF BIDDING DOCUMENTS

- 7.1 The contents of Bidding Documents / Tender Documents are those stated below, and should be read in conjunction with any 'Addendum / Corrigendum and Clarification(s)' issued in accordance with "ITB: Clause-8 & 9":

- Section-I : Invitation for Bid [IFB]*
- Section-II : Bid Evaluation Criteria [BEC] & Evaluation methodology
- Section-III : Instructions to Bidders [ITB], Annexure, Forms & Format**
- Section-IV : General Conditions of Contract [GCC]***
- Section-V : Special Conditions of Contract [SCC]
- Section-VI : BOQ/Schedule of Rates
- Section-VII : Technical volume (Specifications, Scope of Work and Drawing etc.)

*Request for Quotation', wherever applicable, shall also form part of the Bidding Document.

** The subject tender is based on standard formats and applicability of some specific clauses may be seen in Annexure-IV to Section-III i.e. BDS (Bidding Data Sheet).

*** General Conditions of Contract – Works is available on NHAI's Tender website <https://etenders.gov.in>.

For participation in e-tender, instructions are mentioned at Annexure-III to Section-III.

- 7.2 The Bidder is expected to examine all instructions, forms, terms & conditions in the Bidding Documents. The "Request for Quotation [RFQ] & Invitation for Bid (IFB)" together with all its attachments thereto, shall be considered to be read, understood and accepted by the Bidders. Failure to furnish all information required by the Bidding Documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect will be at Bidder's risk and may result in the rejection of his Bid.

8 CLARIFICATION OF TENDER DOCUMENTS

- 8.1 A prospective Bidder requiring any clarification(s) of the Bidding Documents may notify NHAI in writing by email at NHAI's mailing address indicated in the BDS no later than 02 (two) days prior to pre-bid meeting (in cases where pre-bid meeting is scheduled) or 05 (five) days prior to the due date of submission of bid in cases where pre-bid meeting is not scheduled. NHAI reserves the right to ignore the Bidders request for clarification if received after the aforesaid period. NHAI may respond in writing to the request for clarification. NHAI's response including an explanation of the query, but without identifying the source of the query will be uploaded on e-tender portal / communicated to prospective Bidders by e-mail.
- 8.2 Any clarification or information required by the Bidder but same not received by the Employer at clause 8.1 (refer BDS for address) above is liable to be considered as "no clarification / information required".

9 AMENDMENT OF BIDDING DOCUMENTS

- 9.1 At any time prior to the 'Bid Due Date', Employer may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by addenda/ corrigendum.
- 9.2 Any corrigendum thus issued shall be integral part of the Tender Document and shall be hosted on the websites as provided at clause no. 2.0 (G) of IFB /communicated to prospective Bidders by e-mail. Bidders have to take into account all such corrigendum before submitting their Bid.
- 9.3 The Employer, if consider necessary, may extend the Bid Due Date in order to allow the Bidders a reasonable time to furnish their most competitive bid taking into account the addenda/corrigendum issued thereof.

[C] – PREPARATION OF BIDS

10 LANGUAGE OF BID:

The bid prepared by the Bidder and all correspondence, drawing(s), document(s), certificate(s) etc. relating to the Bid exchanged by Bidder and NHAI shall be written in English language only. In case a document, certificate, printed literature etc. furnished by the Bidder in a language other than English, the same should be accompanied by an English translation duly authenticated by the Indian Chamber of Commerce, in which case, for the purpose of interpretation of the Bid, the English translation shall govern.

11. DOCUMENTS COMPRISING THE BID

11.1 IN CASE OF MANUAL TENDERING (Not applicable):

In case the Bids are invited under the Manual two Bid system. The Bid prepared by the Bidder shall comprise the following components sealed in 2 different envelopes:

- 11.1.1 **ENVELOPE-I: "TECHNO-COMMERCIAL / UN-PRICED BID"** shall contain the following:
- (a) 'Covering Letter' on Bidder's 'Letterhead' clearly specifying the enclosed contents with index.
 - (b) 'Bidder's General Information', as per 'Form F-1'.
 - (c) Copies of documents, as specified in tender document
 - (d) 'Letter of Authority' on the Letter Head, as per 'Form F-3'
 - (e) 'Agreed Terms and Conditions', as per 'Form F-5'
 - (f) 'Acknowledgement Cum Consent Letter', as per 'Form F-6'
 - (g) Duly attested documents in accordance with the "Bid Evaluation Criteria [BEC]" establishing the qualification.
 - (h) Copy of Power of Attorney /copy of Board Resolution, in favour of the authorized signatory of the Bid, as per clause no.2.7 of ITB

- (i) EMD in original (in case of manual tendering) / copy of EMD (in case of e-Tender), as per Clause 16 of ITB. Declaration for Bid Security as per provision of ITB.
- (j) Void
- (k) Undertaking as per *Form-2 to Annexure-V to Section-III* and Certification from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of other than companies) as per *Form-3 to Annexure-V to Section-III (Applicable for all Bidders irrespective of seeking purchase preference or not)*
- (l) Undertaking as per *Form-I to Section-II* regarding Provisions for Procurement from a Bidder which shares a land border with India
- (m) All forms and Formats including Annexures
- (n) 'Integrity Pact' as per 'Form F-14'
- (o) 'Indemnity Bond' as per 'Form F-15'
- (p) Tender Document, its Corrigendum/Amendment/Clarification(s) duly signed on each page (in case of manual tendering)/ digitally signed (in case of e-Tender) by the Authorized Signatory holding POA.
- (q) Additional document specified in BDS, SCC, Scope of Supply or mentioned elsewhere in the Tender Document, its Corrigendum/Amendment/Clarification(s).
- (r) Any other information/details required as per Bidding Document.

Note: All the pages of the Bid must be signed by the "Authorized Signatory" of the Bidder holding POA.

11.1.2 ENVELOPE-II: Price Bid

- i) The Prices are to be submitted strictly as per the BoQ of the bidding documents. NHAI shall not be responsible for any failure on the part of the Bidder to follow the instructions.
- ii) Bidders are advised NOT to mention Rebate/Discount separately, either in the SOR format or anywhere else in the offer. In case Bidder(s) intend to offer any Rebate/Discount, they should include the same in the item rate(s) itself under the "Schedule of Rates (SOR)" and indicate the discounted unit rate(s) only.
- iii) If any unconditional rebate has been offered in the quoted rate the same shall be considered in arriving at evaluated price. However, no cognizance shall be taken for any conditional discount for the purpose of evaluation of the bids.
- iv) In case, it is observed that any of the Bidder(s) has/have offered Suo-moto Discount/Rebate after opening of unpriced bid but before opening of price bids such discount /rebate(s) shall not be considered for evaluation. However, in the event of the Bidder emerging as the lowest evaluated Bidder without considering the discount/rebate(s), then such discount/rebate(s) offered by the Bidder shall be considered for Award of Work and the same will be conclusive and binding on the Bidder.
- v) In the event as a result of techno-commercial discussions or pursuant to seeking clarifications / confirmations from Bidders, while evaluating the un-priced part of the bid, any of the Bidders submits a sealed envelope stating that it contains revised prices; such Bidder(s) will be requested to withdraw the revised prices failing which the bid will not be considered for further evaluation.

11.1.3 In case of bids invited under Single Bid System (clause no. 2.0(C) of IFB refers), all the documents as specified at Clause 11.1.1 & 11.1.2 of ITB can be submitted in single envelope /folder, as per instructions of Tender Document.

11.2 IN CASE OF E-TENDERING:

Bidders are requested to refer instructions for participating in e-Tendering (Annexure-I to Section III), Bidders manual kit and FAQs available in e-tender portal and bids submitted manually shall be rejected. All pages of the Bid must be digitally signed by

the "authorized signatory" of the Bidder holding Power of Attorney. The Bid must be submitted on e-tender portal (<https://etenders.gov.in>) as follows:-

- 11.2.1 **PART-I: “TECHNO-COMMERCIAL/UN-PRICED BID”** comprising all the above documents mentioned at 11.1.1 along with copy of EMD/Bid Security/Declaration for Bid Security, copy of Power of Attorney and copy of integrity pact should be uploaded in the technical bid in the e-tender portal.

Further, Bidders must submit the original " EMD, Power of Attorney, Letter of credit (if applicable) Integrity Pact (wherever applicable) and any other documents specified in the Tender Document to the address mentioned in IFB, in a sealed envelope, superscribing the details of Tender Document (i.e. tender number & tender for) within 7 days from the date of un-priced bid opening.

Bidders are required to submit the EMD in original by Due Date and Time of Bid Submission or upload a scanned copy of the same in the Part-I of the Bid. If the Bidder is unable to submit EMD in original by Due Date and Time of Bid Submission, the Bidder is required to upload a scanned copy of the EMD in Part-I of Bid, provided the original EMD, copy of which has been uploaded, is received within 7 days from the Due Date of Bid Opening, failing which the Bid will be rejected irrespective of their status/ranking in tendering process and notwithstanding the fact that a copy of EMD was earlier uploaded by the Bidder.

11.2.2 **PART-II: PRICE BID**

The Prices are to be filled strictly in the Bill of Quantity (BoQ) of the bidding documents and provision mentioned at para 11.1.2 hereinabove and to upload in Financial bid in the e- tender portal.

- 11.3 In case of bids invited under *single bid system*, a single envelope containing all documents specified at Clause 11.1.1 & 11.1.2 of ITB above form the BID. All corresponding conditions specified at Clause 11.1.1 & 11.1.2 of ITB shall become applicable in such a case.

12 BID PRICES

- 12.1 Unless stated otherwise in the Bidding Documents, the Contract shall be for the whole works as described in Bidding Documents, based on the rates and prices submitted by the Bidder and accepted by the Employer. The prices quoted by the Bidders will be inclusive of all taxes except **GST (CGST & SGST/UTGST or IGST)**.
- 12.2 Bidders will be required to quote a single percentage above/below the overall estimated amount. This percentage would be applicable for all the items of work in the contract for working out the rates for each item of work.
- 12.3 The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, specifications, bill of quantities, etc. in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk, bids which are not substantially responsive to the requirements of the Bid Documents, shall be rejected.
- 12.4 Prices quoted by the Bidder, shall remain firm and fixed and valid till completion of the Contract and will not be subject to variation on any account.
- 12.5 The Bidder shall quote the prices in 'figures' & words. There should not be any discrepancy between the prices indicated in figures and the price indicated in words. In case of any discrepancy, the same shall be dealt as per clause no. 30 of ITB.

- 13 **GST (CGST & SGST/ UTGST or IGST)**
- 13.1 Bidders are required to submit copy of the GST Registration Certificate while submitting the bids wherever **GST (CGST & SGST/UTGST or IGST)** is applicable.
- 13.2 Quoted prices should be inclusive of all taxes and duties, except **GST (CGST & SGST or IGST or UTGST)**. Please note that the responsibility of payment of **GST (CGST & SGST or IGST or UTGST)** lies with the Contractor only. Contractor providing taxable service shall issue an e-Invoice/Invoice/Bill, as the case may be as per rules/ regulation of GST. Further, returns and details required to be filled under GST laws & rules should be timely filed by Contractor with requisite details.
Payments to Contractor for claiming **GST (CGST & SGST/UTGST or IGST)** amount will be made provided the above formalities are fulfilled. Further, NHAI may seek copies of challan and certificate from Chartered Accountant for deposit of **GST (CGST & SGST/UTGST or IGST)** collected from INDEPENDENT ENGINEER.
- 13.3 In case CBIC (Central Board of Indirect Taxes and Customs)/ any tax authority / any equivalent government agency brings to the notice of NHAI that the Contractor has not remitted the amount towards GST (CGST & SGST/UTGST or IGST) collected from NHAI to the government exchequer, then, that Contractor shall be put under Holiday list of NHAI for period of six months after following the due procedure. This action will be in addition to the right of recovery of financial implication arising on NHAI.
- 13.4 In case of statutory variation in **GST (CGST & SGST/UTGST or IGST)**, other than due to change in turnover, payable on the contract value during contract period, the Contractor shall submit a copy of the 'Government Notification' to evidence the rate as applicable on the Bid due date and on the date of revision.
Beyond the contract period, in case NHAI is not entitled for input tax credit of **GST (CGST & SGST/UTGST or IGST)**, then any increase in the rate of **GST (CGST & SGST/UTGST or IGST)** beyond the contractual delivery period shall be to Contractor's account whereas any decrease in the rate **GST (CGST & SGST/UTGST or IGST)** shall be passed on to the INDEPENDENT ENGINEER.
Beyond the contract period, in case NHAI is entitled for input tax credit of **GST (CGST & SGST/UTGST or IGST)**, then statutory variation in quoted **GST (CGST & SGST/UTGST or IGST)** on supply and on incidental services, shall be to NHAI's account.
Claim for payment of **GST (CGST & SGST/UTGST or IGST)**/ Statutory variation, should be raised within two [02] months from the date of issue of 'Government Notification' for payment of differential (in %) **GST (CGST & SGST/UTGST or IGST)**, otherwise claim in respect of above shall not be entertained for payment of arrears.
The base date for the purpose of applying statutory variation shall be the Bid Due Date.
- 13.5 Where NHAI is entitled to avail the input tax credit of **GST (CGST & SGST/UTGST or IGST)**:-
- 13.5.1 INDEPENDENT ENGINEER/NHAI will reimburse the **GST (CGST & SGST/UTGST or IGST)** to the Contractor at actuals against submission of E-Invoices/Invoices as per format specified in rules/ regulation of GST to enable INDEPENDENT ENGINEER/NHAI to claim input tax credit of **GST (CGST & SGST/UTGST or IGST)** paid. In case of any variation in the executed quantities, the amount on which the **GST (CGST & SGST/UTGST or IGST)** is applicable shall be modified in same proportion. Returns and details required to be filled under GST laws & rules should be timely filed by supplier with requisite details.
- 13.5.2 The input tax credit of quoted **GST (CGST & SGST/UTGST or IGST)** shall be considered for evaluation of bids, as per evaluation criteria of tender document.
- 13.6 Where NHAI is not entitled to avail/take the full input tax credit of **GST (CGST & SGST/UTGST or IGST)**:-
- 13.6.1 INDEPENDENT ENGINEER/NHAI will reimburse **GST (CGST & SGST/UTGST or IGST)** to the Contractor at actuals against submission of E-Invoices/Invoices as per

- format specified in rules/ regulation of GST subject to the ceiling amount of **GST (CGST & SGST/UTGST or IGST)** as quoted by the Bidder, subject to any statutory variations, except variations arising due to change in turnover. In case of any variation in the executed quantities (If directed and/or certified by the Engineer-In-Charge) the ceiling amount on which **GST (CGST & SGST/UTGST or IGST)** is applicable will be modified on pro-rata basis.
- 13.6.2 The bids will be evaluated based on total price including quoted **GST (CGST & SGST/UTGST or IGST)**.
- 13.7 NHAI will prefer to deal with registered supplier of goods/ services under GST. Therefore, Bidders are requested to get themselves registered under GST, if not registered yet.
However, in case any unregistered Bidder is submitting their bid, Bids will be evaluated as per quoted prices without loading of **GST (CGST & SGST/UTGST or IGST)**, if not quoted. their prices will be loaded with applicable GST (CGST & SGST/UTGST or IGST) while evaluation of bid (if applicable as per Govt. Act/ Law in vogue). Where NHAI is entitled for input credit of **GST (CGST & SGST/UTGST or IGST)**, the same will be considered for evaluation of bid as per evaluation methodology of tender document. Further, an unregistered Bidder is required to mention its Income Tax PAN in bid document. Further, an unregistered Bidder is required to mention its Income Tax PAN in bid document.
- 13.8 In case NHAI is required to pay entire/certain portion of applicable **GST (CGST & SGST/UTGST or IGST)** and remaining portion, if any, is to be deposited by Bidder directly as per **GST (CGST & SGST/UTGST or IGST)** laws, entire applicable rate/amount of **GST (CGST & SGST/UTGST or IGST)** to be indicated by Bidder in the SOR.
Where NHAI has the obligation to discharge **GST (CGST & SGST/UTGST or IGST)** liability under reverse charge mechanism and NHAI has paid or is /liable to pay **GST (CGST & SGST/UTGST or IGST)** to the Government on which interest or penalties becomes payable as per GST laws for any reason which is not attributable to NHAI or ITC with respect to such payments is not available to NHAI for any reason which is not attributable to NHAI, then NHAI shall be entitled to deduct/ setoff / recover such amounts against any amounts paid or payable by NHAI to Contractor / Supplier.
- 13.9 Contractor shall ensure timely submission of correct invoice(s) /e-invoice(s), as per GST rules/ regulation, with all required supporting document(s) within a period specified in Contract to enable NHAI to avail input credit of GST (CGST & SGST/UTGST or IGST). Further, returns and details required to be filled under GST laws & rules should be timely filed by Contractor with requisite details.
If input tax credit is not available to NHAI for any reason not attributable to NHAI, then NHAI shall not be obligated or liable to pay or reimburse GST (CGST & SGST/UTGST or IGST) claimed in the invoice(s) and shall be entitled to deduct / setoff / recover such GST amount (CGST & SGST/UTGST or IGST) or Input Tax Credit amount together with penalties and interest, if any, against any amounts paid or becomes payable by NHAI in future to the Contractor under this contract or under any other contract.
- 13.10 **Anti-profiteering clause**
As per Clause 171 of GST Act it is mandatory to pass on the benefit due to reduction in rate of tax or from input tax credit to the consumer by way of commensurate reduction in prices. The Contractor may note the above and quote their prices accordingly.
- 13.11 In case the GST rating of contractor on the GST portal / Govt. official website is negative / black listed, then the bids may be rejected by NHAI. Further, in case rating of Bidder is negative / black listed after award of work, then NHAI shall not be obligated or liable to pay or reimburse GST to such contractor and shall also be entitled to deduct / recover

- such GST along with all penalties / interest, if any, incurred by NHAI.
- 13.12 GST (CGST & SGST/UTGST or IGST) is implemented w.e.f. 01.07.2017 which subsumed various indirect taxes and duties applicable before 01.07.2017. Accordingly, the provisions of General Condition of Contract relating to taxes and duties which are subsumed in GST are modified to aforesaid provisions mentioned in clause no. 12 and 13 of ITB.
- 13.13 GST, as quoted by the Bidder in Schedule of Rates, shall be deemed as final and binding for the purpose of bid evaluation (applicable for tenders where Bidder quotes the GST rates). In case a Bidder enters “zero/blank” GST or an erroneous GST, the bid evaluation for finalizing the L1 Bidder will be done considering the “Zero” or quoted GST rate, as the case may be. No request for change in GST will be entertained after submission of bids.
- In cases where the successful Bidder quotes a wrong GST rate, for releasing the order, the following methodology will be followed:
- In case the actual GST rate applicable is lower than the quoted GST rate, the actual GST rate will be added to the quoted basic prices. The final cash outflow will be based on actual GST rate.
 - In case the actual GST rate applicable is more than the quoted GST rate, the basic prices quoted will be reduced proportionately, keeping the final cash outflow the same as the overall quoted amount.
- Based on the Total Cash Outflow calculated as above, NHAI shall place orders.
- 13.14 Wherever TDS under GST Laws has been deducted from the invoices raised / payments made to the Contractors, as per the provisions of the GST law / Rules, Contractors should accept the corresponding GST-TDS amount populated in the relevant screen on GST common portal (www.gst.gov.in). Further, Vendors should also download the GST TDS certificate from GST common portal (reference path: Services > User Services > View/Download Certificates option).
- 13.15 Provision w.r.t. E- Invoicing requirement as per GST laws:**
- Supplier who is required to comply with the requirements of E-invoice for B2B transactions as per the requirement of GST Law will ensure the compliance of requirement of E Invoicing under GST law. If the invoice issued without following this process, such invoice can-not be processed for payment by NHAI as no ITC is allowed on such invoices.
- Therefore, all the payments to such supplier who is liable to comply with e-invoice as per GST Laws shall be made against the proper e-invoice(s) only. Further, returns and details required to be filled under GST laws & rules against such e-invoices should be timely filed by Supplier of Goods with requisite details.
- If input tax credit is not available to NHAI for any reason attributable to supplier (both for E-invoicing cases and non-E-invoicing cases), then NHAI shall not be obligated or liable to pay or reimburse GST (CGST & SGST/UTGST or IGST) claimed in the invoice(s) and shall be entitled to deduct / setoff / recover such GST amount (CGST & SGST/UTGST or IGST) or Input Tax Credit amount together with penalties and interest, if any, by adjusting against any amounts paid or becomes payable in future to the supplier under this contract or under any other contract.
- To ensure compliance, undertaking in requisite format is to be submitted by supplier as per format F-17 along with documents for release of payment.
- 13.16 **New Taxes & duties:** Any new taxes & duties, if imposed by the State/ Central Govt. of India after the due date of bid submission but before the Contractual Completion Date, shall be reimbursed to the Service Provider on submission of copy of notification(s) issued from State/ Central Govt. Authorities along with documentary evidence for proof of payment of such taxes & duties, but only after ascertaining it's applicability with respect to the Contract.
- 13.17 Full payment including GST will be released at the time of processing of invoice for

payment, where the GST amount reflects in Form GSTR-2A of NHAI. However, in case where the GST amount doesn't reflect in Form GSTR-2A of NHAI, the amount of GST will be released after reflection of GST amount of corresponding invoice in Form GSTR-2A of NHAI.

14 BID CURRENCIES:

Bidders must submit bid in Indian Rupees only.

15 BID VALIDITY

- 15.1 Bids shall be kept valid for period specified in BDS from the final Due date of submission of bid'. A Bid valid for a shorter period may be rejected by NHAI as 'non-responsive'.
- 15.2 In exceptional circumstances, prior to expiry of the original 'Bid Validity Period', the Employer may request the Bidders to extend the 'Period of Bid Validity' for a specified additional period. The request and the responses thereto shall be made in writing or by email. A Bidder may refuse the request without forfeiture of his EMD / Bid Security.

A Bidder agreeing to the request will not be required or permitted to modify his Bid, but will be required to extend the validity of its EMD for the period of the extension and in accordance with "ITB: Clause-16" in all respects.

16 EARNEST MONEY DEPOSIT

- 16.1 Bid must be accompanied with earnest money (i.e. **Earnest Money Deposit (EMD)**) also known as **Bid Security**) in the form of **‘Demand Draft’ / Online Banking Transaction / ‘Banker’s Cheque’ / ‘Insurance Surety Bond’ / ‘Fixed Deposit Receipt or a Letter of Credit’** [in favour of NHAI payable at place mentioned in BDS] or **‘Bank Guarantee (including e- Bank Guarantee), ’** strictly as per the format given in form F-2 of the Tender Document. Bidder shall ensure that EMD submitted in the form of ‘Bank Guarantee’ should have a validity of at least 165 days beyond the validity of the Bid.

Bid not accompanied with EMD, or EMD not in requisite format shall be liable for rejection. The EMD shall be submitted in Indian Rupees only.

For Submission in Online Form: Payment should be made on or prior to last date & time of submission of bid documents. If Bank Guarantee is submitted towards Bid Security/EMD, it should be linked in SFMS (Structured Finance Messaging System) with the following NHAI bank account:

Account Name	: National Highways Authority of India
Bank Account No.	: C.A/c. 60341010004225
Bank & Branch	: Canara Bank Nerkundram Branch, Chennai – 600 107.
IFSC Code	: CNRB0001039

- 16.2 The Bidder can also submit the EMD through online banking transaction i.e. IMPS/NEFT/RTGS etc. For this purpose, the details of NHAI's Bank Account are mentioned under BDS. While remitting, the Bidder must indicate EMD and tender/E-tender no. under remarks. Bidders shall be required to submit/ upload the successful transaction details along-with their bid/e-bid in addition to forwarding the details to dealing officer through email/letter with tender reference number immediately after remittance of EMD. In absence of submitting/ uploading the remittance details, the bid is likely to be considered as bid not accompanied with EMD. Further, in case of the online transaction, submission of EMD in original is not applicable.

- 16.3 NHAI shall not be liable to pay any documentation charges, Bank charges, commission, interest etc. on the amount of EMD. In case EMD is in the form of a 'Bank Guarantee', the same shall be from any Indian scheduled Bank (excluding Co-operative banks and Regional Rural bank) or a branch of an International Bank situated in India and registered with 'Reserve Bank of India' as Scheduled Foreign Bank. Purchaser will verify the BG from issuing bank.
- 16.4 Any Bid not secured in accordance with "ITB: Clause-16.1 & Clause-16.3" may be rejected by NHAI as non-responsive.
- 16.5 Unsuccessful Bidder's EMD will be discharged/ returned as promptly as possible, but not later than 'thirty [30] days' after finalization of tendering process.
- 16.6 The successful Bidder's EMD will be discharged upon the Bidder's acknowledging the 'Award' and signing the 'Agreement' (if applicable) and furnishing the 'Contract Performance Security (CPS)/ Security Deposit' pursuant to clause no. 38 of ITB.
- 16.7 Notwithstanding anything contained herein, the EMD may also be forfeited in any of the following cases:
- (a) If a Bidder withdraws his Bid during the 'Period of Bid Validity'
 - (b) If a Bidder has indulged in corrupt/fraudulent /collusive/coercive practice
 - (c) If the Bidder modifies Bid during the period of bid validity (after Due Date and Time for Bid Submission).
 - (d) Violates any other condition, mentioned elsewhere in the Tender Document, which may lead to forfeiture of EMD.
 - (e) In the case of a successful Bidder, if the Bidder fails to:
 - (i) to acknowledge receipt of the "Notification of Award" / Letter of Acceptance [LOA]",
 - (ii) to furnish "Contract Performance Security / Security Deposit", in accordance with "ITB: Clause-38"
 - (iii) to accept 'arithmetical corrections' as per provision of the clause 30 of ITB.
- 16.8 In case EMD is in the form of 'Bank Guarantee', the same must indicate the Tender Document No. and the name of Tender Document for which the Bidder is quoting. This is essential to have proper correlation at a later date.
- 16.9 **MSEs (Micro & Small Enterprises) are not exempted from submission of EMD. MSE Bidders need to submit EMD/Bid Security as per relevant clauses of tender (cl. no. 2.0 (L) of IFB & cl. no. 16 of ITB etc.), failing which bid shall be treated as 'Bid not accompanied with EMD' and shall be rejected.**

The Government Departments/PSUs are also exempted from the payment of EMD. Further, Start-ups are also exempted from the payment of EMD.

For availing the EMD relaxation by Startups, bidder is required to submit requisite certificate towards Start-up enterprise registration issued by Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry duly certified by the Chartered Accountant (not being an employee or a Director or not having any interest in the bidder's company/firm) and notary public with legible stamp.

- 16.10 In case of forfeiture of EMD/ Bid Security, the forfeited amount will be considered inclusive of tax and tax invoice will be issued by NHAI. The forfeiture amount will be subject to final decision of NHAI based on other terms and conditions of order/ contract."
- 16.11 EMD/Bid Bond will not be accepted in case the same has reference of 'remitter'/'financer' other than Bidder on the aforementioned financial instrument of EMD/ Bid Bond submitted by the Bidder and bid of such Bidder will be summarily rejected.
- 16.12.1 The Fixed Deposit Receipt (FDR) submitted by Bidder from a Bank based in India shall be

duly pledged / lien in favour of “NHAI” (NHAI).

The FDR shall be in the name of the NHAI A/c (Name of Bidder) and the Bidder cannot encash / pre-mature this FDR without the discharge letter / NOC/approval of NHAI. However, NHAI can encash this FDR without the approval of the Bidder in case of non-compliance of the terms of the tender.

The original FDR shall be accompanied by a confirmation letter in original on letter head from the issuing bank to NHAI as per the format of “Third Party Deposit Confirmation Letter” placed as Annexure VII to Section III.

Note: FDR (free from any encumbrance payable at place mentioned in BDS) along with original confirmation letter in the manner mentioned above shall be uploaded/submitted as per tender conditions.

Bank means - Any Indian scheduled Bank (excluding Co-operative banks and Regional Rural bank) or a branch of an International Bank situated in India and registered with ‘Reserve Bank of India’ as Scheduled Foreign Bank. However, in case of “Fixed Deposit” from Banks other than the Nationalized Indian Banks, the Bank must be commercial Bank having net worth in excess of Rs. 100 Crores [Rupees One Hundred Crores] and a declaration to this effect should be made by such commercial Bank either in the “Fixed Deposit” itself or separately on its letterhead. NHAI will verify the Fixed Deposit Receipt from issuing bank.

- 16.12.2 The FDR should have a validity of at least ‘165 days’ beyond the date on which the bid expires.
- 16.12.3 Any dispute arising out of or in relation to the said FDR shall be subject to the exclusive jurisdiction of courts at New Delhi.
- 16.12.4 FDR in Original and Third Party Deposit Confirmation Letter in Original has to be kept in Custody of NHAI.

16A DECLARATION FOR BID SECURITY

Start-Ups and CPSEs (to whom exemption is allowed as per extant guidelines in vogue) are required to submit Declaration for Bid Security as per proforma at Form F-2A.

17 PRE-BID MEETING (IF APPLICABLE)

DELETED

18 FORMAT AND SIGNING OF BID

- 18.1 The original and all copies of the Bid shall be typed or written in indelible ink [in the case of copies, photocopies are also acceptable] and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder (as per POA). The name and position held by each person signing, must be typed or printed below the signature. All pages of the Bid except for un-amendable printed literature where entry(s) or amendment(s) have been made shall be initialed by the person or persons signing the Bid.
- 18.2 The Bid shall contain no alterations, omissions, or additions, unless such corrections are initialed by the person or persons signing the Bid.
- 18.3 In case of e-tendering, digitally signed documents to be uploaded as detailed in addendum to ITB (Annexure-III to Section III).

19 ZERO DEVIATION AND REJECTION CRITERIA

- 19.1 **ZERO DEVIATION:** Deviation to terms and conditions of "Bidding Documents" may lead to rejection of bid. NHAI will accept bids based on terms & conditions of "Bidding Documents" only. Bidder may note NHAI will determine the substantial responsiveness of each bid to the Bidding Documents pursuant to provision contained in clause 29 of ITB. For purpose of this, a substantially responsive bid is one which conforms to all terms and conditions of the Bidding Documents without deviations or reservations. NHAI's determination of a bid's responsiveness is based on the content of the bid itself without recourse to extrinsic evidence.

Bidder is requested not to take any deviation(s)/exception(s) to the terms & conditions of Tender Document, and submit all requisite documents as mentioned in this Tender Document, failing which their Bid will be liable for rejection. If a Bidder does not reply to the queries in the permitted time frame, then its Bid shall be evaluated based on the documents available in the Bid.

As a principle, clarifications from Bidders after opening of tenders will not be sought. However, where clarifications / documents from the Bidders on important aspects are absolutely necessary for finalization of tender, clarifications from Bidder can be asked. The request for clarification shall be given in email/portal, asking the Bidder to respond by a specified date, and also mentioning therein that, if the Bidder does not comply or respond by the date, his tender will be liable to be rejected. Depending on the outcome, such tenders are to be ignored or considered further. No change in prices or substance of the bid including specifications, shall be offered or permitted. No post-bid clarification at the initiative of the Bidder shall be entertained. The shortfall information/ documents should be sought only in case of historical documents which pre-existed bids and which have not undergone change since then.

- 19.2 **REJECTION CRITERIA:** Notwithstanding the above, deviation to the following clauses of Tender document shall lead to summarily rejection of Bid:

- (a) Firm Price
- (b) Earnest Money Deposit / Bid Security/ Bid Security declaration, as applicable
- (c) Specifications & Scope of Work
- (d) Schedule of Rates / Price Schedule / Price Basis
- (e) Duration / Period of Contract/ Completion schedule
- (f) Period of Validity of Bid
- (g) Price Reduction Schedule
- (h) Contract Performance Security
- (i) Guarantee / Defect Liability Period
- (j) Arbitration / Resolution of Dispute/Jurisdiction of Court
- (k) Force Majeure & Applicable Laws
- (l) Integrity Pact, if Applicable
- (m) Any other condition specifically mentioned in the tender document elsewhere that non-compliance of the clause lead to rejection of bid

Note: Further, it is once again reminded not to mention any condition in the Bid which is contradictory to the terms and conditions of Tender document.

20 E-PAYMENT

NHAI has initiated payments to Contractors electronically, and to facilitate the payments electronically through 'e-banking'.

ID1 – SUBMISSION OF BIDS

21 SUBMISSION, SEALING AND MARKING OF BIDS

- 21.1 In case of e-tendering, bids shall be submitted through e-tender mode in the manner specified elsewhere in tender document. No Manual/ Hard Copy (Original) offer shall be acceptable. Physical documents shall be addressed to the INDEPENDENT ENGINEER at address specified in IFB.
- 21.2 In case of manual tendering bid must be submitted in sealed envelope. If the envelope is not sealed & marked as per Clause No. 11 of ITB, the employer will assume no responsibility for misplacement or pre-mature opening of the bid.
- 21.3 All the bids shall be addressed to the INDEPENDENT ENGINEER at address specified in IFB.
- 21.4 Bids submitted under the name of AGENT / REPRESENTATIVE /RETAINER/ ASSOCIATE etc. on behalf of a Bidder/affiliate shall not be accepted.

22 DEADLINE FOR SUBMISSION OF BIDS

- 22.1 In case of e-bidding, the bids must be submitted through e-tender mode not later than the date and time specified in the tender documents/BDS.
- 22.2 In case of manual tendering EMD along with bid must be submitted within the due date & time, as specified in Clause no. 2.0 (I) of IFB and place mentioned in BDS.
- 22.3 NHAI may, in exceptional circumstances and at its discretion, extend the deadline for submission of Bids (8.0 and/or 9 of ITB refers). In which case all rights and obligations of NHAI and the Bidders, previously subject to the original deadline will thereafter be subject to the deadline as extended. Notice for extension of due date of submission of bid will be uploaded on e-tender portal / communicated to the Bidders.

23 LATE BIDS

- 23.1 Any bids received after the notified date and time of closing of tenders will be treated as late bids.
- 23.2 In case of e-tendering, e-tendering system of e-tenders shall close immediately after the due date for submission of bid and no bids can be submitted thereafter.
In case of manual tendering, bids received by NHAI after the due date for submission of bids shall not be considered. Such late bids shall be returned to the Bidder within “10 days” in ‘unopened conditions’. The EMD of such Bidders shall be returned along with the un-opened bid. In case of e-tendering, where the EMD/physical documents has been received but the bid is not submitted by the Bidder in the e-tendering portal, such bid bond/ physical documents shall be returned immediately.
- 23.3 EMD /physical documents received to address other than one specifically stipulated in the Tender Document will not be considered for evaluation/opening/award if not received to the specified destination within stipulated date & time.
- 23.4 Unsolicited Bids or Bids received to address other than one specifically stipulated in the tender document will not be considered for evaluation/opening/award if not received to the specified destination within stipulated date & time.

24 MODIFICATION AND WITHDRAWAL OF BIDS

- 24.1 Modification and withdrawal of bids shall be as follows:-

24.1.1 IN CASE OF E- TENDERING

The Bidder may withdraw or modify its bid after bid submission but before the due date and time for submission as per tender document.

24.1.2 IN CASE OF MANUAL BIDDING (Not Applicable)

- The Bidder may withdraw or modify its bid after bid submission but before the due date for submission as per tender document provided that the written notice of the modification/ substitution/ withdrawal is received by NHAI prior to the deadline for submission of bid.
- 24.2 The modification shall also be prepared, sealed, marked and dispatched in accordance with the provisions of the clause 11, 21 & 22 of ITB with relevant 'Cut-Out Slip' duly pasted and mentioning on top of the envelope as "MODIFICATION". In case of withdrawal of bid, the Envelope containing withdrawal letter duly superscribing the envelope as "WITHDRAWAL" and "Tender Document number :...."/ communication regarding withdrawal of bid with "Tender Document number :...."/ must reach concerned dealing official of NHAI within Due date & Time of submission of Bid. No bid shall be modified/ withdrawn after the Due Date & Time for Bid submission.
- 24.3 Any withdrawal/ modification/substitution of Bid in the interval between the Due Date & Time for Bid submission and the expiration of the period of bid validity specified by the Bidder in their Bid shall result in the Bidder's forfeiture of EMD pursuant to clause 16 of ITB invocation of action as per Bid Security declaration and rejection of Bid.
- 24.4 The latest Bid submitted by the Bidder before Bid Due Date & Time shall be considered for evaluation and all other Bid(s) shall be considered to be unconditionally withdrawn.

[E] – BID OPENING AND EVALUATION

25 EMPLOYER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

- 25.1 NHAI reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids, at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder(s) or any obligations to inform the affected Bidder(s) of the ground for NHAI's action. However, Bidder if so desire may seek the reason (in writing) for rejection of their Bid to which NHAI shall respond quickly.
- 25.2 A Bidder is to be permitted to send his representation in writing to dealing officer specified in tender for rejection of bid. But, such representation has to be sent up to 10(ten) days from the date of Notification of Award/LOA.-A decision on representation will be taken by NHAI within 15 (fifteen) days of the receipt of the representation. Only a directly affected Bidder can represent in this regard:
- Only a Bidder who has participated in tender can make such representation
 - In case technical bid has been evaluated before the opening of the financial bid, an application for review in relation to the financial bid may be filed only by a Bidder whose technical bid is found to be acceptable
- 25.3 However, following decisions of NHAI shall not be subject to review:
- Determination of the need for procurement;
 - Selection of the mode of procurement or bidding system;
 - Choice of selection procedure;
 - Provisions limiting participation of Bidders in the procurement process;
 - The decision to enter into negotiations with the L1 Bidder;
 - Cancellation of the procurement process except where it is intended to subsequently re-tender the same requirements;
 - Issues related to ambiguity in contract terms may not be taken up after a contract has been signed, all such issues should be highlighted before consummation of the contract by the vendor/ contractor; and
 - Complaints against specifications except under the premise that they are either vague or too specific so as to limit competition may be permissible.

26 BID OPENING

26.1 *Unpriced Bid Opening :*

NHAI will open bids, in the presence of Bidders' designated representatives who choose to attend, at date, time and location stipulated in the BDS. The Bidders' representatives, who are present, shall sign a bid opening register evidencing their attendance.

26.2 *Priced Bid Opening:*

26.2.1 NHAI will open the price bids of those Bidders who meet the qualification requirement and whose bid is determined to be technically and commercially responsive. Techno-commercial bid evaluation status will be are to be informed to all Bidders (including informing the techno-commercially not qualified Bidders). Price bids are to be opened in the presence of only techno-commercially acceptable Bidders, who are willing to attend the bid opening, at a pre-publicized date, time and place or on the portal in case of e-procurement. The Bidder's name, bid price, discount (if any) and any such details considered appropriate shall be read out during the price bid opening. Offers should not, repeat not, be circulated amongst the Bidder's representative. Bidders selected for opening of their price bid shall be informed about the date & time of price bid opening. Bidders may depute their authorized representative to witness the price bid opening. The Bidders' representatives, who are present shall sign a Price Bid Opening Register evidencing their attendance and may be required to be present even on a short notice.

26.2.2 The price bids of those Bidders who were not found to be techno-commercially responsive shall not be opened in both manual tendering and e-tendering.

26.3 In case of bids invited under the single bid system, bid shall be opened on the specified due date & time: Not Applicable.

27 CONFIDENTIALITY

Information relating to the examination, clarification, evaluation and comparison of bids, and recommendations for the award of a contract, shall not be disclosed to Bidders or any other person not officially concerned with such a process until the award to the successful Bidder.

28 CONTACTING THE EMPLOYER

28.1 From the time of bid opening to the time of contract award, no Bidder shall contact NHAI on any matter related to the bid, except on request and prior written permission.

28.2 Any effort by the Bidder to influence NHAI in bid evaluation, bid comparison or contract award decisions will vitiate the process and will result in the rejection of the Bidder's bid and action shall be initiated as per the NHAI's procedure for action in case Corrupt / Fraudulent / Collusive / Coercive practices in this regard apart from forfeiture of EMD/ Bid Security, if any.

29 EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS

29.1 The employer's determination of a bid's responsiveness is based on the content of the bid only. Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid:-

- (a) Meets the "Bid Evaluation Criteria" of the Bidding Documents;
- (b) Has been properly signed;
- (c) Is accompanied by the required 'Earnest Money / Bid Security / Bid Security Declaration
- (d) Is substantially responsive to the requirements of the Bidding Documents; and
- (e) Provides any clarification and/or substantiation that the Employer may require to determine responsiveness pursuant to "ITB: Clause-29.2"

- 29.2 A substantially responsive Bid is one which conforms to all the terms, conditions and specifications of the Bidding Documents without material deviations or reservations or omissions for this purpose employer defines the foregoing terms below:-
- a) "Deviation" is departure from the requirement specified in the tender documents.
 - b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirement in the tender documents.
 - c) "Omission" is the failure to submit part or all of the information or documentation required in the tender document for evaluation of bid.
- 29.3 A material deviation, reservation or omission is one that,
- a) If accepted would,
 - i) Affect in any substantial way the scope, quality, or performance of the job as specified in tender documents.
 - ii) Limit, in any substantial way, inconsistent with the Tender Document, the Employer's rights or the tenderer's obligations under the proposed Contract.
 - b) If rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive bids.
- 29.4 The employer shall examine all aspects of the bid to confirm that all requirements have been met without any material deviation, reservation or omission.
- 29.5 Tenders that do not meet the basic requirements specified in the bid documents are to be treated as unresponsive {both during Techno-commercial evaluation and Financial Evaluation in case of Two Bid System) and will be ignored. All tenders received will first be scrutinized to see whether the tenders meet the basic requirements as incorporated in the Bid document and to identify unresponsive tenders, if any. Unresponsive offers may not subsequently be made responsive by correction or withdrawal of the non- conforming stipulation. Some important points on the basis of which a tender may be declared as unresponsive and be ignored during the initial scrutiny are :
- i) The tender is not in the prescribed format or is unsigned or not signed as per the stipulations in the bid document;
 - ii) The required EMD has not been provided or exemption from EMD is claimed without acceptable proof of exemption;
 - iii) The Bidder is not eligible to participate in the bid as per laid down eligibility criteria
 - iv) The bid departs from the essential requirements specified in the bidding document (for example, the tenderer has not agreed to give the required contract performance security); or
 - v) Against a schedule in the list of requirements in the tender enquiry, the tenderer has not quoted for the entire requirement as specified in that schedule (example: in a schedule, it has been stipulated that the tenderer will supply the equipment, install and commission it and also train the NHAI's personnel for operating the equipment. The tenderer has, however, quoted only for supply of the equipment).

30 CORRECTION OF ERRORS

- 30.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors in Price Schedule/Bill of Quantity (BoQ) will be corrected by the Employer as follows:
- (i) When there is a difference between the rates in figures and words, the rate which corresponds to the amount worked out by the Bidder (i.e. by multiplying the quantity and rate) shall be taken as correct.
 - (ii) When the rate quoted by the Bidder in figures and words tallies but the amount is incorrect, the rate quoted by the Bidder shall be taken as correct and not the amount. The amount shall be re-calculated/ corrected accordingly.

- (iii) In case a Price Schedule/ Schedule of Rate is having provisions of sub-total and grand total and there is a difference between “sum of sub totals” and “grand total”, “sum of sub totals” shall be taken as correct
- (iv) When it is not possible to ascertain the correct rate, in the manner prescribed above, the rate as quoted in words shall be adopted and the amount worked out, for comparison purposes.
- (v) In case any Bidder does not quote for any item(s) of “Schedule of Rates” and the estimated price impact is more than 10% of the quoted price, then the bid will be rejected. If such price impact of unquoted items is 10% or less of his quoted price, then the unquoted item(s) shall be loaded highest of the price quoted by the other Bidders. If such Bidder happens to be lowest evaluated Bidder, price of unquoted items shall be considered as included in the quoted bid price.

30.2 The discrepancy in bid shall be conveyed to the Bidder asking to respond by a target date and if the Bidder does not agree with observation, its Bid is liable to be rejected, and the EMD shall be forfeited / actions shall be invoked as per Declaration for Bid Security.

30.3 The above provision of Correction of Error shall not be applicable for E-tendering.

31 CONVERSION TO SINGLE CURRENCY FOR COMPARISON OF BIDS

Not Applicable. All bids submitted must be in the currency specified at clause 14 of ITB.

32 EVALUATION AND COMPARISON OF BIDS

Bid shall be evaluated as per evaluation criteria mentioned in Section-II of bidding documents on lowest bid.

In case of a tie at the lowest bid (L1) position between two or more Bidders, the order/LoA will be placed on the Bidder who has higher/ highest turnover in last audited financial year.

In case there is a tie at the lowest bid (L1) position between only startup Bidders and none of them has past turnover, the order/LoA will be placed on the startup who is registered earlier with Department for Promotion of Industry and Internal Trade.

33 COMPENSATION FOR EXTENDED STAY:- *Not Applicable*

34 PURCHASE PREFERENCE

Purchase Preference as per Policy to Provide Purchase Preference as per Public Procurement (Preference to Make in India), Order 2017 shall be allowed as per Government instructions in vogue, as applicable from time to time.

The Policy to Provide Purchase Preference as per Public Procurement (Preference to Make in India), Order 2017 is enclosed as Annexure V to ITB herewith.

Bidders are required to select the applicable purchase preference (i.e. preference category) option while submitting the bid on E-Tenders portal. However, evaluation and applicability of purchase preference policy will be based on the confirmations & documents submitted by the Bidder in the their bid irrespective of selection made on E-Tenders portal.

[F] – AWARD OF CONTRACT

35 AWARD

Subject to "ITB: Clause-29", NHAI will award the Contract to the successful Bidder whose Bid has been determined to be substantially responsive and has been determined as the lowest provided that Bidder, is determined to be qualified to satisfactorily perform the Contract.

“NHAI intent to place the contract directly on the address from where Goods are produced/dispatched or Services are rendered. In case, Bidder wants contract at some other address or supply of Goods/ Services from multiple locations, Bidder is required to provide in their bid address on which order is to be placed”.

NHAI will place the Contract directly on the successful Bidder from whom the bid has been received & evaluated and will not place order on other entities such as subsidiary, business associate or partner, dealer/distributor etc. of the Bidder.

36 NOTIFICATION OF AWARD / LETTER OF ACCEPTANCE

- 36.1 Prior to the expiry of 'Period of Bid Validity', Notification of Award for acceptance of the Bid will be intimated to the successful Bidder by NHAI either by E - mail /Letter or like means defined as the "Letter of Acceptance (LOA)". The Contract shall enter into force on the date of LOA and the same shall be binding on NHAI and successful Bidder (i.e. Contractor). The Notification of Award/LOA will constitute the formation of a Contract. The detailed Letter of Acceptance shall be issued thereafter incorporating terms & conditions of Tender Document, Corrigendum, Clarification(s), Bid and agreed variation(s)/acceptable deviation(s), if any. NHAI may choose to issue Notification of Award in form of detailed Letter of Acceptance without issuing LOA and in such case the Contract shall enter into force on the date of detailed Letter of Acceptance only.
- 36.2 Contract period shall commence from the date of "Notification of Award" or as mentioned in the Notification of Award. The "Notification of Award" will constitute the formation of a Contract, until the Contract has been effected pursuant to signing of Contract Agreement as per "ITB: Clause-37".
- 36.3 Upon the successful Bidder's / Contractor's furnishing of 'Contract Performance Security / Security Deposit', pursuant to "ITB: Clause-38", NHAI will promptly discharge his 'Earnest Money Deposit / Bid Security', pursuant to "ITB: Clause-16"
- 36.4 The Order/ contract value mentioned above is subject to Price Reduction Schedule clause.
- 36.5 NHAI will award the Contract to the successful Bidder, who, within 'fifteen [15] days' of receipt of the same, shall sign and return the acknowledged copy to NHAI.

37 SIGNING OF AGREEMENT

- 37.1 The successful Bidder/Contractor shall be required to execute an 'Agreement' (in case the individual contract value as specified in Notification of Award is more than INR 10 Lakhs exclusive of GST) in the proforma given in this Bidding Document on a 'non-judicial stamp paper' of appropriate value [cost of the 'stamp-paper' shall be borne by the successful Bidder/Contractor] and of ' State of India' specified in Bidding Data Sheet (BDS) only, within 'fifteen [15] days' of receipt of the "Letter of Acceptance [LOA]" of the Tender by the successful Bidder/Contractor failure on the part of the successful Bidder/Contractor to sign the 'Agreement' within the above stipulated period, shall constitute sufficient grounds for forfeiture of EMD/Security Deposit / Action as per Bid Security declaration.
- 37.3 The format for signing Contract Agreement in English is attached with this Bidding Document.

38 CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT [CPS/SD]

- 38.1 Within 15 days of the receipt of the notification of award/ Letter of Acceptance from NHAI, the successful Bidder shall furnish the Contract Performance Security (CPS) in accordance with of General Conditions of the Contract. The CPS shall be in the form of either in the form of a bank guarantee (including e- bank guarantee), Demand Draft (DD), Insurance Security Bond, online banking transaction, Fixed Deposit Receipt Banker's Cheque.
- 38.2 The contract performance security shall be for an amount equal to 10% of contract price. For the purpose of CPS, Contract/order value shall be exclusive of **GST (CGST & SGST/UTGST or IGST)**.
Bank Guarantee towards CPS shall be from any Indian scheduled bank (excluding Co-operative banks and Regional Rural bank) or a branch of an international bank situated in India and registered with Reserve bank of India as scheduled foreign bank. However, in case of bank guarantees from banks other than the Nationalized Indian banks, the bank must be a commercial bank having net worth in excess of Rs 100 crores and a declaration to this effect should be made by such commercial bank either in the Bank Guarantee itself or separately on its letterhead.
- 38.3 Failure of the successful Bidder to comply with the requirements of this article shall constitute sufficient grounds for consideration of the annulment of the award and forfeiture of the EMD / action as per declaration for Bid Security.
- 38.4 The CPS has to cover the entire contract value including extra works/services also. As long as the CPS submitted at the time of award take cares the extra works/ services executed and total executed value are within the awarded contract price, there is no need for additional CPS. As soon as the total executed value is likely to burst the ceiling of awarded contract price, the contractor should furnish additional CPS.
- 38.5 For Submission in Online Form: Payment should be made on or prior to last date & time of submission of bid documents. If Bank Guarantee is submitted towards Bid Security/EMD, it should be linked in SFMS (Structured Finance Messaging System) with the following NHAI bank account:

Account Name : National Highways Authority of India
Bank Account No. : C.A/c. 60341010004225
Bank & Branch : Canara Bank Nerkundram Branch, Chennai – 600 107.
IFSC Code : CNRB0001039

- 38.6 In addition to existing specified form (i.e. Demand Draft (DD)/ Banker's Cheque/ Bank Guarantee/Letter of Credit) mentioned in tender documents for submission of Security Deposit/ Contract Performance Security, the successful Bidder can also submit the Security Deposit/ Contract Performance Security through online banking transaction i.e. IMPS/NEFT/RTGS/SWIFT etc. For this purpose, the details of NHAI's Bank Account is mentioned in BDS. Further, in case a successful Bidder is willing to furnish CPS through SWIFT, the details may be obtained from Purchase Officer immediately after receipt of LOA.

39 PROCEDURE FOR ACTION IN CASE CORRUPT/ FRAUDULENT/COLLUSIVE/ COERCIVE PRACTICES

- 39.1 Procedure for action in case Corrupt/ Fraudulent/Collusive/Coercive Practices is enclosed at Annexure-I.
- 39.2 The Fraud Prevention Policy document is available on NHAI's website (www.nha.gov.in)
- 39.3 Name and contact details of nodal officer- Refer BDS for details
- 39.4 **NON-APPLICABILITY OF ARBITRATION CLAUSE IN CASE OF BANNING OF VENDORS/ SUPPLIERS / CONTRACTORS/BIDDERS/ CONSULTANTS**

INDULGED IN FRAUDULENT/ COERCIVE PRACTICES

Notwithstanding anything contained contrary in GCC and other "CONTRACT DOCUMENTS", in case it is found that the Contractors / Bidders indulged in fraudulent/coercive practices at the time of bidding, during execution of the contract etc., and/or on other grounds as mentioned in NHAI's "Procedure for action in case Corrupt/Fraudulent/Collusive/Coercive Practices" (Annexure-I to Section-III), the contractor/Bidder shall be banned (in terms of aforesaid procedure) from the date of issuance of such order by NHAI, to such Contractors/Bidders.

The Contractor/ Bidder understands and agrees that in such cases where Contractor/ Bidder has been banned (in terms of aforesaid procedure) from the date of issuance of such order by NHAI, such decision of NHAI shall be final and binding on such Contractor/ Bidder and the 'Arbitration clause' in the GCC and other "CONTRACT DOCUMENTS" shall not be applicable for any consequential issue /dispute arising in the matter.

40 PUBLIC PROCUREMENT POLICY FOR MICRO AND SMALL ENTERPRISES

- 40.1 MSEs (Micro & Small Enterprises) are not exempted from submission of EMD. MSE Bidders need to submit EMD/Bid Security as per relevant clauses of tender (cl. no. 2.0 (L) of IFB & cl. no. 16 of ITB etc.), failing which bid shall be treated as 'Bid not accompanied with EMD' and shall be rejected. The Government Departments/PSUs are also exempted from the payment of EMD. Further, Start-ups are also exempted from the payment of EMD.

41 AHR ITEMS

In item rate contract where the quoted rates for the items exceed 50% of the estimate rates, such items will be considered as Abnormally High Rates (AHR) items and payment of AHR items beyond the SOR stipulated quantities shall be made at the lowest amongst the following rates:

- I) Rates as per SOR, quoted by the Contractor.
- II) Rate of the item, which shall be derived as follows:
 - a. Based on rates of Machine and labour as available from the contract (which includes contractor's supervision, profit, overheads and other expenses).
 - b. In case rates are not available in the contract, rates will be calculated based on prevailing market rates of machine, material and labour plus 15% to cover contractor's supervision profit, overhead & other expenses.

42 VENDOR PERFORMANCE EVALUATION

Shall be as stipulated Annexure II to ITB annexed herewith.

43 INCOME TAX & CORPORATE TAX

- 43.1 Income tax deduction shall be made from all payments made to the contractor as per the rules and regulations in force and in accordance with the Income Tax Act prevailing from time to time.
- 43.2 Corporate Tax liability, if any, shall be to the contractor's account.
- 43.3 **TDS**
- (i) TDS, wherever applicable, shall be deducted as per applicable act/law/rule.
 - (ii) **Higher rate of TDS for non-filers of ITR**
As per Section 206AB of Income Tax Act, 1961, in case of any vendor/customer who

does not filed their Income Tax Return for both of the two previous years preceding to current year and aggregate amount of TDS is more than or equal to 50,000/- in each of those previous two years (or limit defined by Govt. from time to time), then TDS will be deducted at the higher of following rates:

- (I) Twice the rate mentioned in relevant TDS section.
- (II) Twice the rate or rates in force
- (III) 5%

43.4 MENTIONING OF PAN NO. IN INVOICE/BILL

As per CBDT Notification No. 95/2015 dated 30.12.2015, mentioning of PAN no. is mandatory for procurement of goods / services/works/consultancy services exceeding Rs. 2 Lacs per transaction or as amended from time to time.

Accordingly, contractor should mention their PAN no. in their invoice/ bill for any transaction exceeding Rs. 2 lakhs or as amended from time to time. As provided in the notification, in case contractor do not have PAN no., they have to submit declaration in Form 60 along with invoice/ bill for each transaction.

Payment of contractor shall be processed only after fulfilment of above requirement

44 DISPUTE RESOLUTION MECHANISM

Deleted

44.1 CONCILIATION AND ARBITRATION

1.0 CONCILIATION

NHAI has framed the Conciliation Rules 2010 in conformity with Part – III of the Arbitration and Conciliation Act 1996 as amended from time to time for speedier, cost effective and amicable settlement of disputes through conciliation. All issue(s)/dispute(s) arising under the Contract, which cannot be mutually resolved within a reasonable time as per clause no. 44.1, may be referred for conciliation in accordance with NHAI Conciliation Rules 2010 as amended from time to time A copy of the said rules have been made available on NHAI's web site i.e www.NHAIONline.com.

Where invitation for Conciliation has been accepted by the other party, the Parties shall attempt to settle such dispute(s) amicably under Part-III of the Arbitration and Conciliation Act, 1996 and NHAI Conciliation Rules, 2010. It would be only after exhausting the option of Conciliation as an Alternate Dispute Resolution Mechanism that the Parties hereto shall invoke Arbitration Clause. For the purpose of this clause, the option of 'Conciliation' shall be deemed to have been exhausted, even in case of rejection of 'Conciliation' by any of the Parties.

2.0 ARBITRATION

All issue(s)/dispute(s) excluding the matters that have been specified as excepted matters and listed at clause no. 2.6 and which cannot be resolved through Conciliation, such issue(s)/dispute(s) shall be referred to arbitration for adjudication by Sole Arbitrator.

The party invoking the Arbitration shall have the option to either opt for Ad-hoc Arbitration as provided at Clause 2.1 below or Institutionalized Arbitration as provided at Clause 2.2 below, the remaining clauses from 2.3 to 2.7 shall apply to both Ad-hoc and Institutional Arbitration:-

- 2.1 On invocation of the Arbitration clause by either party, NHAI shall suggest a panel of three independent and distinguished persons (Retd. Supreme Court & High Court Judges only) to the other party from the Panel of Arbitrators maintained by 'Delhi International Arbitration Centre (DIAC)' to select any one among them to act as the Sole Arbitrator. In the event of failure of the other party to select the Sole Arbitrator within 30 days from the receipt of the communication from NHAI suggesting the panel of arbitrators, the right of selection of the sole arbitrator by the other party shall stand forfeited and NHAI shall appoint the Sole Arbitrator from the suggested panel of three Arbitrators for adjudication of dispute(s). The decision of NHAI on the appointment of the sole arbitrator shall be final and binding on the other party. The fees payable to Sole Arbitrator shall be governed by the fee Schedule of 'Delhi International Arbitration Centre'.

OR

- 2.2 If a dispute arises out of or in connection with this contract, the party invoking the Arbitration shall submit that dispute to any one of the Arbitral Institutions i.e ICADR/ICA/DIAC/SFCA and that dispute shall be adjudicated in accordance with their respective Arbitration Rules. The matter shall be adjudicated by a Sole Arbitrator who shall necessarily be a Retd. Supreme Court/High Court Judge to be appointed/nominated by the respective institution. The cost/expenses pertaining to the said Arbitration shall also be governed in accordance with the Rules of the respective Arbitral Institution. The decision of the party invoking the Arbitration for reference of dispute to a specific Arbitral institution for adjudication of that dispute shall be final and binding on both the parties and shall not be subject to any change thereafter. The institution once selected at the time of invocation of dispute shall remain unchanged.

2.3 The cost of arbitration proceedings shall be shared equally by the parties.

- 2.4 The Arbitration proceedings shall be in English language and the seat, venue and place of Arbitration shall be New Delhi, India only.

- 2.5 Subject to the above, the provisions of Arbitration & Conciliation Act 1996 and any amendment thereof shall be applicable. All matter relating to this Contract and arising out of invocation of Arbitration clause are subject to the exclusive jurisdiction of the Court(s) situated at New Delhi.

2.6 List of Excepted matters:

- a) Dispute(s)/issue(s) involving claims below Rs 25 lakhs and above Rs 25 crores.
- b) Dispute(s)/issue(s) relating to indulgence of Contractor/Vendor/Bidder in corrupt/fraudulent/collusive/coercive practices and/or the same is under investigation by CBI or Vigilance or any other investigating agency or Government.
- c) Dispute(s)/issue(s) wherein the decision of Engineer-In-Charge/INDEPENDENT ENGINEER/NHAI has been made final and binding in terms of the Contract.

- 2.7. Disputes involving claims below Rs 25 Lakhs and above Rs. 25 crores:- Parties mutually agree that dispute(s)/issue(s) involving claims below Rs 25 Lakhs and above Rs 25 crores shall not be subject matter of Arbitration and are subject to the exclusive jurisdiction of the Court(s) situated at New Delhi.

GOVERNING LAW AND JURISDICTION:

The Contract shall be governed by and construed in accordance with the laws in force in India. The Parties hereby submit to the exclusive jurisdiction of the Courts situated at New Delhi for adjudication of disputes, injunctive reliefs, actions and proceedings, if any, arising out of this Contract.

45. DISPUTES BETWEEN CPSE'S/GOVERNMENT DEPARTMENT'S/ ORGANIZATIONS

Subject to conciliation as provided above, in the event of any dispute (other than those related to taxation matters) or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs/ Port Trusts) inter se and also between CPSEs and Government Departments /Organizations), such dispute or difference shall be taken up by either party for resolution only through AMRCD as mentioned in OPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018.

Any party aggrieved with the decision of the Committee at the First level (tier) may prefer an appeal before the Cabinet Secretary at the Second level (tier) within 15 days from the date of receipt of decision of the Committee at First level, through it's administrative Ministry/Department, whose decision will be final and binding on all concerned.

The above provisions mentioned at clause no.44 & 45 shall supersede provisions relating to Conciliation, Arbitration, Governing Law & Jurisdiction and Disputes between CPSE's/ Government Department's/ Organizations mentioned in General Conditions of Contract (GCC) and elsewhere in tender document.

46.0 INAM-PRO (PLATFORM FOR INFRASTRUCTURE AND MATERIALS PROVIDERS)

Deleted

47 PROMOTION OF PAYMENT THROUGH CARDS AND DIGITAL MEANS

To promote cashless transactions, the onward payments by Contractors to their employees, service providers, sub-contractors and suppliers may be made through Cards and Digital means to the extent possible

48 CONTRACTOR TO ENGAGE CONTRACT MANPOWER BELONGING TO SCHEDULED CASTES AND WEAKER SECTIONS OF THE SOCIETY

While engaging the contractual manpower, Contractors are required to make efforts to provide opportunity of employment to the people belonging to Scheduled Castes and weaker sections of the society also in order to have a fair representation of these sections.

49. PROVISIONS FOR STARTUPS (AS DEFINED IN GAZETTE NOTIFICATION NO. D.I-33004/99 DATED 18.02.2016 AND 23.05.2017 OF MINISTRY OF COMMERCE AND INDUSTRY AND AS AMENDED FROM TIME TO TIME) [FOR APPLICABILITY REFER BDS]

As mentioned in Section-II, relaxation for Prior turnover and prior experience to Start-ups is not allowed in this tender.

However, the Startups are exempted from submission of EMDs (if applicable).

50. PROVISION REGARDING INVOICE FOR REDUCED VALUE OR CREDIT NOTE TOWARDS PRS

PRS is the reduction in the consideration / contract value for the services covered under this contract. In case of delay in execution of contract, service provider should raise invoice for reduced value as per Price Reduction Schedule Clause (PRS clause). If service provider has raised the invoice for full value, then service provider should issue Credit Note towards the applicable PRS amount with applicable taxes.

In such cases if service provider fails to submit the invoice with reduced value or does not issue credit note as mentioned above, NHAI will release the payment to service provider after giving effect of the PRS clause with corresponding reduction of taxes charged on service provider's invoice, to avoid delay in payment.

In case any financial implication arises on NHAI due to issuance of invoice without reduction in price or non-issuance of Credit Note, the same shall be to the account of service provider. NHAI shall be entitled to deduct / setoff / recover such GST amount (CGST & SGST/UTGST or IGST) together with penalties and interest, if any, against any amounts paid or becomes payable by NHAI in future to the service provider under this contract or under any other contract.

51. UNIQUE DOCUMENT IDENTIFICATION NUMBER BY PRACTICING CHARTERED ACCOUNTANTS

Practicing Chartered Accountants shall generate Unique Document Identification Number (UDIN) for all certificates issued by them as per provisions of Tender Document.

However, UDIN may not be required for documents being attested by Chartered Accountants in terms of provisions of Tender Document.

52. ANJANI PORTAL

Deleted

53. DOCUMENTS FOR PAYMENT:

Payment terms shall be as mentioned in GCC-Works/SCC.

However, for release of payment, Contractor is required to submit invoice along with other documents as mentioned in SCC. The final bill is to be submitted within one month after completion.

54. ORDER TRANSMITTAL SYSTEM:

Deleted

55. SUB-LETTING OF WORKS

The following is added to the Clause no. 37 of General Conditions of Contract (GCC)-Works:

- (i) Procurement of material, hire of equipment or engagement of labour will not mean sub-contracting.
- (ii) Sub-contracting by the contractor without the approval of NHAI shall be a breach of contract, unless explicitly permitted in the contract.
- (iii) However, If specified in SCC Sub-contracting for Specialized Items of Work is allowed upto certain percentage of work.

56. VENDOR INVOICE MANAGEMENT (VIM)

Deleted

FORM OF BANK GUARANTEE/E-BANK GUARANTEE FOR BID SECURITY:

WHEREAS _____ (Name of Tenderer) (hereinafter called the Tenderer) wishes to submit his tender for in the state/s of _____ herein after called "the Tender" KNOW ALL MEN by these present that we _____ (Name of Bank) of _____ (Name of country) having our registered office at (_____) (hereinafter called the 'Bank') are bound unto the National Highways Authority of India (hereinafter called "the Employer") in the sum of the Rs. _____ (Rupees _____) *for which payment can truly be made to the said Employer. The Bank bind themselves, their successors and assigns by these present with the common seal of the Bank this day _____ of _____ and undertake to pay the amount of _____ Rs. _____ to the employer upon receipt of his first written demand without the employer having to substantiate his demand.

The conditions of this obligation are:

(i) If the tenderer withdraws his tender during the period of Tender validity specified in the Form of Tender.

Or

(ii) If the Tenderer having _____ been _____ notified of _____ the acceptance of his _____ Tender by the Employer during the period of tender validity.

(a) fails or refuses to execute the Form of Agreement in accordance with the instructions to bidders, if required; or

(b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders.

We undertake to pay to the Employer upto the above amount upon receipt of his first written demand, without the employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of any one of the above conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including the date 45 days beyond the validity of the bid as stated in the Instructions to Bidders or as it may be extended by the Employer, at any time prior to the closing date for submission of the Tenders Notice of which extension to the Bank is hereby waived. Any demand in respect of this guarantee should be made on the Bank on or before the date of expiry of this guarantee.

This guarantee shall also be operatable at our branch at Chennai, from whom, confirmation regarding the issue of this guarantee or extension/ renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment there under claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation

"The guarantor / bank hereby confirm that it is on the SFMS (Structural Finance Messaging System) Platform & shall invariably send and advice of this Bank Guarantee/E-Bank Guarantee to the designated bank of NHAI after obtaining details thereof from NHAI".

Sl. No.	Particulars	Details
1.	Name of Beneficiary	National Highways Authority of India
2.	Name of Bank	Canara Bank
3.	Account No.	60341010004225
4.	IFSC Code	CNRB0001039
5.	Address of Bank Branch	Nerkundram Branch, Chennai - 600 107.

Notwithstanding anything contained herein before, our liability under this guarantee is restricted to Rs. _____ (Rs. _____ in words) and the guarantee shall remain valid till _____. Unless a claim or a demand in writing is served upon us on or before all our liability under this guarantee shall cease.

SIGNATURE OF AUTHORISED REPRESENTATIVE OF THE BANK _____

NAME AND DESIGNATION _____

EMPLOYEE CODE NUMBER SEAL OF THE BANK _____

SIGNATURE OF THE WITNESS (IF THIS IS TO BE WITNESSED AS PER BANK'S POLICY) _____

NAME OF THE WITNESS _____

ADDRESS OF THE WITNESS _____

FORM OF BANK GUARANTEE/E-BANK GUARANTEE FOR PERFORMANCE SECURITY

To
Regional Officer,
National Highways Authority of India,
CMRL Building, 5th Floor
Poonamalle High Road,
Koyambedu - Chennai-600 107
Phone No: 044 - 22251885
Fax No: 044 - 22251895
E mail: ROChennai@nhai.org

WHEREAS..... (name and address of contractor)
hereinafter called "the contractor" has undertaken, in pursuance of Letter of Acceptance
No. Dated to
execute (name of Contract and brief description of Works)
(hereinafter called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the Contractor shall furnish you with a Bank Guarantee/E-Bank Guarantee for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee/E-Bank Guarantee:
NOW THEREOF we hereby affirm that we are the guarantor and responsible to you on behalf of the Contractor, up to a total of Rs..... (amount of guarantee)
(Rupees..... (in words), , and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of.....(amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract or of the works to be performed there under or of any of the contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 28 days from the date of expiry of the Defects Liability Period.

This guarantee shall also be operatable at our branch at Chennai, from whom, confirmation regarding the issue of this guarantee or extension/ renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment there under claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation

"The guarantor / bank hereby confirms that it is on the SFMS (Structural Finance Messaging System) Platform & shall invariably send and advice of this Bank Guarantee/E-Bank Guarantee to the designated bank of NHAI after obtaining details thereof from NHAI".

Sl. No.	Particulars	Details
1.	Name of Beneficiary	National Highways Authority of India
2.	Name of Bank	Canara Bank

3	Account No.	C.A/c. 60341010004225
4.	IFSC Code	CNRB0001039
5.	Address of Bank Branch	Nerkundram Branch, Chennai – 600 107.

Notwithstanding anything contained herein before, our liability under this guarantee is restricted to Rs. _____ (Rs. ____ in words) and the guarantee shall remain valid till _____. Unless a claim or a demand in writing is served upon us on or before _____ all our liability under this guarantee shall cease.

Signature and seal of the Guarantor with Name, Designation, Employee Code Number & Telephone Number.....

Name of the Issuing Bank/Branch.....Name of the Controlling Branch/Bank.....

Address & Telephone Number.....Address & Telephone Number.....

Date.....

In the presence of (if this is to be witnessed as per bank's policy).....

1.....

(Name, Address & Occupation)

2.....

(Name, Address & Occupation)

An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract including additional security for unbalance bids, if any and denominated in Indian Rupees.

FORM OF AGREEMENT AGREEMENT

This agreement made the _____ day of _____ 20____ between the National Highways Authority of India, (herein after called "the Employer" of the one part and _____ (here in after called "the Contractor") of the other part.

AND WHEREAS the Employer invited bids from eligible bidders for the execution of certain works, viz.....

AND WHEREAS pursuant to the bid submitted by the Contractor, vide _____ (here in after referred to as the "BID" or "OFFER") for the execution of works, the Employer by his letter of acceptance dated _____ accepted the offer submitted by the Contractor for the execution and completion of such works and remedying of any defects thereon, on terms and conditions in accordance with the documents listed in para 2 below.

AND WHEREAS the Contractor by a deed of undertaking dated _____ has agreed to abide by all the terms of the bid, including but not limited to the amount quoted for the execution of Contract, as stated in the bid, and also to comply with such terms and conditions as may be required from time to time.

AND WHEREAS the contractor has agreed to undertake such works and has furnished a performance security pursuant to clause 33 of the instructions to bidders (Section-I).

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this agreement words and expressions shall have the same meaning as are respectively assigned to them in the conditions of contract hereinafter referred to;
2. the following documents shall be deemed to form and be read and Construed as part of this agreement viz.
 - (a) Agreement,
 - (b) Letter of Acceptance
 - (c) Contractor's Bid including Financial Bid Form,
 - (d) Contract Data,
 - (e) Conditions of Contract
 - (f) Technical Specifications,
 - (g) Drawings, if any
 - (h) Implementation Manual and Maintenance Intervention Level
 - (i) Scope of Work
 - (j) Bill of Quantities, and
 - (k) Any other document listed in the Contract Data.
3. The foregoing documents shall be construed as complementary and mutually explanatory one with another. Should any ambiguity or discrepancy be noted then the order of precedence of these documents shall be subject to the order as listed above and interpreted in the above order of priority.
4. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the works and remedy any defects therein in conformity in all respects with the provisions of the contract.

5. the employer hereby covenants to pay the contractor in consideration of the execution and completion of the works and remedying of defects therein, the contract price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS WHEREOF the parties here to have caused this agreement to be executed the day and year above written. Signed, sealed and delivered by the said Employer through his Authorized Representative and the said Contractor through his Power of Attorney holder.

Binding Signature of Employer_____

For and on behalf of National Highways Authority of India,

Binding Signature of Contractor_____

For and on behalf of M/s._____

In the presence of

1. Name:
Address:

2. Name:
Address:

In the Presence of

- 1.Name:
Address:

- 2.Name:
Address:

PROCEDURE FOR ACTION IN CASE CORRUPT/FRAUDULENT/COLLUSIVE/COERCIVE PRACTICES

A Definitions:

- A.1 “Corrupt Practice” means the offering, giving, receiving or soliciting, directly or indirectly, anything of value to improperly influence the actions in selection process or in contract execution.
“Corrupt Practice” also includes any omission for misrepresentation that may mislead or attempt to mislead so that financial or other benefit may be obtained or an obligation avoided.
- A.2 “Fraudulent Practice” means and include any act or omission committed by a agency or with his connivance or by his agent by misrepresenting/ submitting false documents and/ or false information or concealment of facts or to deceive in order to influence a selection process or during execution of contract/ order.
- A.3 “Collusive Practice amongst Bidders (prior to or after bid submission)” means a scheme or arrangement designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.
- A.4 “Coercive practice” means impairing or harming or threatening to impair or harm directly or indirectly, any agency or its property to influence the improperly actions of an agency, obstruction of any investigation or auditing of a procurement process.
- A.5 “Vendor/Supplier/Contractor/Consultant/Bidder” is herein after referred as “Agency”
- A.6 “Appellate Authority” shall mean Committee of Directors consisting of Director (Finance) and Director (BD) for works centers under Director (Projects). For all other cases committee of Directors shall consist of Director (Finance) & Director (Projects).
- A.7 “Competent Authority” shall mean the authority, who is competent to take final decision for Suspension of business dealing with an Agency/ (ies) and Banning of business dealings with Agency/ (ies) and shall be the “Director” concerned.
- A.8 “Allied Agency” shall mean all concerns which come within the sphere of effective influence of the banned/suspended agency shall be treated as allied agency. In determining this, the following factors may be taken into consideration:
- Whether the management is common;
 - Majority interest in the management is held by the partners or directors of banned/ suspended agency;
 - Substantial or majority shares are owned by the banned/ suspended agency and by virtue of this it has a controlling voice.
 - Directly or indirectly controls, or is controlled by or is under common control with another Bidder.
 - All successor agency will also be considered as allied agency.
- A.9 “Investigating Agency” shall mean any department or unit of NHAI investigating into the conduct of Agency/ party and shall include the Vigilance Department of the NHAI, Central Bureau of Investigation, State Police or any other agency set up by the Central or state government having power to investigate.
- A.10 “Obstructive practice”: materially impede the procuring entity's investigation into allegations of one or more of the above mentioned practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/ or by threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding NHAI's rights of audit or access to information.

B Actions against Bidder(s) indulging in corrupt /fraudulent/ collusive/ coercive practice

B.1 Irregularities noticed during the evaluation of the bids :

If it is observed during bidding process/ bids evaluation stage that a Bidder has indulged in corrupt/fraudulent /collusive/coercive practice, the bid of such Bidder (s) shall be rejected and its Earnest Money Deposit (EMD) shall be forfeited.

Further, such agency shall be banned for future business with NHAI for a period specified in para B 2.2 below from the date of issue of banning order.

B.2 Irregularities noticed after award of contract

(i) During execution of contract:

If an agency, is found to have indulged in corrupt/fraudulent/ collusive/coercive practices, action shall be initiated for putting the agency on banning list.

After conclusion of process and issuance of Speaking order for putting party on banning list, the order (s)/ contract (s) where it is concluded that such irregularities have been committed shall be terminated and Contract cum Performance Bank Guarantee (CPBG) submitted by agency against such order (s)/ contract (s) shall also be forfeited. Further such order/ contract will be closed following the due procedure in this regard.

The amount that may have become due to the contractor on account of work already executed by him shall be payable to the contractor and this amount shall be subject to adjustment against any amounts due from the contractor under the terms of the contract. No risk and cost provision will be enforced in such cases.

Suspension of order/ contract:

Further, only in the following situations, the concerned order (s)/ contract(s) (where Corrupt/Fraudulent/ Collusive/ Coercive Practices are observed) and payment shall be suspended after issuance of Suspension cum Show Cause Notice:

- (i) Head of Corporate Vigilance Department/CVO based on the investigation by them, recommend for specific immediate action against the agency.
- (ii) Head of Corporate Vigilance Department/CVO based on the input from investigating agency, forward for specific immediate action against the agency.

Suspension cum Show Cause Notice being issued in above cases after approval of the competent authority (as per provisions mentioned under Clause no. D) shall also include the provision for suspension of Order (s)/ Contract (s) and payment. Accordingly, after issuance of Suspension cum Show Cause Notice, the formal communication for suspension of Order (s)/ Contract (s) and payment with immediate effect will be issued by the concerned person of NHAI.

During suspension, Contractor/ Service Providers will be allowed to visit the plant/ site for upkeep of their items/ equipment, NHAI's issued materials (in case custody of same is not taken over), demobilizing the site on confirmation of EIC, etc.

In addition to above, Recovery of payments (other than due payments) including balance advance payments, if any, made by along with interest thereon at the prevailing rate shall be recovered.

(ii) After execution of contract and during Defect liability period (DLP)/ Warranty/Guarantee Period:

If an agency is found to have indulged in corrupt/fraudulent/ collusive/coercive practices, after execution of contract and during DLP/ Warranty/Guarantee Period, the agency shall be banned for future business with NHAI for a period specified in para B 2.2 below from the date of issue of banning order.

Further, the Contract cum Performance Bank Guarantee (CPBG)/Contract Performance Security (CPS) submitted by agency against such order (s)/ contract (s) shall be forfeited.

(iii) After expiry of Defect liability period (DLP)/ Warranty/Guarantee Period

If an agency is found to have indulged in corrupt/fraudulent/ collusive/coercive practices, after expiry of Defect liability period (DLP)/ Warranty/Guarantee Period, the agency shall be banned for future business with NHAI for a period specified in para B 2.2 below from the date of issue of banning order.

B.2.2 Period of Banning

The period of banning of agencies indulged in Corrupt/ Fraudulent/ Collusive/Coercive Practices shall be as under and to be reckoned from the date of banning order:

S. No.	Description	Period of banning from the date of issuance of Banning order
1	Misrepresentation/False information other than pertaining to BEC of tender but having impact on the selection process. For example, if an agency confirms not being in holiday in NHAI/PSU's PROJECT DIRECTOR or banned by PSUs/ Govt. Dept., liquidation, bankruptcy & etc. and subsequently it is found otherwise, such acts shall be considered in this category.	06 Months
2	Corrupt/Fraudulent (except mentioned sl. no. 1 above) /Collusive/Coercive Practices	01 year
2.1	If an agency again commits Corrupt/Fraudulent (except mentioned sl. no. 1 above) /Collusive/ Coercive Practices in subsequent cases after their banning, such situation of repeated offense to be dealt with more severity	2 years (in addition to the period already served)
3	Indulged in unauthorized disposal of materials provided by NHAI	2 years
4	If act of vendor/ contractor is a threat to the National Security	2 years

C Effect of banning on other ongoing contracts/ tenders

C.1 If an agency is put on Banning, such agency should not be considered in ongoing tenders/future tenders.

- C.2 However, if such an agency is already executing other order (s)/ contract (s) where no corrupt/fraudulent/ collusive/coercive practice is found, the agency should be allowed to continue till its completion without any further increase in scope except those incidental to original scope mentioned in the contract.
- C.3 If an agency is put on the Banning List during tendering and no irregularity is found in the case under process:
- C.3.1 after issue of the enquiry /bid/tender but before opening of Technical bid, the bid submitted by the agency shall be ignored.
- C.3.2 after opening technical bid but before opening the Price bid, the Price bid of the agency shall not be opened and BG/EMD submitted by the agency shall be returned to the agency.
- C.3.3 after opening of price, BG/EMD made by the agency shall be returned; the offer of the agency shall be ignored & will not be further evaluated. . In case such agency is lowest (L-1), next lowest Bidder shall be considered as L-1..

D. Procedure for Suspension of Bidder

D.1 Initiation of Suspension

Action for suspension business dealing with any agency/(ies) shall be initiated by Corporate C&P Department when

- (i) Corporate Vigilance Department based on the fact of the case gathered during investigation by them recommend for specific immediate action against the agency.
- (ii) Corporate Vigilance Department based on the input from Investigating agency, forward for specific immediate action against the agency.
- (iii) Non-performance of Vendor/Supplier/Contractor/Consultant leading to termination of Contract/ Order.

D.2 Suspension Procedure:

- D.2.1 The order of suspension would operate initially for a period not more than six months and is to be communicated to the agency and also to Corporate Vigilance Department. Period of suspension can be extended with the approval of the Competent Authority by one month at a time with a ceiling of six months pending a conclusive decision to put the agency on banning list.
- D.2.2 During the period of suspension, no new business dealing may be held with the agency.
- D.2.3 Period of suspension shall be accounted for in the final order passed for banning of business with the agency.
- D.2.4 The decision regarding suspension of business dealings should also be communicated to the agency.
- D.2.5 If a prima-facie, case is made out that the agency is guilty on the grounds which can result in banning of business dealings, proposal for issuance of suspension order and show cause notice shall be put up to the Competent Authority. The suspension order and show cause notice must include that (i) the agency is put on suspension list and (ii) why action should not be taken for banning the agency for future business from NHAI.
The competent authority to approve the suspension will be same as that for according approval for banning.

D 3 Effect of Suspension of business:

Effect of suspension on other on-going/future tenders will be as under:

- D.3.1 No enquiry/bid/tender shall be entertained from an agency as long as the name of agency appears in the Suspension List.

- D.3.2 If an agency is put on the Suspension List during tendering:
- D.3.2.1 After issue of the enquiry /bid/tender but before opening of technical bid, the bid submitted by the agency shall be ignored.
- D.3.2.2 After opening technical bid but before opening the Price bid, the Price bid of the agency shall not be opened and BG/EMD submitted by the agency shall be returned to the agency.
- D.3.2.3 after opening of price, BG/EMD made by the agency shall be returned; the offer of the agency shall be ignored & will not be further evaluated. In case such agency is lowest (L-1), next lowest Bidder shall be considered as L-1. .
- D.3.3 The existing contract (s)/ order (s) under execution shall continue.
- D.3.4 Tenders invited for procurement of goods, works and services shall have provision that the Bidder shall submit a undertaking to the effect that (i) neither the Bidder themselves nor their allied agency/(ies) are on banning list of NHAI or the Ministry of Petroleum and Natural Gas and (ii) Bidder is not banned by any Government department/ Public Sector.

F. Appeal against the Decision of the Competent Authority:

- F.1 The agency may file an appeal against the order of the Competent Authority for putting the agency on banning list. The appeal shall be filed to Appellate Authority. Such an appeal shall be preferred within one month from the of receipt of banning order.
- F.2 Appellate Authority would consider the appeal and pass appropriate order which shall be communicated to the party as well as the Competent Authority.
- F.3 Appeal process may be completed within 45 days of filing of appeal with the Appellate Authority.
- G. Wherever there is contradiction with respect to terms of 'Integrity pact', GCC and 'Procedure for action in case of Corrupt/Fraudulent/ Collusive/Coercive Practice', the provisions of 'Procedure for action in case of Corrupt/Fraudulent/ Collusive/Coercive Practice' shall prevail.

**PROCEDURE FOR EVALUATION OF PERFORMANCE OF VENDORS/
SUPPLIERS/ CONTRACTORS/ CONSULTANTS**

1.0 GENERAL

A system for evaluation of Vendors/ Suppliers/Contractors/ Consultants and their performance is a key process and important to support an effective purchasing & contracting function of an organization.

Performance of all participating Vendors/ Suppliers/Contractors/ Consultants need to be closely monitored to ensure timely receipt of supplies from a Vendor, completion of an assignment by a Consultant or complete execution of order by a contractor within scheduled completion period. For timely execution of projects and meeting the operation & maintenance requirement of operating plants, it is necessary to monitor the execution of order or contracts right from the award stage to completion stage and take corrective measures in time.

2.0 OBJECTIVE

The objective of Evaluation of Performance aims to recognize, and develop reliable Vendors/ Suppliers/Contractors/ Consultants so that they consistently meet or exceed expectations and requirements.

The purpose of this procedure is to put in place a system to monitor performance of Vendors/ Suppliers/Contractors/ Consultants associated with NHAI so as to ensure timely completion of various projects, timely receipt of supplies including completion of works & services for operation and maintenance of operating plants and quality standards in all respects.

3.0 METHODOLOGY

i) Preparation of Performance Rating Data Sheet

Performance rating data Sheet for each and every Vendor/ Supplier/Contractor/Consultant for all orders/Contracts with a value of Rs. 50 Lakhs and above is recommended to be drawn up. Further, Performance rating data Sheet for orders/contracts of Vendor/Supplier/Contractor/ Consultant who are on watch list/holiday list/ banning list shall be prepared irrespective of order/ contract value. These data sheets are to be separately prepared for orders/ contracts related to Projects and O&M. Format, Parameters, Process, responsibility for preparation of Performance Rating Data Sheet are separately mentioned.

ii) Measurement of Performance

Based on the parameters defined in Data Sheet, Performance of concerned Vendor/ Supplier/Contractor/ Consultant would be computed and graded accordingly. The measurement of the performance of the Party would be its ability to achieve the minimum scoring of 60% points in the given parameters.

iii) Initiation of Measures:

Depending upon the Grading of Performance, corrective measures would be initiated by taking up the matter with concerned Vendor/ Supplier/Contractor/ Consultant. Response of Vendor/ Supplier/Contractor/ Consultant would be considered before deciding further course of action.

iv) Implementation of Corrective Measures:

Based on the response of Vendor/ Supplier/Contractor/ Consultant, concerned Engineer-in-Charge for the Projects and/or OIC in case of O&M would recommend for continuation or discontinuation of such party from the business of NHAI.

- v) Orders/contracts placed on Proprietary/OEM basis for O&M will be evaluated and, if required, corrective action will be taken for improvement in future.

4.0 **EXCLUSIONS:**

The following would be excluded from the scope of evaluation of performance of Vendors/ Suppliers/Contractors/ Consultants:

- i) Orders/Contracts below the value of Rs. 50 Lakhs if Vendor/ Supplier/Contractor/ Consultant is not on watch list/ holiday list/ banning list.
- ii) Orders for Misc./Administrative items/ Non stock Non valued items (PO with material code ending with 9).

However, concerned Engineer-in-Charge /OICs will continue to monitor such cases so as to minimize the impact on Projects/O&M plants due to non-performance of Vendors/ Suppliers/Contractors/ Consultants in all such cases.

5.0 **PROCESS OF EVALUATION OF PERFORMANCE OF VENDORS/ SUPPLIERS/ CONTRACTORS/ CONSULTANTS**

5.1 FOR PROJECTS

- i) Evaluation of performance of Vendors/ Suppliers/Contractors/ Consultants in case of PROJECTS shall be done immediately with commissioning of any Project.
- ii) On commissioning of any Project, EIC (Engineer-in-charge)/ Project-in-charge shall prepare a Performance Rating Data Sheet (Format at Annexure-1) for all Orders and Contracts.
- iii) Depending upon the Performance Rating, following action shall be initiated by Engineer-in-charge/Project-in-charge:

Sl. No.	Performance Rating	Action
1	POOR	Seek explanation for Poor performance
2	FAIR	Seek explanation for Fair performance
3	GOOD	Letter to the concerned for improving performance in future
4	VERY GOOD	No further action

- iv) Reply from concerned Vendor/ Supplier/Contractor/ Consultant shall be examined. In case of satisfactory reply, Performance Rating data Sheet to be closed with a letter to the concerned for improving performance in future.
- v) When no reply is received or reasons indicated are unsatisfactory, the following actions need to be taken:
 - A) Where performance rating is “POOR” (as per Performance Rating carried out after execution of Order/ Contract and where no reply/ unsatisfactory reply is received from party against the letter seeking the explanation from Vendor/Supplier/Contractor/ Consultant along with sharing the performance rating)

Recommend such defaulting Vendor / Supplier / Contractor / Consultant for the following action:

1. Poor Performance on account of Quality (if marks obtained against Quality parameter is less than 20):

- (a) **First Instance: Holiday (Red Card) for One Year**
- (b) **Subsequent instance (s) in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: Holiday (Red Card) for Two Years**

2. Poor Performance on account of other than Quality (if marks obtained against Quality parameter is more than 20):

- (a) **First such instance: Advisory notice (Yellow Card)** shall be issued and Vendor/Supplier/Contractor/ Consultant shall be put on watch list for a period of Two (2) Years.

- (b) **Second such instance in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: Putting on Holiday (Red Card) for a period of One Year**

- (c) **Subsequent instances (more than two) in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: Putting on Holiday (Red Card) for a period of Two Years.**

- B) **Where Poor/Non-Performance leading to termination of contract or Offloading of contract due to poor performance attributable to Vendor/Supplier/ Contractor/Consultant (under clause no. 32 (C) of GCC-Works)**

- (a) **First instance: Advisory notice (Yellow Card)** shall be issued and Vendor/Supplier/Contractor /Consultant shall be put on watch list for a period of Two (2) Years.

Further such vendor will not be allowed to participate in the re-tender of the same supply/work/services of that location which has terminated / offloaded. Moreover, it will be ensured that all other action as per provision of contract including forfeiture of Contract Performance Security (CPS) etc. are undertaken.

However, such vendor will be allowed to participate in all other tenders and to execute other ongoing order/ contract (s) or new contract/ order (s).

The Yellow card will be automatically revoked after a period of two years unless the same is converted into Red Card due to subsequence instances of poor/ non-performance in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant.

- (b) **Second instances** in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: **Holiday (Red Card)** for period of One Year and they shall also to be considered for Suspension.

- (c) **Subsequent instances (more than two)** in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: **Holiday (Red Card) for period of Two Years and they shall also to be considered for Suspension.**

- (C) Where Performance rating is “FAIR”:
Issuance of warning to such defaulting Vendor/ Supplier/Contractor/ Consultant to improve their performance.

5.2 FOR CONSULTANCY JOBS

Monitoring and Evaluation of consultancy jobs will be carried out in the same way as described in para 5.1 for Projects.

5.3 FOR OPERATION & MAINTENANCE

- i) Evaluation of performance of Vendors/ Suppliers/Contractors/ Consultants in case of Operation and Maintenance shall be done immediately after execution of order/ contract.
- ii) After execution of orders a Performance Rating Data Sheet (Format at Annexure-2) shall be prepared for Orders by Site C&P and for Contracts/Services by respective Engineer-In-Charge.
- iii) Depending upon Performance Rating, following action shall be initiated by EIC:

Sl. No.	Performance Rating	Action
1	POOR	Seek explanation for Poor performance
2.	FAIR	Seek explanation for Fair performance
3	GOOD	Letter to the concerned for improving performance in future.
4	VERY GOOD	No further action

- iv) Reply from concerned Vendor/ Supplier/Contractor/ Consultant shall be examined. In case of satisfactory reply, Performance Rating data Sheet to be closed with a letter to the concerned for improving performance in future.
- v) When no reply is received or reasons indicated are unsatisfactory, the following actions need to be taken:

- A) Where performance rating is “POOR” (as per Performance Rating carried out after execution of Order/ Contract and where no reply/ unsatisfactory reply is received from party against the letter seeking the explanation from Vendor/Supplier/Contractor/ Consultant along with sharing the performance rating)

Recommend such defaulting Vendor / Supplier / Contractor / Consultant for the following action:

1. Poor Performance on account of Quality (if marks obtained against Quality parameter is less than 20):
 - (a) **First Instance: Holiday (Red Card) for One Year**
 - (b) **Subsequent instance (s) in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: Holiday (Red Card) for Two Years**

2. Poor Performance on account of other than Quality (if marks obtained against Quality parameter is more than 20):

(a) **First such instance: Advisory notice (Yellow Card)** shall be issued and Vendor/Supplier/Contractor/ Consultant shall be put on watch list for a period of Two (2) Years.

(b) **Second such instance in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: Putting on Holiday (Red Card) for a period of One Year**

(c) **Subsequent instances (more than two) in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: Putting on Holiday (Red Card) for a period of Two Years.**

B) Where Poor/Non-Performance leading to termination of contract or Offloading of contract due to poor performance attributable to Vendor/Supplier/ Contractor/Consultant (under clause no. 32 (C) of GCC-Works)

(a) **First instance: Advisory notice (Yellow Card)** shall be issued and Vendor/Supplier/Contractor /Consultant shall be put on watch list for a period of Two (2) Years.

Further such vendor will not be allowed to participate in the re-tender of the same supply/work/services of that location which has terminated / offloaded. Moreover, it will be ensured that all other action as per provision of contract including forfeiture of Contract Performance Security (CPS) etc. are undertaken.

However, such vendor will be allowed to participate in all other tenders and to execute other ongoing order/ contract (s) or new contract/ order (s).

The Yellow card will be automatically revoked after a period of two years unless the same is converted into Red Card due to subsequent instances of poor/ non-performance in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant.

(b) **Second instances** in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: **Holiday (Red Card)** for period of One Year and they shall also to be considered for Suspension.

(c) **Subsequent instances (more than two)** in other ongoing order (s)/ contract (s) or new order (s) /contact (s) on such Vendor/ Supplier/ Contractor/ Consultant: **Holiday (Red Card) for period of Two Years and they shall also to be considered for Suspension.**

(C) Where Performance rating is “FAIR”

Issuance of warning to such defaulting Vendors/Contractors/Consultants to improve their performance.

6.0 REVIEW & RESTORATION OF PARITES PUT ON HOLIDAY

- 6.1 An order for Holiday passed for a certain specified period shall deemed to have been automatically revoked on the expiry of that specified period and it will not be necessary to issue a specific formal order of revocation.

Further, in case Vendor/ Supplier/Contractor/ Consultant is put on holiday due to quality, and new order is placed on Bidder after restoration of Vendor/ Supplier/Contractor/ Consultant, such order will be properly monitored during execution stage by the concerned site.

7.0 EFFECT OF HOLIDAY

- 7.1 If a Vendor/ Supplier/Contractor/ Consultant is put on Holiday, such Vendor/ Supplier/Contractor/ Consultant shall not be considered in ongoing tenders/future tenders.
- 7.2 However, if such Vendor/ Supplier/Contractor/ Consultant is already executing any other order/ contract and their performance is satisfactory in terms of the relevant contract, should be allowed to continue till its completion without any further increase in scope except those incidental to original scope mentioned in the contract. In such a case CPBG will not be forfeited and payment will be made as per provisions of concerned contract. However, this would be without prejudice to other terms and conditions of the contract.
- 7.3. Effect on other ongoing tendering:
- 7.3.1 after issue of the enquiry /bid/tender but before opening of Technical bid, the bid submitted by the party shall be ignored.
- 7.3.2 after opening Technical bid but before opening the Price bid, the Price bid of the party shall not be opened and BG/EMD submitted by the party shall be returned to the party.
- 7.3.3 after opening of price, BG/EMD made by the party shall be returned; the offer of the party shall be ignored & will not be further evaluated. In case such agency is lowest (L-1), next lowest Bidder shall be considered as L-1..
- 8.0 While putting the Vendor/ Supplier/Contractor/ Consultant on holiday as per the procedure, the holding company, subsidiary, joint venture, sister concerns, group division of the errant Vendor/ Supplier/Contractor/ Consultant shall not be considered for putting on holiday list.
Any Bidder, put on holiday, will not be allowed to bid through consortium route also in new tender during the period of holiday.
- 9.0 If an unsuccessful Bidder makes any vexatious, frivolous or malicious complaint against the tender process with the intention of delaying or defeating any procurement or causing loss to NHAH or any other Bidder, such Bidder will be put on holiday for a period of six months, if such complaint is proved to be vexatious, frivolous or malicious, after following the due procedure.

10. APPEAL AGAINST THE DECISION OF THE COMPETENT AUTHORITY:

- (a) The party may file an appeal against the order of the Competent Authority for putting the party on Holiday list. The appeal shall be filed to Appellate Authority. Such an appeal shall be preferred within one month from the of receipt of Holiday order.
- (b) Appellate Authority would consider the appeal and pass appropriate order which shall be communicated to the party as well as the Competent Authority.
- (c) Appeal process may be completed within 45 days of filing of appeal with the Appellate Authority.

- (d) “Appellate Authority” shall mean Committee of Directors consisting of Director (Finance) and Director (BD) for works centers under Director (Projects). For all other cases committee of Directors shall consist of Director (Finance) & Director (Projects).

11. ERRANT BIDDER

In case after price bid opening the lowest evaluated Bidder (L1) is not awarded the job for any mistake committed by him in bidding or withdrawal of bid or modification of bid or varying any term in regard thereof leading to re-tendering, NHAI shall forfeit EMD if paid by the Bidder and such Bidders shall be debarred from participation in retendering of the same job(s)/item(s).

Further, such Bidder will be put on Watch List (Yellow Card) for a period of two years after following the due procedure. However, during the period in watch list such vendor will be allowed to participate in all other tenders and to execute other ongoing order/ contract (s) or new contract/ order (s).

In case of subsequent instances of default in other tender(s) during aforesaid watch list period, the action shall be initiated as per provision of sl. no. 2 of para A of Clause no. 5.1 (v) and 5.3 (v).

The Yellow card will be automatically revoked after specified period unless the same is converted into Red Card

12. In case CBIC (Central Board of Indirect Taxes and Customs)/ any tax authority / any equivalent government agency brings to the notice of NHAI that the Supplier has not remitted the amount towards GST (CGST & SGST/UTGST or IGST) collected from NHAI to the government exchequer, then, that Supplier shall be put under Holiday list of NHAI for period of six months after following the due procedure. This action will be in addition to the right of recovery of financial implication arising on NHAI.

PERFORMANCE RATING DATA SHEET (FOR PROJECTS/ CONSULTANCY JOBS)

- i) Project/Work Centre :
 ii) Order/ Contract No. & date :
 iii) Brief description of Items :
 Works/Assignment
 iv) Order/Contract value (Rs.) :
 v) Name of Vendor/Supplier/ :
 Contractor/ Consultant
 vi) Contracted delivery/ :
 Completion Schedule
 vii) Actual delivery/ :
 Completion date

Performance Parameter	Delivery/ Completion Performance	Quality Performance	Reliability Performance#	Total
Maximum Marks	40	40	20	100
Marks Allocated				

Note:

Remarks (if any)

PERFORMANCE RATING (**)

Note :

(#) Vendor/Supplier/Contractor/Consultant who seek repeated financial assistance or deviation beyond contract payment term or seeking direct payment to the sub-vendor/sub-contractor due to financial constraints, then '0' marks should be allotted against Reliability Performance.

(*) Allocation of marks should be as per enclosed instructions

(**) Performance rating shall be classified as under :

Sl. No.	Range (Marks)	Rating	Signature of Authorised Signatory:
1	60 & below	POOR	
2	61-75	FAIR	Name:
3	76-90	GOOD	
4	More than 90	VERY GOOD	Designation:

Instructions for allocation of marks

1. Marks are to be allocated as under :

1.1 DELIVERY/ COMPLETION PERFORMANCE 40 Marks

Delivery Period/ Completion Schedule	Delay in Weeks	Marks
a) Upto 3 months	Before CDD	40
	Delay upto 4 weeks	35
	” 8 weeks	30
	” 10 weeks	25

	” 12 weeks	20
	” 16 weeks	15
	More than 16 weeks	0
b) Above 3 months	Before CDD	40
	Delay upto 4 weeks	35
	” 8 weeks	30
	” 10 weeks	25
	” 16 weeks	20
	” 20 weeks	15
	” 24 weeks	10
	More than 24 weeks	0

1.2 QUALITY PERFORMANCE 40 Marks

For Normal Cases : No Defects/ No Deviation/ No failure: 40 marks

i) Rejection/Defects	Marks to be allocated on prorata basis for acceptable quantity as compared to total quantity for normal cases	10 marks
ii) When quality failure endanger system integration and safety of the system	Failure of severe nature - Moderate nature - low severe nature	0 marks 5 marks 10-25 marks
iii) Number of deviations	1. No deviation 2. No. of deviations ≤ 2 3. No. of deviations > 2	5 marks 2 marks 0 marks

1.3 RELIABILITY PERFORMANCE 20 Marks

A.	FOR WORKS/CONTRACTS	
i)	Submission of order acceptance, agreement, PBG, Drawings and other documents within time	4 marks
ii)	Mobilization of resources as per Contract and in time	4 marks
iii)	Liquidation of Check-list points	4 marks
iv)	Compliance to statutory and HS&E requirements or Reliability of Estimates/Design/Drawing etc. in case of Consultancy jobs	4 marks
v)	Timely submission of estimates and other documents for Extra, Substituted & AHR items	4 marks
B.	FOR SUPPLIES	
i)	Submission of order acceptance, PBG, Drawings and other documents within time	5 marks
ii)	Attending complaints and requests for after sales service/ warranty repairs and/ or query/ advice (upto the evaluation period).	5 marks
iii)	Response to various correspondence and conformance to standards like ISO	5 marks
iv)	Submission of all required documents including Test Certificates at the time of supply	5 marks

PERFORMANCE RATING DATA SHEET (FOR O&M)

- i) Location :
- ii) Order/ Contract No. & date :
- iii) Brief description of Items :
Works/Assignment
- iv) Order/Contract value (Rs.) :
- v) Name of Vendor/Supplier/ Contractor/ Consultant :
- vi) Contracted delivery/ Completion Schedule :
- vii) Actual delivery/ Completion date :

Performance Parameter	Delivery Performance	Quality Performance	Reliability Performance#	Total
Maximum Marks	40	40	20	100
Marks Allotted (*)				

Remarks (if any)

PERFORMANCE RATING (**)

Note :

- (#) Vendor/Supplier/Contractor/Consultant who seek repeated financial assistance or deviation beyond contract payment term or seeking direct payment to the sub-vendor/sub-contractor due to financial constraints, then '0' marks should be allotted against Reliability Performance

(*) Allocation of marks should be as per enclosed instructions

(**) Performance rating shall be classified as under :

Sl. No.	Range (Marks)	Rating	Signature of Authorised Signatory:
1	60 & below	POOR	
2	61-75	FAIR	Name:
3	76-90	GOOD	
4	More than 90	VERY GOOD	Designation:

Instructions for allocation of marks (For O&M)

1. Marks are to be allocated as under :

1.1 DELIVERY/ COMPLETION PERFORMANCE

40 Marks

**Delivery Period/
Completion Schedule**

Delay in Weeks

Marks

a) Upto 3 months	Before CDD	40
	Delay upto 4 weeks	35
	" 8 weeks	30
	" 10 weeks	25

	” 12 weeks	20
	” 16 weeks	15
	More than 16 weeks	0
b) Above 3 months	Before CDD	40
	Delay upto 4 weeks	35
	” 8 weeks	30
	” 10 weeks	25
	” 16 weeks	20
	” 20 weeks	15
	” 24 weeks	10
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1.2 QUALITY PERFORMANCE 40 Marks

For Normal Cases : No Defects/ No Deviation/ No failure: 40 marks

i) Rejection/Defects	Marks to be allocated on prorata basis for acceptable quantity as compared to total quantity for normal cases	10 marks
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iii) Number of deviations	1. No deviation 2. No. of deviations ≤ 2 3. No. of deviations > 2	5 marks 2 marks 0 marks

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iii)	Response to various correspondence and conformance to standards like ISO	5 marks
iv)	Submission of all required documents including Test Certificates at the time of supply	5 marks

**ADDENDUM TO INSTRUCTIONS TO BIDDERS
(INSTRUCTIONS FOR PARTICIPATION IN E-TENDER)**

Detailed instructions regarding bid submission procedure under e-tendering system (e-tender portal) is available on website (<https://etenders.gov.in>) as detailed below,

Government eMarketplace - Central Public Procurement Portal
ePROCUREMENT for Central Public Sector Enterprises

05-Jun-2025 Search | Active Tenders | Tenders by Closing Date | Corrigendum | Results of Tenders Home | Contact US | SiteMap

Welcome to eProcurement System
The eProcurement System enables the Tenderers to download the Tender Schedule free of cost and then submit the bids online through this portal.

Latest Tenders

Tender Title	Reference No	Closing Date	Bid Opening Date
5. SUPPLY OF GAITER	ILP/SC2/ADP 139/50/TE-0520	11-Jun-2025 03:00 PM	12-Jun-2025 03:00 PM
6. Procurement of ISO Propyle Alcohol Solder Wire No Clean Flux	0302/2526/044	11-Jun-2025 10:30 AM	11-Jun-2025 11:00 AM
7. External repair/ renovation including external sanitation and			

Latest Tenders updates every 15 mins. More...

Latest Corrigendums

Corrigendum Title	Reference No	Closing Date	Bid Opening Date

Latest Corrigendum updates every 15 mins. More...

Click here to Login

Online Bidder Enrollment
Generate / Forgot Password?
Find My Nodal Officer

Search with ID/Title/Reference no

Tender Search
Go

Advanced Search

Help For Contractors
Information About DSC
Guidelines for Hassle Free Bid Submission
FAQ
Feedback
Bidders Manual Kit

BIDDING DATA SHEET (BDS)

ITB TO BE READ IN CONJUNCTION WITH THE FOLLOWING:

A. GENERAL											
ITB clause	Description										
1.1	The Employer is: NHAI										
2.1	The name of the Works/Services to be performed is: Laying of Underground Gas Pipeline in NH-716 of Tirupati – Tiruthani – Chennai Section along the Road from Km. 61/510 to Km. 81/540 (RHS) and Km. 107/600 to Km. 115/600 in the State of Andhra Pradesh and from Km. 45/500 to Km. 61/510 (RHS) in the State of Tamil Nadu										
3	BIDS FROM CONSORTIUM/ JOINT VENTURE <table border="1" style="margin-left: 40px;"> <tr> <td>APPLICABLE</td> <td><input type="text"/></td> </tr> <tr> <td>NOT APPLICABLE</td> <td><input type="text"/></td> </tr> </table>	APPLICABLE	<input type="text"/>	NOT APPLICABLE	<input type="text"/>						
APPLICABLE	<input type="text"/>										
NOT APPLICABLE	<input type="text"/>										
B. BIDDING DOCUMENT											
ITB clause	Description										
8.1	For <u>clarification purposes</u> only, the communication address is: Name : Designation: Phone No. & Extn : Direct No.: FAX No. : e-mail:										
C. PREPARATION OF BIDS											
ITB clause	Description										
11.1.1 (u)	Additional documents to be submitted by the Bidder with its Part-I (Techno-commercial/ Unpriced bid) : SCC/ITB/Scope of Work refers										
12	Additional Provision for Schedule of Rate/ Bid Price are as under: As per Evaluation Methodology										
12 & 13	Whether NHAI will be able to avail input tax credit in the instant tender <table border="1" style="margin-left: 40px;"> <tr> <td>YES</td> <td><input type="text"/></td> </tr> <tr> <td>NO</td> <td><input type="text"/></td> </tr> </table> <p>Details of Buyer:</p> <table border="1" style="margin-left: 40px;"> <tr> <td>Services to be rendered at</td> <td>NHAI (As per Project requirement)</td> </tr> <tr> <td>PAN No.</td> <td>AAACG1209J</td> </tr> <tr> <td>GST no.</td> <td>Shall be provided to successful Bidder</td> </tr> </table>	YES	<input type="text"/>	NO	<input type="text"/>	Services to be rendered at	NHAI (As per Project requirement)	PAN No.	AAACG1209J	GST no.	Shall be provided to successful Bidder
YES	<input type="text"/>										
NO	<input type="text"/>										
Services to be rendered at	NHAI (As per Project requirement)										
PAN No.	AAACG1209J										
GST no.	Shall be provided to successful Bidder										

	<table><tr><td>NHAI Bank Details</td><td>CANARA Bank Nerkundram Branch, Chennai – 600 107</td></tr><tr><td>Account no.</td><td>60341010004225</td></tr><tr><td>Branch Code</td><td></td></tr><tr><td>IFSC CODE</td><td>CNRB0001039</td></tr><tr><td>SWIFT CODE</td><td></td></tr><tr><td>MICR CODE</td><td></td></tr><tr><td>PAN No. (SBI)</td><td></td></tr><tr><td>TAN No.</td><td></td></tr><tr><td>Fax no. :</td><td></td></tr><tr><td>Email</td><td></td></tr></table>	NHAI Bank Details	CANARA Bank Nerkundram Branch, Chennai – 600 107	Account no.	60341010004225	Branch Code		IFSC CODE	CNRB0001039	SWIFT CODE		MICR CODE		PAN No. (SBI)		TAN No.		Fax no. :		Email	
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SWIFT CODE																					
MICR CODE																					
PAN No. (SBI)																					
TAN No.																					
Fax no. :																					
Email																					
14	The currency of the Bid shall be INR																				
15	The bid validity period shall be Three Months from final 'Bid Due Date'.																				
16.1, 16.10 and 38.6	<p>In case 'Earnest Money / Bid Security' or “Contract Performance Security” is in the form of 'Demand Draft' or 'Banker's Cheque' or ‘Insurance Surety Bond’ / ‘Fixed Deposit Receipt’, the same should be favor of NHAI, payable at Chennai.</p> <p>In case of submission through online banking transaction i.e. IMPS / NEFT / RTGS / SWIFT, etc., the details of NHAI’s Bank account are as under:</p> <p>Account Name :National Highways Authority of India Bank Account No. : C. A/c. 60341010004225 Bank & Branch : CANARA Bank Nerkundram Branch, Chennai – 600 107. IFSC Code : CNRB0001039</p> <p>Bidder to mention reference no. “EMD/_____” in narration while remitting the EMD / Bid Security amount and to mention reference no. “CPS/... ” in narration while remitting the CPS amount in NHAI’s Bank Account.</p>																				
D. SUBMISSION AND OPENING OF BIDS																					
ITB clause	Description																				
18	In addition to the original of the Bid, the number of copies required is one. Not applicable in case of e-tendering.																				

22.3, 26 and 4.0 of IFB	For bid submission purposes only (Manual) or the submission of physical document as per clause no. 4.0 of IFB, and Bid Opening Purpose the INDEPENDENT ENGINEER's address is:				
E. EVALUATION, AND COMPARISON OF BIDS					
ITB clause	Description				
32	Evaluation Methodology is mentioned in Section-II. Whether tendered item/part is non-split able or not-divisible: Yes				
33	Compensation for Extended Stay: <table border="1"> <tr> <td>APPLICABLE</td><td><input checked="" type="checkbox"/></td></tr> <tr> <td>NOT APPLICABLE</td><td><input type="checkbox"/></td></tr> </table>	APPLICABLE	<input checked="" type="checkbox"/>	NOT APPLICABLE	<input type="checkbox"/>
APPLICABLE	<input checked="" type="checkbox"/>				
NOT APPLICABLE	<input type="checkbox"/>				
34	The following Purchase Preference Policy will be applicable as per provisions mentioned in tender: i) Policy to Provide Purchase Preference as per Public Procurement (Preference to Make in India), Order 2017				
F. AWARD OF CONTRACT					
ITB clause	Description				
37	State of India of which stamp paper is required for Contract Agreement: Any State				
38	Contract Performance Security/ Security Deposit <table border="1"> <tr> <td>APPLICABLE</td><td><input checked="" type="checkbox"/></td></tr> <tr> <td>NOT APPLICABLE</td><td><input type="checkbox"/></td></tr> </table> <p><u>The value/ amount of Contract Performance Security/ Security Deposit:</u> SD/CPBG @ 10% of Total Order/ Contract Value within 15 days of LOA/ notification of award. OR Initial Security Deposit (ISD) @ 5% of Total Contract Value within 15 days of LOA/ notification of award and deduction @ 10% of the RA bill subsequently from RA bills till the total amount of security deposit (including ISD and deducted amount) reaches 10% of Total Contract value.</p>	APPLICABLE	<input checked="" type="checkbox"/>	NOT APPLICABLE	<input type="checkbox"/>
APPLICABLE	<input checked="" type="checkbox"/>				
NOT APPLICABLE	<input type="checkbox"/>				
39.3	Name and contact details of nodal officer are as under: Email:				
41	Provision of AHR Item : <table border="1"> <tr> <td>APPLICABLE</td><td><input checked="" type="checkbox"/></td></tr> <tr> <td>NOT APPLICABLE</td><td><input type="checkbox"/></td></tr> </table>	APPLICABLE	<input checked="" type="checkbox"/>	NOT APPLICABLE	<input type="checkbox"/>
APPLICABLE	<input checked="" type="checkbox"/>				
NOT APPLICABLE	<input type="checkbox"/>				

44.1	Quarterly Closure of Contract <table border="1"> <tr> <td>APPLICABLE</td><td><input checked="" type="checkbox"/></td></tr> <tr> <td>NOT APPLICABLE</td><td><input type="checkbox"/></td></tr> </table>		APPLICABLE	<input checked="" type="checkbox"/>	NOT APPLICABLE	<input type="checkbox"/>
APPLICABLE	<input checked="" type="checkbox"/>					
NOT APPLICABLE	<input type="checkbox"/>					
Clause no. 27.3 of GCC	Bonus for Early Completion: <table border="1"> <tr> <td>APPLICABLE</td><td><input type="checkbox"/></td></tr> <tr> <td>NOT APPLICABLE</td><td><input checked="" type="checkbox"/></td></tr> </table>		APPLICABLE	<input type="checkbox"/>	NOT APPLICABLE	<input checked="" type="checkbox"/>
APPLICABLE	<input type="checkbox"/>					
NOT APPLICABLE	<input checked="" type="checkbox"/>					
49	Applicability of provisions relating to Startups: <table border="1"> <tr> <td>APPLICABLE</td><td><input type="checkbox"/></td></tr> <tr> <td>NOT APPLICABLE</td><td><input checked="" type="checkbox"/></td></tr> </table> <p><i>RELAXATION IN PRIOR EXPERIENCE AND PRIOR TURNOVER CRITERIA TO START-UPS IS NOT ALLOWED IN THIS TENDER</i></p>		APPLICABLE	<input type="checkbox"/>	NOT APPLICABLE	<input checked="" type="checkbox"/>
APPLICABLE	<input type="checkbox"/>					
NOT APPLICABLE	<input checked="" type="checkbox"/>					
53	Applicability of provisions relating to Order Transmittal System: <table border="1"> <tr> <td>APPLICABLE</td><td><input checked="" type="checkbox"/></td></tr> <tr> <td>NOT APPLICABLE</td><td><input type="checkbox"/></td></tr> </table>		APPLICABLE	<input checked="" type="checkbox"/>	NOT APPLICABLE	<input type="checkbox"/>
APPLICABLE	<input checked="" type="checkbox"/>					
NOT APPLICABLE	<input type="checkbox"/>					
SCC	Documents required for accepting the Works: Refer SCC.					

ANNEXURE-V TO SECTION-III

POLICY TO PROVIDE PURCHASE PREFERENCE AS PER PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017

- 1.0 Ministry of Petroleum & Natural Gas vide Notification No. FP-20013/2/2017-FP-PNG-Part (4) (E-17013) dated 21.08.2024 has notified the Public Procurement (Preference to Make in India), Order 2017 (PPP-MII)-Revision issued by DPIIT on 19.07.2024.

The following modifications as per Notification No. FP-20013/2/2017-FP-PNG-Part(4) (E-41432) dated 26.04.2022 from MoP&NG and incorporated in Para 1.0 above shall continue:

- Limit for exemption of small purchase under para 4 of the PPP-MII Order, 2017 shall be Rs. 1 Crore.
- HP-HT operation in upstream oil and gas turbines activities shall be exempted from applicability of the Order.

Whereas, in respect of Local value addition through services, as per communication no. F.No. FP-20013/2/2017-FP-PNG-Part(4) (E-41432) dated 26.03.2024 of MoP&NG, the same is modified as under:

Local Value addition through services such as transportation, insurance, installation, commissioning, training and after sales services support like AMC/CMC etc. shall continue to be considered in local content calculation and the scope of this relaxation shall be limited to the items (as per list enclosed) to be installed/operated in flammable environment of Oil and Gas processing industry.

- 2.0 The Public Procurement (Preference to Make in India), Order 2017 (PPP-MII) issued by DPIIT to encourage 'Make in India' and promote manufacturing & production of goods and services in India with a view to enhancing income and employment.

3.0 DEFINITIONS:-

- (i) **Local Content** means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.

Local Value addition through services such as transportation, insurance, installation, commissioning, training and after sales services support like AMC/CMC etc. shall continue to be considered in local content calculation and the scope of this relaxation shall be limited to the items (as per list enclosed) to be installed/operated in flammable environment of Oil and Gas processing industry.

Explanatory notes for calculation of local content given below:

- a) Imported items sourced locally from resellers/distributors shall be excluded from calculation of local content.

- b) The license fees/royalties paid/ technical charges paid out of India shall be excluded from local content calculation.
- c) Procurement/Supply of repackaged/refurbished/rebranded imported products as understood commonly shall be treated as reselling of imported products and shall be excluded from calculation of local content. The definition of repackaged/refurbished/rebranded imported products is as follows :
- 'Refurbishing' means repair or reconditioning of an imported product does not amount to manufacture because no new goods come into existence.
- 'Repackaging' means repacking of imported goods from bulk pack to smaller packs would not ordinarily amount to manufacture of a new item.
- 'Rebranding' means relabeling or renaming or change in symbol or logo/ makes or corporate image of a company/ organization/ firm for an imported product would amount to rebranding.
- d) To ensure that imported items sourced locally from resellers/distributors are excluded from calculation of local content, procuring entities to obtain from bidders, the cost of such locally-sourced imported items (Inclusive of taxes) along with break-up on license/royalties paid/technical expertise cost etc. sourced from outside India. For items sold by bidder as reseller, OEM certificate for country of origin to be submitted.
- e) For contracts involving supply of multiple items, weighted average of all items to be taken while calculating the local content.
- (ii) **‘Class-I local supplier’** means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content of equal to or more than 50%.
- ‘Class-II local supplier’** means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content of more than 20% but less than 50%.
- ‘Non - Local supplier’** means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20%.
- (iii) **L1** mean the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per tender or other procurement solicitation.
- (iv) **Margin of Purchase Preference:** means the maximum extent to which the price quoted by a Class-I local supplier may be above the L1 for purpose of purchase Preference.
- (v) **Nodal Ministry** means the Ministry of Petroleum & Natural Gas
- (vi) **Procuring Entity** means NHAI (NHAI)
- (vi) **Works** means all the works as per Rule 130 of GFR-2017 also include ‘turnkey works’

3A Special treatment for items covered under PLI Scheme

The manufacturers manufacturing an item under PLI scheme shall be treated as deemed Class II local supplier for that item unless they have minimum local content equal to or higher than that notified for Class-I local supplier for that item, provided the manufacturer has received incentive from the concerned PLI Ministry for the Item. The above shall be applicable for the specific time period only, as notified by concerned PLI Ministry.

4.0 Margin of Purchase Preference: The margin of purchase preference shall be 20%.

5.0 ELIGIBILITY OF ‘CLASS-I LOCAL SUPPLIER’/ ‘CLASS-II LOCAL SUPPLIER’/ ‘NON-LOCAL SUPPLIERS’ FOR DIFFERENT TYPES OF PROCUREMENT

- (a) In procurement of all goods, services or works in respect of which the Nodal Ministry / Department has communicated that there is sufficient local capacity and local competition, only 'Class-I local supplier', shall be eligible to bid irrespective of purchase value.
- (b) Only ‘Class-I local supplier’ and ‘Class-II local supplier’, shall be eligible to bid in procurements undertaken by procuring entities, except when Global tender enquiry/ International Competitive bidding has been issued. In global tender enquiries/ International Competitive bidding ‘Non local suppliers' shall also be eligible to bid along with ‘Class-I local suppliers' and ‘Class-II local suppliers'.
- (c) Works includes Engineering, Procurement and Construction (EPC) contracts and services include System Integrator (SI) contracts
- (d) HP-HT Operations in upstream oil and gas business activities shall be exempted from this order.

6.0 MANDATORY SOURCING OF ITEMS, WITH SUFFICIENT LOCAL CAPACITY AND COMPETITION, FROM CLASS-I LOCAL SUPPLIERS IN SI/EPC/TURNKEY CONTRACTS/SERVICE TENDERS

- (a) The items, notified as having sufficient local capacity and competition, shall mandatory be sourced from Class-I local suppliers in SI/EPC/Turnkey Contracts/ Services tenders. This provision will be applicable only for those items which have been notified by the Nodal Ministry as Class I i.e. having sufficient local capacity and competition, with specific HSN codes."
- (b) Notwithstanding above, if in any project, it is considered that it is not practically feasible to source such items from Class I local suppliers, it may take relaxation from such stipulation with the approval of Secretary of the administrative Ministry/ Department concerned or with the approval of the Competent Authority specified by the Administrative Ministry/Department, on case-specific basis.

7.0 PURCHASE PREFERENCE METHODOLOGY UNDER PPP-MII

- (a) Purchase preference shall be given to ‘Class-I local supplier’ in procurements in the manner specified here under.

- (b) In the procurements of goods or works which are cover by para 5 (b) above and which are divisible in nature, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:
- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract for full quantity will be awarded to L1.
 - ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.
- (c) In the procurements of goods or works which are covered by para 5 (b) and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:
- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is 'Class-I local supplier', the contract will be awarded to L1.
 - ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.
 - iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.
 - iii. "Class-II local supplier" will not get purchase preference in any procurement.
- d) **Applicability in tenders where contract is to be awarded to multiple bidders** - In tenders where contract is awarded to multiple bidders subject to matching of L1 rates or otherwise, the 'Class-I local supplier' shall get purchase preference over 'Class II- local supplier' as well as 'Non-local supplier', as per following procedure:
- i) If 'Class-I Local suppliers' qualify for award of contract for at least 50% of the tendered quantity in any tender, the contract may be awarded to all the qualified bidders as per award criteria stipulated in the bid documents. However, in case 'Class -I Local suppliers' do not qualify for award of contract for at least 50% of the tendered quantity, purchase preference should be given to the 'Class-I local supplier' over 'Class-II local suppliers'/ 'Non

local suppliers' provided that their quoted rate falls within 20% margin of purchase preference of the highest quoted bidder considered for award of contract so as to ensure that the 'Class-I Local suppliers' taken in totality are considered for award of contract for at least 50% of the tendered quantity.

- ii) First purchase preference has to be given to the lowest quoting 'Class-I local supplier', whose quoted rates fall within 20% margin of purchase preference, subject to its meeting the prescribed criteria for award of contract as also the constraint of maximum quantity that can be sourced from any single supplier. If the lowest quoting 'Class-I local supplier', does not qualify for purchase preference because of aforesaid constraints or does not accept the offered quantity, an opportunity may be given to next higher 'Class-I local supplier', falling within 20% margin of purchase preference, and so on.

8.0 EXEMPTION IN SOURCING OF SPARES AND CONSUMABLES OF CLOSED SYSTEMS FOR PURCHASE PREFERENCE

Procurement of spare parts/consumables and Maintenance/ Service contracts with Original Equipment Manufacturer/Original Equipment Supplier/Original Part Manufacturer shall be exempted from this Order.

9.0 VERIFICATION OF LOCAL CONTENT/ DOMESTIC VALUE ADDITION

- a. The 'Class-I local supplier'/ 'Class-II local supplier' at the time of tender, bidding or solicitation shall require to indicate percentage of local content and provide per proforma at Form-1) that the item offered meets the minimum local content for 'Class-I local supplier'/ 'Class-II local supplier' as the case may be and shall give details of the location(s) at which the local value addition is made.
- b. In cases of procurement for a value in excess of Rs. 10 crores, in addition to Form-1 'Class-I local supplier'/ 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content as per proforma at Form -2.

The bidder shall give self-certification for local content in the quoted item (goods/works/services) at the time of tendering. However, at the time of execution of the project, for all contracts above INR 10 Crore, the contractor/ supplier shall be required to give local content certification duly certified by cost/ chartered accountant in practice. For cases where it is not possible to provide certification by Cost/Chartered Accountant at the time of execution of project, the supplier shall be permitted to provide the certificate for local content from Cost/ Chartered Accountant after completion of the contract, within time limit acceptable to the procuring entity. In case the contractor/ supplier does not meet the stipulated local content requirement and the category of the supplier changes from Class-I to Class-II/ Non-local or from Class-II to Non-local, a penalty upto 10% of the contract value may be imposed. However, contract once awarded shall not be terminated on this account.

- c. In case a complaint is received by the procuring agency relating to implementation of this order including the claim of a bidder regarding local content/ domestic value addition, the same shall be referred to Competent Authority who is empowered to look into procurement related complaints.
- d. Nodal Ministry may constitute committees with internal and external experts for independent verification of self-declarations and auditor's/accountant's certificates on random basis and in the

case of complaints. A complaint fee of Rs.2 Lakh or 1% of the value of the domestically manufactured products being procured (subject to a maximum of Rs. 5 Lakh), whichever is higher, shall be paid by Demand Draft to be deposited with NHAI. In case, the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

- e. In case of false declarations, NHAI shall initiate action for banning such manufacturer/supplier/service provider as per as per NHAI's extant "Procedure for action in case Corrupt/Fraudulent/Collusive/Coercive Practices"
- f. A supplier who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this Order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed under paragraph g below.
- g. The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:
 - i. The fact and duration of debarment for violation of this Order by any procuring entity are promptly brought to the notice of the Member-Convenor of the Standing Committee and the Department of Expenditure through the concerned Ministry /Department or in some other manner;
 - ii. on a periodical basis such cases are consolidated and a centralized list or decentralized lists of such suppliers with the period of debarment is maintained and displayed on website(s);
 - iii. in respect of procuring entities other than the one which has carried out the debarment, the debarment takes effect prospectively from the date of uploading on the website(s) in the such a manner that ongoing procurements are not disrupted.

10.0 RECIPROCITY CLAUSE

- i. When a Nodal Ministry/Department identifies that Indian suppliers of an item are not allowed to participate and/ or compete in procurement by any foreign government, due to restrictive tender conditions which have direct or indirect effect of barring Indian companies such as registration in the procuring country, execution of projects of specific value in the procuring country etc., it shall provide such details to all its procuring entities including CMDs/CEOs of PSEs/PSUs, State Governments and other procurement agencies under their administrative control and GeM for appropriate reciprocal action.
- ii. Entities of countries which have been identified by the nodal Ministry/Department as not allowing Indian companies to participate in their Government procurement for any item related to that nodal Ministry shall not be allowed to participate in Government procurement in India for all items related to that nodal Ministry/ Department, except for the list of items published by the Ministry/ Department permitting their participation.
- iii. The term 'entity' of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.

SELF CERTIFICATION BY BIDDER WHO CLASS-I LOCAL SUPPLIER/ CLASS-II LOCAL SUPPLIER TOWARDS MANDATORY MINIMUM LOCAL CONTENT/ DOMESTIC VALUE ADDITION

To,

M/s NHAI

SUB:

TENDER NO:

Dear Sir

We, M/s _____ (*Name of Bidder*) confirm that as per the definition of policy we are:

Class-I Local supplier []

Class-II Local Supplier []

(Bidder is to tick appropriate option (☐) above).

It is further confirm that M/s _____ (*Name of Bidder*) meet the mandatory minimum Local content/Domestic Value Addition requirement for Class-I Local supplier/ Class-II Local supplier (as the case may be) under Public Procurement (Preference to Make in India), Order 2017 (PPP-MII) and has value addition of.....%.

The details of the location (s) at which the local value addition is made is as under:

.....
.....
.....

We further confirm that in case we fail to meet the minimum local content/domestic value addition, the same shall be treated false information and NHAI will take action as per provision of tender document.

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

CERTIFICATE BY STATUTORY AUDITOR/COST AUDITOR/ CHARTERED ACCOUNTANT
OF BIDDER TOWARDS MANDATORY MINIMUM LOCAL CONTENT/ DOMESTIC
VALUE ADDITION
(IN CASE BIDDER IS CLASS-I LOCAL SUPPLIER/ CLASS-II LOCAL SUPPLIER)

To,

M/s NHAI

SUB:

TENDER NO:

Dear Sir

“We _____ the statutory auditor/ cost auditor/chartered accountant (not an employee of the company) of M/s. _____ (*Name of the bidder*) hereby certify that as per definition specified in policy, M/s. _____ (*Name of the bidder*) is

Class-I Local supplier []

Class-II Local Supplier []

(Bidder is to tick appropriate option (☐) above).

It is further confirm that M/s _____ (*Name of Bidder*) quoted vide offer No. _____ dated _____ against tender No. _____ meet the mandatory minimum Local content/Domestic Value Addition requirement specified for Class-I Local supplier/ Class-II Local supplier (as the case may be) under Policy for Public Procurement (Preference to Make in India), Order 2017 (PPP-MII) and has value addition of% .

Name of Audit Firm:

[Signature of Authorized Signatory]

Name:

Date:

Designation:

Seal:

Membership no.

Note:

- (i) This certificate it to be furnished by the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies)
- (ii) The above format is indicative, the statutory auditor/ cost auditor/ cost accountant can modify the format without changing the intent of certification.

File No: FP-20013/2/2017-FP-PNG-Part (4) (E-41432)

Government of India

**Ministry of Petroleum and Natural Gas
(Flagship Programme Cell)**

Shastri Bhawan, New Delhi

Dated: 26th March, 2021

To

1. Chairman, IOCL
2. C&MD, ONGC/ BPCL/ HPCL/ OIL/ GAIL/ EIL/ Balmer Lawrie
3. Managing Director, CPCL/ NRL/ MRPL/ BCPL/ OVL
4. DG, DGH
5. DG, PPAC
6. Secretary, OIDB
7. ED, OISD
8. ED, CHT
9. Director, RGIPT/ IPE
10. Secretary, PNGRB
11. CEO & MD, ISPRL

Subject: Public Procurement (Preference to Make in India) Order, 2017-reg.

Sir/ Madam,

I am directed to refer to this Ministry's letter of even number dated 26.04.2022 on the above mentioned subject.

2. In this regard, it is stated that the sector specific relaxation granted under para 2(b) of aforementioned letter, has been reviewed in the Ministry and it has been decided that scope of this relaxation shall be limited to the items (list enclosed) to be installed/ operated in flammable environment of oil and gas process industry.

3. This issues with the approval of Hon'ble Minister, P&NG.

Yours faithfully

Kala
(Kala)^{26/3/24}

Under Secretary to the Govt. of India
Tel.: 011-23381029

Encl.: as above

Copy to:

- a. PS to Hon'ble Minister, P&NG
- b. PS to Hon'ble MoS, P&NG
- c. PPS/ PS to Secretary, P&NG
- d. PPS/PS to AS&FA/ AS, MoPNG
- e. PPS/ PS to JS (E & BR)/ JS(GP)/ JS (M& OR)/ JS (IC)/ JS (G)/ JS (IFD)/ DDG, MoPNG
- f. Technical Director, NIC: with a request to upload the letter on MoPNG website

Copy for information to,

Secretary, DPIIT

File No: FP-20013/2/2017-FP-PNG-Part (4) (E-41432)

Government of India
Ministry of Petroleum and Natural Gas
(Flagship Programme Cell)

Shastri Bhawan, New Delhi
Dated 26th April, 2022

To,

1. Chairman, IOCL
2. C&MD, BPCL/ HPCL/ ONGC/ OIL/ GAIL/ EIL/ Balmer Lawrie
3. Managing Director, MRPL/NRL/CPCL/ BCPL/ OVL
4. DG, DGH
5. DG, PPAC
6. Secretary, OIDB
7. ED, PCRA
8. ED, OISD
9. ED, CHT
10. Director, RGIPT
11. Secretary, PNGRB
12. CEO & MD, ISPRL

Sub: Public Procurement (Preference to Make in India) (PPP-MII) Order, 2017-reg.

Sir/Madam,

I am directed to refer to this Ministry's letter of even number dated 23.02.2022 regarding Policy to Provide Purchase Preference (linked with local content) (PP-LC) in all Public Sector Undertakings under the Ministry of Petroleum and Natural Gas (MoP&NG) and to say that Public Procurement (Preference to Make in India) Order, 2017 issued by DPIIT and as amended time to time shall be applicable to all the Public Sector Undertakings and their wholly owned subsidiaries under MoP&NG; Joint Ventures that have 51% or more equity by one or more Public Sector Undertakings under MoP&NG; attached and subordinate offices of MoPNG w.e.f. 01.04.2022.

2. Moreover, as per para 14 of the PPP-MII Order, the following modifications in the order shall be applicable on the procuring entities under this Ministry:

- a. Limit for exemption of small purchase under para 4 of the PPP-MII Order, 2017 shall be Rs. 1 crore.
- b. Local value addition through services such as transportation, insurance, installation, commissioning, training and after sales services support like AMC/ CMC etc. shall continue to be considered in local content calculation.
- c. HP-HT operations in upstream oil and gas business activities shall be exempted from applicability of the Order.

3. This issues with the approval of Hon'ble Minister, Petroleum and Natural Gas.

Yours faithfully


(Santanu Dhar)

Under Secretary to the Govt. of India
Tel.: 011-23388652

Copy to:

- a. PS to Minister, PNG
- b. PPS/ PS to Secretary/ AS&FA/ Sr. Economic Advisor, MoPNG
- c. PPS/ PS to AS (E)/ JS(R)/ JS (M& GP)/ OSD (IC)/ JS (G)/ JS (IFD)/ DDG (ED), MoPNG
- d. PPS/PS to Dir.(BR)/Dir.(E-II)/Dir.(E-I)/DS(GP)/DS(Mkt.)/DS(LPG)/DS(Admn.)/DS(RTI)/ DS (Gen) MoPNG

Copy for information to:

Secretary, DPIIT

Items specifically to be used in flammable environment of oil and gas process industry in which value addition through services such as transportation, insurance installation, commissioning, training and after sales service support like AMC/CMC shall be continued to be conserved while computing Local Content:

Sl.	Items Category of procurement
1	Instrumentation items like DCS/ ESD/ PLC, Emission Monitoring System, Machine Monitoring System, Condition Monitoring System, Fire Detection & Alarm System, Gas & Liquid Metering Systems, Mass Flow Meter, Process Analysers, Ultrasonic flowmeter, Anti surge & Governor Control system, Master control station for MOVs, Actuators, Transmitters, Radar gauges, multi-spot temperature sensors, Batch Controller unit, Additive blocks, Hydrocarbon detectors, Field instruments like Radar Gauges, Nucleonic gauges, Servo level gauging, Hydrastep, SMART Positioner in control valves, Multi point Reactor Thermocouple, Flame scanner, Viscosity cum Density meter, High Pressure/Temperature Special type valves, IS Test Equipment, Flare flow meter, Tank Farm Management System, Loading Automation System, Gas Detection System, Corrosion Monitoring System, Wireless Instrumentation, Surge Relief Valve Skid, Meter Provers, Pipeline Leak detection system (Negative Pressure wave type) etc
2	Equipment involved in drilling, completion, testing and production of oil and gas wells, Electronic carousel, Safety Relief valves, Compressors, turbines and blowers, heat ejectors, exchangers, condensers where SITC and / Expert Supervisory Services are involved, Equipment for which Life Cycle cost evaluation is done considering AMC/CAMC etc.
3	Electrical Equipment like Flameproof Plant Communication system, GIS (Gas Insulated Switchgear), Numerical Relays, Flameproof and/or explosion proof CCTV, Synchronous Machines, TETRA System etc
4	Laboratory and R&D Equipment like Gas Chromatographs, Spectrometers, Analytical equipment, Automatic liquid sampler, Dry colorimetric (tape) detectors; Mercury Free PVT Equipment; HT-HP Corrosion cell; Wheel Test Machine; Atmospheric and HT-HP- Consistometer; Ultra Sonic Cement Analyzer / HT-Ultra Sonic Cement Analyzer; Compressive strength tester; Stirred fluid loss apparatus; Total Sulfur analyzer; Colony counter; Laminar flow systems; Microscope with digital camera; Anaerobic Chamber; RockEval; TOC analyser; Simdist analyser; Cold Finger test apparatus; Microcoulometer; Atomic Absorption Spectrometer; High Performance Ion Chromatograph; Permeameter; Helium Porosimeter; Laser Scattering Particle Size Distribution Analyser; Microscope high magnification; Flame Photometer; U.V.- Visible Spectrophotometers; EP Lube tester; Differential sticking tester; Electrical stability Meter; Stemi-2000 microscope/ equivalent; Core Gama Logger; Energy Dispersive Spectrometer; Thin Section Machine; X-Ray Diffractometer; Wettability tester; Ambient Resistivity System; Fluoroscope; Spin Drop Tensiometer; Fluid Eval; Mercury Inclusion Porosity meter; Tri-Axial test machine; Smoke point detector; Vitrinite Reflectance VRo Microscope; Curing Chamber/ HT curing chamber; Source Rock Pyrolyser with Sulphur/ without sulphur; NGA Gas Analyzer Flash Point Apparatus/ automatic; Compressive Strength Analyser; HT-HP Curing Chamber; Crush resistance test equipment; Manual Dry bath pore point Apparatus; Bench Type Dissolved Oxygen meter; Bench Type GRAIN Moisture meter; Rotational Viscometer; Capillary pressure instrument; Core Plugging Machine; Core Trimming machine; HP-HT filter press; BENCH TOP DENSITY METER; HP-HT ROLLER OVEN with AGING CELLS; Crude Oil Analyser; Static Gel Strength analyser; Oilwell cement Mechanical properties analyser; Poroperm; Acoustic velocity system; Auto Saturator; Porosimeter cum permeameter; Rock Testing System; Auto Core Saturator; Auto Imbibimeter for reverse permeability; Proppant Conductivity Tester etc

5	Pipeline Intrusion and Detection System (PIDS), SCADA & APPS system; Rim seal protection system, Chemical Treatment program which involves supply of Process chemicals, Dosing & monitoring the parameters etc
6	Geophysical Services Seismic Data Acquisition System; VSP Data Acquisition System; Field Processing Unit; Geophysical equipment (non-Seismic including Gravity Magnetic, MT, EM etc.); Seismic Data Processing Software ; Seismic Data Interpretation Software ; Hydrocarbon Reservoir Software ; Seismic Data Archival Software ; Petro -Physical Software
7	Geophysical Equipment Field Processing Unit, Global Navigation Satellite System, Specialised Geological Lab Equipment, Seismic Data Acquisition System, Seismic Data Processing/ Imaging Software, Tape Drive Unit, VSP Data Acquisition System, VSP Processing Software; High-End Servers for G&G Applications, HPCC Solution; Virtualization and Container Software
8	Logging Services Logging unit, equipment and tools rated for hostile HPHT environment (Temperature > 300°F & Pressure > 10,000 psi).

ANNEXURE-VI TO SECTION-III

PROVISION REGARDING POLICY TO PROVIDE PREFERENCE TO DOMESTICALLY MANUFACTURED IRON & STEEL PRODUCTS (DMI&SP)

1.0 **BACK GROUND:**

Ministry of Steel (MoS) vide Gazette notification dated 29.05.2019 has circulated revised Policy for Providing Preference to Domestically Manufactured Iron Steel Products in Government Procurement. Further, vide Gazette notification dated 31.12.2020, amendment/ addition to the Policy has been circulated. A copy of the policy, clarification(s) and amendment/ additions issues are available on website of Ministry of Steel (i.e. <http://steel.gov.in/>) for reference.

2.0 **DEFINITIONS**

- i. **Bidder** may be a domestic/~~foreign~~ manufacturer of steel or their selling agents/ authorized distributors/authorized dealers/authorized supply houses or any other company engaged in the bidding of projects funded by Government agencies.
- ii. **“Domestically Manufactured Iron & Steel Products (DMI&SP)”** are those iron and steel products which are manufactured by entities that are registered and established in India, including in Special Economic Zones (SEZs). In addition, products shall meet the criteria of domestic minimum value – addition as mentioned in Appendix-A.
- iii. **Domestic Manufacturer** is a manufacturer of iron & steel products conforming to guidelines in section 7 and confirming to the definition of ‘manufacturer’ as per Central Excise Act.
- iv. **Government** for the purpose of the Policy means Government of India.
- v. **Government agencies** include Government PSUs, Societies, Trusts and Statutory bodies set up by the Government
- vi. **MoS** Shall mean Ministry of Steel, Govt. of India.
- vii. **Net Selling Price** shall be the invoiced price excluding net domestic taxes and duties
- viii. **Semi- Finished Steel** shall mean Ingots, billet, blooms and slabs, which can be subsequently processed to finished steel.
- ix. **Finished Steel** shall mean Flat and Long products, which can be subsequently processed into manufactured items.
- x. **L1** means the lowest tender or the lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.
- xi. **Margin of purchase preference** means the maximum extent to which the price quoted by a domestic supplier may be above L1 for the purpose of purchase preference. In case of DMI&SP policy, the margin of purchase preference shall be 20% for items in Appendix B.

xii. **Iron & Steel Product (s)** shall mean such iron and steel product (s) which are mentioned in Appendix A.

xiii. **Domestic value addition means** - amount of value added in India which shall be the total value of the item to be procured / sold (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value of the item to be procured / sold, in percent. The 'domestic value addition' definition shall be in line with the Department for Promotion of Industry and Internal Trade(DPIIT) (formerly DIPP) guidelines, and shall be suitably amended in case of any changes by DPIIT in the future. For the purpose of this policy document, domestic value addition and local content have been used interchangeably.

2.0 IRON & STEEL PRODUCTS

- 2.1 The policy is applicable to iron & steel products as provided in Appendix A and to capital goods for manufacturing iron & steel products in Appendix B of the policy:
- 2.2 Appendix A contains list of iron & steel products which are to be exclusively domestically manufactured and cannot be imported without the approval of the Ministry of Steel
- 2.3 Appendix B contains a list (non-exhaustive) of capital goods for which purchase preference shall be provided to domestically manufactured capital goods, if their quoted price falls within 20% of the price quoted for corresponding imported capital good.

Annexure- B is the Indicative list of capital goods (non-exhaustive) for manufacturing iron & steel products. Since presently manufacturing iron & steel products is not being done by NHAI, the provision regarding Annexure-B of policy will not be applicable.

3.0 TENDER PROCEDURE

- 3.1 For iron and steel products in Appendix A, the tender is open only to the manufacturers / suppliers having the capability of meeting / exceeding the domestic value addition targets. Manufacturers / suppliers not meeting the domestic value addition targets are not eligible to participate in the bidding.
- 3.2 The Bidders who are sole selling agents / authorized distributors/ authorized dealers/authorized supply houses of the domestic manufacturers of iron & steel products are eligible to bid on behalf of the domestic manufacturers under the policy. However, this shall be subject to the following conditions:
 - a) The Bidder shall furnish the authorization certificate issued by the domestic manufacturer for selling domestically manufactured iron & Steel products.
 - b) In case the procurement is covered under Appendix A of the DMI&SP policy, the Bidder shall furnish the Affidavit of self-certification issued by the domestic manufacturer NHAI declaring that the iron & steel products is domestically manufactured in terms of the domestic value addition prescribed.
 - c) It shall be the responsibility of the Bidder to furnish other requisite documents required to be issued by the domestic manufacturer to the NHAI as per the policy.
- 3.2.1 If Ministry of Steel is satisfied that Indian suppliers of iron and steel products are not allowed to participate and/ or compete in procurement by any foreign government due to restrictive tender conditions which have direct or indirect effect of barring Indian

companies such as registration in the procuring country, execution of project of specific value in the procuring country etc., it may, if deemed appropriate, restrict or exclude Bidders from that country from eligibility for procurement of that item and/ or other items relating to Ministry of Steel.

- 3.2.2 For the purpose of sub-paragraph 3.2.1 above, a supplier or Bidder shall be considered to be from a country if (i) the entity is incorporated in that country, or (ii) a majority of its shareholding or effective control of the entity is exercised from that country; or (iii) more than 50% of the value of the item being supplied has been added in that country. Indian suppliers shall mean those entities which meet any of these tests with respect to India. The term 'entity' of a country shall have the same meaning as under the FDI Policy of DPIIT as amended from time to time.

4 DOMESTIC VALUE ADDITION REQUIREMENT

- 4.1 Minimum domestic value addition requirement to qualify the product as a domestically manufactured iron & steel product mentioned in Appendix A of the attached Gazette Notification.
- 4.2 Domestic value addition means - amount of value added in India which shall be the total value of the item to be procured / sold (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value of the item to be procured / sold, in percent.
- 4.2.1 In case the iron & steel products are made using domestic input steel (semi-finished/ finished steel), invoices of purchases from the actual domestic producers along with quantities purchased and the other related documents must be furnished to NHAI.
- 4.2.2 In case the iron & steel products have imported input steel, the invoices of purchases from the actual producers along with quantities purchased and the other related documents must be furnished separately. To derive the extent of domestic value addition, the weighted average of both (imported & domestic) input steel shall be considered to ensure that the minimum stipulated domestic value addition requirement of the policy is complied with.
- 4.3 It is recommended that procuring Government agency / Bidder participating in the tender process should calculate the domestic value addition using the below formula so as to ensure that the domestic value addition claimed is consistent with the minimum stipulated domestic value addition requirement of the policy.

For iron and steel products & capital goods

% domestic value addition=

$$\frac{\text{Total value of the item to be procured/sold (excluding net domestic indirect taxes)} - \text{the value of imported content in the item (including all customs duties)}}{\text{Total value of the item to be procured / sold}} \times 100\%$$

5.0 CERTIFICATION AND AUDIT

- 5.1 For products in Appendix A, each domestic manufacturer shall furnish the Affidavit of self-certification to NHAI declaring that the iron & steel products are domestically manufactured in terms of the domestic value addition prescribed. The Bidders who are sole selling agents / authorized distributors / authorized dealers / authorized supply

houses of the domestic manufacturers of iron & steel products are eligible to bid on behalf of domestic manufacturers under the policy. The Bidder shall furnish the Affidavits of self-certification issued by the domestic manufacturers to NHAI declaring that the iron & steel products are domestically manufactured in terms of the domestic value addition prescribed. The Affidavit of self-certification shall be furnished in **Form 1** attached.

- 5.2** It shall be the responsibility of the domestic manufacturer to ensure that the products so claimed are domestically manufactured in terms of the domestic value addition prescribed for the product. The Bidder shall also be required to provide a domestic value addition certificate on half-yearly basis (Sep 30 and Mar 31), duly certified by the Statutory Auditors of the domestic manufacturer, that the claims of domestic value addition made for the product during the preceding 6 months are in accordance with the Policy. Such certificate shall be filed within 60 days of commencement of each half year, to NHAI and shall continue to be filed till the completion of supply of the said products.
- 5.3** NHAI shall accept the Affidavit of self-certification regarding domestic value addition in a steel product submitted by a Bidder. It shall not normally be the responsibility of NHAI to verify the correctness of the claim. The onus of demonstrating the correctness of the same shall be on the Bidder when asked to do so.
- 5.4** In case a complaint is received by NHAI against the claim of a Bidder regarding domestic value addition in iron & steel products, NHAI shall have full rights to inspect and examine all the related documents and take a decision. In case any clarification is needed, matter may be referred to MoS with a request for technical assistance.

However, there would be a complaint fee of Rs. 10 Lakh or 0.2 % of the value of the DMI&SP being procured (subject to a maximum of Rs. 20 Lakh), whichever is higher, to be paid by Demand Draft payable in favour of 'NHAH' along with the complaint by the complainant. In case, the complaint is found to be incorrect, the NHAI reserves the right to forfeit the said amount. In case, the complaint is found to be substantially correct, deposited fee of the complainant would be refunded without any interest. Further, no cognizance will be taken to any complain received without the compliant fee mentioned above.

- 5.5** Any complaint referred to NHAI shall be disposed off within 4 weeks of the reference along with submission of all necessary documents. The Bidder shall be required to furnish the necessary documentation in support of the domestic value addition claimed in iron & steel products to NHAI within 2 weeks of filing the complaint.
- 5.6** In case, the matter is referred to the Ministry of Steel, the grievance redressal committee setup under the MoS shall dispose of the complaint within 4 weeks of its reference and receipt of all documents from the Bidder after taking in consideration, the view of NHAI. The Bidder shall be required to furnish the necessary documentation in support of domestic value addition claimed in iron & steel products to the grievance redressal committee under MoS within 2 weeks of the reference of the matter. If no information is furnished by the Bidder, the grievance redressal committee may take further necessary action, in consultation NHAI to establish bonafides of claim.
- 5.7** The cost of assessing the prescribed extent of domestic value addition shall be borne NHAI if the domestic value addition is found to be correct as per the certificate. However, if it is found that the domestic value addition as claimed is incorrect, Rs. 10 Lakh or 0.2 % of the

value of the DMI&SP being procured (subject to a maximum of Rs. 20 Lakh), whichever is higher, will be payable by the Bidder (who has furnished an incorrect certificate) toward pre-determined cost of assessment.

5.8 In case of misdeclaration by the Bidder of the prescribed domestic value addition, in the tender document, NHAI will impose also penalties including forfeiting of the EMD/CPBG and putting such Bidder on banning list as per NHAI's extant "Procedure for action in case Corrupt/Fraudulent/Collusive/Coercive Practices"

5.9 In case of reference of any complaint to MoS by the concerned Bidder, there would be a complaint fee of Rs. 10 Lakh or 0.2 % of the value of the DMI&SP being procured (subject to a maximum of Rs. 20 Lakh), whichever is higher, to be paid by Demand Draft deposited with the grievance redressal committee under MoS along with the complaint by the complainant. In case, the complaint is found to be incorrect, NHAI reserves the right to forfeit the said amount. In case, the complaint is found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

6.0 IMPLEMENTATION MONITORING BY MINISTRY OF STEEL

6.1 The policy provisions shall be applicable for a period of 5 years from the date of publication. The policy period may further be extended at the discretion of Ministry of Steel.

6.2 MoS shall be the nodal ministry to monitor the implementation of the policy.

7.0 REFERENCE TO MINISTRY OF STEEL

In case of a question whether an item being procured is a DMI&SP to be covered under the policy, the matter would be referred to the Ministry of Steel for clarification.

For Appendix – A, B & C , please refer DMI& SP policy issued by Ministry of Steel vide gazette notification and its clarification((s), amendment(s) etc.

**Clarifications issued by the Standing Committee in its meeting held on
on 21.06.2017 on DMI&SP**

Sl. No.	Issues raised	Decision taken by Standing committee
By Ministry of Railways		
1	Rail as a product should not be included in the list of iron and steel products.	Rail, though produced through complex & specialized processes, have to meet certain specified quality & performance criteria. However, there could always be more than one manufacturer (indigenous or foreign) meeting the above criteria. Therefore, argument put forward on this ground for its exclusion from the Sl. No. 11 of Appendix-A is untenable and therefore, not accepted by the committee.
2	Additional exclusion proposed: i) where conditions of procurement are stipulated by external funding agencies. ii) Non-availability of product meeting performance criteria for use in areas involving public safety. (To be included in para- 3 of the Policy) .	i) Where conditions of procurement by external funding agencies are governed by existing contracts/agreement/MoUs, policy provision shall not apply. However, for all futuristic agreements, policy provision shall be applicable unless waiver is taken from Standing committee to deal with specific case. ii) Standing Committee clarified that each procurement agency is free to prescribe quality standards. However manufacturers meeting such quality standard need to be considered by the procurement agency as per the provision of DMI&SP Policy. The Committee further noted that where domestic manufacturer is not able to produce a particular grade, a case of waiver can be made in terms of para 3(a) of the Policy.

3	The para 3 does not clarify whether 'such waivers' are granted as a part of the policy or there will be a body which will grant such waivers	Granting of waivers under para -3 shall not be automatic. Standing Committee under Ministry of Steel will review such cases and grant waiver in terms of para 4 (c) of the policy.
By ONGC		
1	Whether mother pipes as input is eligible for procurement under the new policy by carrying out certain activities such as welding the connectors, etc.	All kinds of pipes & tubes have been defined as a finished product in Appendix – A of the policy at sl. 9. Therefore, mother pipe can not be considered as an input material. Hence, work like welding/ fixing of connectors on a finished product can not be considered for claiming value addition. The value addition has to be shown in manufacturing of mother pipe.
2	Input for sl no. 10 in Appendix- A i.e. Seamless Tubes and Pipes is Bloom whereas Billets are also utilized as inputs. Clarity is needed on acceptance of bidders using input as "Billet".	The Committee agreed that ' bloom' shall be replaced by "All types of bloom/billet/rounds".
3	Whether green pipes as input is eligible for procurement under the new policy by carrying out certain activities such as heat treatment and threading, etc.	All kinds of pipes & tubes have been defined as a finished product in Appendix – A of the policy at sl. No.9. Therefore, green pipe can not be considered as an input material. Hence, work like heat treatment and threading on a finished product can not be considered for claiming value addition. Value addition has to be shown in manufacturing of green pipe.
4	Whether there would be any impact of procuring the green pipes made from billets sourced from Indigenous Vs. foreign manufacturer .	If pipe is made from billets sourced from indigenous and/ or foreign manufacturer, the value addition from imported source must meet the prescribed criteria of minimum 15% as per Appendix –A and para 7.2b of the policy. For indigenous source, it is already beyond the minimum prescribed criteria.
5	Under Lump Sum Turnkey (LSTK) Contracts involving procurement of	Fabrication using finished steel products does not constitute value addition as per

	Steel for use in fabrication, it is not clear if the projects involving installation of offshore platform are covered in the policy.	the para 7.1 and Appendix-A of the policy. Any project which has an aggregate steel products of value Rs. 50 Cr or more, shall be eligible under this policy.
6	Inference made from policy that the aggregate procurement in all types of tenders whether direct or as part of LSTK/ EPC project, has to be at least Rs. 50 Crore for applicability of the policy requires confirmation.	Value of iron and steel products should be Rs. 50 Crore or more as per para 5.1b and para 6.2 of the policy. This can be part of a steel intensive project or overall project.
By IPMA		
1	To make the intent of the policy clear it would be better if in place of "Provides Preference" the word "aims to promote" is substituted.	The committee decided not to consider the suggestion and shall maintain the policy as it is.
2	Nominal return on investment needs to be specified for calculation of net selling price.	It was clarified referring to the definition of 'Net Selling Price' para 2 (vii) that a nominal 5% return on investment has been assumed to cover bare minimum cost of equity and debts to arrive at the net selling price.
3	Our understanding is Rs.50 Crore is project estimated value wherein iron and steel product will be used. Please enlighten.	Rs. 50 Crore is the aggregate estimate value for iron and steel products (and not the project estimate) as per para 5.1b and para 6.2 of the policy, which are going to be used either in steel intensive project or an over all project.
4	Last sentence of Para 6.1 of the policy may be amended to read as "The policy shall come into effect from the date of its notification".	The committee clarified that as per clause 6.1 of the policy, the policy is applicable where price bids have not been opened.
5	In case of foreign bidder, only coating on pipes domestically should not be considered for the purpose of minimum domestic value addition.	Committee clarified that the bare steel pipe does not fall as input as mentioned in Appendix- A. All kinds of steel pipes and tubes are covered as iron and steel products made from inputs (Slab/Plates/HR Coils). So process like coating beyond finished iron and steel products can not be counted for value addition.
6	In case of using a mix of imported and domestic input steel, kindly clarify as	It was clarified that all imported steel must undergo a minimum prescribed

	how the domestic value addition will be calculated.	value addition of 15 % in terms of Para 7.2 b read with Appendix -A of the Policy in order to be eligible for bidding under the Policy. Further Para 7.1 of the Policy provide manner of calculation of value addition. Even in mix comprising of imported and domestic steel, the imported portion should separately meet the minimum prescribed value addition criteria of 15 % as prescribed in Appendix- A.
7	For domestic value addition, landed cost of imported steel will be considered. Clarifications asked whether all duties i.e. Basic custom duty, safe guard duty (if any), AD (if any), MIP (if any), etc. will be included.	It was clarified that the imported steel will have all the taxes and duties included which are borne by the importer including freight and insurance to bring the material at the plant as per para 2 (vii) and para 7.1 of the policy.
8	IPMA wants heading of the Appendix -A table to be amended as "List of Iron & Steel products and corresponding inputs thereof". Sl. No. 9 of the Appendix-A is proposed to be amended to include "Coated steel pipes & tubes".	The committee decided that the heading of 'Appendix-A' does not require any change. It was further clarified that Sl no. 9 of Appendix -A includes coated steel pipes and tubes as well.
Seamless Tubes Manufacturers' Association of India (STMAI)		
1	Input for sl no. 10 in Appendix- A i.e. Seamless Tubes and Pipes is Bloom whereas Billets are also utilized as inputs. STMAI has suggested input to be indicated as Bloom/Billets/Rounds.	It was clarified that 'bloom' shall be replaced by "All types of bloom/billet/rounds" in sl. no. 10 in Appendix-A.
ITECO (Oil Field Supply Group)		
1	Whether welded pipes as input is eligible for procurement under the new policy by carrying out certain engineering/processing activities such as fitting/welding Multistart Thread Connectors, which are considered as a highly specialized engineering output.	All kinds of pipes & tubes have been defined as a finished product in Appendix - A of the policy. Therefore, welded pipes cannot be considered as an input material. Hence, work like fitting/welding Multistart Thread Connectors, which are considered as a highly specialized engineering output, cannot be considered for claiming value addition.

FORM-I TO ANNEXURE-VI TO SECTION -III

Format for Affidavit of Self Certification regarding Domestic Value Addition in Iron & Steel Products to be provided on Rs.100/- Stamp Paper Date:

I _____ S/o, D/o, W/o, _____ Resident of _____ hereby solemnly affirm and declare asunder: That I will agree to abide by the terms and conditions of the policy of Government of India issued vide Notification No: G.S.R 385 (E) dated 29.05.2019 and subsequent amendments issued vide Notification No. G.S.R 1(E) dated 31.12.2020

That the information furnished hereinafter is correct to the best of my knowledge and belief and I undertake to produce relevant records before NHAI for the purpose of assessing the domestic value addition.

That the domestic value addition for all inputs which constitute the said iron & steel products has been verified by me and I am responsible for the correctness of the claims made therein.

That in the event of the domestic value addition of the product mentioned herein is found to be incorrect and not meeting the prescribed value-addition criteria, based on the assessment of NHAI for the purpose of assessing the domestic value-addition, I will be disqualified from any Government tender for a period of 36 months. In addition, I will bear all costs of such an assessment.

That I have complied with all conditions referred to in the Notification No. _____ wherein preference to domestically manufactured iron & steel products in Government procurement is provided and that NHAI is hereby authorized to forfeit my EMD. I also undertake to pay the assessment cost and pay all penalties as specified in the tender document.

I agree to maintain the following information in the Company's record for a period of 8 years and shall make this available for verification to any statutory authority.

- i. Name and details of the Bidder (Registered Office, Manufacturing unit location, nature of legal entity)
- ii. Date on which this certificate is issued
- iii. Iron & Steel Products for which the certificate is produced
- iv. NHAI to whom the certificate is furnished
- v. Percentage of domestic value addition claimed and whether it meets the threshold value of domestic value addition prescribed
- vi. Name and contact details of the unit of the manufacturer(s)
- vii. Net Selling Price of the iron & steel products
- viii. Freight, insurance and handling till plant
- ix. List and total cost value of input steel (imported) used to manufacture the iron & steel products
- x. List and total cost of input steel which are domestically sourced.
- xi. Please attach domestic value addition certificates from suppliers, if the input is not in house.
- xii. For imported input steel, landed cost at Indian port with break-up of CIF value, duties & taxes, port handling charges and inland freight cost.

For and on behalf of (Name of firm / entity)

Authorized signatory (To be duly authorized by the Board of Directors)

<Insert Name, Designation and Contact No.>

Annexure-VII to Section-III

Third Party Deposit Confirmation Letter

Date: _ _ / _ _ / _ _ _ _

To,

M/s. NHAI,

.....
.....
.....

Dear Sir/ Madam

Sb: Issuance of Cumulative FDR..... amounting to ₹.....valid till.....

It is hereby certified that Cumulative Fixed Deposit Receipt (FDR) bearing number.....dated..... amounting to ₹..... (Amount in figure and words) has been issued by (Name of the Bank) branch address..... The maturity value is ₹..... on dated.....

This FDR has been issued on the request of M/s..... (Name of the contractor) under the PO no. / W.O. No/Tender no.. This FDR can be encashed/ redeemed without any consent/ letter from the contractor M/s. (Name of the contractor) on the demand by M/s NHAI and the payment will be made to M/s NHAI excluding the interest earned thereon. The Contractor cannot encash/ premature above FDR unless above original FDR is accompanied by the discharge letter/NOC/approval of NHAI.

If the FDR is not withdrawn, till date of maturity, it may be renewed or treated as instructed by the Contractor & NHAI for renewal.

This FDR has been issued by authorized signatory of the Bank.

For or on behalf of..... [Name of the Bank & Branch details (Including IFS Code)]

Signature.....

Name:.....

Designation:.....

Contact no.

Email Id.

Stamp of Bank.....

Note:

- (i) This letter forms an integrated part of FDR**
- (ii) In case confirmation is required, the communication can be send to the following:**
Details for confirmations (including Address, Email Id, IFS Code and contact no.)

FORMS & FORMAT

LIST OF FORMS & FORMAT

Form No.	Description
F-1	BIDDER'S GENERAL INFORMATION
F-1A	ANNEXURE TO BIDDER'S GENERAL INFORMATION
F-2	PROFORMA OF "BANK GUARANTEE" FOR "EARNEST MONEY "
F-2A	PROFORMA OF DECLARATION FOR BID SECURITY
F-2C	PROFORMA OF "INSURANCE SURETY BOND" FOR "EARNEST MONEY DEPOSIT/ BID SECURITY"
F-3	LETTER OF AUTHORITY
F-4	PROFORMA OF "BANK GUARANTEE" FOR "CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT"
F-4B	PROFORMA OF "INSURANCE SURETY BOND" FOR "CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT"
F-5	AGREED TERMS & CONDITIONS
F-6	ACKNOWLEDGEMENT CUM CONSENT LETTER
F-7	BIDDER'S EXPERIENCE
F-8	CHECK LIST
F-8B	CHECK LIST FOR BID EVALUATION CRITERIA (BEC) QUALIFYING DOCUMENTS
F-9	FORMAT FOR CERTIFICATE FROM BANK IF BIDDER'S WORKING CAPITAL IS INADEQUATE
F-10	FORMAT FOR CHARTERED ACCOUNTANT CERTIFICATE FOR FINANCIAL CAPABILITY OF THE BIDDER
F-11	FORMAT FOR CONSORTIUM/JV AGREEMENT
F-12	BIDDER'S QUERIES FOR PRE BID MEETING
F-13	E-BANKING FORMAT
F-14	INTEGRITY PACT
F-15	INDEMNITY BOND
F-16	FREQUENTLY ASKED QUESTIONS (FAQs)
F-17	UNDERTAKING REGARDING SUBMISSION OF ELECTRONIC INVOICE (E-INVOICE AS PER GST LAWS)
F-18	FORMAT FOR NO CLAIM CERTIFICATE FOR RELEASE OF CPS/SECURITY DEPOSIT

F-1

BIDDER'S GENERAL INFORMATION

To,
M/s NHAI

TENDER NO:

BIDDER'S OFFER NO. & DATE :

1	Bidder Name	M/s.....
2	Status of Firm	Proprietorship Firm/Partnership firm/ Limited Liability Partnership (LLP) firm/Public Limited/ Pvt. Limited/ Govt. Dept. / PSU/ Others If Others Specify: _____ [Enclose relevant certificates / partnership deed/certificate of Registration, as applicable]
3a	Name of Proprietor/ Partners/ Directors of the firm/company including their Father's Name and residential address, Aadhar No., Pan Card Details & DIN Nos. [As per clause for 'One Bid Per Bidder' under Section-III of Tender Document]	1. 2. 3.
3b	Name of Power of Attorney holders of Bidder	
4	Number of Years in Operation	
5	Address of Registered Office: In case of Partnership firm, provide current address of the firm for ordering purpose	<div>City:</div> <div>District:</div> <div>State:</div> <div>PIN/ZIP:</div>
6	Bidder's address where order/contract is to be placed	<div>City:</div> <div>District:</div> <div>State:</div> <div>PIN/ZIP:</div>
7	Office responsible for executing the contract with GST no. * (In case supply of works are from multiple locations, addresses and GST no. of all such locations are to be provided).	<div>City:</div> <div>District:</div> <div>State:</div> <div>PIN/ZIP:</div> <div>GST No.:</div>
8	Telephone Number/ Mobile no. of address where order is to be placed	_____

		(Country Code) (Area Code) (Telephone No.)
9	E-mail address	
10	Website	
11	Mobile Number:	
12	ISO Certification, if any	{If yes, please furnish details}
13	PAN No.	
14	GST No. (refer sl. no. 7 above)	
15	EPF Registration No.	
16	ESI code No.	
17	Whether Micro or Small Enterprise	Yes / No (If Yes, Bidder to submit requisite documents as specified in ITB: Clause No. 40)
	Whether MSE is owned by SC/ST Entrepreneur(s)	Yes / No (If Yes, Bidder to submit requisite documents as specified in ITB: Clause No. 40)
	Whether MSE is owned by Women	Yes / No (If Yes, Bidder to submit requisite documents as specified in ITB: Clause No. 40)
	Details of registration in TReDS	Yes / No If Yes, please provide the name of portal
18	Whether Bidder is Startups or not	Yes / No (If Yes, Bidder to submit requisite documents as specified in ITB: Clause No. 50)
	In case of Start-up confirm the following: (i) Date of its incorporation/ registration [The certificate shall only be valid for the entity upto ten years from the date of its incorporation/ registration] (ii) Whether turnover for any financial years since incorporation/ registration has exceed Rs.100 Crores.	

Note: * NHAI intent to place the contract directly on the address from where Works are to be supplied. In case, Bidder wants contract at some other address or Works are to be supplied from multiple locations, Bidder is required to provide in their bid, the address on which contract is to be placed.

Place: [Signature of Authorized Signatory of Bidder]
Date: Name:
Designation:
Seal:

Format F-1A

Annexure to Bidder's General Information

To,
M/s NHAI

Tender No. :
Tender Subject :
Name of Bidder :

Sl. No.	Name of Proprietor/ Partners/ Directors	Father's Name	Residential Address	Aadhar No.	Pan Card Details	DIN Nos. (if applicable)

Note: The corresponding documents i.e. Aadhar, PAN & DIN etc. are also to be provided duly attested by Notary Public.

Place: [Signature of Authorized Signatory of Bidder]
Date: Name:
Designation:
Seal:

FORMAT F-2

PROFORMA OF "BANK GUARANTEE"
FOR "EARNEST MONEY / BID SECURITY"

(To be stamped in accordance with the Stamp Act)

To, M/s NHAI _____	Bank Guarantee No.	
	Date of BG	
	BG Valid up to	
	Claim period up to (There should be three months gap between expiry date of BG & Claim period)	
	Stamp Sl. No./e-Stamp Certificate No.	

Dear Sir(s),

In accordance with Letter Inviting Tender under your reference No _____ M/s. _____ having their Registered / Head Office at _____ (hereinafter called the Tenderer), wish to participate in the said tender for _____

As an irrevocable Bank Guarantee against Earnest Money for the amount of _____ is required to be submitted by the Tenderer as a condition precedent for participation in the said tender which amount is liable to be forfeited on the happening of any contingencies mentioned in the Tender Document.

We, the _____ Bank at _____ having our Head Office _____ (Local Address) guarantee and undertake to pay immediately on demand without any recourse to the tenderers by NHAI, the amount _____ without any reservation, protest, demur and recourse. Any such demand made by NHAI, shall be conclusive and binding on us irrespective of any dispute or difference raised by the Tenderer.

This guarantee shall be irrevocable and shall remain valid up to _____ [this date should be two (02) months beyond the validity of the bid]. If any further extension of this guarantee is required, the same shall be extended to such required period on receiving instructions from M/s.

_____ whose behalf this guarantee is issued. In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this ____ day of _20_ at _.

Notwithstanding anything contained herein:

- a) The Bank's liability under this Guarantee shall not exceed (currency in figures) (currency in words only)
- b) This Guarantee shall remain in force upto _____ (this expiry date of BG should be two months beyond the validity of bid) and any extension(s) thereof; and
- c) The Bank shall be released and discharged from all liability under this Guarantee unless a written claim or demand is issued to the Bank on or before the midnight of..... (indicate date of expiry of claim period which includes minimum three months from the expiry of this Bank Guarantee) and if extended, the date of expiry of the last extension of this Guarantee. If a claim has been received by us within the said date, all the rights of NHAI under this Guarantee shall be valid and shall not cease until we have satisfied that claim.

Details of next Higher Authority of the Officials who have issued the Bank Guarantee:

Name

Designation

WITNESS:

(SIGNATURE)
(NAME)

(SIGNATURE)
(NAME)
Designation with Bank Stamp

(OFFICIAL ADDRESS)

Attorney as per
Power of Attorney No. _____
Date: _____

**INSTRUCTIONS FOR FURNISHING "BID SECURITY / EARNEST MONEY" BY
"BANK GUARANTEE"**

1. The Bank Guarantee by Bidders will be given on non-judicial stamp paper as per "Stamp Duty" applicable. The non-judicial stamp paper should be in the name of the issuing Bank.
2. The expiry date should be arrived at in accordance with "ITB: Clause-16.1".
3. The Bank Guarantee by Bidders will be given from Bank as specified in "ITB: Clause-16.2".
4. A letter from the issuing Bank of the requisite Bank Guarantee confirming that said Bank Guarantee / all future communication relating to the Bank Guarantee shall be forwarded to the Employer at its address as mentioned at "ITB".
5. Bidders must indicate the full postal address of the Bank along with the Bank's E-mail / Phone from where the Earnest Money Bond has been issued as per proforma provided below.
6. If a Bank Guarantee is issued by a commercial Bank, then a letter to Employer confirming its net worth is more than Rs. 1,000,000,000.00 [Rupees One Hundred Crores] or equivalent along with documentary evidence or in the Bank Guarantee itself.

MATTER TO BE MENTIONED IN COVERING LETTER TO BE SUBMITTED BY
VENDOR ALONG WITH BANK GUARANTEE

1	BANK GUARANTEE NO	:				
2	VENDOR NAME / VENDOR CODE	:	NAME			
			VENDOR CODE			
3	BANK GUARANTEE AMOUNT	:				
4	TENDER NO	:				
5	NATURE OF BANK GUARANTEE	:				
	(Please Tick (✓) Whichever is Applicable		PERFORMANCE BANK GUARANTEE	SECURI TY DEPOSI T	EMD	ADVANC E
6	BG ISSUED BANK DETAILS					
(A)		EMAIL ID :				
(B)		ADDRESS :				
(C)		PHONE NO :				

FORMAT F-2A

DECLARATION FOR BID SECURITY

To,

M/s NHAI

SUB:

TENDER NO:

Dear Sir

After examining / reviewing provisions of above referred tender documents (including all corrigendum/ Addenda), we M/s_____ (*Name of Bidder*) have submitted our offer/ bid no.

We, M/s_____ (*Name of Bidder*) hereby understand that, according to your conditions, we are submitting this Declaration for Bid Security.

We understand that we will be put on watch list/holiday/ banning list (as per policies of NHAI in this regard), if we are in breach of our obligation(s) as per following:

- (a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- (b) having been notified of the acceptance of our Bid by the NHAI during the period of bid validity:
 - (i) fail or refuse to execute the Contract, if required, or
 - (ii) fail or refuse to furnish the Contract Performance Security, in accordance provisions of tender document.
 - (iii) fail or refuse to accept 'arithmetical corrections' as per provision of tender document.
- (c) having indulged in corrupt/fraudulent /collusive/coercive practice as per procedure.

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

F-2C

**PROFORMA OF "INSURANCE SURETY BOND" FOR "EARNEST MONEY
DEPOSIT/ BID SECURITY"**

(To be stamped in accordance with the Stamp Act)

To, M/s NHAI _____	Insurance Surety Bond No.	
	Date of ISB	
	ISB Valid up to (Expiry date)	
	Claim period up to (indicate date of expiry of claim period which includes minimum three months from the expiry date)	
	Stamp Sl. No./e-Stamp Certificate No.	

Dear Sir(s),

In accordance with Tender Document under your reference No _____ M/s. _____ having their Registered / Head Office at ____ (hereinafter called the Tenderer/Bidder), wish to participate in the said tender for _____

As an irrevocable Insurance Surety Bond against Earnest Money Deposit for the amount of _____ is required to be submitted by the Bidder as a condition precedent for participation in the said Tender Document which amount is liable to be forfeited on the happening of any contingencies mentioned in the Tender Document.

We, the _____ [Name & address of the Insurer] at _____ having _____ our _____ Head Office _____ (Local Address) guarantee and undertake to pay immediately on demand without any recourse to the Bidder by NHAI, the amount _____ without any reservation, protest, demur and recourse. Any such demand made by NHAI, shall be conclusive and binding on us irrespective of any dispute or difference raised by the Bidder.

This Insurance Surety Bond shall be irrevocable and shall remain valid up to _____ [this date should be two (02) months beyond the validity of the bid]. If any further extension of this Insurance Surety Bond is required, the same shall be extended to such required period on receiving instructions from Bidder M/s. _____ on whose behalf this Insurance Surety Bond is issued.

Notwithstanding anything contained herein:

- a) The Insurer's liability under this Insurance Surety Bond shall not exceed (currency in figures) (currency in words only)
- b) This Insurance Surety Bond shall remain in force upto _____ (this expiry date should be two months beyond the validity of bid) and any extension(s) thereof; and
- c) The Insurer shall be released and discharged from all liability under this Insurance Surety Bond unless a written claim or demand is issued to the Insurer on or before the midnight of _____ (indicate date of expiry of claim period which includes minimum three months from the expiry of this Insurance Surety Bond) and if extended, the date of expiry of the last extension of this Insurance Surety Bond. If a claim has been received by us within the said date, all the rights of NHAI under this Insurance Surety Bond shall be valid and shall not cease until we have satisfied that claim.

In witness whereof the Insurer, through its authorized officer, has set its hand and stamp on this _____ day of _____ 20__ at _____.

Details of next Higher Authority of the Officials who have issued the Insurance Surety Bond:

Name

Designation

WITNESS:

(SIGNATURE)

(NAME)

(OFFICIAL ADDRESS)

(SIGNATURE)

(NAME)

Designation with Insurer Stamp

E-Mail ID:

Telephone/Mobile No. :

Attorney as per

Power of Attorney No. _____

Date: _____

INSTRUCTIONS FOR FURNISHING "BID SECURITY DEPOSIT/ EARNEST MONEY" BY "INSURANCE SURETY BOND"

- The Insurance Surety Bond shall be from Insurance Regulatory and Development Authority of India (IRDAI) registered general insurance companies as per guidelines issued by Insurance Regulatory and Development Authority of India (IRDAI).
- The Employer shall be the Creditor, the Bidder shall be the Principal debtor and the Insurance company/Insurer shall be the Surety in respect of the Insurance Surety Bond to be issued by the Insurer.
- The Insurance Surety Bond should be on Non-Judicial stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the state(s) where the Insurance Surety Bond is submitted or is to be acted upon or the rate prevailing in State where the Insurance Surety Bond is executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Bidder/Insurer issuing the Insurance Surety Bond.
- The expiry date should be arrived at in accordance with "ITB: Clause-xx".
- The Insurance Surety Bond by bidders will be given from Insurer as specified in "ITB: Clause-xx".
- A letter from the issuing insurer of the requisite Insurance Surety Bond confirming that said Insurance Surety Bond / all future communication relating to the Insurance Surety Bond shall be forwarded to the Purchaser at its address as mentioned at "ITB".
- Bidder must indicate the full postal address of the Insurer along with the Insurer's E-mail / Fax / Phone from where the Insurance Surety Bond has been issued at sl.no.2 of Form F-5.

MATTER TO BE MENTIONED IN COVERING LETTER TO BE SUBMITTED BY VENDOR ALONG WITH INSURANCE SURETY BOND

1	INSURANCE SURETY BOND NO	:	
2	VENDOR NAME / VENDOR CODE	:	NAME
			VENDOR CODE
3	INSURANCE SURETY BOND AMOUNT	:	

4	TENDER NO	:				
5	NATURE OF INSURANCE SURETY BOND	:				
	(Please Tick (√)) Whichever is Applicable		PERFORMAN CE INSURANCE SURETY BOND	SECURI TY DEPOSIT	EMD	ADVANC E
6	INSURER DETAILS					
(A)		EMAIL ID :				
(B)		ADDRESS :				
(C)		PHONE NO :				

F-3
LETTER OF AUTHORITY

[Pro forma for Letter of Authority for Attending 'Pre-Bid Meetings' / 'Un-priced Bid Opening' /
'Price Bid Opening']

Ref:
To,
M/s NHAI

Date:

SUB:
TENDER NO:

Dear Sir,

I/We, _____ hereby authorize the following representative(s) for attending any 'Meetings [Pre-Bid Meeting]', 'Un-priced Bid Opening', and 'Price Bid Opening' against the above Tender Documents:

[1] Name & Designation _____ Signature _____
Phone/Cell: _____
E-mail: @

[2] Name & Designation _____ Signature _____
Phone/Cell: _____
E-mail: @

We confirm that we shall be bound by all commitments made by aforementioned authorised representative(s).

Place:	[Signature of Authorized Signatory of Bidder]
Date:	Name:
	Designation:
	Seal:

Note:

- (i) This "Letter of Authority" should be on the **"letterhead"** of the Bidder and should be signed by a person competent and having the 'Power of Attorney' to bind the Bidder. Not more than 'two [02] persons per Bidder' are permitted to attend 'Pre-Bid Meetings' / 'Un-priced Bid Opening' / 'Price Bid Opening'.
- (ii) Bidder's authorized representative is required to carry a copy of this authority letter while attending the 'Pre-Bid Meetings' / 'Un-priced Bid Opening'.

**PROFORMA OF "BANK GUARANTEE" FOR "CONTRACT PERFORMANCE
SECURITY / SECURITY DEPOSIT"**
(ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

To, M/s NHAI _____	Bank Guarantee No.	
	Date of BG	
	BG Valid up to	
	Claim period up to (There should be three months gap between expiry date of BG & Claim period)	
	Stamp Sl. No./e-Stamp Certificate No.	

Dear Sir(s),

M/s. _____ having registered office at _____ (herein after called the "contractor" which expression shall wherever the context so require include its successors and assignees) have been placed/ awarded the job/work of _____ vide LOA /LOA No. _____ dated _____ for NHAI having registered office at **16, Bhikaiji Cama Place, R.K. Puram, New Delhi** (herein after called the "NHAI" which expression shall wherever the context so require include its successors and assignees).

The Contract conditions provide that the CONTRACTOR shall pay a sum of Rs. _____ (Rupees _____) as full Contract Performance Guarantee in the form therein mentioned. The form of payment of Contract Performance Guarantee includes guarantee executed by Nationalized Bank/Scheduled Commercial Bank, undertaking full responsibility to indemnify NHAI, in case of default.

The said M/s. _____ has approached us and at their request and in consideration of the premises we having our office at _____ have agreed to give such guarantee as hereinafter mentioned.

1. We _____ hereby undertake to give the irrevocable & unconditional guarantee to you that if default shall be made by M/s. _____ in performing any of the terms and conditions of the tender/order/contract or in payment of any money payable to NHAI we shall on first demand pay without demur, contest, protest and/ or without any recourse to the contractor to NHAI in such manner as NHAI may direct the said amount of Rupees _____ only or such portion thereof not exceeding the said sum as you may require from time to time.
2. You will have the full liberty without reference to us and without affecting this guarantee, postpone for any time or from time to time the exercise of any of the powers and rights conferred on you under the order/contract with the said _____ M/s. _____ and to enforce or to forbear from endorsing any powers or rights or by reason of time being given to the said M/s. _____ and such postponement forbearance would not have the effect of releasing the bank from its obligation under this debt.
3. Your right to recover the said sum of Rs. _____ (Rupees _____) from us in manner aforesaid is absolute & unequivocal and will not be affected or suspended by reason of the fact that any dispute or disputes have been raised by the said M/s. _____ and/or

that any dispute or disputes are pending before any officer, tribunal or court or arbitrator or any other authority/forum and any demand made by you in the bank shall be conclusive and binding. The bank shall not be released of its obligations under these presents by any exercise by you of its liberty with reference to matter aforesaid or any of their or by reason or any other act of omission or commission on your part or any other indulgence shown by you or by any other matter or changed what so ever which under law would, but for this provision, have the effect of releasing the bank.

4. The guarantee herein contained shall not be determined or affected by the liquidation or winding up dissolution or changes of constitution or insolvency of the said contractor but shall in all respects and for all purposes be binding and operative until payment of all money due to you in respect of such liabilities is paid.
5. The bank undertakes not to revoke this guarantee during its currency without your previous consent and further agrees that the guarantee shall continue to be enforceable until it is discharged by NHAI in writing. However, if for any reason, the contractor is unable to complete the work within the period stipulated in the order/contract and in case of extension of the date of delivery/completion resulting extension of defect liability period/guarantee period of the contractor fails to perform the work fully, the bank hereby agrees to further extend this guarantee at the instance of the contractor till such time as may be determined by NHAI. If any further extension of this guarantee is required, the same shall be extended to such required period on receiving instruction from M/s. _____ (contractor) on whose behalf this guarantee is issued.
6. Bank also agrees that NHAI at its option shall be entitled to enforce this Guarantee against the bank (as principal debtor) in the first instant, without proceeding against the contractor and notwithstanding any security or other guarantee that NHAI may have in relation to the contractor's liabilities.
7. The amount under the Bank Guarantee is payable forthwith without any delay by Bank upon the written demand raised by NHAI. Any dispute arising out of or in relation to the said Bank Guarantee shall be subject to the exclusive jurisdiction of courts at New Delhi.
8. Therefore, we hereby affirm that we are guarantors and responsible to you on behalf of the Contractor up to a total amount of _____ (amount of guarantees in words and figures) and we undertake to pay you, upon your first written demand declaring the Contractor to be in default under the order/contract and without caveat or argument, any sum or sums within the limits of (amounts of guarantee) as aforesaid, without your needing to prove or show grounds or reasons for your demand or the sum specified therein.
9. We have power to issue this guarantee in your favor under Memorandum and Articles of Association and the undersigned has full power to do under the Power of Attorney, dated _____ granted to him by the Bank.
10. Notwithstanding anything contained herein:
 - a) The Bank's liability under this Guarantee shall not exceed (currency in figures) (currency in words only)
 - b) This Guarantee shall remain in force up to _____ (this date should be expiry date of defect liability period of the Contract) and any extension(s) thereof; and
 - c) The Bank shall be released and discharged from all liability under this Guarantee unless a written claim or demand is issued to the Bank on or before the midnight of (indicate date of expiry of claim period which includes minimum three months from the expiry of this Bank Guarantee) and if extended, the date of expiry of the last extension of this Guarantee. If a claim has been received by us within the said date, all the rights of NHAI under this Guarantee shall be valid and shall not cease until we have satisfied that claim.

Details of next Higher Authority of the Officials who have issued the Bank Guarantee:

Name

Designation

Yours faithfully,

Bank by its Constituted Attorney

Signature of a person duly
Authorized to sign on behalf of the
Bank

INSTRUCTIONS FOR FURNISHING
"CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT" BY "BANK
GUARANTEE"

1. The Bank Guarantee by successful Bidder(s) will be given on non-judicial stamp paper as per 'stamp duty' applicable. The non-judicial stamp paper should be in name of the issuing bank.
2. The Bank Guarantee by Bidders will be given from bank as specified in cl.no. 38.3 of ITB [Section-III] of Tender Document.
3. A letter from the issuing bank of the requisite Bank Guarantee confirming that said Bank Guarantee and all future communication relating to the Bank Guarantee shall be forwarded to Employer.
4. If a Bank Guarantee is issued by a commercial bank, then a letter to Employer and copy to Consultant (if applicable) confirming its net worth is more than Rs. 100,00,00,000.00 [Rupees One Hundred Crores] ~~or its equivalent in foreign currency~~ along with documentary evidence OR in the Bank Guarantee itself.
5. Contractor shall submit attached cover letter (Annexure) while submitting Contract Performance Security

MATTER TO BE MENTIONED IN COVERING LETTER TO BE SUBMITTED BY VENDOR ALONG WITH BANK
GUARANTEE

1	BANK GUARANTEE NO	:				
2	VENDOR NAME / VENDOR CODE	:	NAME			
			VENDOR CODE			
3	BANK GUARANTEE AMOUNT	:				
4	PURCHASE ORDER/ LOA NO	:				
5	NATURE OF BANK GUARANTEE	:				
	(Please Tick (✓) Whichever is Applicable		PERFORMANCE BANK GUARANTEE	SECURITY DEPOSIT	EMD	ADVANCE
6	BG ISSUED BANK DETAILS					

		(A)	EMAIL ID :	
		(B)	IFSC CODE :	
		(C)	ADDRESS :	
		(D)	PHONE NO :	

F-4B

**PROFORMA OF "INSURANCE SURETY BOND" FOR "CONTRACT PERFORMANCE
SECURITY / SECURITY DEPOSIT"**

(ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)

To, M/s NHAI _____	Insurance Surety Bond No.	
	Date of Insurance Surety Bond	
	Insurance Surety Bond Valid up to (Expiry date)	
	Claim period up to (indicate date of expiry of claim period which includes minimum three months from the expiry date)	
	Stamp Sl. No./e-Stamp Certificate No.	

Dear Sir(s),

M/s. _____ having registered office at _____ (herein after called the "Contractor/Supplier" which expression shall wherever the context so require include its successors and assignees) have been placed/ awarded the job/work of _____ vide PO/LOA /LOA No. _____ dated _____ for NHAI having registered office at _____ (herein after called the "NHAI" which expression shall wherever the context so require include its successors and assignees).

The Contract conditions provide that the CONTRACTOR/SUPPLIER shall pay a sum of Rs. _____ (Rupees _____) as full Contract Performance Guarantee in the form therein mentioned. The form of payment of Insurance Surety Bond executed by Insurer, undertaking full responsibility to indemnify NHAI, in case of default.

The said M/s. _____ (herein after called the "insurer" which expression shall wherever the context so require include its successors and assignees) has approached us and at their request and in consideration of the premises we having our office at _____ have agreed to give such guarantee as hereinafter mentioned.

1. We _____ hereby undertake to give the irrevocable & unconditional guarantee in form of Insurance Surety Bond to NHAI that if default shall be made by M/s. _____ in performing any of the terms and conditions of the tender/order/contract or in payment of any money payable to NHAI we shall on first demand, pay without demur, contest, protest and/ or without any recourse to the contractor to NHAI in such manner as NHAI may direct, the said amount of Rupees _____ only or such portion thereof not exceeding the said sum as you may require from time to time.
2. You will have the full liberty without reference to us and without affecting this Insurance Surety Bond, to postpone for any time or from time to time the exercise of any of the powers and rights conferred

on you under the order/contract with the said _____ M/s. _____ and to enforce or to forbear from endorsing any powers or rights or by reason of time being given to the said M/s. _____ and such postponement forbearance would not have the effect of releasing the insurer from its obligation under this debt.

3. Your right to recover the said sum of Rs. _____ (Rupees _____) from us in manner aforesaid is absolute & unequivocal and will not be affected or suspended by reason of the fact that any dispute or disputes have been raised by the said M/s. _____ and/or that any dispute or disputes are pending before any officer, tribunal or court or arbitrator or any other authority/forum and any demand made by you to the Insurer shall be conclusive and binding. The Insurer shall not be released of its obligations under these presents by any exercise by you of its liberty with reference to matter aforesaid or any of their or by reason or any other act of omission or commission on your part or any other indulgence shown by you or by any other matter or changed what so ever which under law would, but for this provision, have the effect of releasing the insurer.
4. The Insurance Surety Bond herein contained shall not be determined or affected by the liquidation or winding up dissolution or changes of constitution or insolvency of the said supplier/contractor but shall in all respects and for all purposes be binding and operative until payment of all money due to you in respect of such liabilities is paid.
5. The Insurer undertakes not to revoke this Insurance Surety Bond during its currency without your previous consent and further agrees that the Insurance Surety Bond shall continue to be enforceable until it is discharged by NHAI in writing. However, if for any reason, the Contractor/Supplier is unable to complete the supply/work within the period stipulated in the order/contract and in case of extension of the date of delivery/completion resulting extension of defect liability period/guarantee period of the supplier/contractor fails to perform the supply/work fully, the insurer hereby agrees to further extend this Insurance Surety Bond at the instance of the Contractor/Supplier till such time as may be determined by NHAI. If any further extension of this Insurance Surety Bond is required, the same shall be extended to such required period on receiving instruction from M/s. _____ (contractor) on whose behalf this Insurance Surety Bond is issued.
6. Insurer also agrees that NHAI at its option shall be entitled to enforce this Insurance Surety Bond against the Insurer (as principal debtor) in the first instant, without proceeding against the Contractor/Supplier and notwithstanding any security or other guarantee that NHAI may have in relation to the Contractor/Supplier's liabilities.
7. The amount under the Insurance Surety Bond is payable forthwith without any delay by Insurer upon the written demand raised by NHAI. Any dispute arising out of or in relation to the said Insurance Surety Bond shall be subject to the exclusive jurisdiction of courts at New Delhi.
8. Therefore, we hereby affirm that we are guarantors and responsible to you on behalf of the Contractor/Supplier up to a total amount of _____ (amount of guarantees in words and figures) and we undertake to pay you, upon your first written demand declaring the Contractor/Supplier to be in default under the order/contract and without caveat or argument, any sum or sums within the limits of (amounts of guarantee) as aforesaid, without your needing to prove or show grounds or reasons for your demand or the sum specified therein.

9. We have power to issue this Insurance Surety Bond in your favor under our Memorandum and Articles of Association, and the undersigned has full power to sign and execute documents under the Power of Attorney, dated _____ granted to him by the Insurer.
10. Notwithstanding anything contained herein:
- a) The Insurer's liability under this Insurance Surety Bond shall not exceed (currency in figures) . . .
..... (currency in words only)
- b) This Insurance Surety Bond shall remain in force up to _____ (this date should be expiry date of defect liability period of the Contract) and any extension(s) thereof; and
11. The Insurer shall be released and discharged from all liability under this Insurance Surety Bond unless a written claim or demand is issued to the Insurer on or before the midnight of (Indicate date of expiry of claim period which includes minimum three months from the expiry of this Insurance Surety Bond) and if extended, the date of expiry of the last extension of this Insurance Surety Bond. If a claim has been received by us within the said date, all the rights of NHAI under this Insurance Surety Bond shall be valid and shall not cease until we have satisfied that claim.

Details of next Higher Authority of the Officials who have issued the Insurance Surety Bond:

Name

Designation

Yours faithfully,

Insurer by its Constituted Attorney

Signature of a person duly

Authorized to sign on behalf of the
Insurer

INSTRUCTIONS FOR FURNISHING

"CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT" BY "INSURANCE SURETY BOND"

- a) The Insurance Surety Bond shall be from Insurance Regulatory and Development Authority of India (IRDAI) registered general insurance companies as per guidelines issued by Insurance Regulatory and Development Authority of India (IRDAI).
- b) The Employer shall be the Creditor, the Bidder shall be the Principal debtor and the Insurance company/Insurer shall be the Surety in respect of the Insurance Surety Bond to be issued by the Insurer.

- c) The Insurance Surety Bond should be on Non-Judicial stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the state(s) where the Insurance Surety Bond is submitted or is to be acted upon or the rate prevailing in State where the Insurance Surety Bond is executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Bidder/Insurer issuing the Insurance Surety Bond.
- d) The Insurance Surety Bond by successful Bidder(s) will be given on non-judicial stamp paper as per 'stamp duty' applicable. The non-judicial stamp paper should be in name of the issuing Insurer.
- e) The Insurance Surety Bond by Bidders will be given from insurer as specified in cl.no. XX of ITB [Section-III] of Tender Document.
- f) A letter from the issuing insurer of the requisite Insurance Surety Bond confirming that said Insurance Surety Bond and all future communication relating to the Insurance Surety Bond shall be forwarded to Purchaser.
- g) Supplier/Contractor shall submit attached cover letter (Annexure) while submitting Contract Performance Security / Security Deposit.

**MATTER TO BE MENTIONED IN COVERING LETTER TO BE SUBMITTED BY VENDOR
ALONG WITH INSURANCE SURETY BOND**

1	INSURANCE SURETY BOND NO	:				
2	VENDOR NAME / VENDOR CODE	:	NAME			
			VENDOR CODE			
3	INSURANCE SURETY BOND AMOUNT	:				
4	PURCHASE ORDER/ LOA NO	:				
5	NATURE OF INSURANCE SURETY BOND	:				
	(Please Tick (√) Whichever is Applicable		PERFORMANCE INSURANCE SURETY BOND	SECURITY DEPOSIT	EM D	ADVANCE
6	INSURER DETAILS					
(A)		EMAIL ID	:			
(B)		ADDRESS	:			
(C)		PHONE NO	:			

F-5

AGREED TERMS & CONDITIONS

To,

M/s NHAI

SUB:

TENDER NO:

This Questionnaire duly filled in, signed & stamped must form part of Bidder's Bid and should be returned along with Un-priced Bid. Clauses confirmed hereunder need not be repeated in the Bid.

Sl.	DESCRIPTION	BIDDER'S CONFIRMATION
1	Bidder's name, Vendor Code of NHAI (if any) and address (LOA/Order shall be released in this name)	Bidder's name : NHAI's Vendor Code: Address:
2.	Bidder confirms the currency of quoted prices is in Indian Rupees.	
3.	Bidder confirms quoted prices will remain firm and fixed till complete execution of the order (except where price escalation/variation is allowed in the Tender).	
4	Bidder confirms that they have quoted GST (CGST & SGST/ UTGST or IGST) in Price Schedule/ SOR of Price bid.	
4.1	Whether in the instant tender services/works are covered in reverse charge rule of GST (CGST & SGST/UTGST or IGST) If yes, Bidder confirms that they have quoted rate of applicable GST (CGST & SGST/ UTGST or IGST) in Price Schedule / Schedule of Rates of Price Bid	Yes/ No
4.2	Deleted	
4.3	Bidder hereby confirms that the quoted prices are in compliance with the Section 171 of CGST Act/ SGST Act as mentioned as clause no. 13.10 of ITB (Anti-profiteering clause).	
4.4	Whether Bidder is liable to raise E-Invoice as per GST Act. If yes, Bidder will raise E-Invoice and confirm compliance to provision of tender in this regard.	
5.	Bidder confirms acceptance of relevant Terms of Payment specified in the Bid Document.	
6.	Bidder confirms that Contract Performance Security will be furnished as per Bid Document within 30 days of LOA in case of successful Bidder.	
7.	Bidder confirms that Contract Performance Security shall be from any Indian scheduled bank (excluding Co-operative banks and Regional Rural bank) or a branch of an International bank situated in India and registered with	

Sl.	DESCRIPTION	BIDDER'S CONFIRMATION
	Reserve bank of India as scheduled foreign bank. However, in case of bank guarantees from banks other than the Nationalized Indian banks, the bank must be a commercial bank having net worth in excess of Rs 100 crores and a declaration to this effect shall be made by such commercial bank either in the Bank Guarantee itself or separately on its letterhead.	
8.	Bidders confirms compliance to Completion Schedule as specified in Bid document and the same shall be reckoned from the date of Letter of Acceptance.	
9.	Bidders confirms acceptance of Price Reduction Schedule for delay in completion schedule specified in Bid document. In case of delay, the bills / invoices shall be submitted after reducing the price reduction due to delay (refer PRS Clause).	
10.	a) Bidder confirms acceptance of all terms and conditions of Bid Document (all sections). b) Bidder confirms that printed terms and conditions of Bidder are not applicable.	
11.	Bidder confirms their offer is valid for period specified in BDS from Final/Extended due date of opening of Techno-commercial Bids.	
12.	Bidder have furnished EMD/Bid Security details as under: a) EMD/ Bid Security No. & date b) Value c) Validity d) Bank Address/e-mail ID/Mobile no. [in case of BG] OR Bidder furnishes bid security declaration [applicable for Start-Ups and CPSEs (to whom exemption is allowed as per extant guidelines in vogue)]	
13.	As per requirement of tender, Bidder (having status as Pvt. Ltd. or Limited company) must upload bid duly digitally signed on e-portal through class-3B digital signature (DS). In case, class of DS or name of employee or name of employer is not visible in the digitally signed documents, the bid digitally signed as submitted by the person shall be binding on the Bidder.	
14.	Bidder confirms that (i) none of Directors (in Board of Director) of Bidder is a relative of any Director (in Board of Director) of NHAI or (ii) the Bidder is not a firm in which any Director (in Board of Director) of NHAI or their relative is a partner.	
15.	All correspondence must be in ENGLISH language only.	
16.	The contents of this Tender Document have not been modified or altered by Bidder. In case, it is found that the tender	

Sl.	DESCRIPTION	BIDDER'S CONFIRMATION
	document has been modified / altered by the Bidder, the bid submitted by them shall be liable for rejection.	
17.	Bidder confirms that all Bank charges associated with Bidder's Bank regarding release of payment etc. shall be borne by Bidder.	
18.	<u>No Deviation Confirmation:</u> It may be note that any 'deviation / exception' in any form may result in rejection of Bid. Therefore, Bidder confirms that they have not taken any 'exception / deviation' anywhere in the Bid. In case any 'deviation / exception' is mentioned or noticed, Bidder's Bid may be rejected.	
19.	If the Bidder becomes a successful Bidder pursuant to the provisions of the Tender Document, the following Confirmation shall be automatically become enforceable: "We agree and acknowledge that the Employer is entering into the Contract/Agreement solely on its own behalf and not on behalf of any other person or entity. In particular, it is expressly understood & agreed that the Government of India is not a party to the Contract/Agreement and has no liabilities, obligations or rights thereunder. It is expressly understood and agreed that the Purchaser is authorized to enter into Contract/Agreement, solely on its own behalf under the applicable laws of India. We expressly agree, acknowledge and understand that the Purchaser is not an agent, representative or delegate of the Government of India. It is further understood and agreed that the Government of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the Agreement. Accordingly, we hereby expressly waive, release and forego any and all actions or claims, including cross claims, VIP claims or counter claims against the Government of India arising out of the Agreement and covenants not to sue to Government of India as to any manner, claim, cause of action or things whatsoever arising of or under the Agreement."	
20.	Bidder to ensure all documents as per tender including clause 11 of Section III and all Formats are included in their bid	
21.	Bidder understands that Tender Document is not exhaustive. In case any activity though specifically not covered in description of 'Schedule of Rates' but is required to complete the work as per Scope of Work, Conditions of Contract, or any other part of Bidding document, the quoted rates will deemed to be inclusive of cost incurred for such activities unless otherwise specifically excluded. Bidder confirms to perform for fulfilment of the contract and completeness of the supplies in all respect within the scheduled time frame and quoted price.	
22.	Bidder hereby confirms that they are not on 'Holiday' by NHAI or Public Sector Project Management Consultant (like EIL,	

Sl.	DESCRIPTION	BIDDER'S CONFIRMATION
	<p>Mecon only due to “poor performance” or “corrupt and fraudulent practices”) or banned by Government department/ Public Sector on due date of submission of bid.</p> <p>Further, Bidder confirms that neither they nor their allied agency/(ies) (as defined in the Procedure for Action in case of Corrupt/ Fraudulent/ Collusive/ Coercive Practices) are on banning list of NHAI or the Ministry of Petroleum and Natural Gas.</p> <p>Bidder also confirms that they are not under any liquidation, court receivership or similar proceedings or 'bankruptcy'.</p> <p>In case it comes to the notice of NHAI that the Bidder has given wrong declaration in this regard, the same shall be dealt as ‘fraudulent practices’ and action shall be initiated as per the Procedure for action in case of Corrupt/Fraudulent/Collusive/Coercive Practices.</p> <p>Further, Bidder also confirms that in case there is any change in status of the declaration prior to award of contract, the same will be promptly informed to NHAI by them.</p>	
23.	<p>Bidder confirms that they have read and understood the General Conditions of Contract – Works available on NHAI’s Tender website () & no 'exception / deviation' anywhere has been taken in the same and that they shall abide by provisions of relevant GCC.</p>	
24.	<p>Bidder certifies that they would adhere to the Fraud Prevention Policy of NHAI [available on NHAI’s website (www.NHAIONline.com)] and shall not indulge themselves or allow others (working in NHAI) to indulge in fraudulent activities and that they would immediately apprise NHAI of the fraud/suspected fraud as soon as it comes to their notice. Concealment of facts regarding their involvement in fraudulent activities in connection with the business transaction(s) of NHAI is liable to be treated as crime and dealt with by the procedures of NHAI as applicable from time to time.</p>	
25.	<p>Bidder confirms that (i) any variation in GST at the time of supplies for any reasons, other than statutory, including variations due to turnover, shall be borne by them and (ii) any error of interpretation of applicability of rate of GST (CGST & SGST/ UTGST or IGST) on components of an item and/or various items of tender by them shall be dealt as per clause no. 13.13 of Section-III.</p>	
26.	<p>Bidders confirm to submit signed copy of Integrity Pact (wherever included in tender).</p>	

Sl.	DESCRIPTION	BIDDER'S CONFIRMATION
	If Bidder is a partnership concern or a consortium, this agreement must be signed by all partners or consortium members.	
27.	Bidder confirms that there is no conflict of interest with other Bidders, as per clause no.4.2 of Section-III (ITB) of Tender Document.	
28.	Bidder confirms that, in case of contradiction between the confirmations provided in this format and to the terms & conditions mentioned elsewhere in the offer, the confirmations given in this format shall prevail.	

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

F-6
ACKNOWLEDGEMENT CUM CONSENT LETTER

(On receipt of tender document/information regarding the tender, Bidder shall acknowledge the receipt and confirm his intention to bid or reason for non-participation against the enquiry /tender through e-mail to concerned executive in NHAI issued the tender, by filling up the Format)

To,

M/s NHAI

SUB:

TENDER NO:

Dear Sir,

We hereby acknowledge receipt of a complete set of bidding document along with enclosures for subject item/job and/or the information regarding the subject tender.

- We intend to bid as requested for the subject item/job and furnish following details with respect to our quoting office:

Postal Address with Pin Code:

Telephone Number :

Contact Person :

E-mail Address :

Mobile No. :

Date :

Seal/Stamp :

- We are unable to bid for the reason given below:

Reasons for non-submission of bid:

Agency's Name :

Signature :

Name :

Designation :

Date :

Seal/Stamp :

F-7
BIDDER'S EXPERIENCE

To,

M/s NHAI

SUB:

TENDER NO:

Sl. No	Description of the Services	LOA /WO No. and date	Full Postal Address & phone nos. of Client. <i>Name, designation and address of Engineer/ Officer-in-Charge (for cases other than purchase)</i>	Value of Contract/Order (<i>Specify Currency Amount</i>)	Date of Commencement of Services	Scheduled Completion Time (Months)	Date of Actual Completion	Reasons for delay in execution, if any
(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal:

Note: As per note to ANNEXURE-B TO BEC, only documents (Work Order, Completion certificate, Execution Certificate etc.) which have been referred/ specified in the bid shall be considered in reply to queries during evaluation of Bids.

F-8 (A)
CHECK LIST

Bidders are requested to duly fill in the checklist. This checklist gives only certain important items to facilitate the Bidder to make sure that the necessary data/information as called for in the bid document has been submitted by them along with their offer. This, however, does not relieve the Bidder of his responsibilities to make sure that his offer is otherwise complete in all respects.

Please ensure compliance and tick (✓) against following points:

S. No.	DESCRIPTION	CHECK BOX	REFERENCE PAGE NO. OF THE BID SUBMITTED
1.0	Digitally Signing (in case of e-bidding)/ Signing and Stamping (in case of manual bidding) on each sheet of offer, original bidding document including SCC, ITB, GCC, SOR drawings, corrigendum (if any)		
2.0	Confirm that the following details have been submitted in the Un-priced part of the bid		
i	Covering Letter, Letter of Submission		
ii	EMD / Declaration for Bid Security [as applicable] as per provisions of Tender		
iii	Digitally signed (in case of e-tendering) or 'signed & stamped (in case of Manual tender) tender document along with drawings and addendum (if any)		
iv	Power of Attorney in the name of person signing the bid.		
v	Confirm submission of document along with unpriced bid as per bid requirement (including cl.no.11.1.1 of Section-III).		
3.0	Confirm that all format duly filled in are enclosed with the bid duly Digitally Signed (in case of e-bidding)/ Signed and Stamped (in case of manual bidding) by authorized person(s)		
4.0	Confirm that the price part as per Price Schedule format submitted with Bidding Document/ uploaded in case of e-bid.		
5.0	Confirm that Undertaking as per Form 1 of Annexure-III to Section-III has been submitted (applicable for MSE and Class I Local supplier).		
6.0	Confirm that Undertaking as per <i>Form-2 & 3 to Annexure-V to Section-III</i>		

7.0	Confirm that Undertaking as per Form-1 to Section-II have been submitted by the Bidder (Guidelines from Procurement from a Country sharing a Land Border with India)		
8.0	Confirm submission of Checklist against Bid Evaluation Criteria as per format F-8(B)		

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

F-8(B)
CHECKLIST FOR BID EVALUATION CRITERIA (BEC) QUALIFYING DOCUMENTS
(refer Section II of Tender document)

BEC Clause No.	Description	Documents required for qualification (refer Annexure-B to BEC)	Documents Submitted by Bidder	Documents attested as per Section-II of Tender	Reference Page No. of the Bid submitted
Technical BEC					
A	Experience	<ul style="list-style-type: none"> Detailed work order along with Schedule of Rates. Completion certificate issued by end user / INDEPENDENT ENGINEER (or their consultant who has been duly authorized by INDEPENDENT ENGINEER to issue such certificate). <p>In case the work of submitted Work Order is not completed, such bid is also acceptable subject to submission of Execution certificate (issued by the end user/ INDEPENDENT ENGINEER/authorized consultant) in place of completion certificate for meeting the stipulated experience criteria, provided that the asset for which the said execution certificate has been issued is ready for commercial use i.e. 'Hydro-testing' and 'EGP or Drying or Nitrogen purging or Commissioning', has been completed.</p> <p><u>Note: The completion certificates / execution certificates shall have details like work order no. / date, brief scope of work, completion date / date of execution certificate etc.</u></p>		Yes/No	

		In absence of such documents, NHAI reserve right to reject the bid without making any reference to the Bidder or assigning any reason whatsoever.			
(i) of 'Note to Clause no. A	[Jobs executed for Subsidiary / Fellow subsidiary / Holding company]	Tax paid invoice(s), duly certified by statutory auditor of the Bidder, towards payments of statutory tax in support of the job executed for Subsidiary / Fellow subsidiary / Holding company.			
(iii) of 'Note to Clause no. A	Experience	(a) Same documents as mentioned against A. above. (b) Consortium Agreement / MOU clearly indicating the scope and responsibility.		Yes/No	
C	Equipment Deployment Criteria	<p><u>Equipment (Owned) as per Annexure of SCC:</u></p> <p>iii) The Bidder shall submit the certificate from Chartered Accountant (for INDEPENDENT ENGINEERship / possession of equipment's / vehicles) as per format F-23 enclosed in the Bid Document. The submission of Format F-23 is mandatory.</p> <p>iv) "For equipment to be purchased" – Purchase order duly accepted by equipment supplier and with equipment delivery to project site, meeting the equipment deployment schedule. However, contractor to own minimum 50% of the equipment against each type of equipment; balance 50% may be covered under "to be purchased" Category. If 50% is a fraction, the same needs to be rounded off to next higher number for the minimum owned category. The purchase order shall be duly signed & stamped by Chartered Accountant / Statutory Auditor. Date of purchase order shall be before the bid due date.</p> <p>(iii) The Bidder shall submit Certificate from Chartered Engineer certifying that the Bidder's own equipment's are under good</p>		Yes/No	

		health and working condition, as per Format F-24 enclosed in the Bid Document.			
Financial BEC					
B.1	Average Annual Turn Over	Audited Financial Statements [including Auditor's Report, Balance sheet, Profit & Loss Accounts statements, Notes & schedules etc.] for preceding three Audited Financial Years.	Submitted <i>(Mention specific year... ..)</i>	Yes/No	
B.2	Net Worth	Audited Financial Statements [including Auditor's Report, Balance sheet, Profit & Loss Accounts statements, Notes & schedules etc.] for last Audited Financial Year.	Submitted <i>(Mention specific year.....)</i>	Yes/No	
B.3	Working Capital	Audited Financial Statements [including Auditor's Report, Balance sheet, Profit & Loss Accounts statements, Notes & schedules etc.] for last Audited Financial Year. If the Bidder's working capital is negative or inadequate, the Bidder shall submit a letter (in prescribed format) from their bank having net worth not less than Rs.100 Crores, confirming the availability of line of credit for at least working capital requirement as stated above. The Declaration Letter/Certificate for line of credit due to short fall of working capital shall be from single bank only. Letters from multiple banks shall not be applicable. However, banking syndicate will also be acceptable wherein a group of banks can jointly provide line of credit to the Bidder	Submitted <i>(Mention specific year... ..)</i> Submitted/ Not Applicable <i>(Bidder to tick appropriate option)</i>	Yes/No	
B	Format for Details of financial capability of Bidder	Bidder shall submit "Details of financial capability of Bidder" in prescribed format duly signed and stamped by a chartered accountant / Certified Public Accountant (CPA).	Submitted		

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:

Designation:

Seal

F-9
FORMAT FOR CERTIFICATE FROM BANK IF BIDDER'S WORKING CAPITAL IS
INADEQUATE/NEGATIVE

(To be provided on Bank's letter head)

Date:

To,
M/s. NHAI

Dear Sir,

This is to certify that M/s (name of the Bidder with address)
(hereinafter referred to as Customer) is an existing Customer of our Bank.

The Customer has informed that they wish to bid for NHAI's Tender No.
..... dated for..... (Name
of the supply/work/services/consultancy) and as per the terms of the said Tender Document they
have to furnish a certificate from their Bank confirming the availability of line of credit.

Accordingly M/s.....(name of the Bank with address) confirms availability
of line of credit to M/s (name of the Bidder) for at least an amount of Rs.

It is also confirmed that the net worth of the Bank is more than Rs. 100 Crores (or Equivalent
USD) and the undersigned is authorized to issue this certificate.

Yours truly

for (Name & address of Bank)

(Authorized signatory)

Name of the signatory:

Designation :

Email Id :

Contact No. :

Stamp

Note:

This Declaration Letter for line of credit shall be from single bank only. Letters from multiple
banks shall not be applicable. However, banking syndicate will be acceptable wherein a group of
banks can jointly provide line of credit to the Bidder.

F-10**(Bidder to submit both pages of this form)****FORMAT FOR CHARTERED ACCOUNTANT CERTIFICATE/ CERTIFIED PUBLIC ACCOUNTANT (CPA) FOR FINANCIAL CAPABILITY OF THE BIDDER**

We have verified the Audited.. Financial Statements and other relevant records of M/s.....(Name of the Bidder) and certify the following:

A. AUDITED ANNUAL TURNOVER* OF LAST 3 YEARS:

Year	Amount (Currency)
Year 1:	
Year 2:	
Year 3:	
Total (A)	
Average Annual Financial Turnover during the last three financial years (A/3)	

B. NETWORTH* AS PER LAST AUDITED FINANCIAL STATEMENT:

Description	Year ____
	Amount (Currency)
1. Net Worth	

C. WORKING CAPITAL* AS PER LAST AUDITED FINANCIAL STATEMENT :

Description	Year ____
	Amount (Currency)
1. Current Assets	
2. Current Liabilities	
3. Working Capital (Current Assets-Current liabilities)	

****Refer Instructions*****Note:**

- 1.0** It is further certified that the above-mentioned applicable figures are matching with the returns filed with Registrar of Companies (ROC) [Applicable only in case of Indian Companies]
- 2.0** We confirm that above figures are after referring instructions at page 2 of 2 of F-10.
- 3.0** Practicing Chartered Accountants shall generate Unique Document Identification Number (UDIN) for all certificates issued by them

Name of Audit Firm:
Chartered Accountant/CPA
Date:

[Signature of Authorized Signatory]
Name:
Designation:
Seal:
Membership No.:
UDIN:

(Page 1 of 2)

Instructions:

1. The Separate Pro-forma shall be used for each member in case of JV/ Consortium.
2. The financial year would be the same as one normally followed by the Bidder for its Annual Report.
3. The Bidder shall provide the audited annual financial statements as required for this Tender document. Failure to do so would result in the Proposal being considered as non-responsive.
4. For the purpose of this Tender document:
 - (i) **Annual Turnover** shall be “Revenue from Operations” as per Profit & Loss account of audited annual financial statements
 - (ii) **Working Capital** shall be “Current Assets less Current liabilities” and
 - (iii) **Net Worth** shall be Aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, if any, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.

In case the date of constitution/incorporation of the Bidder is less than 3 years old, the average turnover in respect of the completed financial years after the date of constitution/incorporation shall be taken into account for minimum Average Annual Financial Turnover criteria.

5. **Above figures shall be calculated after considering the qualification, if any, made by the statutory auditor on the audited financial statements of the Bidder including quantified financial implication.**
6. This certificate is to be submitted on the letter head of Chartered Accountant/CPA.

(Page 2 of 2)

F-11
FORMAT FOR CONSORTIUM AGREEMENT
(ON NON- JUDICIAL STAMP PAPER OF APPROPRIATE VALUE)
NOT APPLICABLE TO THIS TENDER

F-12**BIDDER'S QUERIES FOR PRE BID MEETING**

To,

M/s NHAI

Sub :

Tender No :

SL. NO.	REFERENCE OF BIDDING DOCUMENT				BIDDER'S QUERY	NHAI'S REPLY
	SEC. NO.	Page No.	Clause No.	Subject		

NOTE: The Pre-Bid Queries may be sent by e-mail before due date for receipt of Bidder's queries.**SIGNATURE OF BIDDER:** _____

NAME OF BIDDER: _____

F-13
REAL TIME GROSS SETTLEMENT (RTGS) / NATIONAL ELECTRONIC FUNDS
TRANSFER (NEFT) MANDATE FORM
(To be issued on vendors letter head)

1. Vendor/customer Name:
2. Vendor/customer Code:
3. Vendor /customer Address:
4. Vendor/customer e-mail id:
5. Particulars of bank account:
 - a) Account Holder / Beneficiary Name
 - b) Name of Bank:
 - c) Name of branch:
 - d) Branch code:
 - e) Address:
 - f) Telephone number:
 - g) Type of account (current/saving etc):
 - h) Account Number:
 - i) IFSC code of the bank branch:
 - j) Reason (if) Vendor (S.N.1) and Account Holder / Beneficiary name (S.N. 5 (a)) is not the same

I/We hereby authorize NHAI & its wholly owned subsidiary to release any amount due to me/us in the bank account as mentioned above. I/We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or lost because of incomplete or incorrect information, we would not hold the NHAI responsible.

(Signature of vendor/customer)

BANK CERTIFICATE

We certify that Account Holder/Beneficiary_____has an Account no. _____and IFSC Code : _____with us and we confirm that the details given above are correct as per our records.

Bank stamp

Date

(Signature of authorized officer of bank)

F-14

INTEGRITY PACT

INTEGRITY PACT

INTRODUCTION:

NHAI as one of its endeavour to maintain and foster most ethical and corruption free business environment, have decided to adopt the Integrity Pact, a tool developed by the Transparency International, to ensure that all activities and transactions between the Company (NHAI) and its Counterparties (Bidders, Contractors, Vendors, Suppliers, Service Providers/Consultants etc.) are handled in a fair and transparent manner, completely free of corruption.

Considering the above, the details mentioned at attached Annexure-1 are applicable as stated in Instruction to Bidders of Bid Document in addition to the existing stipulation regarding Corrupt and Fraudulent Practices.

The attached copy of the Integrity Pact at Annexure- 2 shall be included in the Bid submitted by the bidder (to be executed by the bidder for all tenders of value Rs. 1 (One) crore and above). In case a bidder does not sign the Integrity Pact, his bid shall be liable for rejection.

Bidder is required to sign the Integrity Pact with NHAI as per format & terms and conditions enclosed with tender. In case a bidder does not sign the Integrity Pact, his bid shall be liable for rejection.

I COMMITMENTS AND OBLIGATIONS OF THE “COUNTERPARTY”

- a) The Counterparty, directly or indirectly (through agent, consultant, advisor, etc.), shall not pay any bribe/ influence or give undue/ unlawful benefit to anyone to gain undue advantage in dealing with NHAI.
- b) The Counterparty will not engage in collusion of any kind including price fixation etc. with other Counterparts.
- c) The counterparty will not pass NHAI’s confidential information to any third party unless specifically authorized by NHAI in writing.
- d) The Counterparties shall promote and observe best ethical practices within their respective organizations.
- e) The Counterparty shall inform the Independent External Monitor.
 - i) If it received any demand, directly or indirectly, for a bribe/ favour or any illegal gratification/ payment / benefit;
 - ii) If it comes to know of any unethical or illegal payment / benefit;
 - iii) If it makes any payment to any NHAI associate.
- f) The Counterparty shall not make any false or misleading allegations against NHAI or its associates.

II VIOLATIONS & CONSEQUENCES:

- a) If a Counterparty commits a violation of its Commitments and Obligations under the Integrity Pact Programme during bidding process, their entire Earnest Money Deposit/ Bid Security, would be forfeited and in addition, action shall be taken as per **“Procedure for action in case Corrupt /Fraudulent/ Collusive/Coercive Practices”**.
- b) In case of violation of the Integrity pact by Counterparty after award of the Contract, NHAI shall be entitled to terminate the Contract. Further, NHAI would forfeit the security deposits/ Contract Performance Bank Guarantee and in addition, action shall be taken as per **“Procedure for action in case Corrupt /Fraudulent/ Collusive/Coercive Practices”**

INTEGRITY PACT

(To be executed on plain paper and submitted along with Technical Bid/Tender documents for tenders having a value between Rs.5 Cr and Rs.100 Cr. To be signed by the bidder and same signatory competent/ authorized to sign the relevant contract on behalf of the NHAI)

This integrity Pact is made at _____ on this _____ day of _____ 20 .

Between

National Highways Authority of India (NHAI), a statutory body constituted under the National Highways Authority of India Act, 1988, which has been entrusted with the responsibility of development, maintenance and management of National Highways, having its office at G-5 & G-6, Sector-10, Dwarka, New Delhi, hereinafter referred to as **“The Principal”**, which expression shall unless repugnant to the meaning or contract thereof include its successors and permitted assigns.

and

_____ hereinafter referred to as **“The Bidder / Contractor / Concessionaire / Consultant”** and which expression shall unless repugnant to be meaning or context thereof include its successors and permitted assigns.

Preamble

Whereas, the Principal intends to award, under laid down organizational procedures, contract/s for **“Annual Maintenance along with rectifying the damages occurred in Km 32.400 (RHS) of Chennai Bypass from Km 0.000 to Km 32.600 in the State of Tamil Nadu.”** The Principal values full compliance with all relevant laws of the land, rules of land, regulations, economic use of resources and of fairness/transparency in its relations with its Bidder(s) and/ or Contractor(s)/Concessionaire(s)/Consultant(s).

And whereas to meet the purpose aforesaid, both the parties have agreed to enter into this Integrity Pact (hereafter referred to as Integrity Pact) the terms and conditions of which shall also be read as integral part and parcel of the Tender documents and contract between the parties. Now, therefore, in consideration of mutual covenants stipulated in this pact, the parties hereby agree as follows and this pact witnesseth as under:-

Article 1 Commitments of the Principal

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-
 - (a) No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self, or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/ additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
 - (c) The Principal will exclude all known prejudiced persons from the process, whose conduct in the past has been of biased nature.
1. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act or any other Statutory Acts or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions as per its internal laid down Rules/Regulations.

Article 2 Commitments of the Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s).

The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

- (a) The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- (b) The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission or bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- (c) The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) will not commit any offence under the relevant IPC/PC Act and other Statutory Acts;

further the Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) will not use improperly, for purposes of completion or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

- (d) The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) of foreign-origin shall disclose the name and address of the Agents/ Representatives in India, if any. Similarly the Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) of Indian Nationality shall furnish the name and address of the foreign principle, if any.
- (e) The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract. He shall also disclose the details of services agreed upon for such payments.
- (f) The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- (g) The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) will not bring any outside influence through any Govt. bodies/quarters directly or indirectly on the bidding process in furtherance of his bid.

Article 3 Disqualification from tender process and exclusion from future contracts.

1. If the Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s), before award or during execution has committed a transgression through a violation of any provision of Article-2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) from the tender process.
2. If the Bidder / Contractor / Concessionaire / Consultant has committed a transgression through a violation of Article-2 such as to put his reliability or credibility into question, the Principal shall be entitled to exclude including blacklist and put on holiday the Bidder / Contractor / Concessionaire / Consultant for any future tenders/ contract award process. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the Principal taking into consideration the full facts and circumstances of each case particularly taking into account the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder / Contractor / Concessionaire / Consultant and the amount of the damage. The exclusion will be imposed for a minimum of 1 year.
3. A transgression is considered to have occurred if the Principal after due consideration of the available evidence concludes that “On the basis of facts available there are no material doubts”.
4. The Bidder / Contractor / Concessionaire / Consultant with its free consent and without any influence agrees and undertakes to respect and uphold the Principal's

absolute rights to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

5. The decision of the Principal to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder / Contractor / Concessionaire / Consultant shall be final and binding on the Bidder / Contractor / Concessionaire / Consultant.
6. On occurrence of any sanctions / disqualification etc arising out from violation of integrity pact, the Bidder / Contractor / Concessionaire / Consultant shall not be entitled for any compensation on this account.
7. Subject to full satisfaction of the Principal, the exclusion of the Bidder / Contractor / Concessionaire / Consultant could be revoked by the Principal if the Bidder / Contractor / Concessionaire / Consultant can prove that he has restored/ recouped the damage caused by him and has installed a suitable corruption prevention system in his organization.

Article 4 Compensation for Damages.

1. If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Article-3, the Principal shall be entitled to forfeit the Earnest Money Deposit / Bid Security or demand and recover the damages equivalent to Earnest Money Deposit / Bid Security apart from any other legal right that may have accrued to the Principal.
2. In addition to 1 above, the Principal shall be entitled to take recourse to the relevant provisions of the contract related to Termination of Contract due to Contractor / Concessionaire / Consultant's Default. In such case, the Principal shall be entitled to forfeit the Performance Bank Guarantee of the Contractor / Concessionaire / Consultant and / or demand and recover liquidated and all damages as per the provisions of the contract/concession agreement against Termination.

Article 5 Previous Transgression

1. The Bidder declares that no previous transgressions occurred in the last 3 years immediately before signing of this Integrity Pact with any other Company in any country conforming to the anti corruption / Transparency International (TI) approach or with any other Public Sector Enterprise / Undertaking in India or any Government Department in India that could justify his exclusion from the tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action for his exclusion can be taken as mentioned under Article-3 above for transgressions of Article-2 and shall be liable for compensation for damages as per Article-4 above.

Article 6 Equal treatments of all Bidders / Contractors / Concessionaires / Consultants / Subcontractors.

1. The Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) undertake(s) to demand from all sub-contractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
2. The Principal will enter into agreements with identical conditions as this one with all Bidders / Contractors / Concessionaires / Consultants and Subcontractors.
3. The Principal will disqualify from the tender process all Bidders who do not sign this Pact or violate its provisions.

Article 7 Criminal charges against violating Bidder(s) / Contractor(s) / Concessionaire(s) / Consultant(s) / Sub-contractor(s).

If the Principal obtains knowledge of conduct of a Bidder / Contractor / Concessionaire / Consultant or Subcontractor, or of an employee or a representative or an associate of a Bidder / Contractor / Concessionaire / Consultant or Subcontractor, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Article 8 Pact Duration

This Pact begins when both parties have legally signed it. (In case of EPC i.e. for projects funded by Principal and consultancy services). It expires for the Contractor / Consultant 12 months after his Defect Liability period is over or 12 months after his last payment under the contract whichever is later and for all other unsuccessful Bidders 6 months after this Contract has been awarded. (In case of BOT / DBFOT Projects) It expires for the concessionaire 24 months after his concession period is over and for all other unsuccessful Bidders 6 months after this Contract has been awarded. If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Chairman of NHAI.

Article 9 Other Provisions.

1. This pact is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.
2. Changes and supplements as well as termination notices need to be made in writing.
3. If the Bidder / Contractor / Concessionaire / Consultant is a partnership or a consortium, this pact must be signed by all partners or consortium members.
4. Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
5. Any disputes / differences arising between the parties with regard to term of this pact, any action taken by the Principal in accordance with this Pact or interpretation thereof shall not be subject to any Arbitration.
6. The actions stipulated in this Integrity Pact are without prejudice to any other legal

action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

In witness whereof the parties have signed and executed this Pact at the place and date first done mentioned in the presence of following witness:-

(For & On behalf of the Principal) (For & On behalf of the Bidder / Contractor /
Concessionaire / Consultant)

(Office Seal)

Place: _____

Date: _____

Witness 1: (Name & Address): _____

Witness 2: (Name & Address): _____

INDEMNITY BOND

WHEREAS National Highways Authority of India (hereinafter referred to as “**NHAI**”) which expression shall, unless repugnant to the context include its successors and assigns, having its registered office at ~~16, Bhikaiji Cama Place, R.K. Puram, New Delhi-110066~~ has entered into a contract with M/s*.....(Hereinafter referred to as the “**Contractor**”) which expression shall unless repugnant to the context include its representatives, successors and assigns, having its registered office at *and on the terms and conditions as set out, inter-alia in the [*mention the work order/LOA/Tender No.*]and various documents forming part thereof, hereinafter collectively referred to as the ‘**CONTRACT**’ which expression shall include all amendments, modifications and / or variations thereto.

NHAI has also advised the Contractor to execute an Indemnity Bond in general in favour of NHAI indemnifying NHAI and its employees and Directors including Independent Directors from all consequences which may arise out of any prospective litigation or proceedings filed or may be initiated by any third party, including any Banker / Financial institution / worker(s) / vendor(s) / subcontractor(s) etc. who may have been associated or engaged by the Contractor directly or indirectly with or without consent of NHAI for above works.

NOW, THEREFORE, in consideration of the promises aforesaid, the Contractor hereby irrevocably and unconditionally undertakes to indemnify and keep indemnified NHAI and all its employees, Directors, including Independent Directors, from and against all/any claim(s), damages, loss, which may arise out of any litigations/ liabilities that may be raised by the Contractor or any third party against NHAI under or in relation to this contract. The Contractor undertakes to compensate and pay to NHAI and/or any of its employees, Directors including Independent Directors, forth with on demand without any protest the amount claimed by NHAI for itself and for and on behalf of its employees, Directors including Independent Directors together with direct/indirect expenses including all legal expenses incurred by them or any of them on account of such litigation or proceedings.

AND THE CONTRACTOR hereby further agrees with NHAI that:

- (i) This Indemnity shall remain valid and irrevocable for all claims of NHAI and/or any of its employees and Directors including Independent Directors arising out of said contract with respect to any such litigation / court case for which NHAI and/or its employees and Directors including Independent Directors has been made party until now or here-in-after.
- (ii) This Indemnity shall not be discharged/revoked by any change/ modification/amendment/assignment of the contract or any merger of the Contractor with other entity or any change in the constitution/structure of the Contractor’s firm/Company or any conditions thereof including insolvency etc. of the Contractor, but shall be in all respects and for all purposes binding and operative until any/all claims for payment of NHAI are settled by the Contractor and/or NHAI discharges the Contractor in writing from this Indemnity.

The undersigned has full power to execute this Indemnity Bond for and on behalf of the Contractor and the same stands valid.

SIGNED BY:

For [*Contractor*]

Authorised Representative

Place:

Dated:

Witnesses:

- 1.
- 2

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FREQUENTLY ASKED QUESTIONS (FAQs)

Deleted

All the terms and conditions of Tender remain unaltered.

**UNDERTAKING REGARDING SUBMISSION OF ELECTRONIC INVOICE (E-INVOICE
AS PER GST LAWS)**

To,
M/s NHAI
.....

PO NO:

We _____ (Name of the Supplier) hereby confirm that E-Invoice provision as per the GST Law is

- (Supplier is to tick appropriate option [☐]above).**

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**NO CLAIM CERTIFICATE
(TO BE SUBMITTED BEFORE RELEASE OF CPS/SECURITY DEPOSIT)**

[On the Letter-head of Supplier/Vendor]

We, _____, a company incorporated under the laws of India/ a Consortium between *___ and *___ (*name of Consortium partners to be inserted*)/ a Partnership Firm consisting of *___ and *___ (*name of Partners to be inserted*)/ a Sole Proprietorship (as the case may be), having its registered office at _____ and carrying on business under the name and style M/s. _____ were awarded the contract by NHAI in reference to Tender No. _____ dated _____ (“Order/Contract”).

After completion of the above-said items/job under the Order/Contract, we have scrutinized all our claims, contentions, disputes, issues and we hereby confirm that after adjusting all payments received by us against our R.A. Bills and final bill, we have no claims, dues, issues and contentions from NHAI

We further absolve NHAI from all liabilities present or future arising directly or indirectly out of the Contract.

There is no economic duress or any other compulsion on us for submission of this no claim certificate.

Signature with Seal of Supplier/Vendor

Dated:

SECTION-IV

GENERAL CONDITIONS OF CONTRACT

(General Conditions of Contract-Works (GCC-Works) available
on)

SECTION-V

**SPECIAL CONDITIONS OF
CONTRACT (SCC)**

INDEX

- 1.0 GENERAL
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37.0 LOCATION OF DUMPYARD

38.0 STATUTORYAPPROVALS

39.0 TESTS AND INSPECTION

40.0 INSPECTION OF SUPPLY ITEMS

41.0 FINAL INSPECTION

42.0 COMPENSATION FOR EXTENDED STAY

43.0 COMPUTERIZED CONTRACTORS BILLING SYSTEM

44.0 TEMPORARYWORKS

45.0 DISTINCTION BETWEEN FOUNDATION AND SUPERSTRUCTURE

46.0 QUALITY ASSURANCE/ QUALITY CONTROL

47.0 HEALTH SAFETY AND ENVIRONMENT (HSE) MANAGEMENT

48.0 SITE CLEANING

49.0 COMPLETIONDOCUMENTS

50.0 COORDINATION WITH OTHER AGENCIES

51.0 DELETED

52.0 UNDERGROUND AND OVERHEAD STRUCTURES

53.0 TEST CERTIFICATES

54.0 ROYALTY

55.0 EXCAVATION BY BLASTING

56.0 SITE FACILITIES FOR WORKMEN

57.0 EXECUTION OF ELECTRICAL WORKS

58.0 HYDROSTATIC TESTING

59.0 ARBITRATION

60.0 MAKE OF MATERIALS

61.0 ADDITIONAL WORKS/ EXTRA WORKS

62.0 COMPENSATION FOR DELAY/PRICE REDUCTION SCHEDULE FOR ANY DELAY

63.0 PROJECT PLANNING, SCHEDULING AND MONITORING SYSTEM

64.0 RESPONSIBILITY OF CONTRACTOR

65.0 CHECKING OF LEVELS

66.0 STORAGE FACILITIES

67.0 ABNORMALLY HIGH RATED ITEMS (AHR ITEMS)

68.0 INSURANCE FOR FREE ISSUE MATERIAL

69.0 INSURANCES IN INDIA

70.0 Deleted

71.0 BANK GUARANTEES

72.0 SUBMISSION OF COLOURED PHOTOGRAPHS

73.0 DELETED

74.0 VIDEOGRAPHY

75.0 PIPES FOR WELDING QUALIFICATION

76.0 SPARES

77.0 BUILDING AND OTHER CONSTRUCTION WORKER'S ACT

78.0 DELETED

79.0 SINGLE POINT RESPONSIBILITY

80.0 BONUS FOR EARLY COMPLETION

~~81.0 REQUIREMENT OF EMPLOYMENT VISA FOR FOREIGN NATIONALS~~

~~82.0 REQUIREMENT OF PAN FOR FOREIGN BIDDER~~

83.0 DIRECT PAYMENTS TO SUB-VENDORS/ SUPPORTING AGENCIES OF MAIN CONTRACTOR

84.0 DELETED

85.0 JOINTS MEASUREMENT OF WORK EXECUTED, BILLING INVOICE AND PAYMENTS

86.0 CONTRACTOR TO ENGAGE CONTRACT MANPOWER BELONGING TO SCHEDULED CASTES AND WEAKER SECTIONS OF THE SOCIETY

87.0 WAY BILL/ROAD PERMIT

88.0 LOCAL EMPLOYMENT

89.0 LOCAL SKILL DEVELOPMENT

90.0 QUARTERLY CLOSURE OF THE CONTRACT

91.0 COMPLETION CERTIFICATE

92.0 PRADHAN MANTRY SURAKSHA BIMA YOJNA (PMSBY) AND PRADHAN MANTRY JEEVAN JYOTI BIMA YOJNA (PMJJBY)

93.0 E-MEASUREMENT

94.0 VENDOR GRIEVANCE PORTAL - SAMADHAN

95.0 PLANNING AND DESIGNING IN PURVIEW OF VULNERABILITY ATLAS OF INDIA

96.0 PLANT, MACHINERY AND SHUTTERING MATERIAL ADVANCE

97.0 SECURED ADVANCE AGAINST MATERIAL BROUGHT AT SITE

98.0 CONTRACTOR'S OBLIGATION AT SITE

99.0 SUBLETTING AND ASSIGNMENT

100.0 PAYMENT OF BILLS

101.0 PROVIDING DATA TO IPDMS

102.0 DEFECT LIABILITY PERIOD

SPECIAL CONDITIONS OF CONTRACT

1. GENERAL

DEFINITIONS

- 1.1. In addition to meaning ascribed to certain capitalized terms in Section IV “GCC”, following initial capitalized terms shall have the meaning as ascribed to such term hereunder. In case any term defined hereunder is also defined in Section IV “GCC”, the meaning ascribed to such term hereunder shall prevail:
 - 1.1.1. Definitions
 - Effective Date (Start Date) of Contract shall mean the date on which Contractor’s obligations will commence and that will be date of issuance of Letter of Acceptance (LOA).
 - Mechanical Completion shall mean completion of pipeline and station work including pre-commissioning (as defined in PTS) and make the system ready to start commissioning activities.
 - Commissioning shall mean activities including final drying, filling the nitrogen (if required), commissioning with gas, testing of golden tie-ins, acceptance of final dossier and all other relevant activities associated with Civil, Electrical and Instrumentation.
 - 1.2. Special Conditions of Contract shall be read in Conjunction with the General Conditions of Contract, specification of work, Drawings and any other documents forming part of this Contract wherever the context so requires.
 - 1.3. Notwithstanding the sub-division of the documents into these separate sections and volumes, every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the Contract so far as it may be practicable to do so.
 - 1.4. Where any portion of the General Condition of Contract is repugnant to or at variance with any provisions of the Special Conditions of Contract, unless at different intention appears, the provisions of the Special Conditions of Contract shall be deemed to override the provisions of the General Conditions of Contract and shall to the extent of such repugnancy, or variations, prevail.
 - 1.5. Wherever it is mentioned in the specifications that the Contractor shall perform certain work or provide certain facilities, it is understood that the Contractor shall do so at his cost and the value of contract shall be deemed to have included cost of such performance and provisions, so mentioned.
 - 1.6. The material, design, and workmanship shall satisfy the relevant Indian Standards, the Job Specifications contained herein and Codes referred to. Where the job specification stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.
 - 1.7. The priority of the documents forming the Contract shall be as per General Conditions of Contract (GCC) of tender document.
 - 1.8. It will be the Contractor’s responsibility to bring to the notice of Engineer-in-Charge any irreconcilable conflict in the contract documents before starting the work(s) or making the supply with reference which the conflict exists.

- 1.9. In the absence of any Specifications covering any material, design of work(s) the same shall be performed / supplies / executed in accordance with Standard Engineering Practice as per the instructions / directions of the Engineer-in-Charge, which will be binding on the Contractor.

2. SCOPE OF WORK & SCOPE OF SUPPLY

- 2.1. The Scope of work covered in this Contract will be as described in **Annexure- 1** of SCC, Particular Technical Specification (PTS), Job specifications, Standard Specifications, Schedule of Rates etc. The Scope of supply covered in this Contract will be as described in **Annexure - 2** of SCC, Particular Technical Specifications (PTS), Standard Specifications, and Schedule of Rates etc. It is however, explicitly understood that the scope as described is not limiting, in so far as the responsibilities of the contractor are concerned and shall include, inter alia, carrying out any and all works and providing any and all facilities as are required to complete the works in all respect.

3. SUPPLY OF WATER, POWER & OTHER UTILITIES

- 3.1. The Clause No. 2.3 to 2.5 given in General Conditions of Contract is modified to following extent:
- 3.1.1. The Contractor shall be responsible at his own cost for arranging and providing all the required Water, Power, land required for temporary site office, fabrication yard and other utilities, in the quantities and at the times required for performance of work under the contract. The contract price shall be deemed to include all costs towards the same. The INDEPENDENT ENGINEER/Consultant shall not supply water, power and other utilities.
- 3.1.2. Contractor shall, if required by him, for the entire duration of the execution of the work make available near the site, land for construction of Contractor's office. Warehouse, Workshops and for any purpose in connection with providing infrastructure required for the execution of the Contract. The Contractor shall at his own cost construct all temporary buildings and provide suitable water supply and sanitary arrangement as required. On completion of the work undertaken by the Contractor, he shall remove all temporary works erected by him and have the site cleared as directed by Engineer-in-Charge. If the Contractor shall fail to comply with these requirements, the Engineer-in-Charge may at the expense of the Contractor remove such surplus and rubbish materials and dispose off the same as he deems fit and get the site cleared as aforesaid, and the Contractor shall forthwith pay the amount of all expenses so incurred and shall no claims in respect of any such surplus material disposed of as aforesaid.
- 3.1.3. Cutting of trees shall not be permitted except in the case that tree is falling on the line of ROU/ROW. In such circumstances, details of such trees being cut shall be prepared and forest / municipal authorities be informed and necessary approval be obtained by contractor. However, after backfilling of trench & restoration, contractor should plant equal number of saplings in that area. Cutting of tree for any purposes (fuel etc.) by workers are strictly prohibited.

4. COMPLETION SCHEDULE

- 4.1. The work shall be executed strictly as per COMPLETION SCHEDULE/COMPLETION PERIOD given in **Annexure - 3** of SCC in the bidding document. The period of completion given includes the time required for mobilization as well as testing, rectifications if any, retesting and completion in all respects to the entire satisfaction of the Engineer- In – Charge.
- 4.2. The work shall commence concurrently at multiple locations as per direction of EIC based on site condition, work requirement and front availability.

- 4.3. A joint program of execution of work will be prepared by the Engineer-in-Charge and Contractor. This programme will be taken into account the time of completion mentioned above.
- 4.4. Monthly/Weekly construction programme will be drawn up by Engineer-in-Charge jointly with the contractor based on availability of work fronts and the joint construction programme as per above clause. The Contractor shall scrupulously adhere to these Targets/ Programme by deploying adequate personnel, construction tools & tackles and he shall also supply himself all materials of his scope of supply in good time to achieve the targets set out in the weekly and monthly programme. In all matters concerning the extent of targets set out in the weekly and achievements, the decision of the Engineer-in-Charge shall be final and binding on the contractor.
- 4.5. If the Contractor fails to achieve the targeted progress schedule of each month as mentioned in the bidding document, the INDEPENDENT ENGINEER/Consultant at its option may terminate the contract as contractor's default and get the work completed from other sources at contractor's risk & cost.
- 4.6. Contractor shall give every day report on category wise labour and equipment deployed along with the progress of work done so previous day in the proforma prescribed by Engineer-in-Charge.
- 4.7. The contractor shall submit fortnightly report covering all major activities indicating schedule / actual progress, slippages & its reasons and catch up plan.
- 4.8. The Bidder shall also consider local conditions including Labor / Trade unionism in Punjab while submitting their bid. No waiver of contractor obligation(s) shall be allowed on account of any delays / the stoppage due to union activities & due to the influence of trade unionism and adverse weather conditions.

5. DRAWINGS AND DOCUMENTS

- 5.1. The drawings accompanying the bid document (if any) are of indicative nature and issued for bidding purpose only. Purpose of these drawings is to enable the bidder to make an offer in line with the requirements of the INDEPENDENT ENGINEER/Consultant. However, no extra claim whatsoever, shall be entertained for variation in the "Approved for Construction" and "Bid document drawings" regarding any changes/units. Construction shall be as per drawings/specifications issued /approved by the Engineer-in-Charge during the course of execution of work. Detailed construction drawings (wherever required) on the basis of which actual execution of work is to proceed will be prepared by the contractor.
- 5.2. The drawings / documents to be submitted by the Contractor to INDEPENDENT ENGINEER/Consultant after award of the work as per the requirements enlisted in the bidding document shall be for INDEPENDENT ENGINEER/Consultant's review, information and record. The Contractor shall ensure that drawings and documents submitted to INDEPENDENT ENGINEER/Consultant are accompanied by relevant calculations, data as required and essential for review of the drawings / documents. Consultant shall review the drawings / documents within two weeks from the date of submission provided the same are accompanied by relevant calculations, data as required and essential for review.
- 5.3. All documents and drawings including those of Contractors sub-vendor's manufacturer's etc. shall be submitted to INDEPENDENT ENGINEER/Consultant after having been fully vetted in detail, approved and co-opted by the Contractor & shall bear Contractor seal/ certification to this effect. All documents/drawings & submissions made to INDEPENDENT ENGINEER/Consultant without compliance to this requirement will not be acceptable and the delay & liability owing to this shall be to the contractor's account.

- 5.4. The review of documents and drawings by INDEPENDENT ENGINEER/Consultant shall not absolve Contractor from his responsibility to meet the requirements of specifications, drawings etc. and liabilities for mistakes and deviations. Upon receiving the comments on the drawing/documents reviewed by INDEPENDENT ENGINEER/Consultant, Contractor shall incorporate the comments as required and ensure their compliance.
- 5.5. Copies of all working/shop drawing relating to the works shall be kept at the contractor's office at the site and shall be made available to the Engineer-in-Charge/INDEPENDENT ENGINEER/Consultant at any time during execution of the contract. However, no extra claim whatsoever shall be entertained for any variation in the "approved/issued for construction drawings" and "Bid Document / Tender Drawings" regarding any changes/units unless otherwise agreed.
- 5.6. The Contractor shall rectify any inaccuracies, errors and non-compliance to contractual requirements. Any delay occurring on this shall not construe a reason for delay/extension.

6. COMPLIANCE WITH LAWS

- 6.1. The Contractor shall abide by all applicable rules, regulations, statutes, laws governing the performance of works in India, including but not limited to the following:
- i. Contract Labour (Regulation & Abolition) Act 1970 & the centre rules, 1971 framed there under.
 - ii. Payment of Wages Act
 - iii. Minimum Wages Act
 - iv. Employer's Liability Act
 - v. Factory Act
 - vi. Apprentices Act
 - vii. Workman's Compensation Act
 - viii. Industrial Dispute Act
 - ix. Environment Protection Act
 - x. Wildlife Act
 - xi. Maritime Act
 - xii. PNGRB Act.
 - xiii. Any other Statute, Act Law as may be applicable.

7. GOVERNMENT OF INDIA NOT LIABLE

- 7.1. It is expressly understood and agreed by and between the Contractor and the INDEPENDENT ENGINEER/Consultant that the INDEPENDENT ENGINEER/Consultant is entering into this agreement solely on its own behalf and not on behalf of any other person or entity. In particular, it is expressly understood and agreed that the Government of India is not a party to this agreement and has no liabilities, obligations or rights there under. It is expressly understood and agreed that the INDEPENDENT ENGINEER/Consultant is an independent legal entity with power and authority to enter into contract, solely in its own behalf under the applicable laws of India and general principal of Contract Law. The Contractor expressly agrees, acknowledges and understands that the INDEPENDENT ENGINEER/Consultant is not an agent, representative or delegate of Govt. of India. It is further understood and agreed that the Govt. of India is not and shall not be liable for any acts, omissions, commissions, breaches or other wrongs arising out of the contract. Accordingly, contractor hereby expressly waives, releases and foregoes any and all actions or claims including cross claims, impleader claims or counter claims against the Govt. of India arising out of this contract and covenants not to sue to Govt. of India as to any manner, claim, cause of action or thing whatsoever arising of or under this agreement.

8. DELETED

9. LIMITATION OF LIABILITY

- 9.1. The final payment by the INDEPENDENT ENGINEER/Consultant in pursuance of the Contract terms shall not meant release of the Contractor from all of his liabilities under the Contract. The Contractor shall be liable and committed under this contract to fulfill all his liabilities and responsibilities, till the time of release of contract performance guarantee by the INDEPENDENT ENGINEER/Consultant.
- 9.2. Notwithstanding anything contrary contained herein, the aggregate total liability of Supplier, excluding his liability towards infringement of patent, trade mark or industrial design rights under the Contract / Purchase Order or otherwise shall be limited to 100% of value of Contract / Purchase order, except that this clause shall not limit the liability of the Contractor / Supplier for following:
- (i) In the event of breach of any Applicable Law;
 - (ii) In the event of fraud, Willful Misconduct or illegal or unlawful acts, or gross negligence of the Contractor / Supplier or any person acting on behalf of the Contractor / Supplier; or
 - (iii) In the event of acts or omissions of the Contractor / Supplier which are contrary to the most elementary rules of diligence which a conscientious Contractor / Supplier would have followed in similar circumstances; or
 - (iv) In the event of any claim or loss or damage arising out of infringement of Intellectual Property; or
 - (v) For any damage to any third party, including death or injury of any third party caused by the Contractor / Supplier or any person or firm acting on behalf of the Contractor / Supplier in executing the Contract / Purchase Order. However, neither party shall be liable to the other party for any indirect and consequential damages, loss of profit or loss of production

10. DELETED

11. CONTRACT PERFORMANCE GUARANTEE / CPS / SD

Refer Clause No. 38 of ITB and clause no. 24.0 of GCC:

In addition, the following will also apply:

- 11.1 In the event completion of works is delayed beyond the Scheduled Completion Date for any reasons whatsoever, the Contractor shall have the validity of the guarantee suitably extended to cover the period mentioned above.
- 11.2 The Employer/Consultant shall have an unqualified option under this guarantee to invoke the Banker's Guarantee and claim the amount there under in the event of the Contractor failing to honor any of the commitments entered into under this Contract and/or in respect of any amount due from the Contractor to the Employer/Consultant. In case Contractor fails to furnish the requisite Bank Guarantee as stipulated above, then the Employer/Consultant shall have the option to terminate the Notification of Award of Work and no compensation for the works performed shall be payable upon such termination.
- 11.3 Upon completion of the Works as per Completion Schedule stipulated in the Contract, the above said guarantee shall be considered to constitute the Contractor's warranty/guarantee for the work done by him or for the Works supplied and their performance as per the specifications and any other conditions against this Contract. The warranty/guarantee/Defect Liability Period shall remain in force for 12 months from the date of commissioning of pipeline against this Contract as per GCC. The Contractor shall also arrange for the Performance Guarantee to remain valid until the expiration of the Guarantee / Defect Liability Period + 90 days for entire works covered under the contract.
- 11.4 In the event of Completion of Project being delayed beyond the Scheduled Completion Date, the Employer/Consultant may without prejudice to any other right or remedy available to the Employer/Consultant, operate the Bank Guarantee to recover the Compensation for delay leviable as per Clause 62.0 below. The Bank Guarantee amount shall thereupon be increased to the original amount, or the Contractor may alternatively submit a fresh Bank Guarantee for the equivalent amount of compensation for delay recovered."
- 11.5 The CPBG/security deposit has to cover the entire executed contract value which includes extra work also.
Once the total executed value is likely to burst the ceiling of contract price, the contractor shall submit additional security deposit/ CPBG. However, as long as the CPBG/security deposit already submitted at the time of award take cares of extra work executed and the total executed value are within the contract price, there is no need additional security deposit/CPBG for each extra work.

12 GST DURING SITE FABRICATION

If GST is applicable during site fabrication, the same must be assessed and deemed to be included by the bidder in the quoted prices. the bidder in this regard shall arrange all required formalities.

13 TAXES, DUTIES AND LEVIES IN FOREIGN COUNTRIES

- 13.1 The Contractor agrees to and does hereby accept full and exclusive liability at his own cost for the payment of any and all taxes, duties and levies etc. as are payable to any government, local or statutory authority in any country other than India, as in force on bid due date or as hereafter imposed, increased or modified, and as are payable by Contractor, his agents, sub-contractor and their employees etc. for performance of work under this contract. The Contractor shall be deemed to have been fully informed with respect to all such liabilities and considered the same in his bid, and the contract shall not be varied in any way on this account.

14 SUBSEQUENT LEGISLATION

- 14.1 All duties, taxes, fees, charges, expenses, etc. (except where otherwise expressly provided in the Contract) as may be levied/ imposed in consequence of execution of the works or in relation thereto or in connection therewith as per the Act, Laws, Rules, Regulations in force shall be to Contractor's account. However, any new taxes/duties imposed after the date of submission of last price bid & up to Contractual Completion date shall be to the NHAI's account but such Taxes/ duties imposed beyond Contractual Completion date shall be to the Contractor's account. However if such new taxes etc. is in substitute of existing taxes, same will be considered on merit of each case.

15 DELETED

16 INCOME TAX & CORPORATE TAX

Refer ITB.

17 CUSTOM DUTY

- 17.1 The Contract Price shall include the following duties i.e. Custom Duties, Social Welfare Surcharge, IGST for all materials and consumables envisaged to be imported for incorporation in the permanent works. It shall be clearly understood by the Contractor that custom duty shall neither be paid nor reimbursed by Employer/Consultant. Contractor shall be fully responsible for port clearance including stevedoring, handling, unloading, loading, storage, inland transportation and receipt of materials at site etc. and cost thereof shall be included in the contract price. The contractor shall also be fully responsible for any delays, penalties, demurrages, shortages and other charges and losses, if any, in this regard.

18 CUSTOM DUTY ON CONSTRUCTION EQUIPMENTS

- 18.1 Contractor is liable to pay custom duty on the equipments brought into India for executing the project. The Contractor shall be fully liable for observing all the formalities in this regard as well as to pay the custom duty chargeable on the equipments, including any deposit payable for such purposes. No adjustment in contracted rates shall be permissible for any change in duty drawback applicable in respect of equipment & machinery brought in India for the use of the project and for re-export of equipment and machinery, on completion of the project.

- 18.2 If the Custom Authorities require the Contractor to furnish a bond to secure payment of any custom duty in respect of any import and that such Bond shall be furnished by the Employer/Consultant, the Employer/Consultant may at the request of the Contractor furnish the said Bond against the Contractor furnishing a Bank Guarantee to the Employer/Consultant, of the like amount in the form and from a Bank in India approved by the Employer/Consultant.
- 18.3 If for any reason the Employer/Consultant is required by the Customs Authorities during pendency of Contract to pay any customs duty due to the importation or retention by the Contractor of any imports, the Contractor shall forthwith on demand by the Employer/Consultant pay the same to the Employer/Consultant, with the right in the Employer/Consultant (without prejudice to any other mode of recovery or right of the Employer/Consultant) to deduct the same from the on account and other payments due and/or becoming due or payable to the Contractor from time to time. The payments under such a case shall be subject to submission of Bank Guarantee from a Bank approved by Employer/Consultant, by the Contractor in favor of the Employer/Consultant for an amount equivalent to amount of custom duty.
- 18.4 The obligations undertaken and/or any bond or facility provided by the Employer/Consultant to the Contractor shall be based on the clear understanding that the said equipment shall be utilized by the Contractor only for the performance of the work covered under this contract and that the Employer/Consultant shall be discharged forthwith from all said obligations and shall be entitled forthwith to discontinue and recall any bond or other facility to the Contractor if the Contractor shall utilize or permit to be utilized the said equipment(s) or any of them for the performance of any work other than the work covered by the Contract in which event any amount due from Contractor in this connection shall also carry interest @22% (Twenty two percent) per annum from the date of relative payment by Employer/Consultant up to the date of recovery in full.

19 DELETED

20 IMPORT LICENCE

- 20.1 Contractor shall arrange import of all materials required for permanent incorporation in the works as well as construction equipment as per the guidelines laid down by the Government of India. INDEPENDENT ENGINEER/Consultant will not provide import license.

21 WITHHOLDING, ACCOUNTING AND TAX REQUIREMENT

- 21.1 Contractor agrees for withholding from wages and salaries of its agents, servants or employees all sums, required to be withheld by the laws of the Republic of India or any other agency having jurisdiction over the area where Contractor is conducting operations, and to pay the same promptly and directly when due to the proper authority. Contractor further agrees to comply with all accounting and reporting requirements of any Nation having jurisdiction over the subject matter hereof and to conform to such laws and regulations and to pay the cost of such compliance. If requested, Contractor will furnish the evidence of payment of applicable Taxes, in the country(ies) of the Contractor's and his sub-contractor(s) and expatriate employees.

22 INTELLECTUAL PROPERTY

- 22.1 Neither INDEPENDENT ENGINEER/Consultant nor Contractor nor their personnel, agents or any sub- contractor shall divulge to any one (other than persons designated by the party disclosing the information) any information designated in writing as confidential and obtained from the disclosing party during the course of execution of the works so long as and to the extent that the information has not become part of the public domain. This obligation does not apply to information furnished or made know to the recipient of the information without restriction as to its use by third parties or which was in recipient's possession at the time of disclosure by the disclosing party. Upon completion of the works or in the event of termination pursuant to the provisions of the contract, Contractor shall immediately return to INDEPENDENT ENGINEER/Consultant all drawings, plans, specifications and other documents supplied to the Contractor by or on behalf of the INDEPENDENT ENGINEER/Consultant or prepared by the Contractor solely for the purpose of the performance of works, including all copies made thereof by the Contractor.

23 FIRM PRICE

- 23.1 The quoted prices shall be firm and shall not be subjected to price escalation till the work is completed in all respects.

24 WORKS CONTRACT

- 24.1 The work covered under this contract shall be treated as "Works Contract".

25 PROVIDENT FUND ACT

- 25.1 The Contractor shall strictly comply with the provisions of Employees Provident Fund Act and register themselves with RPFC before commencing work. The Contractor shall deposit Employees and Employers contributions to the RPFC every month. The Contractor shall furnish along with each running bill, the challan /receipt for the payment made to RPFC for the preceding months.

26 MOBILIZATION ADVANCE

DELETED.

27 CHANGE ORDERS / EXTRA WORKS / DEVIATIONS

- 27.1 A change order will be initiated in case:
- i) The INDEPENDENT ENGINEER/Consultant directs the Contractor to include any addition to the scope of work not covered under this Contract or delete any Work included in the scope of work under the contract.
 - ii) Contractor requests to delete any part of the work which will not adversely affect the operational capabilities of the project and if agreed by the INDEPENDENT ENGINEER/Consultant and for which cost and time benefits shall be passed on to the INDEPENDENT ENGINEER/Consultant.
- 27.2 Any changes required by the INDEPENDENT ENGINEER/Consultant before giving their approval to detailed procedure or any other document relating to material procurement, layout plans etc. for complying with the requirements of bidding document shall not be construed to be a change in the scope of work under the contract.
- 27.3 Any change order as above comprising an alteration which involves a change in the cost of works (which sort of alteration is hereinafter called a "Variation") shall have impact on the contract value that shall be dealt towards end of contract. All change orders shall be approved by the Engineer-In-Charge.

- 27.4 If the Contract provides applicable rates for the valuation of the variation in question the contract price shall be increased or decreased in accordance with those rates. If the parties agree that the contract does not contain applicable rates then the parties shall negotiate a revision of the contract price which shall represent the change in cost of the works caused by the variations. Any change order must be duly approved by the INDEPENDENT ENGINEER/Consultant in writing.

27.5 If there is a difference in opinion between the Contractor and the INDEPENDENT ENGINEER/Consultant whether a particular work constitutes a change order or not, the matter shall be handled in accordance with the procedures set forth in para 27.7.8 and 27.7.9 here below.

27.6 Within 10 (Ten) working days of receiving the comments from the INDEPENDENT ENGINEER/Consultant on the documents submitted by the Contractor for approval, the Contractor's response in writing stating which item(s) is/are potential change(s), if applicable, will be submitted to the INDEPENDENT ENGINEER/Consultant.

27.7 **Procedure**

- During execution of work if the Contractor observes that any new requirements which is not specific or intended in the bidding document has been indicated by INDEPENDENT ENGINEER/Consultant, they shall discuss the matter with INDEPENDENT ENGINEER/Consultant's representatives.
- In case such requirement arises from the side of the Contractor they would also discuss the matter with INDEPENDENT ENGINEER/Consultant's Representative.
- In either of the two cases above, the representatives of both the parties shall discuss the project requirement and mutually decide whether the project requirement constitutes a change order.
- If it is mutually agreed that the project requirement/inquiry constitutes a "Change Order" then a joint memorandum will be prepared to confirm a "Change Order" and basic ideas of necessary agreed modifications.
- Contractor will study the work required in accordance with the Joint memorandum and assess subsequent schedule and cost effect if any.
- The results of this study would be discussed mutually to enable INDEPENDENT ENGINEER/Consultant to give a final decision whether Contractor should proceed with the Change Order or not, in the best interest of the Project.
- If INDEPENDENT ENGINEER/Consultant's representative accepts the change order in writing then Contractor shall proceed the work stipulated in the Change order. Time worked by all workmen employed and a statement showing the description and quantity of all materials and plant utilized for extra work shall be submitted to INDEPENDENT ENGINEER/Consultant. The INDEPENDENT ENGINEER/Consultant's representative shall sign and return to the Contractor the statement, as agreed. At the end of each month the Contractor shall deliver to the INDEPENDENT ENGINEER/Consultant's representative a priced statement of the labour, materials and plant used. Whenever any dispute arises as to cost allocation between the Contractor and the INDEPENDENT ENGINEER/Consultant, the voucher shall nevertheless be signed by the INDEPENDENT ENGINEER/Consultant as a record of time worked and materials used. List and vouchers so signed will be subject of negotiations between the INDEPENDENT ENGINEER/Consultant and the Contractor regarding their cost allocation.
- In case, mutual agreement as above that is whether Project Requirement constitutes a Change order or not, reached, then Contractor, in the interest of the project, shall take up the implementation of the work, if advised in writing to do so by INDEPENDENT ENGINEER/Consultant's representative pending settlement between the two parties to the effect whether the Project Requirement constitutes a change order or not as per the terms and conditions of Contract Documents.
- The time and cost effect in such a case shall be mutually verified for the purpose of record. Should it be established that the said work constitutes a Change Order, the same shall be compensated taking into account the records kept and in accordance with the contract.

- Should the amount of Extra Work/Change Order, if any, which the Contractor may be required to perform by the INDEPENDENT ENGINEER/Consultant, fairly entitles the Contractor to extensions of time beyond the scheduled completion date for completion of either the whole of the work or for such Extra Work only, the INDEPENDENT ENGINEER/Consultant and the Contractor shall mutually discuss and decide the extension of time, if any to be granted to the Contractor.

27.8 INDEPENDENT ENGINEER/Consultant reserves their right to execute any additional works/ extra works, during the execution of work, either by themselves or by appointing any other agency, even though such works are incidental to and necessary for the completion of works awarded to the Contractor. In the event of such decisions taken by INDEPENDENT ENGINEER/Consultant, Contractor is required to extend necessary cooperation, and act as per the instructions of Engineer-in-Charge.

28 CONSTRUCTION RIGHT-OF-USE AND PERMITS

Pipeline in Punjab section shall be predominately laid within RoW of the National Highway (Punjab Region) and other roads. The location of pipeline in these road RoWs shall be considered under the earthen shoulder/ paved shoulder/ utility corridor/ service road etc. as per the applicable road cross section at specific location. Thereby only construction ROW of width 2- 3 mtr (max) shall be available throughout the length of the pipeline. Contractor shall plan all the construction activities accordingly.

Contractor shall carry out construction work within the width of pipeline ROU/ ROW, as applicable as made available to him with no time and cost implication to the Company.

Any additional working strip requirement for construction purposes shall be arranged by him. It shall be Contractor's responsibility to make arrangement for any additional land required for fabrication, construction, storage and all other work areas without any extra cost to NHAI. Contractor shall also arrange any additional land requirement during carrying out installation of pipeline across all rivers, rail, roads and canals. Contractor shall propose suitable execution methodology and time schedule for construction/ execution of work at areas of restricted ROU/ROW and deploy adequate equipment, spreads & manpower etc. as required.

Necessary permission for laying of pipeline along the roads and obstacle crossing will be taken by NHAI and front shall be handed over to the contractor after obtaining necessary permission from the concerned authorities.

Contractor shall also arrange additional land & suitable approach for mobilization & placement of equipment, pipe string etc. during installation of Pipeline in cased crossing & HDD crossing of road and canal etc., wherever required.

Locating all existing nearby underground pipelines & cables by pipe/ cable locator and marking/ flagging-off their location suitably before beginning of any construction activity, on both sides of the crossing and within crossing limits, such that no existing pipeline/ cable gets damaged. Any damage to the existing pipelines/ cables due to the constructional activities by the contractor shall be attributable to the Contractor.

Damages, if any, to existing facilities shall be to Contractor's account. This includes restoration of roads wherever required and obtaining of NOC from concerned authorities.

The Restoration is including the damaged Asphalted Roads, service roads, Concrete Roads, Red Stone Roads, Concrete Pavements, Paver Blocks etc. and the same is part of restoration of roads wherever it is damaged for laying of pipeline and related works. Further the specifications for restoration of NH & SH wherever it gets damaged by the contractor to be restored as per the specifications of NHAI / State Highway department and MORTH. No extra claim is admissible pertaining to restoration works to be carried out by contractor for the damaged roads etc., while laying pipelines.

Wherever the detouring is carried out beyond ROU during pipeline installation, the detoured pipeline alignment shall be marked on village maps by Contractor.

As regards acquiring of ROU for areas other than along the roads, 3(1) and 6(1) Gazette notification under P&MP act 1962 will be published by NHAI, wherever applicable. After necessary disbursement of compensation amount as declared by Competent Authority, the ROU will be handed over to the contractor for laying of pipeline.

Necessary permission from the respective authorities will be obtained and front will be handed over progressively to the contractor. However, contractor will deploy manpower for liaisoning for expeditious permission and hindrance-free working at site. The brief scope for site clearance and liaising shall be but not limited to the following:

- *Communication and meeting with respective authorities at the instruction of NHAI for permissions.*
- *Liaising and Coordinating with all relevant authorities / stakeholders for ensuring hindrance free pipeline laying works without any extra cost to NHAI*
- *Liaisoning and co-ordinating with other agencies involved in roadwork deployed by NHAI/PWD etc.*
- *Dedicated Experienced Controlling / Liaison in charge with dedicated Liaising team with all requisite resources for independent movement, having thorough knowledge of local language shall be deputed for each spread.*
- *Separate Liaising team member should be present at each location of pipe execution work so that work does not get hampered due to the communication gap with authorities / agencies / persons.*
- *Contractor's responsibility shall be to ensure hindrance free ROU and should be able to lay the pipeline, complete the laying works including pre-commissioning and commissioning activities, restoration and arrange subsequent visits and post laying inspection or repairs, if any, for entire scope of laying works till the handing over of the pipeline to client.*

29 CONSTRUCTION EQUIPMENT AND ORGANIZATION

29.1 CONSTRUCTION EQUIPMENT

- Bidder shall meet the requirement regarding deployment of minimum Key construction equipment as specified in the Bidding Document as per **Annexure- 9 to SCC**. Bidder shall also submit their compliance for deployment of equipment as above along with the bid.

- The complete list of minimum Key critical equipment required to be owned by the bidder is attached as Annexure-9 Category-1 to SCC of the Bidding Document. Bidder shall also submit their compliance for deployment of equipment as above along with the bid.
- The complete list of Owned or Hired to be submitted by the bidder, are mentioned in Annexure 9 category 2 to SCC. Bidder shall also submit their compliance for deployment of equipment as above along with the bid.
- The INDEPENDENT ENGINEER/Consultant shall not supply any Construction Equipment.

29.2 Manpower Deployment

- Bidder shall meet the requirement regarding deployment of minimum construction manpower as specified in the bidding document at **Annexure-10 to SCC**. Bidder shall also submit their compliance for deployment of manpower along with the bid. Qualification and Experience of key construction personnel shall be as per **Annexure-10A to SCC**.

- Schedule of Labour & Equipment Rates

Hiring / Recovery Rate for Deployment of Manpower attached as **Annexure- 11 to SCC** shall be used for analyzing rates for extra items and recovery for non- deployment of manpower. Hiring / Recovery Rate are exclusive of GST.

Equipment Hiring / Recovery Rates attached as **Annexure-12 to SCC** shall be used for analyzing rates for extra items and recovery for non-deployment of equipment. Equipment Hiring / Recovery Rates are exclusive of GST.

30 **MECHANISED CONSTRUCTION**

- 30.1 Contractor shall without prejudice to his overall responsibility to execute and complete the work as per specifications and time schedule adopt as far as practicable, mechanized construction techniques for major site activities. Contractor agrees that he will deploy the required numbers and type of the plant & machinery applicable for different activities in consultation with the Engineer-in-Charge during execution of works.
- 30.2 Contractor further agrees that Contract price is inclusive of all the associated costs, which he may incur for actual mobilization, required in respect of use of mechanized construction techniques and that the INDEPENDENT ENGINEER/Consultant/Consultant in this regard shall entertain no claim whatsoever.

31 **GENERAL GUIDELINES DURING AND BEFORE ERECTION**

- 31.1 Contractor shall be responsible for organizing the lifting of the equipment in the proper sequence, that orderly progress of the work is ensured and access routes for erecting the other equipment are kept open.
- 31.2 Orientation of all foundation, elevations, lengths and disposition of anchor bolts and diameter of holes in the supports saddles shall be checked by contractor, well in advance. Minor rectifications including chipping of foundations as the case may be shall be carried out at no extra cost by the contractor after obtaining prior approval of the Engineer-in-Charge. The Contractor shall also be provided with the necessary structural drawings and piping layouts etc., wherever required for reference. During the structural member need to be dismantled, to facilitate the equipment erection, same shall be done by the contractor after ensuring proper stability of main structure with prior permission of Engineer-in-Charge. All such dismantled members shall be put in position back after the completion of equipment erection to satisfaction of Engineer-in-Charge.

- 31.3 During the performance of the work the Contractor at his own cost, shall keep structures, materials and equipment adequately braced by guys, struts or otherwise approved means which shall be supplied and installed by the Contractor as required till the installation work is satisfactorily completed. Such guys, shoring, bracing, strutting, planking supports etc. shall not interfere with the work of other agencies and shall not damage or cause distortion to other works executed by him or other agencies.
- 31.4 Manufacturer's recommendations and detailed specifications for the installation of the various INDEPENDENT ENGINEER's supplied items will be passed on to the contractor by NHAI/PROJECT DIRECTOR to the extent available during the performance of work. The requirements stipulated in these clauses shall be fulfilled by the Contractor.
- 31.5 Various tolerances required as marked on the drawings and as per specifications and instructions of the Engineer-in-Charge, shall be maintained. Verticality shall be maintained. Verticality shall be verified with the Theodolite.
- 31.6 **ERECTION OF EQUIPMENT**
- 31.6.1 All the erection shall be carried out by Cranes of suitable capacity. Erection by derrick shall not be permissible. The contractor shall arrange the crane of suitable capacity required for erection and include cost for same in respective items without any liability on the part of Employer/Consultant.
- 31.6.2 Bidder shall submit the indicative erection scheme for compressor/equipment and shall undertake the erection only after obtaining approval of erection scheme by Engineer-in-charge.
- 31.6.3 Grouting of equipment, anchor bolts, pockets and under base plates shall be carried out as per technical specifications.
- 32 **PRICE ADJUSTMENT DUE TO DELAYED MOBILIZATION OR SHORTFALL IN MOBILISATION OF MINIMUM EQUIPMENT AND MANPOWER**
- 32.1 Contractor shall mobilize and deploy equipment in good working condition as per month wise built-up of equipment indicated in the "Minimum Construction Equipment Deployment Schedule" (MCEDS) enclosed as Annexure-9 to SCC. In case issue of line pipe is later than 75 days from LOA the zero date of MCEDS will be shifted to the extent of deferment of issue of line pipe.
- 32.2 "In case during execution, adequate front is not available at site, contractor may request for delayed mobilization of certain equipment and submit for approval, the revised equipment built-up schedule, maintaining the total quantum of equipment day/ equipment month to be deployed remain unchanged. In such case, the "Revised Minimum Construction Equipment Deployment Schedule" as recommended by Engineer-in-charge (PROJECT DIRECTOR) and approved by Construction-In- Charge (NHAI India Limited) shall be applicable".
- 32.3 Contractor shall maintain record of actual mobilization of each equipment and key personnel. Joint record of equipment mobilization will be maintained month-wise. Further a copy of hindrance register for the specified period (RA bill period) duly signed by contractor/ PROJECT DIRECTOR / NHAI shall be maintained and submitted along with each RA bill.
- 32.4 In case of delay in mobilization or shortfall in mobilization of equipment and key personnel w.r.t. approved MCEDS and Manpower, recovery shall be effected from contractor's running bills as certified by ENGINEER-IN-CHARGE. The recovery shall be for the delayed period / shortfall beyond but not including the permissible mobilization period / month for each such equipment based on the hiring / recovery rates specified elsewhere in the bidding document.
- 32.5 If found necessary, NHAI / PROJECT DIRECTOR may deploy any equipment /

manpower and recover the amount for such deployment as per rates provided at Annexure-11 & 12 to SCC respectively.

- 32.6 In case of early mobilization or additional mobilization of equipment as compared to required equipment (based on approved MCEDS) to meet the schedule requirement. Contractor shall not be entitled for any extra claim.
- 32.7 An equipment and key personnel may be demobilized by the contractor on completion of its work at site after written clearance of Engineer-in-charge. Unilateral withdrawal of any equipment / key personnel by the contractor will attract recovery as per the hiring / recovery rates specified in Annexure-11 & 12 to SCC".
- 32.8 Deduction under this clause is in addition to PRS applicable pursuant to GCC clause 27.0 and SCC Clause. The provision of GCC clause no. 27.0 shall have no bearing on this clause. The Contractor's maximum liability towards deduction for non-deployment of requisite minimum equipment and manpower shall be limited to 2.5% of contract price".
- 32.9 In case time extension is granted without application of Price Reduction Schedule (PRS), then amount deducted on account of MCEDS & Manpower will be refunded to the contractor".
- 32.10 NOC from sub-contractor, if any (deployed after getting approval from NHAI /PROJECT DIRECTOR) regarding receipt of payment from contractor upto previous month to be submitted along with RA Bill.
- 32.11 In case of final bill, contractor shall be required to submit NOC from subcontractor about receipt of full payment from the contractor.
- 32.12 Base schedule duly signed by Contractor, PROJECT DIRECTOR & NHAI shall be submitted within 21 days of Kick off Meeting (KOM).
- 32.13 Contractor to submit quarterly closure reports jointly signed along with NHAI/PROJECT DIRECTOR.

32.B SCHEDULE FOR SUBMISSION OF DOCUMENTS

- (i) Schedule for submission of documents is enclosed in the bid document. In case of delay in the mentioned schedule, recovery shall be applied at the rate of INR 10,000 per Procedure/ Drawing/ QAP (as applicable) limiting to maximum INR 15.0 Lacs. In case the Contractor achieves the contractual completion period for commissioning of the pipeline, the already deducted amount on account of delay in submission of documents, shall be refunded.
- (ii) Videography & photography before start of construction activities shall be submitted along with first RA Bill. Final videography & photography (after restoration) shall be submitted along with the final R.A. bill. In case of non-submission of the same, NHAI reserves right to deduct/retain money equivalent to 0.05% of total contract value from the Contractor's RA bills for each phase i.e. before start of construction and after restoration.

33 MEASUREMENT OF WORKS

- 33.1 In addition to the provisions of relevant clause of GCC and associated provisions thereof, the provisions of **Annexure-4 to SCC** shall also apply.

34 TERMS OF PAYMENT

- 34.1 Basis and terms of payment for making "On Account Payment" shall be as set out in **Annexure-5**.

35 REPAIR OF PIPE DEFECTS

- 35.1 Immediately prior to aligning pipe for welding, the beveled ends of each joint of pipe and the area immediately adjacent thereto (at least 25mm from the edge on the inside and outside of the pipe) shall be thoroughly cleaned of paint, rust, mill scale, dirty or other foreign matter by use of power drive wire buffing wheels, disc sanders, or by other methods approved by Employer/Consultant. This shall be done at no extra cost to Employer/Consultant.
- 35.2 All damaged ends of pipe that are bent, cut or otherwise mutilated to such an extent that in the opinion of the Employer/Consultant, faulty alignment or unacceptable welding would result, shall be repaired or cut-off and re-beveled to the correct angle with a beveling machine of a type approved by Employer/Consultant. No compensation shall be allowed by reason of such re-cutting or beveling, except when required because of the original bevel being damaged before the pipe is "taken over" by Contractor.
- 35.3 Dents in bevels with a depth of less than 1 mm shall be removed by Contractor during cleaning and grinding, ahead of the welding in the field. Contractor shall re-bevel dented bevel ends with a depth between 1 and 3 mm. Dents over 3mm depth shall be repaired by cutting and re-beveling.

36 ISSUE OF INDEPENDENT ENGINEER SUPPLIED MATERIALS

- 36.1 For the conditions of issue of material and reconciliation refer enclosed **Annexure – 8 to SCC**.
- 36.2 The reconciliation of material shall be applicable only for the materials issued by INDEPENDENT ENGINEER as free issue to the contractor.

37 LOCATION OF DUMPYARD/WAREHOUSE/STORAGE YARD

- 37.1 The Dump yard / Warehouse / Storage Yard is situated at the locations (tentative) as mentioned in the Scope of Work.
- 37.2 The Contractor shall collect the line pipes from the above dump yard(s) and arrange handling of pipes including crane etc. for unloading, transportation of pipes to required location or pipeline ROU.
- 37.3 Similarly other items issued as Free Issue Material (FIM) shall be collected by the Contractor from the INDEPENDENT ENGINEER/Consultant's designated storage yard (s) as directed by Engineer – In – Charge. Contractor shall arrange for handling of FIM including crane etc for loading/unloading, transportation of FIM to required site location free of cost.
- 37.4 Contractor shall lift the entire quantity envisaged for the contract (inclusive of 3% extra pipe quantity) to cater to the wastage, re-routing etc., encountered during the construction & store it properly in the pipe yard maintained by the Contractor.

38 STATUTORY APPROVALS

- 38.1 INDEPENDENT ENGINEER shall obtain general in-principle permissions from most of the authorities having jurisdiction over the area as necessary for construction of the pipeline. However, for some of the permissions, if not available, Contractor shall do the follow up with the concerned authorities to get the permissions to execute the job in time. However, all the statutory payment required for such permissions shall be reimbursed by INDEPENDENT ENGINEER at actual on production of documentary evidence.

- 38.2 The Contractor shall arrange the inspection of the works by the authorities and necessary co-ordination and liaison work in this respect shall be the responsibility of the contractor. However statutory fees paid, if any, for all inspections and approvals by such authorities shall be reimbursed at actual by the INDEPENDENT ENGINEER/Consultant to the contractor on production of documentary evidence.
- 38.3 Any change/ addition required to be made to meet the requirements of the statutory authorities including the requirement not covered in bid document, shall be carried out by the contractor free of charge. The inspection and acceptance of the work by statutory authorities shall however, not absolve the contractor from any of his responsibilities under this contract.
- 38.4 Statutory approvals of all type of permanent buildings are to be in the scope of contractor. Detection/intimation of foreign utility and pipelines shall be in the scope of Contractor. Necessary safety of such utilities shall be ensured by the Contractor during construction.

39 TESTS AND INSPECTION

- 39.1 The Contractor shall carry out the various tests as enumerated in the technical specifications of this bid document and the technical documents that have been part of bidding document and will be furnished to him during the performance of the work.
- 39.2 All the tests either on the field or at outside laboratories concerning the execution of the work and supply of materials by the Contractor shall be carried out by the Contractor at his own cost.
- 39.3 The work is subject to Inspection at all times by the Engineer-in-Charge. The contractor shall carry out all instructions given during inspection and shall ensure that the work is being carried out according to the technical specifications of this bid document, the technical documents and the relevant codes of practice will be furnished to him during the performance of the work.
- 39.4 The Contractor shall provide for purposes of inspection access ladders, lighting and necessary instruments at his own cost.
- 39.5 Any work not conforming to execution drawings, specifications or codes shall be rejected forthwith and the Contractor shall carry out the rectifications at his own cost.
- 39.6 All results of inspection and tests will be recorded in the inspection reports, proforma of which will be approved by the Engineer-in-Charge. These reports shall form part of the completion documents.
- 39.7 For materials supplied by INDEPENDENT ENGINEER/Consultant, Contractor shall carry out the tests, if required by the Engineer-in-Charge, and the INDEPENDENT ENGINEER/Consultant shall reimburse the cost of such tests, which have not been specified in bid document, at actual to the Contractor on production of documentary evidence.
- 39.8 Statutory fees paid to IBR authorities and for repeat tests and inspection due to failures, repairs etc. such reasons attributable to the Contractor shall be borne by the Contractor.
- 39.9 Inspection and acceptance of work shall not relieve the Contractor from any of his responsibilities under this Contract.

40 INSPECTION OF SUPPLY ITEMS

- 40.1 All inspection and tests on bought out items shall be made as per the specifications forming part of this contract. The Contractor shall submit a categorization plan of all the supply items indicating the type of inspection required for review by Consultant. Various stages of inspection and testing are indicated in the bidding document and shall also be identified after receipt of Quality Assurance Programme from the Contractor/Manufacturer. All supplies are subject to pre-despatch inspection from any of the approved TPI agencies and shall be arranged by the Contractor at his own cost.

List of approved TPI agencies:

- 1) Det Norske Veritas (DNV)
- 2) Germanischer Lloyd
- 3) Bureau Veritas
- 4) Moody International
- 5) SGS
- 6) Certification Engineer International Ltd(CEIL)
- 7) Technische Ulierwachungs Verein (TUV)
- 8) Velosi
- 9) American Bureau Services(ABS)
- 10) AB-Vincotee
- 11) Lloyd Register of Industrial Services
- 12) VCS Quality Services Private Limited
- 13) Meenar Global

Any addition/modification to above approved TPI agencies shall be done through submission of requisite PTR (Proven Track Record) and their acceptance by PROJECT DIRECTOR / NHAI.

- 40.2 Inspection calls shall be given for associations of INDEPENDENT ENGINEER/Consultant's representative as per mutually agreed programme in prescribed proforma with 15 days margin, giving details of equipment and attaching relevant test certificates and internal inspection report of the Contractor. All drawings, General Arrangement and other contract drawings, specifications, catalogues etc. pertaining to equipment offered for inspection shall be got approved from INDEPENDENT ENGINEER/Consultant and copies shall be made available to INDEPENDENT ENGINEER/Consultant before hand for undertaking inspection.
- 40.3 The Contractor shall ensure full and free access to the inspection Engineer of INDEPENDENT ENGINEER/Consultant at the Contractor's or their sub-contractor's premises at any time during contract period to facilitate him to carry out inspection and testing assignments.
- 40.4 The contractor/sub-contractor shall provide all instruments, tools, necessary testing and other inspection facilities to inspection engineer of INDEPENDENT ENGINEER/Consultant free of cost for carrying out inspection.

- 40.5 Where facilities for testing do not exist in the Contractor's/ sub-contractor's laboratories, samples and test pieces shall be drawn by the Contractor/ Sub-Contractor in presence of Inspection Engineer of a INDEPENDENT ENGINEER/Consultant and duly sealed by the later and sent for testing in Government approved Test House or any other testing laboratories approved by the Inspection Engineer at the Contractor's cost.

41 FINAL INSPECTION

- 41.1 After completion of all tests as per specifications the whole work will be subject to a final inspection to ensure that job has been completed as per requirements. If any defects noticed in the work attributable to Contractor, the Contractor at his own cost shall attend these, as and when the INDEPENDENT ENGINEER/ Consultant bring them to his notice. The INDEPENDENT ENGINEER/ Consultant shall have the right to have these defects rectified at the risk and cost of the contractor if he fails to attend to these defects immediately.

42 COMPENSATION FOR EXTENDED STAY

REFER CLAUSE 33 OF ITB.

43 COMPUTERIZED CONTRACTORS BILLING SYSTEM

- 43.1 Without prejudice to stipulations in General Conditions of Contract, Contractor should follow the following billing system:

- The bills will be prepared by the contractors on their own PCs as per the standard formats and codification scheme proposed by NHAI/Consultant. The contractor will be provided with data entry software to capture the relevant billing data for subsequent processing. Contractors will submit these data to NHAI/Consultant in an electronic media along with the hard copy of the bill, necessary enclosures and documents. The contractor will also ensure the correctness and consistency of data so entered with the hard copy of the bill submitted for payment.

- 43.2 INDEPENDENT ENGINEER/Consultant will utilize these data for processing and verification of the Contractor's bill and payment.

44 TEMPORARY WORKS

- 44.1 All Temporary and ancillary works, enabling works connected with works, including all works which are required for the safety of the existing installations of INDEPENDENT ENGINEER such as barricading of existing facilities etc. and as detailed in bid document shall be responsibility of the Contractor and the price quoted by them shall be deemed to have included the cost of such works which shall be removed by the contractor at his cost, immediately after completion of his work.

45 DISTINCTION BETWEEN FOUNDATION AND SUPERSTRUCTURE

- 45.1 To distinguish between work in foundations and superstructures, the following criteria shall apply:
- For all Equipment pedestals, pipe racks, other foundation and R.C.C. Structure works done upto 300 mm level above finished grade level will be taken as work in foundations and work above this level will be treated as work in superstructures and payments would be made accordingly.
 - For Buildings only, all works upto level corresponding to finished floor level shall be treated as 'Work in foundation' and all works above the finished floor level shall be treated as "Work in superstructure".

- Irrespective of what has been stated above, all pavements, R.C.C. Retaining wall, all pipe sleepers and any similar item would be taken as work done in foundations irrespective of locations, nomenclature and levels given anywhere.
- Where not specifically pointed out all works in Cellars/ sumps, Tank Pads, Cable trenches, or such similar item would be taken as work in foundation.

46 QUALITY ASSURANCE / QUALITY CONTROL

- 46.1 Bidder shall include in his offer the Quality Assurance Programme containing the overall quality management and procedures, which is required to be adhered to during the execution of contract. After the award of the contract detailed quality assurance programme shall be prepared by the contractor for the execution of the contract for various works, which will be mutually discussed and agreed to.
- 46.2 The Contractor shall establish document and maintain an effective quality assurance system outlined in recognized codes.
- 46.3 Quality Assurance System plans/procedures of the Contractor shall be furnished in the form of a QA manual. This document should cover details of the personnel responsible for the Quality Assurance, plans or procedures to be followed for quality control in respect of Engineering, Procurement, Supply, Installation, Testing and Commissioning.
- 46.4 The quality assurance system should indicate organizational approach for quality control and quality assurance of the construction activities, at all stages of work at site as well as at manufacture's works and dispatch of materials.
- 46.5 The INDEPENDENT ENGINEER/Consultant or their representative shall reserve the right to inspect/witness, review any or all stages of work at shop/site as deemed necessary for quality assurance.
- 46.6 The contractor has to ensure the deployment of Quality Assurance and Quality Control Engineer(s) depending upon the quantum of work. This QA/QC group shall be fully responsible to carryout the work as per standards and all code requirements. In case Engineer-in-Charge feels that Contractor's QA/QC Engineer(s) are incompetent or insufficient, contractor has to deploy other experienced Engineer(s) as per site requirement and to the full satisfaction of Engineer-In-Charge.
- 46.7 In case contractor fails to follow the instructions of Engineer-in-charge with respect to above clauses, next payment due to him shall not be released unless until he complies with the instructions to the full satisfaction of Engineer-in-charge.
- 46.8 The Contractor shall adhere to the quality assurance system as described in bid document.

47 HEALTH SAFETY AND ENVIRONMENT (HSE) MANAGEMENT

- 47.1 The Contractor during entire duration of the Contract, shall adhere to HSE requirement as described in the **Annexure -7**.

48 SITE CLEANING

- 48.1 The Contractor shall clean and keep clean the work site from time to time to the satisfaction of the Engineer- in-Charge for easy access to work site and to ensure safe passage, movement and working.
- 48.2 If the work involves dismantling of any existing structure in whole or part, care shall be taken to limit the dismantling up to the exact point and/or lines as directed by the Engineer-in-Charge and any damage caused to the existing structure beyond the said line or point shall be repaired and restored to the original condition at the Contractor's cost and risks to the satisfaction of the Engineer-in-Charge, whose decision shall be final and binding upon the Contractor.

- 48.3 The Contractor shall be the custodian of the dismantled materials till the Engineer-in-Charge takes charge thereof.
- 48.4 The Contractor shall dispose of the unserviceable materials, debris etc. to any area as decided by the Engineer-in-Charge.
- 48.5 The Contractor shall sort out, clear and stack the serviceable materials obtained from the dismantling/renewal at places as directed by the Engineer-in-Charge.
- 48.6 No extra payment shall be paid on account of clauses specified above.

49 COMPLETION DOCUMENTS

- 49.1 Notwithstanding the provisions contained in standard specification, upon completion of work, the Contractor shall complete all of the related drawings and documents to the "AS BUILT" stage (including all vendor/sub-vendor drawings for bought out items), all Free-Issue-Material (FIM) documents and provide the INDEPENDENT ENGINEER/Consultant, the following :
- (i) One complete bound set of all original documents as mentioned but not limited to documents listed elsewhere in the bid document.
 - (ii) Three complete bound sets of documents as mentioned at (i) above, in original size and in 3 (three) Hard Drive / Pen Drive.
 - (iii) Three complete bound sets of Contractor's specification including design calculations.
 - (iv) Three copies of Daily Progress Reports.
 - (v) Three sets of all raw data collected/generated for and during execution of the entire job as specified in documents requirement.
 - (vi) Three sets of closure report.
- 49.2 Completion Documents
- The following documents shall be submitted in hard binder by the CONTRACTOR in 3 (Three) sets, as a part of completion documents:
- i) Welding Procedure Qualification Report.
 - ii) Welder Qualification Report.
 - iii) Radiographic Procedure Qualification.
 - iv) Radiographic Report along with radiographs (Radiographs only with the original) / Digital films.
 - v) Batch Test Certificate from manufacturers for electrodes.
 - vi) Hydrostatic and other test results & reports.
 - vii) Electronic Geometry Pigging results & reports as specified in technical document.
 - viii) Pre-commissioning/ Commissioning checklist.
 - ix) All other requirements as specified in the respective specifications.
 - x) As built drawings.
 - xi) Any other drawing/document/report specified elsewhere in the bidding document

Note: The Contractor shall be eligible to apply for issue of completion certificate after submission of completion documents as mentioned above.

50 COORDINATION WITH OTHER AGENCIES

- 50.1 Work shall be carried out in such a manner that the work of other agencies operating at the site is not hampered due to any action of the Contractor. Proper coordination with other agencies will be Contractor's responsibility. In case of any dispute, the decision of Engineer-in-Charge shall be final and binding on the Contractor.

51 DELETED

52 UNDERGROUND AND OVERHEAD STRUCTURES

- 52.1 The information to possible extent regarding existing structures/overhead lines, existing pipelines and utilities are already indicated on alignment sheets. Over and above contractor may encounter other structure/pipelines/ OFC etc. which may not be appearing on alignment sheet, the contractor is required to collect such information on his own before commencing the work. Contractor must intimate the Local Officer concerned of the utility about the pipeline construction activities and take necessary steps to ensure safety and protection to men, materials and utility provided. The Contractor shall execute the work in such a manner that the said structures, utilities, pipelines etc. are not disturbed or damaged, and shall indemnify and keep indemnified the Employer/Consultant from and against any destruction thereof or damages thereto.

53 TEST CERTIFICATES

- 53.1 Bidder shall be required to submit recent test certificates for the material being used in works from the recognized laboratories. These certificates should indicate all properties of the materials as required in relevant IS Standards or International Standards.
- 53.2 Contractor shall also submit the test certificate with every batch of material supplied which will be approved by Engineer-in-Charge. No secured advance will be given for the materials not having test certificate. In case any test is to be carried out, the same shall be got done in the approved laboratory at the cost of contractor.

54 ROYALTY

- 54.1 Contractor's quoted rate should include the royalty on different applicable items as per the prevailing Government rates. In case, INDEPENDENT ENGINEER/Consultant is able to obtain the exemption of Royalty from the State Government, the contractor shall pass on the same to INDEPENDENT ENGINEER/Consultant for all the items involving Royalty.

55 EXCAVATION BY BLASTING

- 55.1 The Contractor shall obtain license from the District authorities for undertaking blasting work as well as for obtaining and storing the explosive as per Explosive Rules 1940, corrected up to date. All necessary documentation will support as needed or asked by the concerned authority will be provided by INDEPENDENT ENGINEER. He shall purchase the Explosives, fuses, detonators etc. only from a licensed dealer. He shall be responsible for the safe custody and proper accounting of the explosive materials. The Engineer-in-Charge and his authorized representative shall have the access to check the contractor's store of explosives and his accounts. In case where the explosive are required to be transported and stored at site, relevant clauses of the Explosive rules 1940 as amended subsequently shall apply. The Contractor shall be responsible for any accident to workman, public or property, due to blasting operations.

56 SITE FACILITIES FOR WORKMEN

- 56.1 Following facilities are to be ensured at all work places where workmen are deployed/engaged by contractor.
- (i) Arrangement of first aid.
 - (ii) Arrangement for clean drinking water.
 - (iii) Toilets.
 - (iv) Canteen where tea & snacks are available.
 - (v) A crèche where 10 or more women workmen are having children below the age of 6 years.

57 EXECUTION OF ELECTRICAL WORKS

- 57.1 The Contractor shall engage an approved electrical agency for execution of electrical works, holding valid electrical contractor license. In case contractor himself executes electrical works then he shall arrange valid electrical contractor licenses before start of electrical works at site. Notwithstanding, contractor shall adhere to all the safety standard as included in bidding document.

58 HYDROSTATIC TESTING

- 58.1 The bidder as per the Technical specification along with their offer taking into account the completion schedule shall furnish the detailed procedure proposed for the hydrostatic testing of pipeline. The necessary piping, pumps etc. shall be provided by the contractor. The final disposal of water after testing shall be contractor's responsibility and should be in such a way that neither the traffic movement even pedestrians nor the standing crop in nearby fields gets affected. Suitable drains shall be provided for this purpose as directed by the Engineer-in- Charge within the contracted prices.
- 58.2 The Contractor shall propose and obtain approval of Engineer-in-Charge for exact number of test sections, based on drawings, availability of water for hydro testing and keeping in view other exigencies, if any before starting hydro testing work. The Contractor will carry out the hydrostatic test for approved number of test section including preparation for test and tie-ins, without any time and cost implication on this account to Employer/Consultant. Any increase or decrease in number of test sections will not have any cost implication to INDEPENDENT ENGINEER / Consultant / Contractor.

59 ARBITRATION

Refer ITB

60 MAKE OF MATERIALS

- 60.1 The materials required to be supplied by the contractor under this contract shall be procured only from INDEPENDENT ENGINEER/ Consultant approved vendors. Where the makes of materials are not indicated in the Bidding document contractor shall furnish the details of makes and shall obtain prior approval of Engineer-in-Charge of vendors /sub-vendors before placing order.
- 60.2 Structural Steel & TMT bar: The methodology for procurement of structure steel & TMT bar manufacturer shall be as per Annexure – 18
- 60.3 The methodology for procurement of cement by the contractor shall be as per Annexure-18A of this SCC.

60.4 Equivalent make shall also be acceptable subject to submission of PTR (Proven Track Record) and its acceptance by NHAI / PROJECT DIRECTOR.

61 ADDITIONAL WORKS/EXTRA WORKS

61.1 INDEPENDENT ENGINEER/Consultant reserves their right to execute any additional works/ extra works, during the execution of work, either by themselves or by appointing any other agency, even though such works are incidental to and necessary for the completion of works awarded to the Contractor. In the event of such decisions taken by INDEPENDENT ENGINEER/Consultant Contractor is required to extend necessary cooperation, and act as per the instructions of Engineer-in-Charge.

62 (A) COMPENSATION FOR DELAY / PRICE REDUCTION SCHEDULE (PRS) FOR ANY DELAY

62A.1 Clause No: 27.0 of GCC, pertaining to Compensation for Delay (Price Reduction Schedule) stands modified to the following extent:

62A.1.1 The contractual completion period is as given in the Invitation for Bids and subdivided into two parts:

- a) 11 (Eleven months) for Mechanical Completion of main line from the date of issue of Letter of Acceptance plus 01 (One) months for Commissioning.
- b) Plots for SVs / IPs / Receiving Terminal / Despatch Terminal etc. shall be handed over progressively. However, in case of delay in handing over of plot by INDEPENDENT ENGINEER for SVs / IPs / Receiving Terminal / Despatch Terminal etc., the following completion schedule shall be applicable:

8 months for each SV Station from the date of plot handing over or release of First Issued for Construction (IFC) drawing, whichever is later for mechanical completion including all composite station piping works, erection of scrapper trap, piping / valve support, Civil, Electrical and Instrumentation works.

10 months for each IP / Receiving / Despatch Station from the date of plot handing over or release of First Issued for Construction (IFC) drawing, whichever is later for mechanical completion including all composite station piping works, erection of scrapper trap, piping / valve support, Civil, Electrical and Instrumentation works.

- The Price Reduction Schedule under 62A.1.1 above shall be applied as under:

“In case of delay in works related to clause 62A.1.1(a), the Price Reduction shall be applied at the rate of ½% of 80% of the total contract value per week of delay or part thereof subject to maximum of 5% of 80% of the total contract value.

“In case of delay in works related to clause 62A.1.1(b): at the rate of ½ % of 20% of the total contract value per week of delay or part thereof subject to maximum of 5% of 20% of the total contract value.

Applicability of PRS for both the cases are explicit and interdependent to each other

The total liability of the Contractor to Employer/ Consultant under sub clause no. 62.1.2 on Compensation for Delay/ Price Reduction Schedule shall not exceed 5% (Five Percent) of total contract value. The compensation on account of any liability(ies) other than above shall be as per the provisions of Bidding Documents.

The value referred in PRS clause is excluding taxes and duties reimbursable by NHAI

- As mentioned in GCC, in case delay in execution of contract, contractor will raise invoice for reduced value as per Price Reduction Clause. If contractor has raised the invoice for full value, then contractor will issue Credit Note towards the applicable PRS amount.

In case contractor fails to submit the invoice for reduced value or does not issue credit note as mentioned above, NHAI will release the payment to contractor after effecting the PRS clause.

In the event of any financial implication arises on NHAI due to issuance of invoice without reduction in price or non-issuance of Credit Note, the same shall be to the account of contractor.

- In case the Contractor achieves the contractual completion period for commissioning of the pipeline, the already deducted amount against deductions on account of MCEDS shall be refunded. However, in case the contractor fails to achieve the contractual completion period for commissioning of the pipeline, the already deducted amount shall not be refunded.

(B) RECOVERIES/RETENTIONS

62B.1.1 DELETED

62B.1.2 Recovery/Retention in case of delay or shortfall in deployment of key personnel / equipment – shall be as per Cl. 32 of SCC.

62B.1.3 The CONTRACTOR's maximum liability towards retention/recovery shall be limited to 2.5% of the final contract price over and above the amount of PRS mentioned in tender document.

63 PROJECT PLANNING, SCHEDULING AND MONITORING SYSTEM

The following schedules/documents/reports shall be prepared and submitted by the Bidder/Contractor for review/approval at various stages of the contract.

63.1 After the Award of Contract

a) Time Schedule

The Completion Time Schedule for the work (including mobilization period) as per **Annexure-3** to SCC of Tender in all respect, from the date of issue of Letter of Acceptance.

The Bidder is required to submit a Project Time Schedule in Primavera. The Schedule shall cover all aspects like sub-ordering, manufacturing and delivery, indicated in the Bid Document. The INDEPENDENT ENGINEER interface activities shall be clearly identified with their latest required dates. INDEPENDENT ENGINEER reserves the right to disqualify the Bidder if the above Schedule submitted by the Bidder is not in line with the overall Project requirement.

b) Scheduling & Monitoring System

The Bidders should describe their system of Project Scheduling and monitoring, the extent of computerization, level of detailing, tracing methodology etc. with the name of computer package and sample outputs.

c) Overall Project Schedule

The Contractor shall submit within 1 week of Letter of Acceptance, a sufficiently detailed over all Project Schedule in the activity network form, clearly indicating the major milestones, interrelationship/ interdependence between various activities together with analysis of critical path and floats. The network will be reviewed and approved by Engineer- in-Charge and the comments if any shall be incorporated in the network before issuing the same for implementation. The network thus finalised shall form part of the contract document and the same shall not be revised without the prior permission from Engineer-in- Charge during the entire period of contract.

d) Progress Measurement Methodology

The contractor is required to submit within 1 week of award of WORK, the methodology of progress measurement of sub-ordering, manufacturing/ delivery, sub- contracting construction and commissioning works and the basis of computation of overall services/physical progress informed. INDEPENDENT ENGINEER reserves the right to modify the methodology in part or in full.

e) Functional Schedules

The contractor should prepare detailed functional schedules in line with network for functional monitoring and control and submit scheduled progress covers for each function viz. ordering, delivery and construction.

63.2 **Project Review Meetings**

The Contractor shall present the programme and status at various review meetings as required.

a) Weekly Review Meeting

Level of Participation : Contractor's/Consultant's RCM/ Site In charge & Job Engineers.

- Agenda:
- a) Weekly Programme v/s actual achieved in the past week & programme for next week.
 - b) Remedial Actions and hold up analysis.
 - c) Client query/ approval.

Venue : Site Office

b) Monthly Review Meeting

Level of Participation : Project Director NHAI and Contractors

- Agenda:
- a) Progress Status/ Statistics
 - b) Completion Outlook
 - c) Major hold ups/slippages
 - d) Assistance required
 - e) Critical issues
 - f) Client query/ approval

Venue : NHAI PIU office / Site at the discretion of PD

63.3 Progress Reporting Proforma

A) Monthly Progress Report

This report shall be submitted on a monthly basis within 7 (Seven) calendar days from cut-off date, as agreed upon covering overall scenarios of the work. The report shall include, but not limited to the following:

- a) Brief Introduction of the work.
- b) Activities executed/ achievements during the month.
- c) Schedule versus actual percentage progress and progress curves for Detail Engg. Sub-ordering, Manufacturing/ Delivery, Subcontracting, Construction, Commissioning and Overall and quantum wise status & purchase orders against schedule.
- d) Area of concern/ problem/ hold-ups impacts and action plans.
- e) Resources deployment status.
- f) Annexures giving status summary for drawings, MRs, deliveries, sub-contracting and construction.
- g) Procurement status for items to be supplied by Contractor.

B) Weekly Reports

The report will be prepared and submitted by the Contractor on weekly basis and will cover following items:

- a) Activities programmed and completed during the week.
- b) Quantities achieved against target in construction
- d) Record of Man-days lost.
- e) Construction percentage progress schedule and actual.

C) Daily Reports

- a) Activity programme for the day
- b) Progress of the previous day and commutative progress.
- c) Manpower & machinery deployed.
- d) Any other additional reports/ information as may be required by E.I.C.

63.4 Progress Reports

- CONTRACTOR shall make every effort to keep the INDEPENDENT ENGINEER adequately informed as to the progress of the WORK throughout the CONTRACT period.

CONTRACTOR shall keep the INDEPENDENT ENGINEER informed well in advance of the construction schedule so as to permit the INDEPENDENT ENGINEER to arrange for requisite inspection to be carried out in such a manner as to minimize interference with progress of WORK. It is imperative that close coordination be maintained with the INDEPENDENT ENGINEER during all phases of WORK.

- By the 7th (Seventh) of each month, CONTRACTOR shall furnish the INDEPENDENT ENGINEER a detailed report covering the progress as of the last day of the previous month.
- These reports will indicate actual and scheduled percentage of completion of construction as well as general comments of interest or the progress of various phases of the WORK. The frequency of progress reporting by the CONTRACTOR shall be weekly.
- Once a week, CONTRACTOR shall submit a summary of the WORK accomplished during the preceding week in form of percentage completion of the various phases of the WORK, to the INDEPENDENT ENGINEER.
- Progress reports shall be supplied by CONTRACTOR with documents such as chart, networks, photographs, test certificate etc. Such progress reports shall be in the form and size as may be required by the INDEPENDENT ENGINEER and shall be submitted in at least 3 (three) copies.
- Contractor shall prepare daily progress report (DPR) in the desired format and submit it to Engineer-in-charge along with schedule of next day to Engineer-in-charge.

63.5 Progress Review Meeting (PROJECT DIRECTOR)

Project Progress shall be reviewed by the Project Director of NHAI on regular basis. Contractor shall be liable to submit compliance report(s) within 15 days of Project Director review meeting(s). Contractor is also required to submit quarterly closure report within 15 days (of completion of each quarter). In event of failure of submission of compliance report and quarterly closure reports by the contractor, EIC reserves the right to take appropriate action.

64 RESPONSIBILITY OF CONTRACTOR

- 64.1 It shall be the responsibility of the Contractor to obtain the approval for any revision and/or modifications decided by the Contractor from the Employer/Consultant/ Engineer-in-charge before implementation. Also such revisions and/or modifications if accepted/ approved by the Employer/Consultant/Engineer-in-charge shall be carried out at no extra cost to the Employer/Consultant. Any changes required during and/or after approval for detailed construction drawings due to functional requirements or for efficient running of system keeping the basic parameters unchanged and which has not been indicated by the Contractor in the data/drawings furnished along with the offer will be carried out by the Contractor at no extra cost to the Employer/Consultant.
- 64.2 All expenses towards mobilization at site and demobilization including bringing in equipment, clearing the site etc. shall be deemed to be included in the prices quoted and no separate payments on account of such expenses shall be entertained.
- 64.3 It shall be entirely the Contractor's responsibility to provide, operate and maintain all necessary construction equipment, scaffoldings and safety gadgets, cranes and other lifting tackles, tools and appliances to perform the work in a workman like and efficient manner and complete all the jobs as per time schedules.

64.4 Preparing approaches and working areas for the movement and operation of the cranes, leveling the areas for assembly and erection shall also be the responsibility of the Contractor. The Contractor shall acquaint himself with access availability, facilities such as railway siding, local labour etc. to provide suitable allowances in his quotation. The Contractor may have to build temporary access roads to aid his own work, which shall also be taken care while quoting for the work. The procurement and supply in sequence and at the appropriate time of all materials and consumables shall be entirely the Contractor's responsibility and his rates for execution of work will be inclusive of supply of all these items.

64.5 The procurement and supply in sequence and at the appropriate time of all materials and consumables shall be entirely the Contractor's responsibility and his rates for execution of work will be inclusive of supply of all these items.

65 CHECKING OF LEVELS

65.1 The Contractor shall be responsible for checking levels, orientation plan of all foundations, foundation bolts, etc., well in advance of taking up the actual erection work and bring to the notice of Engineer-in-Charge discrepancies, if any. In case of minor variations in levels etc. the Contractor shall carry out the necessary rectifications to the foundations within his quoted price.

65.2 The Contractor shall also be responsible for checking with templates, wherever necessary, the disposition of foundation bolts with the corresponding bases of structure and shall effect rectifications, as directed, within his quoted rate.

66 STORAGE FACILITIES

66.1 The Contractor shall maintain wherever required an air-conditioned room for the storage of the instruments as well as for calibration and testing of the instruments at his own cost. The contractor shall provide these facilities within the quoted price.

67 DELETED

68 INSURANCE FOR FREE ISSUE MATERIAL

68.1 Contractor shall at his own expense arrange, secure and maintain insurance cover for INDEPENDENT ENGINEER/Consultant's supplied free issue materials as defined in Bidding Document. Contractor's quoted price shall be inclusive of all costs on account of insurance liabilities covered under the Contract. Contractor to note that the beneficiary of insurance cover shall be NHAI. The insurance cover of the free issue material shall be for the period from the date of handing over the material to Contractor from INDEPENDENT ENGINEER/Consultant's designated place of issue/ store to date of handing over the completed work to INDEPENDENT ENGINEER/Consultant. The approximate cost of free issue material will be ~~Rs. 80 Cr.~~ for Part A (~~Punjab Section~~).

68.2 The schedule of insurance cover for free issue materials given above shall be as follows;

Upto 2 months	-	25% of value
After 2 months upto 4 months	-	70% of value
Beyond 4 months	-	100% of value

69 INSURANCES IN INDIA

- 69.1 In addition to the insurance covers specified in the General Conditions of Contract to be obtained and maintained by the Contractor, Contractor shall at his own expense arrange, secure and maintain insurance with reputable insurance companies to the satisfaction of the INDEPENDENT ENGINEER/Consultant as may be necessary and to its full value for all such amounts to protect the works in progress from time to time and the interest of INDEPENDENT ENGINEER/Consultant against all risks as detailed herein. The form and the limit of such insurance as defined herein together with the under writer works thereof in each case should be as acceptable to the INDEPENDENT ENGINEER/Consultant. However, irrespective of work acceptance, the responsibility to maintain adequate insurance coverage at all times during the period of Contract shall be that of Contractor alone. Contractor's failure in this regard shall not relieve him of any of his responsibilities and obligations under Contractor.
- 69.2 Any loss or damage to the equipment during transportation, storage, erection and commissioning till such time the Work is taken over by INDEPENDENT ENGINEER/Consultant, shall be to the account of Contractor. Contractor shall be responsible for preferring of all claims and make good for the damage or loss by way of repairs and/or replacement of the parts of the Work damaged or lost. Contractor shall provide the INDEPENDENT ENGINEER/Consultant with a copy of all insurance policies and documents taken out by him in pursuance of the Contract. Such copies of documents shall be submitted to the INDEPENDENT ENGINEER/Consultant immediately upon the Contractor having taken such insurance coverage. Contractor shall also inform the INDEPENDENT ENGINEER/Consultant at least 60 (Sixty) days in advance regarding the expiry cancellation and/or changes in any of such documents and ensure revalidation/renewal etc., as may be necessary well in time.
- 69.3 Statutory Clearances if any, in respect of foreign supply required for the purpose of replacement of equipment lost in transit and/or during erection, shall be made available by the Employer/Consultant. Contractor shall, however, be responsible for obtaining requisite licenses, port clearances and other formalities relating to such import. The risks that are to be covered under the insurance shall include, but not be limited to the loss or damage in handling, transit, theft, pilferage, riot, civil commotion, weather conditions, accidents of all kinds, fire, war risk (during ocean transportation only) etc. The Scope of such insurance shall cover the entire value of supplies of equipment, plants and materials to be imported from time to time.
- 69.4 All costs on account of insurance liabilities covered under this Contract will be Contractor's account and will be included in Contract Price. However, the INDEPENDENT ENGINEER/Consultant may from time to time, during the currency of the Contract, ask the Contractor in writing to limit the insurance coverage risk and in such case, the parties to the Contract will agree for a mutual settlement, for reduction in Value of Contract to the extent of reduced premium amounts.
- 69.5 Contractor as far as possible shall cover insurance with Indian Insurance Companies, including marine Insurance during ocean transportation.

70 INSURANCE IN FORGEIN COUNTRIES

- 70.1 The Contractor shall at his own cost arrange, secure and maintain separate insurance cover from the reputable insurance companies, for all such amounts and for such periods as may be necessary to protect the works, Contractor and sub-contractor's personnel and the interests of the Employer/Consultant as per applicable laws of land.

70.2 The form and the limit of insurance cover taken by Contractor shall be satisfactory to Employer/Consultant and one copy of all insurance policies and related documents shall be submitted to Employer/Consultant, immediately on execution. Contractor shall inform Employer/Consultant at least 60 days before any insurance policies expire or are cancelled or changed

71 BANK GUARANTEES: REFER ITB

72 SUBMISSION OF COLOURED PHOTOGRAPHS

72.1 The Contractor shall shoot, prepare and submit colored photographs (B5 Size) in 2 sets with GPS Coordinates with date & time duly signed by PROJECT DIRECTOR & INDEPENDENT ENGINEER along with soft copies to PROJECT DIRECTOR office along with monthly progress report covering all the activities (minimum 10 Nos. of photographs covering all the activities) of pipeline constructions highlighting the progress or other areas of work. Similarly photographs for problem areas (as required) should be submitted well in advance with a proposed methodology to execute the works and meet the construction schedule. The cost of same shall be deemed to be included in the rates and separate payment shall be made.

73 DELETED

74 VIDEOGRAPHY

74.1 Contractor shall develop and submit (in Hard disk Drive / Pen Drive) a videotape of three hours duration covering the construction activities showing the nature and magnitude of the work. The tape shall be shot and edited to Indian broadcast standards. Videotape recorded in field shall be shot by professional camerapersons and shall meet the technical standards of the Hi-8 format or better. Tape shall cover, but not limited to the following construction activities:

- Mobilization of equipment/ machinery
- ROW cleaning/grading
- Trenching
- Stringing
- Welding: Manual & Semi-Automatic
- Radiography
- Joint Coating
- Pipe laying
- Back filling
- River crossings
- Rail/Road/Canal crossings
- Hydro-testing
- Pre-drying and drying
- Restoration of ROU
- Laying of optical fibre cable
- Various construction and installation at sectionalizing valve stations etc.

- 74.2 Videotape shall also have coverage on any new/special techniques used in the Contract and major problems encountered, if any, and the measures taken to resolve them. The tape shall be supplemented with suitable narration and subtitles explaining the job, techniques and methodology, etc. The video shall be prepared with two narration tracks, one in ~~Hindi~~ one in English. Professional narrators shall voice both. The script shall include explanations of job activities, techniques used methodologies etc. Elements of the video programme sequencing and editing techniques shall be discussed with INDEPENDENT ENGINEER/Consultant and mutually agreed to before videotaping begins.
- 74.3 Draft script shall be submitted to INDEPENDENT ENGINEER/Consultant for approval before editing commences.
- 74.4 Following completion of editing and review and approval of programme by INDEPENDENT ENGINEER/Consultant as per above, Contractor shall deliver edited master tape to INDEPENDENT ENGINEER / Consultant plus six Hard disk Drive / Pen Drive copies of the programme.
- 74.5 Above videography, is in addition to videography and photography required as mentioned clause no. 32 of SCC in tender document.

75 PIPES FOR WELDING QUALIFICATION

- 75.1 For the purpose of qualification of welding procedure, operators, Contractor may use the same pipes issued by Employer/Consultant. However, accounting of such pipes shall be done within the unaccountable wastage and scraps limit as per Annexure-8 to SCC enclosed with the bidding document.
- 75.2 The bare pipes for the purpose as above shall be issued within two week from the date of FOI/LOA. The contractor shall bear all cost towards lifting, carting from issue point to work site/Contractor's store, custody, handling, insurance and levies etc. and return of surplus/scrap materials to employer designated storage point. No separate payment shall be made for such expenditure.

76 SPARES

- 76.1 Contractor shall procure and supply all spare parts required during commissioning of the various items/ materials supplied by him as enumerated in the Bidding Document. The quoted lump sum prices shall be deemed to have been inclusive of all such provision of commissioning spares, required till commissioning of such items. Contractor shall make available all the commissioning spares required at site at least 4 (four) weeks before start of commissioning. However, listed spares not used during commissioning shall be handed over to INDEPENDENT ENGINEER/Consultant. Contractor shall also supply commissioning spares not listed but required during commissioning within contracted price.
- 76.2 In addition to above, special tools & tackles required, if any, for operation & maintenance shall also be supplied by Contractor and the quoted prices shall be deemed to have been inclusive of all such provisions.

77 BUILDING AND OTHER CONSTRUCTION WORKER'S ACT

- 77.1 In order to govern welfare and working conditions of labourers engaged in construction activities, the Building and other Construction Workers'(Regulation of Employment and Conditions of Service "RE &CS") Act, 1996 came into force. RE&CS Act'1996 is applicable in respect of building and other construction work. Wherever applicable, The Contractor/ Supporting Agencies shall strictly comply with the following provisions pertaining to RE &CS Act'1996.

- a. The Contractor/ Supporting Agencies must be registered with the concerned authorities under the Building and Other Construction Workers' (RE&CS) Act, 1996 or in case of non-registration; the Contractor/ Supporting Agencies should obtain registration within one month of the award of contract.
- b. The Contractor/ Supporting Agencies shall be responsible to comply with all provisions of the Building and Other Construction Workers' (RE&CS) Act, 1996, the Building and Other Construction Workers' Welfare Cess Act, 1996, the Building and other Construction Workers' (RE&CS) Rules, 1998 and the Building and Other Construction Workers Welfare Cess Rules, 1998.
- c. Cess as per the prevailing rate, shall be deducted at source from bills of the Contractor/ Supporting Agencies by the engineer-in-Charge of the contract and remitted to the "Secretary, Building and Other Construction Workers Welfare Board" of the concerned State. The Contractor/ Supporting Agencies shall be responsible to submit final assessment return of the cess amount to the assessing officer after adjusting the cess deducted at source.

78 **DELETED**

79 **SINGLE POINT RESPONSIBILITY**

79.1 The entire work as per scope of work covered under this contract shall be awarded on single point responsibility basis.

80 **BONUS FOR EARLY COMPLETION**

NOT APPLICABLE

81 **DELETED**

82 **REQUIREMENT OF PAN FOR FOREIGN BIDDER**

DELETED

83 **DIRECT PAYMENTS TO SUB-VENDORS/ SUPPORTING AGENCIES OF MAIN CONTRACTOR**

83.1 "Normally, the payment is to be made to contractor only as per provision of contract. During execution, in case of financial constraints, NHAI may make direct payment to their sub-vendor/ supporting agencies as an exception from the amounts due to the contractors from any of their bills under process upon certification by EIC subject to receipt of such request from the contractor. Further, the request for direct payments to the sub-vendor/ supporting agencies shall be considered in performance evaluation of such contractor."

84 **DELETED**

85 **JOINTS MEASUREMENT OF WORK EXECUTED, BILLING, INVOICE AND PAYMENTS.**

85.1 Measurement shall be recorded as per the methods of measurement spelt out in Specification/Contract Documents. The PROJECT DIRECTOR/NHAI site engineer/DGM/CM will check the measurement as recorded in the Measurement Books/Bills

86 **CONTRACTOR TO ENGAGE CONTRACT MANPOWER BELONGING TO SCHEDULED CASTES AND WEAKER SECTIONS OF THE SOCIETY**

Refer ITB.

- 87 **WAY BILL / ROAD PERMIT:** Shall be issued by **Contractor** only for transportation of free issue material from one state to another.
- 88 **LOCAL EMPLOYMENT**
- 88.1 In order to encourage local employment contractor shall endeavor to deploy personnel pass-out from local institutes including execution of non-critical activities through local agencies. However, preference should be given to engage more unskilled manpower resources locally to boost local employment.
- 89 **LOCAL SKILL DEVELOPMENT**
- Contractor's scope shall also include to provide/ conduct a training program to develop/ enhance skill of local people in association with local technical (Diploma/ ITI) Institute through their skilled manpower (i.e. Forman, Welder Grinder, Fitter, NDT Experts etc.) as a part of Govt. of India's ambitious Skill Development Program
- 90 **QUARTERLY CLOSURE OF THE CONTRACT : REFER ITB**
- 91 **COMPLETION CERTIFICATE**
- "Engineer-in-charges against the contract shall be RCM of PROJECT DIRECTOR, however, the completion certificate shall be issued by NHAI. The provisions of GCC are modified to this extent."
- 92 **PRADHAN MANTRI SURAKSHA BIMA YOJANA (PMSBY) AND PRADHAN MANTRI JEEVAN JYOTI BIMA YOJANA (PMJJBY)**
- Contractor shall ensure that all its personnel deployed under this contract have obtained additional insurance coverage under the Pradhan Mantri Suraksha Bima Yojana (PMSBY) and Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) through the participating banks and submit the proof of such insurance coverage to the satisfaction of NHAI. The cost of the insurance premium amount for both the above schemes shall be borne by the contractor giving evidence/proof to NHAI in this respect and Contractor shall suitably consider the same in their bid.
- Both the schemes are to be regulated continuously on yearly basis and the same should be renewed on each successive relevant date in subsequent years.
- 93 **E-MEASUREMENT**
- NHAI will process the Bills with MB through Datalake Portal available in NHAI Website. Accordingly Contractor is required to forward the RA Bills in Datalake Portal through Independent Engineer/PD whichever is applicable.
- 94 ~~**VENDOR GRIEVANCE PORTAL — SAMADHAN : REFER ITB**~~
- 95 **PLANNING AND DESIGNING IN PURVIEW OF VULNERABILITY ATLAS OF INDIA: (The following provision shall be considered as a part of GCC-works)**
- Vulnerability Atlas of India (VAI) is comprehensive document which provides existing hazard scenario for the entire country and presents the digitized state/UT-wise hazard, maps with respect to earthquakes, winds and floods for district-wise identification of vulnerable areas. it also includes additional digitized maps for thunderstorms, cyclone and landslides. the main purpose of this Atlas is its use for disaster preparedness and mitigation at policy planning and project formulation stage.

This Atlas is one of its kind single point source for the various stakeholders including policy makers, administration, municipal commissioners, urban managers, engineers, architects, planners, public etc. to ascertain proneness of any city/location/site to multi-hazard which includes earthquake, wind, floods thunderstorms, cyclones and landslides. While project formulation, approvals and implementation of various urban housing, buildings and infrastructures schemes, this Atlas provides necessary information for risk analysis and hazard assessment.

The vulnerability Atlas of India has been prepared by Building Materials and Technology Promotion Council under Ministry of Housing and Urban Affairs, Government of India and available at their website www.bmtpc.org.

It is mandatory for the bidders to refer Vulnerability Atlas of India for multi-hazard risk assessment and include the relevant hazard proneness specific to project location while planning and designing the project in terms of:

- i) Seismic zone (II to V) for earthquakes,
- ii) Wind velocity (Basic Wind Velocity: 55, 50, 47, 44, 39 & 33 m/s)
- iii) Area liable to floods and Probable max. Surge height
- iv) Thunderstorms history
- v) Number of cyclonic storms/ severe cyclonic storms and max sustained wind specific to coastal region.
- vi) Landslides incidences with Annual rainfall normal
- vii) District wise Probable Max. Precipitation.

96

PLANT, MACHINERY AND SHUTTERING MATERIAL ADVANCE

An interest-bearing advance of five per cent of the contract price, depending on nature of job can be provided against the new key construction equipment purchased for the work and brought to the site, if so provided in the Bid Documents and so requested by the contractor.

The advance should normally not be more than 50 (fifty) percent of the depreciated cost of such plants and machinery and should be hypothecated to NHAI, before the payment of advance is released. This advance shall be subject to the following conditions:

- (i) The contractor shall produce satisfactory proof of payment;
- (ii) Such equipment is considered necessary for the works;
- (iii) The equipment has been verified to have been brought to site;
- (iv) The contractor gives an undertaking on stamp paper that the equipment will work only on that job and will not be removed from the site without obtaining written approval of EIC; and
- (v) The contractor furnishes a BG to cover the advance. No advance shall be admissible on equipment purchased under a hire purchase scheme/ financing arrangement or on hired equipment.

The rate of interest shall be same as per provision for Mobilization advance.

The repayment of advances shall be done through proportionate percentage deductions from running bill. The time of commencement of repayment, rate of deductions from interim payments, and time by which the advance should be fully repaid will be as specified in the contract.

All advances shall be used by the contractor exclusively for mobilisation expenditure, including the acquisition of construction-related plant and equipment. Should the contractor misappropriate any portion of the advance, it shall become due and payable immediately, and no further advance will be made to the contractor thereafter. In such cases, the contractor shall also be liable for action under the contract.

97 SECURED ADVANCE AGAINST MATERIAL BROUGHT AT SITE

- 97.1 Secured advance on the security of materials (which are not combustible, fragile or perishable in nature) brought to the site but not yet incorporated in the works will be made up to 75 (seventy-five) per cent of invoice value, or the 75 (seventy-five) per cent of the corresponding value of the materials determined on the basis of BOQ rates, whichever is less, subject to the condition that their quantities are not excessive and shall be used within a period of 90 (ninety) days and subject to other stipulations in the contract. The contractor will be required to sign an indenture bond, hypothecating the goods to NHAI, and also be responsible for their safe custody. Before the advance is released, EIC will inspect the site to ensure that the Contractor has safeguarded the materials against pilferage and deterioration. It may be ensured that the contractor has not taken any loan/limit from banks against hypothecation of the materials against which the secured advance is claimed. An undertaking in this regard will be submitted by contractor.
- 97.2 The contractor is required to submit proof of cost of materials and the delivery of material at site while claiming such advances. The stock register should be maintained from the commencement of the contract and, unless otherwise prescribed in the contracts, the stock, so considered for advance, should generally be only paid stock (and not brought on credit). Where the materials are supplied from a captive source of the contractor, the reasonableness of the valuation of such materials is to be ensured from Valuable.
- 97.3 The advance will be repaid from each succeeding RA bill to the extent materials for which advance has been previously paid have been incorporated into the works. In all cases, the repayment of the advance will be affected after expiry of a period of 120 days since payment of advance, whether the material is consumed in the work or not.

98 CONTRACTOR'S OBLIGATION AT SITE

- 98.1 Contractor shall establish site office in the respective Part, allotted to them with adequate facilities like three tables, six chairs, telephone, computer with mailing, printer (including consumables), file rack etc. for effective communication and documentation.
- 98.2 Contractor shall provide transport for their technical staff and operatives to move from site to site, and to move tools and equipment from site to site.
- 98.3 Project Manager/ Coordinator/ Section In-charge shall be single point of contact for all the works and must represent company in the meetings. However, for all monthly review meetings, senior officials / management of the contractor company shall have to be present as and when called by PROJECT DIRECTOR.
- 98.4 Any change in key persons working at site shall be informed to the PROJECT DIRECTOR promptly.
- 98.5 Contractor shall deploy Equipment, Tools & tackles etc., at site as defined in tender documents.

Contractor shall also ensure compliance of all the terms and conditions defined of tender document.

99 SUBLETTING AND ASSIGNMENT

The contractor shall not, save with previous consent in writing of the Engineer-in-charge, sublet, transfer or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever. Provided, nevertheless, that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract. However, Subletting of WHOLE WORKS is prohibited. An undertaking to this effect will be given by Vendor/ Contractor along with each invoice/ bill.

Sub-contracting will generally be for specialized items of work, such as HDD, reinforced earth retaining walls, pre-stressing works, and so on. Procurement of material, hire of equipment or engagement of labour will not mean sub-contracting. The total value of sub-contracting work will not exceed 25% percent of the contract price as specified in the contract.

Proven track record shall be submitted to PROJECT DIRECTOR for approval prior to awarding of the work for specialized activities viz. HDD, Telecommunication system, SCADA system, Solar system, EGP, CP system, Post commissioning surveys, ACDC interference surveys etc.

100 PAYMENT OF BILLS

Within 30 days from the date of completion of work as certified by the Independent Engineer, contractor shall submit Final Bill to Independent Engineer and obtain a receipt in lieu of the same. In case the contractor fails to submit the Final Bill within the stipulated date, NHAI/ Independent Engineer has the freedom to proceed ex-parte and authority to close the contract based on their own evaluation/measurement of the Final amounts payable to the contractor.

~~101 PROVIDING DATA TO IPDMS~~

~~It is a user friendly system, which will cover uploading of project documents from pre-planning stage to completion of project i.e. DFR, Planning, Engineering, design, procurement, survey, permissions, construction, ROU and Land records, pre-commissioning, commissioning, Closures and handing over taking over (HOTO) stage as per the progress of project. All the documents to be uploaded will be linked with the Document Control Index (DCI), which will be approved by PROJECT DIRECTOR/NHAI. Further the documents which are uploaded in Pipeline information management system (PIMS) by the contractor will have a provision for linking with IPDMS for transfer of documents, and transfer of documents from PIMS to IPDMS will be done by NHAI. Contractor will be provided user access through Login and Password by NHAI for uploading documents and creating workflows for approval.~~

102 DEFECTS LIABILITY PERIOD

Defects Liability Period

(i) The Contractor shall be responsible for all the Defects and deficiencies, except usual wear and tear in the Project Highway or any Section thereof, till the expiry of a period of commencing from the date of Completion Certificate (the “Defects Liability Period”) as specified below:

(a) 1 (One) year from the date of completion.

The Defects Liability Period shall commence from the date of the Completion Certificate. For the avoidance of any doubt, any repairs or restoration because of usual wear or tear in the Project Highway or any Section thereof shall form a part of the Maintenance obligations of the Contractor. The Contractor shall maintain required staff and necessary Contractor's equipment and materials within the reach of the Site during the Defects Liability Period so that any defects arising are promptly attended.

If at any time during the Defects Liability Period any item of the Works or Project Facilities or any part thereof, do not conform to the Authority requirements and Specifications and Standards, on being so notified by the Authority, the Contractor shall promptly rectify/remedy such nonconformity to the satisfaction of the Authority solely at the Contractor's expense; failing which the Authority may reject or revoke Taking-Over Certificate, and the Authority may proceed to correct the Contractor's nonconforming Work by the most expeditious means available, the costs of which shall be to the Contractor's account; or the Authority may retain the non-conforming Work and an equitable adjustment reducing the total Contract Price to reflect the diminished value of such non-conforming Work will be made by written amendment.

Remedying Defects

The Contractor shall repair or rectify all Defects and deficiencies observed by the Authority or Authority's Engineer during the Defects Liability Period within a period of 15 (fifteen) days from the date of notice issued by the Authority or Authority's Engineer in this behalf, or within such reasonable period as may be determined by the Authority or Authority's Engineer at the request of the Contractor, in accordance with Good Industry Practice.

Cost of remedying Defects

Any repair or rectification undertaken in accordance with the provisions of Clause 17.2, including any additional testing, shall be carried out by the Contractor at its own risk and cost, to the extent that such rectification or repair is attributable to:

- (a) the design of the Project;
- (b) Plant, Materials or workmanship not being in accordance with this Agreement and the Specifications and Standards
- (c) improper maintenance during construction of the Project Highway by the Contractor; and/ or
- (d) failure by the Contractor to comply with any other obligation under this Agreement

Contractor's failure to rectify Defects

If the Contractor fails to repair or rectify such Defect or deficiency within the period specified in above Clause, the Authority shall be entitled to get the same repaired, rectified or remedied at the Contractor's cost to make the Project Highway conform to the Specifications and Standards and the provisions of this Agreement. All costs consequent thereon shall, after due consultation with the Authority and the Contractor, be determined by the Authority's Engineer. The cost so determined and an amount equal to 20% (twenty percent) of the cost as Damages shall be recoverable by the

Authority from the Contractor and may be deducted by the Authority from any monies due to the Contractor.

Extension of Defects Liability Period

The Defects Liability Period shall be deemed to be extended till the identified Defects under above Clause have been remedied or rectified.

Insurance for Contractor's Defects Liability

The Contractor shall effect and maintain insurance cover of not less than 15% of the Contract Price for the Works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the Contractor is liable and which arises from a cause occurring prior to the issue of the Completion Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under the Applicable Laws and in accordance with Good Industry Practice.

The Performance Security shall be valid until 60(sixty) days after the Defects Liability Period.

The Authority shall return the Performance Security to the Contractor within 60 (sixty) days of the expiry of the Maintenance Period or the Defects Liability Period, whichever is later, under this Agreement. Notwithstanding the aforesaid, the Parties agree that the Authority shall not be obliged to release the Performance Security until all Defects identified during the Defects Liability Period have been rectified.

ANNEXURES TO SPECIAL CONDITIONS OF CONTRACT

**SCOPE OF WORK AND SPECIAL NOTE TO BIDDERS
(ANNEXURE-1 TO SPECIAL CONDITIONS OF CONTRACT)**

SCOPE OF WORK

1. The scope of work in general includes scope of work specified in Technical Documents enclosed and Schedule of Rates enclosed in Commercial Section of the Bidding Document. Further, it includes any other work not specifically mentioned but required to complete the work as per specifications, drawings and instructions of Engineer-in-Charge.
2. Scope of work shall be read in conjunction with item description of Schedule of Rates and Contractor's scope shall include all activities of work specified in the item description of Schedule of Rates. Rates shall include all cost for the performance of the item considering all parts of the Bidding Document. In case any activity though specifically not covered in description of item under 'Schedule of Rates' but is required to complete the work which could be reasonably implied/ informed from the content of Bidding Document, the cost for carrying out such activity of work shall be deemed to be included in the item rate.

SPECIAL NOTES TO BIDDERS

1. Bidders shall visit site and the route as given in the tender and thoroughly acquaint themselves of the site conditions, geographical condition, pipeline Route etc. prior to bidding. If required they can also collect the data of geo-technical condition of the pipeline Route and HDD location prior to bid submission.

Bidders shall visit site mandatorily and thoroughly acquaint themselves of the site conditions of terrain and available infrastructure along pipeline route. Contractor shall be deemed to have considered all constraints and eventualities on account of site conditions while formulating their bids & he will not be eligible for any compensation in terms of cost and/ or time, on account of site conditions varying to any extent from whatever described in the Bid document.
2. The bidders shall attend the pre-bid meetings and seek clarity on the project requirements, scope of work and tender terms and conditions etc.
3. The bidders to note that the project site/ locations shall be handed over to successful bidder on 'as is where is' basis.
4. RoU, land(s), Permissions as provided / made available by various authorities will be provided to the bidders progressively and the successful bidder shall plan their work and deploy equipment and machinery accordingly to complete the works within the Project schedule. Bidder to submit a contractual schedule which shall be approved by INDEPENDENT ENGINEER / PROJECT DIRECTOR during execution. ROU hindrances in the hindrance register shall be considered during delay analysis.
5. The successful bidder shall have to be prepared to carry out work in small and multiple patches concurrently (i.e. based on available work front) without any extra work on account of Move In & Move out of machineries and other resources, availability of continuous front may not be possible during the execution of the project.
6. The successful bidder shall develop an effective 'monsoon combat plan' to ensure uninterrupted working at site and shall be responsible to arrange all the required plant and machinery like mud mat, chain driven equipment, hoods etc. that may be required for working in marshy, slushy or waterlogged areas.
7. There might be such a condition during crossings water bodies, railways that the clear access is not available to location of HDD. The successful bidder shall make necessary arrangements (like filling / making crossovers etc.) for access to these crossing locations so that unhindered access is available.
8. The RoU for laying the pipeline is expected to be made up of a variety of soil strata viz., hard rock, soft rock, gravel, weathered rock, laterite rock etc. The bidders shall ensure that they deploy requisite equipment and machinery to lay pipeline in any strata that they may encounter during execution including arrangement of blasting with requisite permission from authorities The rate quoted shall be firm for all types of soil including hard rock, soft rock, murrum etc at all depths.
9. The bidders may conduct additional surveys/ geo-technical/ topographical investigations to satisfy themselves of the type of hindrances, soil strata etc. to carry out laying and other associated activities smoothly over and above the Geotech survey data being done by INDEPENDENT ENGINEER and shared with the bidder.
10. The bidders to note that during execution of the project the RoU width may be restricted (not as envisaged) owing to various factors. In such a situation the pipeline, laying etc. will have to be carried out in such restricted RoU with requisite equipment and machinery by making workable contingency plans. like Forest areas, hilly areas etc., it is the sole responsibility of contractor to take all necessary precaution & plan resources accordingly to lay the pipeline in restricted RoU without any extra financial implication to the company.

11. The contractor will have to apply to respective state electricity board for the power connections at SV/IP/RT/DT stations as per state electricity extant approved norms & get the work executed for power connection as per the requirement. The payment shall be made to the contractor with 10% overheads on material supply & 15% overheads on installation & labour cost.
12. Laying contractor has to work in close coordination with ongoing parallel working by road contractors etc. It is the responsibility of pipeline laying contractor to take NOC from utility INDEPENDENT ENGINEER/their contractor's after completion of laying works of pipeline.
13. Contractor to liaison with the authorities and prioritize the laying of gas pipeline near under construction bridges like VUPs, VOPs, WOPs (if any) etc. that cross the utility corridors.
14. Scope of Bidder also includes to maintain record of plantation before execution of work to be maintained by laying contractor & restoration of plantation (if any) in utility corridor as required by the authorities.
15. Integrity of structures installed in the utility corridor of expressway for access control and safety barriers shall not be disturbed during pipeline construction. Required temporary arrangement to be done by laying contractor to the satisfaction of utility corridor INDEPENDENT ENGINEER. Any damage to the utility furniture shall be restored to the satisfaction of utility INDEPENDENT ENGINEER without any cost to client. It will be the choice of the contractor to opt for liaisoning for outside RoU or restoration of damages without affecting project time schedule.
16. In some areas due to several underground obstacles encountered during construction, mechanical trenching may not be possible. In such cases, Contractor shall perform the work by manual means without any Cost as well as time implications.
17. Due to restricted space in some stretches in the corridor, contractor may need to acquire temporary RoU outside corridor for movement of construction equipment's for which payment will be made as per the SOR for RoU management.
18. Proper barricading / fencing off, of working stretches shall be ensured for safety of personnel from moving traffic. There shall be no hindrance to traffic movement due to pipeline laying activities & instructions of competent authorities shall be strictly complied with.
19. Public complaints attributable to pipeline work need to be addressed and resolved in time bound manner by the contractor.
20. Bidder to note that based on the permissions issued by various authorities (NHAI / PWD / Canal authority etc.) the depth of pipeline to be laid parallel to NH/ PWD Road / Canal authority road / SH / MDR / DR / Village Road etc. may be more than the min required cover as stipulated in the tender document / T4S Guidelines / OISD-226. Contractor shall execute the same inline with the requirements of cover required as per the permissions without having any cost and time implication to the INDEPENDENT ENGINEER.
21. The toll charges for vehicles shall be included in the rates quoted and shall not be paid extra to the contractor.
22. The contractor shall fully understand the concept and consequences of the Access Controlled Expressway. Access to the SV/IP/DT /RT land shall not be from the main carriageway etc.
23. At some of the locations, there may be farmer's resistance, which shall be tackled by the contractor in coordination with Client.
24. Contractor should submit all Material Data Sheet and drawings within stipulated time for approval
25. Contractor should submit all Statutory documents / Insurance policies / CPBG /Indemnity bond etc. within time as mentioned in Tender document.
26. Gurdaspur - Jammu Pipeline shall be laid majorly at the edge of NH/SH/MDR/ODR ROU and these areas may have restricted/narrow width. The contractor from concerned stakeholders shall arrange additional space/working area required for the mobilization of equipment, smooth execution in construction activities, and charges for arrangement of additional space/working area from concerned stakeholders shall be borne by the contractor without any cost implication to NHAI.
27. Contractor should place order for supplied items only to approved vendors well in advance considering their lead time. No deviation shall be allowed in this.
28. Safety / Quality engineer should be regularly available at site.
29. Power of attorney / Authorization issued should be supported with proof of position of issuer / receiver in organization.
30. During Pre-Bid or site visit for crossing of major rivers / irrigations / forest / NHAI / Railway projects etc., bidders must get acquainted with the State Govt. guidelines for maintaining of minimum depth of pipe / their methodology. In case it is different from guideline provided by NHAI in tender, then in that case which is

stringent will prevail and no additional compensation allowed towards it.

31. Any punch list which is included in scope of work shall be completed within 02 (two) months from the date of commissioning / Audit / any communication from PROJECT DIRECTOR/NHAI (whichever is earlier), otherwise the said punch list / balance work shall be done by NHAI/PROJECT DIRECTOR on the risk & cost of the contractor without any further information / notice. Recovery shall be done as per provision given in tender documents.
32. Bidder to note that this tender is published only for Part A (Punjab) section of Gurdaspur Jammu Pipeline Project. Wherever, Gurdaspur Jammu Pipeline Project is mentioned Bidder to consider all drawings, specifications pertaining only to Part A (Punjab) only. Drawings and specifications which are typical shall also apply to Part A (Punjab). Bidder to also note that drawings and specifications are minimum guidelines for Part A (Punjab). Bidder shall visit Project site during Pre-bid stage to acquaint himself sufficiently of the physical or ground features of Part A (Punjab) and submit his offer accordingly without having and cost and time implications to the conditions stipulated in the tender in case the work is awarded to the Bidder.
33. Bidder to note that Scope of Part A (Punjab) also includes Design, Procurement , Installation and Testing of SCADA System and Telecommunication System in compliance to the tender which shall be compatible to SCADA and Telecommunication System of Part B (Jammu) and also with the existing operational SCADA and Telecommunication System of NHAI(India) Ltd . Bidder to submit his bid offer accordingly, so that there is no and cost and time implications to the conditions stipulated in the tender in case the work is awarded to the Bidder.

SCOPE OF SUPPLY
(ANNEXURE-2 TO SPECIAL CONDITIONS OF CONTRACT)

ANNEXURE-2 TO SCC

1 SCOPE OF SUPPLY

1.1 INDEPENDENT ENGINEER's Scope of Supply

INDEPENDENT ENGINEER's scope of supply shall be as specified in Particular Job Specification, Technical Specifications, Schedule of Rates & various other parts of the Bidding Document.

~~Free Issue Materials shall be issued to the Contractor from the designated store(s) of INDEPENDENT ENGINEER. Contractor shall be responsible for lifting the free issue materials from INDEPENDENT ENGINEER's storage point(s) and transporting the same to work site(s) at his own cost.~~

~~Conditions for Issue and Reconciliation of Materials shall be as per Document enclosed as Annexure 8 to Special Conditions of Contract.~~

1.2 Contractor's Scope of Supply

All materials except what is under INDEPENDENT ENGINEER's scope of supply as mentioned in Clause No. 1.1 above and required for successful completion of works in all respects shall be supplied by the Contractor and the cost of such supply shall be deemed to have been included in the quoted price without any additional liability on the part of INDEPENDENT ENGINEER.

COMPLETION SCHEDULE
(ANNEXURE-3 TO SPECIAL CONDITIONS OF CONTRACT)

ANNEXURE-3 TO SCC

COMPLETION SCHEDULE / COMPLETION PERIOD	<p>Overall 6 months from the date of Fax of Acceptance which is detailed as below:</p> <p>5 (Five) months from the date of issue of Fax of Acceptance for Mechanical completion including mobilization period of 15 (Fifteen) days and Pre-commissioning and Commissioning 01 (One) month from Mechanical Completion.</p>
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Notes:

1. Date of start of execution work shall be date of LOA.
2. The completion schedule as mentioned above is for the total scope of work including Pipeline Information Management System (PIMS) and closure of contract (work order) as mentioned in the bidding document and includes the 15 (fifteen) days mobilization period.
- 3a) Mechanical Completion shall mean completion of all works related to buried pipeline system, aboveground terminal / station piping works and associated works including Hydro-testing, OFC Blowing work, Electronic Geometric Pigging (EGP), Drying and Nitrogen purging, pre-commissioning and making the system ready to start commissioning activities.
- 3b) Completion of all balance associated works shall mean all works related to Civil, Architectural, Structural, Firefighting, Electrical, Instrumentation and Telecommunication in all respects and commissioning assistance during commissioning.
- 3c) Commissioning shall mean activities including final drying, filling the nitrogen (if required), commissioning with gas, testing of golden tie-ins, blowing of OFC and acceptance of final dossier. It also includes all works related to Civil, Structural, Cathodic Protection, Instrumentation and Telecommunication.
4. Plots for SVs / IPs / Receiving Terminal / Despatch Terminal etc. shall be handed over progressively. However, in case of delay in handing over of plot by INDEPENDENT ENGINEER for SVs / IPs / Receiving Terminal / Dispatch Terminal etc., the following completion schedule shall be applicable:
 - a. 8 months for each SV Station from the date of plot handing over or release of First Issue for Construction (IFC) drawing, whichever is later for mechanical completion (All composite mechanical, Civil, Electrical and Instrumentation works). Otherwise, necessary penalties as mentioned in the tender documents shall be recovered in addition to PRS
 - b. 10 months for each IP / Receiving / Despatch Station from the date of plot handing over or release of First Issue for Construction (IFC) drawing, whichever is later for mechanical completion (All composite mechanical, Civil, Electrical and Instrumentation works). Otherwise, necessary penalties as mentioned in the tender documents shall be recovered in addition to PRS
5. Overall contract completion period shall be reckoned from the date of making the pipeline ready for gas in (as certified by the Engineer-In-charge). For all contractual matters including but not limited to applicability of PRS, the overall contract completion period shall be considered.
6. The completion certificate will be issued by the Competent Authority only after liquidation of all Punch-list points

(STAMP & SIGNATURE OF BIDDER)

MEASUREMENT OF WORK
(ANNEXURE-4 TO SPECIAL CONDITIONS OF CONTRACT)

MEASUREMENT OF WORK

1. Measurement of works shall be based on the execution/final drawings. When such details are not available or inadequate, physical measurements will be taken by the Contractor in the presence of the representative of the Engineer-in-Charge.
2. Measurement of weights will be in metric tonnes corrected to the nearest kilogram. Linear measurement will be in meters corrected to the nearest centimeter.
3. All measurements shall be in metric system. All the works in progress will be jointly measured by the representative of the Engineer-in-charge and the contractor's authorised agent progressively. Such measurements will be either recorded/typed by the contractor in the numbered measurement sheets to be supplied by Engineer-in-Charge /INDEPENDENT ENGINEER or computerized by Contractor themselves. The measurements shall be signed in token of acceptance by the contractor or his authorised representative. The contractor shall submit the bill in the approved Performa in quintuplicate to the Engineer-in-Charge of the work.

4. PIPING

4.1 Payment will be based on linear measurement as per execution drawings:

- i) All lines shall be measured along the centre lines of pipes, curvilinear centre lines of bends and elbows, centre line of flanges and all other fittings such as tees, reducers, expansion joints etc. all in line instruments, line mounted fittings, ejectors, eductors, mixers, sight glasses, trays, filters, de-super heaters etc. All types of valves shall be excluded from this measurement.
- ii) All Socket weld fittings & hot/cold bends, reducers etc. for size 1-1/2" and below shall be fabricated and erected as per requirements by the contractor at no additional cost and his rates for piping of size 1-1/2" and below shall be inclusive of this work.
- iii) The forged tees shall be supplied by the contractor as per the requirement of the drawings. All other branch connections including reinforcement pads shall be accomplished by pipe to pipe connections. The rates quoted for piping shall be inclusive of making branch connections. The reinforcement pads shall be measured separately.
- iv) Vents and drains shall be measured from O.D. of pipe lines and shall be paid for at the corresponding unit rates for similar sizes of pipe. Other piping attachment such as couplings, earthing lugs etc. shall be supplied & erected by the contractor within his quoted rates for piping.
- v) Fabrication of spool pieces for temporary use to aid Contractor's work such as fabrication, erection, flushing and testing of piping etc. shall be done by Contractor as part of piping work and no separate payment shall be made for this.
- vi) In case of branch piping, the measurement shall be made from outer surface of the main line except in case of equal size branches, in which case measurement shall be made from centre line of the branching header.

vii) Fabrication of Specials

Fabrication of mitre bends and reducers (concentric & eccentric) from the pipes/Steel plates/ fabricated pipes shall be carried out by contractor within their quoted prices, payment will be made on numbers of such specials at the rates given separately in Schedule of Rates.

However, the erection of mitre bends and reducers shall be part of piping erection work and the rates for piping will be inclusive of this work. Reducers will be paid along with piping of larger diameter except in the case of funnels where they are welded only to the smaller dia pipes. Payment will be made along with piping of such smaller dia.

viii) Erection of Valves

Erection of all types of valves such as gate/ globe / check / plug / needle/ ball / control/ safety valves etc. will be paid on number basis at the rates given separately in the Schedule of Rates. Any dismantling and re-erection of the valves required for the purpose of testing, calibration etc. will be carried out by the contractor within his quoted rates.

ix) Fabrication of Supports

- i) Fabrication of all types of pipe supports, provided as per drawings & instructions of the Engineer-in-Charge, will be paid on weight basis. Bolts, nuts and washers including U-bolt will be supplied by contractor. Weight of bolts, nuts and clamps etc. shall not be added to the weight of pipe support for payment purpose.
- ii) Erection of all types of supports, spring supports and turn buckles, including grouting of supports, if required, shall be carried out by the Contractor as part of piping work and no separate payment will be made for it.
- iii) While fabricating the supporting elements, the contractor will ensure that the dimensions shown in the drawings match with site conditions. No payment shall be made for rectification arising out of discrepancies in dimensions of the fabricated items of supporting elements due to site conditions.
- iv) Additional supports as necessary with the site condition shall be fabricated and erected in accordance with the standard engineering practices and instructions of Engineer-in-charge.
- v) Pad welding shall be done in all piping support having dia 04" & above and material for the PAD shall be taken from same piping material and same to be included in material reconciliation

5. RADIOGRAPHY/DYE-PENETRANT EXAMINATIONS/MAGNETIC PARTICLE TEST (MPT)

Payment for radiography shall be made on the basis of circumferential joints for different pipe dia. Repeat radiography due to defective films or on repaired joint due to Contractor's fault or for additional radiography necessitated due to poor performance of Contractor's welder will be done at Contractor's cost.

Magnetic particle and dye penetrate test will be paid on the weld length tested/circumferential weld joints as mentioned in schedule of rates.

6. STRUCTURAL STEEL WORK

- 6.1 Payment for steel work shall be made on basis of admissible weight of the structure accepted, the weight being determined as described below.
- 6.2 The weight for payment will be assessed from the approved fabrication drawings and the respective bill of materials prepared by the contractor and approved by the Engineer-in-Charge. The weight of structural material/ Plate shall be calculated wherever necessary on the basis of IS Hand Book. If sections are different from IS sections, then Manufacturer Hand Book shall be referred to.
- 6.3 Sections built out of plates/structural shall be paid on the actual weight incorporated except for gussets which will be paid on the weight of the smallest rectangle enclosing the shape.
- 6.4 Gratings shall be paid on the basis of calculated weights as determined from the dimensions given on the design drawings/ bill of materials. Full deduction shall be made for all opening above 300 mm size and skews.
- 6.5 Welds, bolts, nuts, washers etc. shall not be measured. Rate of structural steel work shall be deemed to include the same.
- 6.6 No other payment either for temporary works or for any other item such as welds, shims, packing plates etc., shall be made. Such items shall be deemed to have been included in the rate quoted for steel work.

7. ELECTRICAL WORKS

7.1 Cables

The measurement for cable laying shall be made on the basis of length actually laid from lug to lug including that of loops provided and paid accordingly.

- 7.2 The weights mentioned in the drawing or shipping list shall be the basis for payment. If mountings are sent separately (for panels etc.) to facilitate transportation then erection weight shall be inclusive of all mountings. For structural steel measurements/payment shall be made as per finished items.

8. INSTRUMENTATION WORKS

- 8.1 Measurement of primary piping/ tubing between piping or equipment on one side and the instrument on the other side will be from the first break flange or tubing fitting upto the first block valve of fabricated instrument manifold or upto first tee of instrument manifold for integral type manifolds. All piping / fittings at the first block valve or the piping

/ equipments side upto break flange or tubing fittings shall be excluded. Any valve manifold tubing forming part of manifold or drain connection for instruments upto 1.5 metres individually or each drain connection shall be excluded.

- 8.2 Air lines and any other utility lines will be measured from end to end including valves and pipe fittings.
- 8.3 Copper tube measurement will be taken between the two fittings of the copper tube.
- 8.4 Direct mounted instrument and instruments mounted on support shall be accounted in terms of the quantity in numbers.
- 8.5 Multicore cables/multi-tubes will be measured between the junction box and its termination inside the control room.
- 8.6 Two/Three core cables shall be measured between two end terminals.
- 8.7 No separate payment will be made for receiving, handling and transportation of INDEPENDENT ENGINEER issued materials from INDEPENDENT ENGINEER's storage points to contractor's store/workshop and the same are deemed to be included in the unit rates for the respective item of work.
- 8.8 Erection Weights
The weights mentioned in the drawings or shipping list shall be the basis of payment. If mountings are sent separately (for panel etc.) to facilitate transportation then erection weight shall be inclusive of all such mountings. For structural steel, measurements / payment shall be made as per finished items.

9. PAINTING ON EQUIPMENTS/PIPING/STRUCTURAL STEEL ETC.

a) EQUIPMENTS

- I) For columns, vessels, reactors, Exchangers, furnaces, ejectors etc., measurement shall be on square meter basis taken over the painted surface.
- II) For pumps, motors and compressors measurement shall be made on number basis.

b) PAINTING ON PIPING INCLUDING SPECIALS AND FITTINGS

- I) Payment will be made on linear measurement in 'Metres' corrected to the nearest centimetre.
- II) Piping shall be measured along the centre line through all types of fittings and flanges.
- III) Rates for painting of pipes shall be inclusive of painting of all types of pipe supports, flanges, guides, shoes, saddles, clamps, etc. and also all types of fittings except valves (2" and above) which shall be paid separately on number basis.
- IV) There will be no separate measurements of the colour bands/ identification signs (line numbering), flow direction etc. on un insulated piping, the rates of painting of linear length of piping shall be inclusive of cost of such items.

c) PAINTING ON STEEL STRUCTURE

- I) Payment for steel structures shall be made on the basis of admissible weight of structure painted.
- II) Welds, bolts, nuts, washers etc. shall not be measured and rates for painting of structure shall be inclusive of painting such items.

TERMS OF PAYMENT
(ANNEXURE-5 TO SPECIAL CONDITIONS OF CONTRACT)

TERMS OF PAYMENT

Pending completion of the whole works, provisional progressive payments for the part of work executed by the contractor shall be made by INDEPENDENT ENGINEER on the basis of said work completed and certified by the INDEPENDENT ENGINEER's representative as per the agreed milestone payment schedule and the percentage break-ups given below.

Contractor shall submit his invoices to the INDEPENDENT ENGINEER's representative fortnightly in the manner as instructed by INDEPENDENT ENGINEER. Each invoice will be supported by documentation acceptable to INDEPENDENT ENGINEER and certified by the INDEPENDENT ENGINEER's representative. Payments made by INDEPENDENT ENGINEER to the contractor for any part of the work shall not deem that the INDEPENDENT ENGINEER has accepted the work. All payments against running bills are advance against the work and shall not be taken as final acceptance of work / measurement carried out till the final bill. INDEPENDENT ENGINEER will release payment through e-payments only as detailed in the bidding document.

1. MAINLINE WORKS**1.1 Pipeline Laying with Associated Works**

S. No.	Milestone	Payment
1.1.1	Completion of site development, stacking, clearing, grading of ROU and stringing	10% progressively
1.1.2	Completion of fabrication, alignment, field welding, NDT (radiography)	20% progressively
1.1.3	Completion of bending, joint coating, trenching & lowering	25% progressively
1.1.4	Completion of tie-ins, tie-in NDT, tie-in joint coating HDPE duct laying and backfilling	15% progressively
1.1.5	Completion of Hydro testing and OFC blowing	11% progressively
1.1.6	Completion of dewatering, swabbing and magnetic cleaning	4% progressively
1.1.7	Completion of electronic geometry pigging	3% progressively
1.1.8	Completion of all activities and their acceptance including Vacuum Drying and Inertization /Gas-in	5% progressively
1.1.9	Restoration and obtaining NOC from respective land INDEPENDENT ENGINEER / farmers and statutory authorities as required	2% progressively
1.1.10	Material reconciliation and acceptance of the same; Submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order	5%

The above payment shall be made subject to the following:

- i. The stage payment of 15% as per sub-clause 1.1.4 above will be released on completion of continuous stretch of min. 4 km. However, depending on site conditions, EIC may authorize to release payment for execution of non- continuous stretch.
- ii. For release of payment of 11% as per Sl. No. 1.1.5 above: Completion of hydro-testing and OFC blowing, the payment shall be released only on completion of hydro testing and OFC blowing of the hydro-tested section. This payment shall not be released unless the OFC blowing in hydro-tested section is completed and accepted by PROJECT DIRECTOR/NHAI.
- iii. For discontinuity on account of major crossings specified in SOR, crossing length shall not be taken into account for (i) above for payment purposes. The payment towards such crossings shall be made on the basis of item rate in SOR.
- iv. Payment terms for HDPE duct laying, OFC blowing, dewatering, swabbing, magnetic cleaning, EGP, Vacuum drying and inertization/gas-in etc. shall be as described further in the document and shall be payable as per relevant SOR item.

1.2 HDD and Associated Works

S. No.	Milestone	Payment
1	All type of pre-construction survey required for Design & calculation, Detail engineering, drawing, execution plan and their approval	2%
2	Approval of Design & calculation, detail engineering, drawing and Execution plan	1%
3	Pipeline string preparation and pre-testing (after stringing, welding, NDT, Joint coating), CS Conduit string preparation, welding & application of Coal tar Epoxy.	5%
4	Mobilization and placement of Drilling Rig (HDDM/c) at site along with all the accessories and consumables	2%
5	Successful completion of pilot hole	10%
6	Successful installation of carrier pipeline section by HDD, cleaning and successful gauging of HDD section.	40%
7	Post hydro-testing, dewatering, swabbing and tie-in with Mainline	20%
8	TCP works, Integrity of corrosion coating of installed 3 LPE pipeline, Duct Integrity Test & OTDR for OFC	5%
9	Final Clean-up & restoration of area, disposal of drilling fluid and waste etc. and acceptance of the system by INDEPENDENT ENGINEER	5%
10	Submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order	10%

Notes:

- i) Serial No. 8 payment will be done only on completion of OFC in the HDD section.
- ii) Failure of activities i.e. pulling, gauging, post hydro-testing etc. shall be responsibility of Contractor and no payment on account of any activity shall be payable to Contractor. Moreover, earlier successive payments made through RA Bills shall also be recovered. Loss of free issue material occurred due to failure shall be treated in-line with the provision of reconciliation of free issue material.

1.3 Crossing & Other items not covered above or elsewhere in the Tender

S. No.	Milestone	Payment
a	Completion of individual items of work	90% progressively
b	Completion of all activities and their acceptance Submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.	10% progressively

1.4 OPTICAL FIBRE CABLE (Laying with Associated Works)

S. No.	Milestone	Payment
1	Completion of Laying/ Blowing of OFC in same Pipeline Trench	30% progressively
2	Supply & Erection of Jointing Pit, Jointing of OFC as per Specification	20% progressively
3	OFC Testing as per Specification	40% progressively
4	Final completion, handing over of complete pipeline system and acceptance of the system by INDEPENDENT ENGINEER	10%

Note:

The above payments shall be made subject to the following:

- a) In case, requirement of ROU related compensation arises for OFC cable blowing beyond two months of completion of hydro test of a Pipeline section, same shall be borne by laying contractor.

1.5 HDPE DUCT (Laying with Associated Works)

S. No.	Milestone	Payment
1	Completion of Laying of Duct in same Pipeline Trench	30% progressively
2	Supply & Erection of blowing pit every km, duct jointing for testing & termination of duct in the pit with end cap	25% progressively
3	Testing of HDPE Duct & Accessories after laying, preparation of report as per Specification	35%
4	Final completion, handing over of complete pipeline system and acceptance of the system by INDEPENDENT ENGINEER.	10%

2. CATHODIC PROTECTION WORKS

The basis for payment against various items shall be as follows:

2.1 Temporary Cathode Protection System & Permanent Cathode Protection System

- 5% on placement of order on sub-vendor.
- 5% on design approval of TCP/PCP Package.
- 60% on receipt of material at site and acceptance thereof.
- 20% on installation, testing, pre-commissioning and commissioning.
- 10% on completion of all activities and their acceptance. Submission of final documents, final bill and Acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.

2.2 Permanent Cathode Protection System

- 5% on placement of order on sub-vendor.
- 5% on design approval of PCP Package.
- 60% on receipt of material at site and acceptance thereof.
- 20% on installation, testing, pre-commissioning and commissioning.
- 10% on completion of all activities and their acceptance. Submission of final documents, final bill and Acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.

3. TERMINALS WORKS

3.1 Piping Works

- 35 % on fabrication of piping.
- 40% on erection, alignment, welding complete to achieve mechanical completion.
- 15% on flushing, testing, draining, drying, etc.
- 10% on completion of all activities and their acceptance, submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order

3.2 Civil Works & Architectural Works

3.2.1 Control room building (superstructure)

- 35% on Completion of casting of roof Slab
- 10% on Completion of Brick Work
- 20% on Completion of all plumbing, Water proofing treatment
- 10% on Completion of all Electrical and False ceiling works
- 15% on Completion of flooring, finishing, Doors, Windows of the building.
- 10% on completion of all works in all respects and issuance of completion certificate

3.2.2 Guard Room (Superstructure)

- 35% on Completion of casting of roof Slab
- 10% on Completion of Brick Work

- (c) 20% on Completion of Water proofing treatment and grade slab
- (d) 10% on Completion of all Electrical works
- (e) 20% on Completion of flooring, finishing, Doors, Windows of the building.
- (f) 05% on completion of all works in all respects and issuance of completion certificate

3.2.3 Boundary Wall (Superstructure)

- (a) 30% on completion of RCC Column upto Coping bottom Level
- (b) 30% on completion of Brick work and coping work
- (c) 35% on completion of Y angle, Main gate & Wicket gate fixing & finishing
- (d) 05% on completion of all works in all respects and issuance of completion certificate

3.2.4 Other Civil, Structural & Architectural works

- a) 90% on completion of work on pro-rata basis as certified in running bills.
- b) 10% on completion of all activities and their acceptance, submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.

3.3 Structural Works

- a) 5% on approval of fabrication drawings.
- b) 40% on supply and acceptance of material at site.
- c) 20% on fabrication.
- d) 25% on erection, alignment, welding, painting, etc.
- e) 10% on completion of all activities and their acceptance, submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.

3.4 Items including supply of finished goods (Mechanical, Electrical, Corrosion Monitoring System (CMS) & Instrumentation)

- a) 5% on placement of order on sub-vendor
- b) 65% on receipt of material at site and acceptance thereof.
- c) 15% on erection, alignment, welding, grouting, painting, etc.
- d) 5% on testing.
- e) 10% on completion of all activities and their acceptance, submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.

3.5 Items including supply of finished goods (Telecommunication and RTU Packages)

- a) 5% on placement of order on sub-vendor
- b) 65% on inspection of material at manufacturing premises by NHAI/PROJECT DIRECTOR, receipt and acceptance of material at site.
- c) 5% after laying of HDPE duct and testing.
- d) 15% after blowing of OFC cable, installation of jointing pits, termination of cable on FTC, hop testing and commissioning.
- e) 10% on completion of all activities and their acceptance, submission of final documents, as built drawings, demonstrations of testing to NHAI/PROJECT DIRECTOR and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.

3.6 For Items involving both Supply and Erection (Electrical and Instrumentation items)

- a) 65% on receipt and acceptance of material at site.
- b) 20% after erection/installation
- c) 05% after testing and acceptance
- d) 10% on completion of all works in all respects and issuance of completion certificate.

3.7 Equipment Erection Works (Installation of Scrapper Trap, Filter, Skids etc.)

- 45% on transportation and installation in position.
- 30% after initial alignment, leveling and grouting.
- 15% after final alignment and making ready for commissioning.
- 10% on completion of all activities and their acceptance, submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.

3.8 Electrical, Instrumentation and Telecommunication Works

- 80% on completion of installation.
- 10% on testing and completion of all wiring (for Scada) and demonstration by laying contractor for all the signals. Wiring up to TIC panel to be simulated and demonstrated to NHAI/PROJECT DIRECTOR by laying vendor and jointly certified in the format in Appendix- I.
- 10% on completion of all activities and their acceptance, submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.

3.9 HDPE duct laying inside terminal

- Completion of laying of HDPE duct in same pipeline trench – 30% progressively
- HDPE duct testing - 60% progressively
- Final completion, handing over of complete pipeline system and acceptance of the system by the INDEPENDENT ENGINEER - 10%

3.10 OFC laying inside terminal

- Completion of laying/blowing of OFC inside HDPE duct in same pipeline trench – 30% progressively
- OFC testing - 60 progressively
- Final completion, handing over of complete pipeline system and acceptance of the system by the INDEPENDENT ENGINEER - 10%

3.11 For Lumpsum Items

For all lumpsum items included in schedule of rates, contractor shall furnish price break-up for quoted lumpsum prices for the approval of Engineer-in-charge. Payment for such item shall be made accordingly. In this regard decision of Engineer-in-charge shall be final and binding to the bidder.

3.12 Supply of Materials and All Other Works (Not mentioned under 3.1 to 3.11)

S. No.	Milestone	Payment
a	Completion of individual items of work	90% progressively
b	Completion of all activities and their acceptance Submission of final documents, final bill and acceptance of these by INDEPENDENT ENGINEER thereafter for successful closure of work order.	10% progressively

~~4. For Pipeline Information Management System (PIMS)~~

4.1 For Lumpsum Items

Milestone Payment Schedule and the Percentage Break-up of SOR are given below:

Sr. No.	Activity/ Milestone	Payment terms (%)	Cumulative %
A	Implementation of web based & GIS based PIMS, IPDMS (including pre-construction, construction, materials etc.) for pipeline as well as stations.		
	Configuration of PIMS, IPDMS application & uploading of pre-construction data (such as alignment sheet, crossing sheets, PO details etc.)	2	2
B	Uploading of welding documents		

	Uploading of documents up to welding for 20% length	2	4
	Uploading of documents up to welding for 40% length	2	6
	Uploading of documents up to welding for 60% length	2	8
	Uploading of documents up to welding for 80% length	2	10
	Uploading of 100% complete documents up to 100%welding	2	12
C	Uploading of lowering documents		
	Uploading of documents up to lowering for 20% length	3	15
	Uploading of documents up to lowering for 40% length	3	18
	Uploading of documents up to lowering for 60% length	3	21
	Uploading of documents up to lowering for 80% length	3	24
	Uploading of 100% complete documents up to lowering for 100% length	3	27
D	Uploading of Hydrotesting documents		
	Uploading of documents up to hydrotesting for 20% length	3	30
	Uploading of documents up to hydrotesting for 40% length	3	33
	Uploading of documents up to hydrotesting for 60% length	3	36
	Uploading of documents up to hydrotesting for 80% length	3	39
	Uploading of 100% complete documents up to Hydrotesting for 100% length	3	42
E	Uploading of all mainline documents including mechanical completion and commissioning reports	2	44
F	Uploading of documents related to Stations/ terminals		
	Uploading of all documents related to Civil	3	47
	Uploading of all documents related to Electrical	2	49
	Uploading of all documents related to Instrumentation	2	51
	Uploading of all documents related to Fire fighting	2	53
	Uploading of all documents related to Scada & Telecom	2	55
	Uploading of all documents related to Cathodic Protection	2	57
	Uploading of all documents including as-built documents, manuals, drawings etc.	2	59
G	Uploading of all documents related to all crossings	1	60
H	Uploading of documents related to ROU		
	Uploading of LandINDEPENDENT ENGINEER records, Village Maps, Cadastral Maps, Notifications, 3(1), 6(1)	2	62
	Updation of Cadastral Docs	2	64
	Compensation records	1	65
	Graphical representation of ROU data on GIS layer	2	67
I	Auto-generation of alignment sheets		

	Auto- generation of alignment sheets based on pre- construction survey data	1	68
	Auto- generation of as-built alignment sheets based on as-built survey data and GPS co-ordinates	1	69
J	Web Based GIS		
	Web GIS Hosting & pre-configuration	1	70
	GIS - Base Map	1	71
	Pipeline Route	1	72
	Cadastral Layer	2	74
	Construction data	2	76
	Final handing over of GIS application and acceptance by CLIENT	3	79
K	Material Management		
	Updation of PO details	2	81
	Updation of vendor documents, inspection documents, etc.	2	83
	Updation of all GRVs	2	85
	Updation of all SIVs	2	87
	Reconciliation and updation of all documents related to material management (including all IMIR, TC, IRN etc.)	2	89
L	Training of client personnel	1	90
M	Completion of all activities as per scope of work, integrating & loading data on CLIENT GIS, installation in CLIENT's server & handing over of complete system to CLIENT	10	100

- i) In case a certain milestone is not applicable, then payment corresponding to that milestone may be made along with the next applicable milestone or as decided by Engineer-in-charge.

Note: Any further breakup of each activity for the payment purpose can be done depending upon the site situation/ requirement and Recommendation by Engineer-In-Charge and Approval of Construction-In-Charge.

5. PAYMENT METHODOLOGY

- 5.1 The contractor shall raise invoices on fortnightly basis. Bidder shall enclose all documents as per check list issued by PROJECT DIRECTOR/NHAI. However, EIC may authorize payments for bills more frequently i.e. periodicity of less than fortnight, depending on site requirements.
- 5.2 After receipt of complete RA Bill as per terms and conditions of the contract and duly certified by Engineer-in-Charge (EIC)/PROJECT DIRECTOR, on-account payment equivalent to seventy percent (70%) of the net payable certified amount of the RA Bill will be released to the contractor within a period of 07 working days from submission of certified bill by PROJECT DIRECTOR to NHAI. The balance amount will be released within a period of 15 days from submission of certified bill by PROJECT DIRECTOR to NHAI”
- 5.3 Employer will release payment through e-payments only as detailed in the Bidding Document.
- 5.4 Further break-up of Lumpsum Prices, if deemed necessary for any progressive payment of individual item may be mutually arrived at between Engineer-in-Charge and the Contractor.
- 5.5 All payments against running bills are advance against the work and shall not be taken as final acceptance of work / measurement carried out till the final bill.
- 5.6 Bills shall be raised by contractor in line with check list attached in Tender document. Contractor shall also submit an undertaking with regard to sub-contracting as per attached ” APPENDIX – A TO PAYMENT TERMS ”
- 5.7 Contractor shall submit No Claim Certificate, No Dues Certificate and Indemnity Bond along with final bill. The Format for No Claim certificate and Indemnity Bond are enclosed elsewhere in the tender.

APPENDIX – A TO PAYMENT TERMS

LOA NO.
RA Bill No.
Invoice No.

CERTIFICATE OF SUB-CONTRACTING
(To be submitted along with Running Bills)

I/We hereby certify that I/We have completely understood the subcontracting terms & conditions of the tender/contract as mentioned in ITB, SCC and GCC of the contract.

I/We further certify to ensure compliances of the subcontracting contract conditions. Any non-compliance of the subcontracting contract conditions as mentioned in ITB, SCC and GCC of the contract may be construed as breach of the contract. If such non-compliance is noticed at any stage during or after execution of contract, NHAI shall have full liberty to take action in line with the tender/contract conditions.

Place:
Date:

Signature of Authorized Signatory of Contractor
Name of Contractor:
Stamp:

**SPECIFICATION
FOR
QUALITY MANAGEMENT SYSTEM REQUIREMENTS FROM
BIDDERS**

[ANNEXURE - 6 TO SPECIAL CONDITIONS OF CONTRACT]

Abbreviations:

CV	: Curriculum Vitae
ISO	: International Organization for Standardization
MR	: Material Requisition
PO	: Purchase Order
PR	: Purchase Requisition
QA	: Quality Assurance
QMS	: Quality Management System

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- 1.0 SCOPE
- 2.0 DEFINITIONS
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- 4.0 QUALITY MANAGEMENT SYSTEM — GENERAL
- 5.0 QUALITY SYSTEM REQUIREMENTS
- 6.0 AUDITS
- 7.0 DOCUMENTATION REQUIREMENTS

1.0 SCOPE

This specification establishes the Quality Management System requirements to be met by BIDDER for following purpose:

- QMS requirements to be met by suppliers/contractors after award of work/ during contract execution

2.0 DEFINITIONS

2.1 Bidder

For the purpose of this specification, the word "BIDDER" means the person(s), firm, company or organization who is under the process of being contracted by INDEPENDENT ENGINEER for delivery of some products (including service). The word is considered synonymous to supplier, contractor or vendor.

2.2 Project Quality Plan

Document tailored from Standard Quality Management System Manual of BIDDER, specifying how the quality requirements of the project will be met.

2.3 INDEPENDENT ENGINEER

INDEPENDENT ENGINEER means the INDEPENDENT ENGINEER of the project for which services / products are being purchased and includes their representatives, successors and assignees.

3.0 REFERENCE DOCUMENTS

Specification for Documentation Requirements from Contractors

Specification for Documentation Requirements from Suppliers

4.0 QUALITY MANAGEMENT SYSTEM — GENERAL

Unless otherwise agreed with CONSULTANT (Consultant Engineering Pvt. Ltd.) / INDEPENDENT ENGINEER, the BIDDER proposed quality system shall fully satisfy all relevant requirements of ISO 9001 "Quality Management Systems — Requirements." Evidence of compliance shall be current certificate of quality system registration to ISO 9001 or a recent compliance audit recommending registration from a certification agency. The quality system shall provide the planned and systematic control of all quality related activities for execution of contract. Implementation of the system shall be in accordance with BIDDER'S Quality Manual and PROJECT specific Quality Plan.

5.0 QUALITY SYSTEM REQUIREMENTS

- 5.1 BIDDER shall prepare and submit for review / record, Project Quality Plan / Quality Assurance Plan for contracted scope / job. The BIDDER'S Quality Plan shall address all of the applicable elements of ISO 9001, identify responsible parties within BIDDER'S organization, for the implementation / control of each area, reference the applicable procedures used to control / assure each area, and verify the documents produced for each area. The Project Quality Plan shall necessarily define control or make reference to the relevant procedures, for design and engineering, purchase, documentation, record control, bid evaluation, inspection, production/manufacturing, preservation, packaging and storage, quality control at construction site, pre-commissioning, commissioning and handing over (as applicable) in line with contract requirement and scope of work.
- 5.2 BIDDER shall identify all specified or implied statutory and regulatory requirements and communicate the same to all concerned in his organization and his subcontractor's organization for compliance.
- 5.3 BIDDER shall deploy competent and trained personnel for various activities for fulfilment of PO / contract. BIDDER shall arrange adequate infrastructure and work environment to ensure that the specification and quality of the deliverable are maintained.

- 5.4 BIDDER shall do the quality planning for all activities involved in delivery of order. The quality planning shall cover as minimum the following:
- Resources
 - Product / deliverable characteristics to be controlled.
 - Process characteristics to ensure the identified product characteristics are realized
 - Identification of any measurement requirements, acceptance criteria
 - Records to be generated.
 - Need for any documented procedure.
- The quality planning shall result into the quality assurance plan, inspection and test plans (ITPs) and job procedures for the project activities in the scope of bidder. These documents shall be submitted to CONSULTANT/INDEPENDENT ENGINEER for review/approval, before commencement of work.
- 5.5 Requirements for sub-contracting / purchasing of services specified in contract / tender shall be adhered to. In general all outsourced items will be from approved vendors of CONSULTANT/INDEPENDENT ENGINEER. Wherever requirements are not specified, or approved sub vendors do not exist, the sub-contractor shall establish and maintain a system for purchasing / sub-contracting to ensure that purchased product / service conforms to specified requirements. Criteria for selection of sub-contractor, evaluation, re-evaluation, maintenance of purchasing data and verification of purchased product (sub-contractor services), constitute important components of this requirement.
- 5.6 BIDDER shall plan and carry production and service provision under controlled conditions. Controlled conditions shall include, as applicable:
- a) the availability of information that describes the characteristics of the product
 - b) the availability of work instructions
 - c) the use of suitable equipment
 - d) the availability and use of monitoring and measuring devices.
 - e) the implementation of monitoring and measurement
 - f) the implementation of release, delivery and post-delivery activities
- 5.7 BIDDER shall validate any processes for production and service provision where resulting output cannot be verified by subsequent monitoring and measurement. This includes any process where deficiencies become apparent only after the product is in use or service has been delivered.
- 5.8 BIDDER shall establish a system for identification and traceability of product / deliverable throughout product realization. Product status with respect to inspection and testing requirements shall be identified.
- 5.9 BIDDER shall identify, verify, protect and safeguard CONSULTANT / INDEPENDENT ENGINEER property (material / document) provided for use or incorporation into the product. If any INDEPENDENT ENGINEER / CONSULTANT property is lost, damaged or otherwise found to be unsuitable for use, this shall be reported to the CONSULTANT / INDEPENDENT ENGINEER.
- 5.10 BIDDER shall ensure the conformity of product / deliverable during internal processing and delivery to the intended destination. Requirements mentioned in the tender shall be adhered to.
- 5.11 BIDDER shall establish system to ensure that inspection and testing activities are carried out in line with requirements. Where necessary, measuring equipments shall be calibrated at specified frequency, against national or international measurement standards; where no such standard exists, the basis used for calibration shall be recorded. The measuring equipments shall be protected from damage during handling, maintenance and storage.
- 5.12 BIDDER shall ensure effective monitoring, using suitable methods, of the processes involved in production and other related processes for delivery of the scope of contract.

- 5.13 BIDDER shall monitor and measure the characteristics of the product/deliverable to verify that product requirement has been met. The inspection (stage as well as final) by BIDDER and CONSULTANT / INDEPENDENT ENGINEER personnel shall be carried out strictly as per the ITPs forming part of the contract. Product release or service delivery shall not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by relevant authority and where applicable by INDEPENDENT ENGINEER / CONSULTANT.
- 5.14 BIDDER shall establish and maintain a documented procedure to ensure that the product which does not conform to requirements is identified and controlled to prevent its unintended use or delivery.
- 5.15 All non-conformities (NCs) / deficiencies found by the BIDDER'S inspection / surveillance staff shall be duly recorded, including their disposal action shall be recorded and resolved suitably. Effective corrective and preventive action shall be implemented by the BIDDER so that similar NCs including deficiencies do not recur.
- 5.16 All deficiencies noticed and reported by CONSULTANT / INDEPENDENT ENGINEER shall be analyzed by the BIDDER and appropriate corrective and preventive actions shall be implemented. BIDDER shall intimate CONSULTANT / INDEPENDENT ENGINEER of all such corrective and preventive action implemented by him.
- 5.17 BIDDER should follow the standards, specifications and approved drawings. Concessions/Deviations shall be allowed only in case of unavoidable circumstances. In such situations Concession/deviation request must be made by the BIDDER through email.
- 5.18 BIDDER shall have documented procedure for control of documents.
- 5.19 All project records shall be carefully kept, maintained and protected for any damage or loss until the project completion, then handed over to CONSULTANT / INDEPENDENT ENGINEER as per contract requirement (Refer Specification for Documentation Requirements from Contractors and Specification for Documentation Requirements from Suppliers), or disposed as per relevant project procedure.

6.0 AUDITS

BIDDER shall plan and carry out the QMS audit for the job. Quality audit programme shall cover design, procurement, construction management and commissioning as applicable including activities carried out by sub-vendors and sub-contractors. This shall be additional to the certification body surveillance audits carried out under BIDDER'S own ISO 9001 certification scheme.

The audit programmes and audit reports shall be available with bidder for scrutiny by CONSULTANT / INDEPENDENT ENGINEER. CONSULTANT or INDEPENDENT ENGINEER's representative reserves the right to attend, as a witness, any audit conducted during the execution of the WORKS.

In addition to above CONSULTANT, INDEPENDENT ENGINEER and third party appointed by CONSULTANT/INDEPENDENT ENGINEER may also perform Quality and Technical compliance audits. BIDDER shall provide assistance and access to their systems and sub- contractor / vendor systems as required for this purpose. Any deficiencies noted shall be immediately rectified by BIDDER.

7.0 DOCUMENTATION REQUIREMENTS

BIDDER shall submit following QMS documents immediately after award of work (Within one week) for record / review by CONSULTANT / INDEPENDENT ENGINEER.

- Organization chart (for complete organization structure and for the project)
- Project Quality Plan/Quality Assurance Plan
- Job specific Inspection Test Plans, if not attached with PR
- Job Procedures Inspection/Test Formats

In addition to above QMS documents, following documentation shall be maintained by the BIDDER for submission to CONSULTANT / INDEPENDENT ENGINEER on demand at any point of time during execution of the project:

- Quality Manual
- Certificate of approval for compliance to ISO: 9001 standard
- Procedure for Control of Non-conforming Product
- Procedure for Control of Documents
- Sample audit report of the QMS internal and external audits conducted during last one year.
- Customer satisfaction reports from at least 2 customers, during the last one year
- Project QMS audit report
- Technical audit reports for the project
- Corrective action report on the audits

Documents as specified above are minimum requirements. BIDDER shall submit any other document/data required for completion of the job as per CONSULTANT/INDEPENDENT ENGINEER instructions.

CONCESSION/DEVIATION PERMIT

(USE ONLY THIS PAGE FOR COMMUNICATION WITH VENDOR/CONTRACTOR)

To BE FILLED BY ORIGINATOR	Project _____	Originator Ref. _____					
	Job No. _____	Order/Contract No. _____					
	Equipment Title _____	Item No. _____					
	Originator: Vendor/Contractor _____						
	Caution : Originator to note that any delay in processing of concession/deviation permit shall be to originator's account and shall not be used as a reason for extension in delivery						
	Requirement as per specification	Description of Concession/Deviation sought					
	Why the Concession/Deviation is required? Supporting evidence/calculations enclosed/not enclosed						
	Contractual implications if Concession/Deviation is granted:						
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">* Time impact</td> <td style="width: 50%;">More/Less/No change</td> </tr> <tr> <td>* Cost impact</td> <td>More/Less/No change</td> </tr> <tr> <td>* Performance Warranty/Guarantee</td> <td>Affected/Not affected</td> </tr> </table> <p>Under present constraints requested Concession/deviation is most optimum for the project and does not involve any hazard, and shall meet the stipulated performance requirements.</p> <p>Date: _____</p> <p style="text-align: right;">Signature Vendor /Contractor (with seal)</p>		* Time impact	More/Less/No change	* Cost impact	More/Less/No change	* Performance Warranty/Guarantee
* Time impact	More/Less/No change						
* Cost impact	More/Less/No change						
* Performance Warranty/Guarantee	Affected/Not affected						

Decision on Concession/Deviation including decision, on time and cost implications

(To be filled by the Inspection engineer [at RPO/HO] or RCM, responsible for conveying the decision to the originator, after resolution)

Date: _____

Signature _____

Location : _____

Name _____

Opinion from EIL site supervisor/inspection engineer
(Specify whether post-facto approval required for regularization)

Date : _____

Name : _____
RPO/Site Name _____

Original forward to : _____
(Target division/department/group)

Copy to : _____
(Project Manager)

Date : _____

Name : _____

Disposal by target division/department

Whether any vendor/contractor made 'Technically not Acceptable' during bid evaluation, on the aspect of which this concession/deviation is sought-----YES/NO

Date : _____

Name : _____

Final decision of Project Manager along with overall review
(Client's decision required/not required)

Date : _____

Name : _____

Client's decision, if required

Date : _____

Signature : _____
Name : _____

SPECIFICATION
FOR
HEALTH, SAFETY AND ENVIRONMENTAL (HSE)
MANAGEMENT AT CONSTRUCTION SITES

[ANNEXURE - 7 TO SPECIAL CONDITIONS OF CONTRACT]

SPECIFICATION
FOR
HEALTH, SAFETY AND ENVIRONMENTAL (HSE)
MANAGEMENT AT CONSTRUCTION SITES

[ANNEXURE - 7 TO SPECIAL CONDITIONS OF CONTRACT]

**SPECIFICATION FOR
HEALTH, SAFETY
AND ENVIRONMENT
(HSE) MANAGEMENT**

INDEX

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1.0 **SCOPE**

This specification establishes the Healthy, Safety and Environment (HSE) management requirement to be complied with by the Contractors during construction.

This specification is not intended to replace the necessary professional judgement needed to design & implement an effective HSE system for construction activities and the contractor is expected to exceed requirements given in this specification.

Requirement stipulated in this specification shall supplement the requirement of HSE management given in relevant Act(s)/ legislations. General Condition of Contract (GCC) Special Condition of Contract (SCC) and Job Specifications. Where different documents stipulate different requirements, the most stringent shall be adopted.

2.0 **REFERENCES**

This document should be read in conjunction with following:

- General Conditions of Contract (GCC)
- Special Conditions of Contract (SCC)
- Building and other construction workers (regulation of employment and condition of service) Act, 1996
- Job Specifications
- Relevant IS Codes and OISD Guideline (Annexure-A)
- Reporting Formats (refer Annexure-B)
- Statutory requirements

3.0 **REQUIREMENT OF HEALTH, SAFETY & ENVIRONMENT (HSE) MANAGEMENT SYSTEM TO BE COMPLETED BY BIDDERS.**

3.1 **MANAGEMENT RESPONSIBILITY**

- 3.1.1 The Contractor should have a documented HSE policy & Objectives to cover commitment of the organization to ensure health, safety and environment aspects in their line of operations.
- 3.1.2 The HSE management system of the Contractor shall cover HSE requirement including but not limited to what specified under clause 1.0 & 2.0 mentioned above
- 3.1.3 Contractor shall be fully responsible for planning and implementing HSE requirement to the satisfaction of the company. Contractor as a minimum requirement shall designate/deploy the following to co-ordinate the above:

No. of workers deployed
Up to 100

-

Designate one safety supervisor who will guide the workers from time to time, as well as impart training basic guidelines at least weekly once.

Above 100 & up to 250 - Deploy one qualified and experienced safety Engineer/ Officer who will guide the workers from time to time as well as impart basic guideline & training at least weekly once. He / She shall possess a recognized Degree in any branch of engineering or technology or architecture and had a post qualification construction experience of minimum two years or possess a recognized Diploma in any branch of engineering or technology or Graduate in Science stream and had a post qualification construction experience of minimum five years.

Above 250
(for every 250 or less) - One additional safety engineer/Officer whose function will be as mentioned above

Contractor shall indemnify and hold harmless Independent Engineer/ PROJECT DIRECTOR & their representatives from any and all liabilities arising out of non-fulfillment of HSE requirements.

Above is the minimum requirement and the Contractor shall ensure physical presence of a safety personnel at each place where Hot work permit is required. No work shall be started at site until above safety personnel are physically present at site. The contractor shall submit a safety organogram clearly indicating the lines of responsibility and reporting system. He shall furnish Bio-Data/Resume/Curriculum Vitae of the safety personnel he intends to mobilize, at least 1 month before the intended mobilization, for PROJECT DIRECTOR/ Independent Engineer approval.

- 3.1.4 The Contractor shall ensure that the Health, Safety and Environment (HSE) requirements are clearly understood & faithfully implemented at all levels, at each and every site/ work place.
- 3.1.5 Contractor shall nominate qualified & trained Safety Engineers / Officers reporting to the Site in charge, for supervision, co-ordination and, liaison for the implementation of the safety plan.

Duties & responsibilities of the Contractor's Safety Supervisor/Safety Officer should include the following:

- a. To ensure strict compliance with work permit system by carrying out work only with appropriate work permits and after ensuring that all safety precautions / conditions in the permit are complied with and closing the same after job completion.

- b. To ensure that required personal protective equipment are provided, used, and properly maintained including contingency requirement.
 - c. To ensure inspection, tested, certification and maintenance of all tools and ensure removal of defective tools.
 - d. To ensure that all the preventive measures for identified hazards (e.g. Job Safety Analysis, Job Hazard Analysis, HIRA, etc.) are in place and communicated to workers
 - e. To take immediate corrective action against the violation of safety rules observed or reported.
 - f. To ensure that all workers have proper training for their job assignments, including use of appropriate PPE, first aid and firefighting equipment.
 - g. To ensure that only medically fit person shall be engaged in work and also ensure that sick / or injured workers during course of work should receive timely and appropriate first aid and/or medical attention.
 - h. To report each incident and/or injury in accordance with established procedures and assist in investigation.
- 3.1.6 The Contractor shall promote and develop consciousness for Health, Safety and Environment among all personnel working for the Contractor. Regular awareness programs and fabrication shop/work site meeting shall be arranged on HSE activities to cover hazards involved in various operations during construction.
- 3.1.7 Arrange suitable first aid measures such as First Aid Box, trained personnel to give First Aid, Stand by Ambulance or Vehicle (equipped with lifesaving equipment) and install fire protection measures such as: adequate number of steel buckets with sand and water and adequate fire extinguishers to the satisfaction of Independent Engineer / PROJECT DIRECTOR. In case the number of workers exceeds 500, the Contractor shall position an ambulance /vehicle on full time basis very close to the worksite.
- 3.1.8 The Contractor shall evolve a comprehensive planned and documented system for implementation and monitoring of the HSE requirements. This shall submitted to NHAI for approval well in advance, prior to start of work. The monitoring for implementation shall be done by regular inspection and compliance to the observations thereof. The Contractor shall get similar HSE requirements implemented at his sub-contractor(s) work site/ Office. However, compliance of HSE requirement shall be the sole responsibility of the Contractor. Any review/ approval by Independent Engineer / PROJECT DIRECTOR shall not absolve the Contractor of his responsibility/ liability in relation to all HSE requirements.
- 3.1.9 Non-Conformance on HSE by the Contractor (including his Sub- contractors) as brought out during review/ audit by PROJECT DIRECTOR/ Independent Engineer representative shall be resolved forthwith by Contractor. Compliance report shall be submitted to PROJECT DIRECTOR/ INDEPENDENT ENGINEER at the earliest.
- 3.1.10 The Contractor shall ensure participation of his Resident Engineer/Site-in- Charge in the Safety Committee/HSE Committee meetings arranged by INDEPENDENT ENGINEER / PROJECT DIRECTOR. The compliance of any observation shall be arranged urgently. Contractor shall assist INDEPENDENT ENGINEER /PROJECT DIRECTOR to achieve the targets set by them on HSE during the project implementation.

The contractor shall ensure that his staff members & workers (permanent as well casual) shall not be in a state of intoxication during working hours and shall abide by any law relating to consumption & possession of intoxicating drinks or drugs in force. Awareness about local laws on this issue shall form part of the Induction Training.

The contractor shall ensure that all personnel working for him comply with No-smoking requirements of the INDEPENDENT ENGINEER as notified from time to time. Cigarettes, lighters, auto ignition tools or appliances shall not be allowed inside the plant complex.

- 3.1.11 The Contractor shall adhere consistently to all provisions of HSE requirements. In case of non-compliance or continuous failure in implementation of any of HSE provisions; INDEPENDENT ENGINEER/ PROJECT DIRECTOR may impose stoppage of work without any Cost & Time implication to INDEPENDENT ENGINEER /PROJECT DIRECTOR and/or impose a suitable penalty for non-compliance with a notice of suitable period, up to a cumulative limit of 1.0% (one percent) of Contract value with a ceiling of Rs. 10 lakhs.

0.2% (Zero decimal two percent) of the contract value for LSTK, EPC, EPCC or Package contracts with an overall ceiling of Rs. 1,00,00,000/- (Rupees one crore).

S.NO	Violation of HSE norms	Penalty Amount
1	For not using personal protective equipment (Helmet, Shoes, Goggles, Gloves, Full body harness, Face shield, Boiler suit, Ear muff, Ear plug etc.)	Rs. 250/- per day / item / person
2	Working without Work Permit / Clearance	Rs.5,000/- per occasion
3	Unsafe electrical practices (not installing ELCB, using poor joints of cables, using naked wire without top plug into socket, laying wire / cables on the roads, electrical jobs by incompetent person, etc.)	Rs.3,000/- per item per day
4	Working at height without full body harness, using non-standard / rejected scaffolding and not arranging fall protection arrangement as required like Safety Nets.	Rs.1,000/ per case per day.
5	Unsafe handling of compressed gas cylinders (No trolley, jubilee clips double gauge regulator, improper storage / handling).	Rs. 100/- per item per day
6	Use of domestic LPG for cutting purpose.	Rs.1,000/- per occasion
7	No fencing / barricading of excavated areas	Rs.1,000/- per occasion

SPECIAL CONDITIONS OF CONTRACT (SCC)

8	Not providing shoring / strutting / proper slope and not keeping the excavated earth at least 1.5 M away from excavated area.	Rs.5,000/- per occasion
9	Non display of caution boards, list of hospitals, emergency services available at work locations.	Rs.500/- per occasion
10	Traffic rules violations like over speeding of vehicles, rash driving, wrong parking, not using seat belts, vehicles not fitted with reverse warning alarms.	Rs.1,000/- per occasion
11	Absence of Contractor's top most executive at site in the safety meetings whenever called by PROJECT DIRECTOR / INDEPENDENT ENGINEER	Rs.1,000/- per occasion
12	Failure to maintain safety records by Contractor Safety personnel.	Rs.1,000/- per month
13	Failure to conduct daily safety site inspection, HSE meeting and HSE audit at predefined frequencies	Rs.1,000/- per occasion
14	Failure to submit the monthly HSE report by 5 th of subsequent month to Engineer- in-Charge.	Rs. 1,000/- per occasion and Rs. 100/- per day for further delay.
15	Poor House Keeping	Rs.1,000/- per occasion
16	Failure to report & follow up accident (including Near Miss) reporting system.	Rs. 10,000/- per occasion
17	Degradation of environment (not confining toxic spills oil / lubricants onto ground)	Rs.1,000/- per occasion
18	Not medically examining the workers before allowing them to work at height, not providing ear muffs while allowing them to work in noise polluted areas, made them to work in air polluted areas without respiratory protective devices, etc.	Rs.1,000/- per occasion
19	Violation of any other safety condition as per job HSE plan, work permit and HSE conditions of contract (using crowbar on cable trenches, improper welding booth, not keeping fire extinguisher ready at hot work site, unsafe rigging practices, non-availability of First-Aid box, etc.)	Rs.1,000/- per occasion

20	Any other violation not covered above	To be decided by Project Director / Independent Engineer
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This penalty shall be in addition to all other penalties specified elsewhere in the contract. The decision of imposing stoppage of work, its extent & monetary penalty shall rest with PROJECT DIRECTOR/ INDEPENDENT ENGINEER & binding on the Contractor.

- 3.1.12 All fatal accidents and other personnel accidents shall be investigated by a team of Contractor's senior personnel for root cause and recommend corrective and preventive actions. Findings shall be documented and suitable actions taken to avoid recurrences shall be communicated to INDEPENDENT ENGINEER / PROJECT DIRECTOR. INDEPENDENT ENGINEER / PROJECT DIRECTOR shall have the liberty to independently investigate such occurrences and Contractor shall extend all necessary help and co-operation in this regard. PROJECT DIRECTOR / INDEPENDENT ENGINEER shall have the right to share the content of this report with the outside world.
- 3.1.13 No workers/ supervisors are deployed by contractor without prior police verification. Proof and record to be submitted to INDEPENDENT ENGINEER / PROJECT DIRECTOR. All employees working at construction site shall be issued a valid Photo ID Card.
- 3.1.14 Contractor to ensure and take all necessary precautions to minimize fugitive dust emissions or hazardous emission by any of its operations, construction equipment, storage or transportation etc. which can cause air/water pollution beyond acceptable limit. Immediate remedial action shall be taken and implemented by contractor (after approval from client), if any such issue is raised by INDEPENDENT ENGINEER / PROJECT DIRECTOR.
- 3.1.15 **AUDIT**
Contractor shall carry out internal HSE audits. He shall also cooperate during HSE audits by INDEPENDENT ENGINEER /PROJECT DIRECTOR. Non-conformance on HSE (including his sub- contractors) brought out during review/audit by his internal audit team as well as PROJECT DIRECTOR/ INDEPENDENT ENGINEER's representative shall be resolved forthwith by contractor. Compliance report shall be submitted to PROJECT DIRECTOR/ INDEPENDENT ENGINEER promptly.
- To this effect, the contractor shall submit an Audit Plan to PROJECT DIRECTOR/ INDEPENDENT ENGINEER indicating the type of audits (internal by self-including his sub-contractors, external by PROJECT DIRECTOR/ INDEPENDENT ENGINEER & Third Party) and their frequencies. The contractor shall conduct an internal HSE audit at least on quarterly basis and submit a report to PROJECT DIRECTOR/ INDEPENDENT ENGINEER.
- 3.1.16 **GENERAL DUTIES OF INDEPENDENT ENGINEERS**
INDEPENDENT ENGINEER or PROJECT DIRECTOR on behalf of INDEPENDENT ENGINEER should:
- i) Co-ordinate or nominate a competent person to co-ordinate all activities relating to HEALTH, SAFETY AND ENVIRONMENT on their construction projects;
 - ii) Inform all contractors on the work site / project of special risks to HEALTH, SAFETY AND ENVIRONMENT;

- iii) Ensure that executing agency is aware of the INDEPENDENT ENGINEER's requirements and the executing agency's responsibilities with respect to HEALTH, SAFETY AND ENVIRONMENT practices before starting the job.

3.1.17 RESPONSIBILITY OF CONSULTANT

- i) The primary responsibility of Consultant is to ensure compliance with agreed HSE plan for the contract by the Contractor
- ii) The Consultant's scope include submission of latest HSE plans for work under his and Contractor's purview and implementing the same till job completion
- iii) Adequate number of Safety Officers is provided by the Consultant with necessary skills required for the work to be performed.

3.2 HOUSE KEEPING

3.2.1 Contractor shall ensure that a high degree of housekeeping is maintained and shall ensure the followings:

- a. All surplus earth and debris are removed/disposed off from the working site to identified location (s).
- b. Unused/Surplus Cables Steel items and steel scrap lying scattered at different places within the working areas are removed to identified location (s).
- c. All wooden scrap, empty wooden cable drums and other combustible packing materials shall be removed from work place to identified location(s).
- d. Roads shall be kept clear and materials like pipes, steel, sand, boulders, concrete chips and bricks, etc. shall not be allowed in the roads to obstruct free movement of men & machineries.
- e. Fabricated steel structural, pipes & piping materials shall be stacked properly for erection.
- f. Water logging on roads shall not be allowed.
- g. No parking of trucks/ trolleys, cranes and trailers etc. shall be allowed on roads, which may obstruct the traffic movements.
- h. Utmost care shall be taken to ensure over all cleanliness and proper up keep of the working areas.
- i. Trucks carrying sand, earth and pulverized materials etc. shall be covered while moving within the plant areas.
- j. The contractor shall ensure that the atmosphere in plant area and on roads is free from particulate matter like dust, sand, etc. by keeping the top surface wet for ease in breathing.
- k. At least two exits for any unit area shall be assured at all times.

1. The contractor shall establish a regular cleaning and basic housekeeping programme that covers all aspects of the workplace to help minimize the risk of slips, trips & falls. The contractor shall take positive measures like keeping the work area tidy, storing waste in suitable containers & harmful items separately, keeping passages, stairways, entrances & exits especially emergency ones clear, cleaning up spillages immediately and replacing damaged carpet/ floor tiles, mats & rugs at once to avoid slips, trips & falls.

3.3 HEALTH, SAFETY AND ENVIRONMENT

3.3.1 Construction Hazards

Contractor shall ensure identification of all occupational health, safety and environmental Hazard in the type of work he is going to undertake and enlist mitigation measures. Contractor shall carry out job safety analysis (JSA) specifically for high risk jobs like working at height and in confined space, deep excavation. Radiography jobs, electrical installations, blasting operations, dismantling activities, welding/ gas cutting jobs and submit the findings to PROJECT DIRECTOR / INDEPENDENT ENGINEER. The necessary HSE measures devised shall be in place prior to start of an activity by the contractor.

A list of construction HAZARDS along with their effect and preventive measures is given in Annexure-E.

3.3.2 Safety Practices at Work Places

General Provisions

Contractor shall ensure that

- Solvents, alkalis and other oils are not used to clean the skin.
- Lift the load with back straight and knees bent. The contractor shall ensure at his construction site, no worker lifts by hand or carries overhead or over his back or shoulders any material, article, tool or pipelines exceeding in weight as per The Factory Act 1948 / Rule 38 of Building & Construction Workers Regulation (BOCWR), unless aided by another worker or device.
- Rope ladders are not used at construction sites.
- Workers do not sleep, rest or cook etc. in dangerous places.

Lighting

Contractor shall ensure

- Emergency lighting for personnel safety during night time to facilitate as standby lighting source, if normal system fails
- Artificial lighting should not produce glare or disturbing shadows.

3.3.3 Plant, Machinery, Equipment and Hand Tools

1. General Provisions

Contractor shall ensure that:

- Plant, machinery and equipment including hand tools, both manual and power driven, are provided with protective guards, shields or other devices as required.
- Standard operating procedures are established and used for all plant, machinery and equipment.
- Operators of plant, machinery and equipment are not distracted while work is in progress.
- Plant, machinery and equipment are switched off when not in use and isolated before any adjustment, clearing or maintenance is done.
- Where trailing cables or hose pipes are used, they should be kept as short as practicable and not allowed to create a hazard.
- All moving parts of machinery and equipment are enclosed or adequately guarded.
- Every power-driven machine and equipment are provided with adequate means, immediately accessible and readily identifiable to the operator, of stopping it quickly and preventing it from being started again inadvertently.

2. Hand tools

Contractor shall ensure that:

- Hand tools are repaired by competent persons.
- Heads of hammers and other shock tools are timely dressed or ground to a suitable radius on the edge as soon as they begin to mushroom or crack.
- When not in use and while being carried or transported, sharp tools are kept in sheaths, shields, chests or other suitable containers.
- Only insulated or non-conducting tools are used on or near live electrical installations.
- Only non-sparking tools are used near or in the presence of flammable or explosive dusts or vapours.

3. Pneumatic Tools

(i) Contractor shall ensure following for portable pneumatic tools:

- operating triggers so placed as to minimise the risk of accidental starting of the machine.
- operating triggers so arranged as to close the air inlet valve automatically when the pressure of the operator's hand is removed.

(ii) Hose and hose connections for compressed air supply to portable pneumatic tools should be:

- designed and tested for the pressure and service for which they are intended;
- fastened securely on the pipe outlet and equipped with the safety chain, as appropriate.

- (iii) Pneumatic shock tools should be equipped with safety clips or retainers to prevent dies and tools from being accidentally expelled from the barrel.
- (iv) Pneumatic tools should be disconnected from power and the pressure in hose lines released before any adjustment or repair is made.

4 **Electrical Tools**

Contractor shall ensure for

- regular inspection and maintenance of all electrical tools by a competent electrician and with proper record keeping.
- temporary connected appliance are not to be left connected in the socket. Its plug should be immediately removed after use.

5 **Engines**

- (i) The contractor should ensure that Engines should:
 - be installed in such a way, so that they can be started safely and the maximum safe speed cannot be exceeded.
 - have controls for limiting speed.
 - have devices to stop them from a safe place in an emergency.
 - have their batteries top covered with insulating material.
 - have radiator fan covers in place.
- (ii) IC engines are not be run in confined spaces unless adequate exhaust ventilation is provided or the exhaust should be installed outside the confined place at suitable height.
- (iii) When IC engines are being fuelled:
 - the engine should be shut off.
 - care should be taken to avoid spilling fuel.
 - no person should smoke or have an naked light in the vicinity.
 - a fire extinguisher should be kept readily available.
- (iv) Secondary fuel reservoir should be placed outside the engine room.

3.3.4 **Explosive/ Blasting Operations**

Blasting operations shall be carried out as per latest Explosive Rules (Indian/ International) with prior permission. The contractor shall obtain license from Controller of explosives for collection, transportation, storage of explosives as well as for carrying out blasting operations.

3.3.5 **Demolition/ Dismantling**

The contractor shall adhere to safe demolishing/ dismantling practices at all stages of work to guard against unsafe working practices. The contractor shall disconnect service lines (power, gas supply, water, etc.) / make alternate arrangements prior to start of work and restore them, if required as directed by PROJECT DIRECTOR/ INDEPENDENT ENGINEER at no extra cost. Before carrying out any demolition/ dismantling work, the contractor shall take prior approval of PROJECT DIRECTOR/INDEPENDENT ENGINEER in Format No.HSE-9. For revamp jobs in operating plants where location of underground utilities is not known with certainty, the contractor shall depute an experienced person for supervision and shall make adequate arrangements for Fire fighting & First-Aid during the execution of these activities.

3.3.6 Road Safety

The contractor shall ensure adequately planned road transport safety management system. The vehicles shall be fitted with reverse warning alarms & flashing lights and usage of seat belts shall be ensured. The contractor shall also ensure a separate pedestrian route for safety of the workers and comply with all traffic rules & regulations. The maximum allowable speed shall be adhered to. In case of an alert or emergency, the vehicles must clear all the routes, roads, access.

Dumpers, Tippers, etc. shall not be allowed to carry workers within the plant area and also to & from the labour colony. Hydras shall only be allowed for handling the materials at fabrication/ storage yards and in no case shall be allowed to transport the materials. For pipeline jobs, the contractor shall submit a comprehensive plan covering transportation of pipes, movement of side booms, movement of vehicles on the ROW, etc.

3.3.7 Rules & Regulations

All persons deployed at site shall be knowledgeable of and comply with the environmental laws, rules & regulations relating to the hazardous materials, substances and wastes. Contractor shall not dump, release or otherwise discharge or dispose off any such materials without the express authorization of PROJECT DIRECTOR/INDEPENDENT ENGINEER. An indicative list of Statutory Acts & Rules relating to HSE is given under Annexure-D.

3.3.8 Heavy Lifts

The contractor shall submit detailed rigging studies plan for PROJECT DIRECTOR/ INDEPENDENT ENGINEER approval prior to lifting equipment which cannot be erected with a crane of approx. 100 MT capacity due to constraints of its dimensions, location of foundation height, approach & weight.

Prior to actual lifting activities, contractor shall check the validity of the crane inspection certificate issued by statutory/ competent authority. This requirement shall also apply to all rigging equipment utilized for the job.

Lift Operator should have valid license.

The contractor shall, at all times, be responsible for all rigging activities. Adequate safety measures such as positive barricading, usage of appropriate PPEs, permit to work, etc. shall be taken during all heavy or critical lifts.

3.3.9 Key Performance Indicators

The contractor shall measure an activity in both leading & trailing indicators for statistical and performance measurement. The activities pertaining to key performance indicators are covered in Monthly HSE Report (Format No. HSE-5). The contractor shall try to achieve a statistically fair record and strive for its continual improvement.

3.3.10 Self Assessment and Enhancement

The contractor shall develop a method of check & balance through self- assessment & enhancement techniques and shall explore the opportunities for continual improvement in the HSE system.

3.3.11 Excavation

For all types of excavation works contractor should ensure that:

1. Method of excavation and the type of support work required are decided considering the following:
 - the stability of the ground including the chances of seepage of water;
 - to prevent hazard, the Hydrocarbon lines, water, electrical and other above ground & underground public utilities should be shut off, rerouted or disconnected, if necessary; If such a presence is envisaged, clearance to be taken from respective competent authority/ person.
 - the position of culvert/bridges, temporary roads and spoil heaps should be determined;
 - a signed rough sketch of the excavation site to be prepared and made the workers understand.
2. Excavation works are supervised by a competent person.
3. Sites of excavations should be thoroughly inspected:
 - daily, prior to each shift and after interruption in work of more than one day;
 - after every blasting operation;
 - after an unexpected fall of ground;
 - after substantial damage to supports;
 - after a heavy rain, frost or snow;
 - when boulder formations are encountered.
 - for cracks in the nearby buildings or area as the excavation progresses and the same to be reviewed.
4. Vehicles are not to ply too close to excavated area. At least 2 m distance are maintained from edge of excavation or depth of trench whichever is greater. No load, plant or equipment should be placed or moved near the edge of any excavation where it is likely to cause its collapse and thereby endanger any person unless precautions such as the provision of shoring or piling are taken to prevent the sides from collapsing.

5. Adequately anchored stop blocks and barriers are provided to prevent vehicles being driven into the excavation. Heavy vehicles should not be allowed near the excavation unless the support work has been specially designed to permit it.
6. If an excavation is likely to affect the stability of a structure on which persons are working, precautions to be taken to protect the structure from collapse.
7. Necessary precautions to be taken for underground utility lines like cables, sewers etc. and necessary approvals/clearances from the concerned authorities shall be obtained before commencement of the excavation job.
8. During / after rains, the soil becomes loose. Additional precaution to be taken against collapse of side wall. During rains excavation should be avoided.
9. In case of mechanised excavation, precaution to be taken to not to allow anybody to come within one meter of extreme reach of the mechanical shovel. This area of reach of mechanical shovel should be marked / barricaded suitably. The mechanised excavator shall be operated by a well-trained experienced operator. When not in operation, the machine shall be kept on firm levelled ground with mechanical shovel resting on ground. Wheel or belt shall be suitably jammed to prevent any accidental movement of the machine. Suitable precautions as per manufacturer guidelines should be taken for dozers, graders and other heavy machines.
10. In case of blasting, follow strictly IS: 4081-1986 & Indian Explosive Act and rules for storage, handling and carrying of explosive materials and execution of blasting operation.

3.3.12 Structural Work, Laying of Reinforcement & Concreting

For all types of structural works contractor should ensure that:

1. General provisions

- Proper methodology based on the design of the building / structure are developed and approved by competent person before resorting to dismantling / modifications.
- All works / facilities are certified for structural stabilities by a competent person and on statutory requirement completed before putting to use.

2. Erection and dismantling of steel and prefabricated structures

- (i) The safety of workers employed on the erection and dismantling of steel and prefabricated structures are ensured by appropriate means, such as provision and use of:
 - ladders, gangways or fixed platforms;
 - platforms, buckets, boatswain's chairs or other appropriate means suspended from lifting appliances;
 - safety harnesses and lifelines supported on properly designed anchor, catch nets or catch platforms;
 - Mechanical / Power-operated mobile working platforms;
 - Proper Personal Protective Equipment.
- (ii) Steel and prefabricated structures should be so designed and made that they can be safely transported and erected. Route survey required to be carried out from works to construction site route considering the load bearing capacity of the bridges, height of the bridges en-route and

maximum width and length permissible without causing any hazard to public, the route and the equipment.

- (iii) In addition to the need for the stability of the part when erected, the design should explicitly take following into account:
 - the conditions and methods of attachment in the operations of transport, storing and temporary support during erection or dismantling as applicable;
 - Methods for the provision of safeguards such as railings and working platforms, and, when necessary, for mounting them easily on the structural steel or prefabricated parts.
- (iv) The hooks and other devices built in or provided on the structural steel or prefabricated parts that are required for lifting and transporting them should be so shaped, dimensioned and positioned as:
 - to withstand with a sufficient margin the stresses to which they are subjected;
 - Not to set up stresses in the part that could cause failures, or stresses in the structure itself not provided for in the plans, and be designed to permit easy release from the lifting appliance. Lifting points for floor and staircase units should be located (recessed if necessary) so that they do not protrude above the surface;
 - To avoid imbalance or distortion of the lifted load.
- (v) Store places should be so constructed that:
 - there is no risk of structural steel or prefabricated parts falling or overturning;
 - storage conditions generally ensure stability and avoid damage having regard to the method of storage and atmospheric conditions;
 - racks are designed and secured on firm ground so that units cannot move accidentally.
- (vi) While they are being stored, transported, raised or set down, structural steel or prefabricated parts should not be subjected to stresses prejudicial to their stability.
- (vii) Every lifting appliance should:
 - be suitable for the operations and not be capable of accidental disconnection;
 - be approved or tested as per statutory requirement.
- (viii) Lifting hooks should have safety latch (self-closing type).
- (ix) Lifting hooks, Tongs, Clamps and other appliances for lifting structural steel and prefabricated parts should:
 - be of such shape and dimensions as to ensure a secure grip without damaging the part;
 - be marked with the maximum permissible load in the most unfavourable lifting conditions.
 - be periodically inspected and certified to ensure further usage as per requirement of factory act / Building & Construction Workers Regulation (BOCWR).

- (x) Structural steel or prefabricated parts are to be lifted only after rigging plan approved by competent person to prevent them from spinning, slipping or dropping accidentally.
- (xi) When necessary to prevent danger, before they are raised from the ground, structural steel or prefabricated parts are to be provided with safety devices such as railings and working platforms to prevent falls of persons.
- (xii) While structural steel or prefabricated parts are being erected, the workers should be provided with appliances such as guiding ropes for guiding them as they are being lifted and set down, so as to avoid crushing of hands and to facilitate the operations. Use of such appliances should be ensured.
- (xiii) A raised structural steel or prefabricated part should be made so secured and wall units so propped that their stability cannot be affected, even by external factors such as wind and passing loads before its release from the lifting appliance.
- (xiv) At work places, instruction to be given to the workers on the methods, arrangements and means required for the storage, transport, lifting and erection of structural steel or prefabricated parts, and, before erection starts, a meeting of all those responsible should be held to discuss and confirm the requirements for safe erection.
- (xv) During transportation within the construction area, attachments such as slings and straps mounted on structural steel or prefabricated parts are to be securely fastened to the parts. Vehicle loading should be such that the vehicle and the load remain stable at all positions during transportation and unloading.
- (xvi) Structural steel or prefabricated parts are so transported that the conditions do not affect the stability of the parts or the means of transport result in jolting, vibration or stresses due to blows, or loads of material or persons.
- (xvii) When the method of erection does not permit the provision of other means of protection against fall of persons, the workplaces should be protected by guardrails, and if appropriate by toe-boards.
- (xviii) When adverse weather conditions such as snow, hailstorm, rain and wind or reduced visibility, etc. entail risks of accidents, the rigging work should be interrupted after taking necessary safety precautions.

3. Reinforcement

- For supplying of rods at heights, proper staging and/or bundling to be provided.
- Ensure barricading and staging for supplying and fixing of rods at height.
- For short distance carrying of materials on shoulders, suitable pads to be provided.
- While transporting material by trucks/trailers, the rods are not protruded in front of or by the sides of driver's cabin. In case such protrusion cannot be avoided behind the deck, then it should not extend 1/3rd of deck length or 1.5 Meters whichever is less and tied with red flags/lights.

- Reinforcement rods, cut pieces etc. are properly stored at identified locations and the scrap should be disposed off promptly on regular basis.

3.3.13 Cutting / Welding

Common hazards involved in welding/cutting are sparks, molten metal, flying particles, harmful light rays, electric shocks, depletion in O₂ concentration due to generation of toxic gases, etc. Contractor should ensure for the followings: -

- A dry chemical powder (DCP) type fire extinguisher made available in the work area.
- Adequate ventilation ensured by opening manholes and fixing a shield or forced circulation of air etc, while doing a job in confined space.
- Only approved and well-maintained apparatus, such as torches, manifolds, regulators or pressure reducing valves, and acetylene generators, are used. Also their regular calibration where ever necessary.
- The work piece be connected directly to Power supply, and not indirectly through pipelines/ structures/ equipment etc.
- The welding receptacles rated for 63 A suitable for 415V, 3-Phase system with a scraping earth. Receptacles should have necessary mechanical interlocks and earthing facilities.
- Cable coiling to be maintained at minimum level, if not avoidable. Criss-crossing of welding/electrical power supply cables & gas cutting hoses to be avoided. Care to be taken against damage of gas cutting hoses.
- An energised electrode not be left unattended.
- The power source to be turned off at the end of job.
- Acetylene cylinder key for opening valve to be kept on valve stem, while cylinder is in use, so that the acetylene cylinder could be quickly turned off in case of emergency. Use flash back arrestors to prevent back-fire in acetylene/oxygen cylinder.
- When not in use, valves of all cylinders are kept closed.
- All types of cylinders, whether full or empty, are stored at cool, dry place under shed.
- Forced opening of any cylinder valve not to be attempted.
- Lighted gas torch shall not to be left unattended.
- Acetylene and oxygen cylinders are stored separately.
- Full and empty cylinders are stored separately.
- To avoid cylinders coming into contact with heat.
- If cylinders have to be moved, cylinder valves are shut off.
- Matches are not used to light torches, use a friction lighter. Gas torch to be ignited with the lighter only.
- Any leaking cylinder to be removed immediately and capped. No hot work is allowed in the vicinity of such leaked cylinders.
- Hoses are not wrapped around cylinders when in use or stored.
- Hoses are to be protected from flying sparks, hot slag, and other hot objects. Cylinders are to be protected by covering welding blanket while hot work in the vicinity.
- Lubricants are not used on Ox-fuel gas equipment.

3.4 CONTRACTOR:

3.4.1 Apart from the points mentioned above, the following points to be taken care of by Contractor:

- a) The Contractor shall provide safe means of access (at least two, differently located to and egress to any working place including provision of suitable and sufficient scaffolding at various stages during all operations of the work for the safety of his workmen, and INDEPENDENT ENGINEER/ PROJECT DIRECTOR. Contractor shall ensure deployment of appropriate equipment and appliances for adequate safety and healthy of the workmen and protection of surrounding areas.

Contractor shall ensure identification of all Occupational Health, Safety & Environmental hazards in the type of work he is going to undertake and enlist mitigation measures. Contractor shall carry out Job Safety Analysis (JSA) specifically for high risk jobs like working at height & in confined space, deep excavations, radiography jobs, electrical installations, blasting operations, demolishing / dismantling activities, welding / gas cutting jobs and submit the findings to PROJECT DIRECTOR / INDEPENDENT ENGINEER. The necessary HSE measures devised shall be in place prior to start of an activity by the contractor.

- b) The Contractor shall ensure that all their staff workers including their sub- Contractor (s) as well as visitors shall wear Cotton Uniform, Safety Helmet and Safety shoes. Contractor shall also ensure use of safety belt, Respirator, protective goggles, gloves etc. by the personnel as per jobs requirements. All these gadgets shall conform to relevant IS specification equivalent.

The Contractor shall ensure that all their staff, workers and visitors including their sub-contractor(s) have been issued (records to be kept) & wear appropriate PPEs like nape strap type safety helmets preferably with head & sweat band with $\frac{3}{4}$ " cotton chin strap (made of industrial HDPE), safety shoes with steel toe cap and antiskid sole, full body harness (CE marked and conforming to EN361), protective goggles, gloves, ear muffs, respiratory protective devices, etc. All these gadgets shall conform to applicable IS Specifications / CE or other applicable international standards.

INDEPENDENT ENGINEER may issue a comprehensive color scheme for helmets to be used by various agencies. The Contractor shall follow the scheme issued by the INDEPENDENT ENGINEER. All Safety / Fire personnel shall preferably wear red colour helmet so that workmen can approach them for guidance during emergencies.

For shot blasting, the usage of protective face shield and helmets, gauntlet and protective clothing is mandatory.

For offshore jobs/contracts, contractor shall provide PPEs (new) to PROJECT DIRECTOR & INDEPENDENT ENGINEER's personnel, at his (contractor's) cost. All personnel shall wear life jacket at all time.

An indicative list of HSE standards/codes is given under Annexure-A.

The contractor shall issue height permit for working at height after verifying and certifying the checkpoints as specified in the attached permit (Format No. HSE-6). He shall also undertake to ensure compliance to the conditions of the permit during the currency of the permit including adherence to personal protective equipments.

The permit shall be issued initially for one week or expected duration of an activity and extended further for the balance duration. This permit shall be applicable in areas where specific clearance from INDEPENDENT ENGINEER's / Safety Consultant is not required. PROJECT DIRECTOR Site Engineers / Safety Officers / Area Coordinators may verify and counter sign this permit (as an evidence of verification) during the execution of the job.

In case work is undertaken without taking sufficient precautions as given in the permit, PROJECT DIRECTOR Engineers may cancel the permit and stop the work till satisfactory compliance is arranged. Contractors are expected to maintain a register for issuance of permit and extensions thereof including preserving the used permits for verification during audits etc.

Contractor shall arrange (at his cost) and ensure use of Fall Arrester Systems by his workers. Fall arresters are to be used while climbing / descending tall structures. These arresters should lock automatically against the anchorage line, restricting free fall of the user. The device is to be provided with a double security opening system to ensure safe attachment or release of the user at any point of rope. In order to avoid shock, the system should be capable of keeping the person in vertical position in case of a fall.

Contractor shall ensure that Full body harnesses conforming EN361 and having authorized CC marking is used by all personnel while working at height. The lanyards and life lines should have enough tensile strength to take the load of the worker in case of a fall. One end of the lanyard shall be firmly tied with the harnesses and the other end with life line. The harness should be capable of keeping the workman vertical in case of a fall, enabling him to rescue himself.

Contractor shall provide Roof Top Walk Ladders for carrying out activities on sloping roofs in order to reduce the chances of

slippages and falls.

- c) Contractor shall ensure that a proper Safety Net preferably a knotted one with mesh ropes conforming to IS 5175/ ISO 1140 shall have a border rope & tie cord of minimum 12 mm dia. System shall be used at appropriate locations. The safety net shall be located not more than 30 feet (9.0 metres) below the working surface at site to arrest or to reduce the consequences of possible fall of persons working at different heights

Contractor shall ensure positive isolation while working at different levels like in the pipe rack areas. The working platforms with toe boards & hand rails shall have sufficient space to hold the workmen and the tools & the tackles including the equipment required for executing the job.

- d) Contractor shall ensure that flash back arrestors conforming to BS:6158 or equivalent are installed on all gas cylinders as well as at the torch end of the gas hose, while in use. All cylinders shall be mounted on trolleys and provided with a closing key. The burner and the hose placed downstream of pressure reducer shall be equipped with Flash Back Arrester / Non Return Valve device. The hoses for acetylene and oxygen cylinders must be of different colours. Their connections to cylinders and burners shall be made with a safety collar. At end of work, the cylinders in use shall be closed and hoses depressurized. All welding machines shall have effective earthing. In order to help maintain good housekeeping, and to reduce fire hazard, live electrode bits shall be contained safely and shall not be thrown directly on the ground.

- e) The Contractor shall assign to his workmen, tasks commensurate with their qualification, experience and state of health for driving of vehicles, handling and erections of materials and equipment's. Employ only those workers who are qualified, trained and suited by their age, physique, state of health and skill for the job intended to be assigned. All lifting equipment shall be tested certified for its capacity before use. Adequate and suitable lighting at every work place and approach there to shall be provided by the contractor before starting the actual work/ operation at night.

Contractor shall ensure installation of Safe Load Indicator (SLI) on all cranes (while in use) to minimize overloading risk. SLI shall have capability to continuously monitor and display the load on the hook, and automatically compare it with the rated crane capacity at the operating condition of the crane. The system shall also provide visual and audible warnings at set capacity levels to alert the operator in case of violations.

The contractor shall be responsible for safe

operations of different equipments mobilized and used by him at the workplace like transport vehicles, engines, cranes, mobile ladders, scaffoldings, work tools, etc.

- f) The duties & responsibilities of the contractor worker should include the following:
- To perform work safely as per the job requirement and instructions.
 - To inform all concerned regarding unsafe conditions / and unsafe acts.
 - To wear PPE as stipulated and necessary for the job.
 - To inform promptly to their supervisor regarding all work related incidents resulting in personal injury, illness and/or property damage.
 - To take all necessary and appropriate safety precautions to protect themselves, other personnel and the environment.
- g) Hazardous and/or toxic material such as solvent coating or thinners shall be stored in appropriate containers.
- h) All hazardous materials shall be labeled with the name of the materials, the hazards associated with its use and necessary precautions to be taken.

The work place shall be checked prior to start of activities to identify the location, type and condition of any asbestos materials which could be disturbed during the work. In case asbestos material is detected, usage of appropriate PPEs by all personnel shall be ensured and the matter shall be reported immediately to PROJECT DIRECTOR / INDEPENDENT ENGINEER.

- i) Contractor shall ensure that during the performance of the work all hazards to the health of personnel have been identified assessed and eliminated.
- j) Chemical spills shall be contained & cleaned up immediately to prevent further contamination.
- k) All personnel exposed to physical agents such as ionizing or non-ionizing radiation ultraviolet rays or similar other physical agents shall be provided with adequate shielding or protection commensurate with type of exposure involved. For ionizing radiation, requirements of Bhabha Atomic Research Centre (BARC)/ Atomic Energy Regulatory Board (AERB) shall be followed.
- l) Where contract or exposure of hazardous materials could exceed limits or could otherwise have harmful effects, appropriate personal protective equipment's such as gloves, goggles, aprons, chemical resistant clothing and respirator shall be used.

- m) Contractor shall ensure the following facilities at work sites:
 - I) A Crèche where 10 or more female workers are having children below the age of 6 years.
 - II) Reasonable Canteen facilities are made available at appropriate location depending upon site conditions.
- n) The Contractor shall arrange medical examination of all his employees before employing, after illness or injury. If it appears that the illness or injury might have affected his fitness and thereafter, at periodicity stipulated under Factor Act/Building & Construction Workers Regulation shall be followed.
- o) The contractor shall ensure at a construction site an occupational health centre mobile or static is provided and maintained in good order. Services and facilities as per the scale lay down under Factory Act & Rules/Building & Construction Workers Regulations.
- p) Suitable facilities for toilet, drinking water, proper lighting shall be provided at site and labor camps, commensurate with applicable Laws/Legislation.
- q) Contractor shall ensure storage and utilization methodology of material that are not detrimental to the environment. Wherever required Contractor shall ensure that only the environment friendly material are selected.

Emphasize on recycling of waste materials such as metals, plastics, glass, paper, oil & solvents. The waste that cannot be minimized, reused or recovered shall be stored and disposed of safely. In no way, toxic spills shall be allowed to percolate into the ground. The contractor shall not use the empty areas for dumping the wastes.

- r) All person deployed at site shall be knowledgeable of and comply with the environmental laws, rules & regulation relating to the hazardous materials substance and wastes. Contractors shall not dump, release or otherwise discharge or dispose off any such materials without the authorization of INDEPENDENT ENGINEER/ PROJECT DIRECTOR.

Suitable scaffoldings shall be provided to workmen for all works that cannot be safely done from the ground or from solid construction except such short period work that can be safely done using ladders. When a ladder is used, an extra workman shall be engaged for holding the ladder.

The contractor shall ensure that the scaffolds used during construction activities shall be strong enough to take the

designed load. INDEPENDENT ENGINEER / PROJECT DIRECTOR reserves the right to ask the contractor to submit certification and or design calculations from his Engineering regarding load carrying capacity of the scaffoldings.

All scaffolds shall be inspected by a Scaffolding Inspector of the contractor. He shall paste a GREEN tag on each scaffold found safe and a RED tag on each scaffold found unsafe. Scaffolds with GREEN tag only shall be permitted to be used and RED ones shall immediately be removed from the site.

All electrical installations / connections shall be carried out as per the provisions of latest revision of following codes/standards, in addition to the requirements of Statutory Authorities and IE / applicable international rules & regulations:

- OISO SID 173 : Fire prevention & protection system for electrical installations
- SP 30 (BIS) : National Electric Code

3.4.2 Requirement for Electrical Installation

All electrical installations shall be approved by the concerned statutory authorities.

- The contractor shall meet the following requirements:
 - i) Ensure that electrical systems and equipment including tools & tackles used during construction phase are properly selected, installed, used and maintained as per provisions of the latest revision of the Indian Electrical / applicable international regulations.
 - ii) Shall deploy qualified & licensed electricians for proper & safe installation and for regular inspection of construction power distribution system / points including their earthing. A copy of the license shall be submitted to PROJECT DIRECTOR / INDEPENDENT ENGINEER for records. Availability of at least one competent licensed electrician shall be ensured at site round the clock to attend to the normal / emergency jobs.
 - iii) All switchboards / welding machines shall be kept in well-ventilated & covered shed. The shed shall be elevated to avoid water logging. No flammable materials shall be used for constructing the shed. Also flammable materials shall not be stored in and around electrical equipment / switchboard. Adequate clearances and operational space shall be provided around the equipment.

- iv) Fire extinguishers and insulating mats shall be provided in all power distribution centers.
- v) Temporary electrical equipment shall not be employed in hazardous area without obtaining safety permit.
- vi) Proper housekeeping shall be done around the electrical installations.
- vii) All temporary installations shall be tested before energising, to ensure proper earthing, bonding, suitability of protection system, adequacy of feeders/cables etc.
- viii) All welders shall use hand gloves irrespective of holder voltage.
- ix) Multilingual (Hindi, English and local language) caution boards, shock treatment charts and instruction plate containing location of isolation point for incoming supply, name & telephone No. of contact person in emergency shall be provided in substations and near all distribution boards / local panels.
- x) Operation of earth leakage device shall be checked regularly by temporarily connecting series test lamp (2 bulbs of equal rating connected in series) between phase and earth.
- xi) Regular inspection of all installations (at least once in a month)
- xii) Treat all circuits as "LIVE" unless ensured otherwise.
- xiii) Electrical "Lock Out - Tag Out (LOTO)" procedure be followed for work on electrical system.
- xiv) Two separate and distinct connections to earth grid for all electrical equipment operating above 250V.
- xv) Electrical switch boards, portable tools, equipment (like grinding machine etc.) don't get wet during their usage. If it happens, stop the main supply, make the tools dry, check for specified insulation value and then only use them. Check proper earthing. All temporary switch boards/ KIOSKS put up at work site should be suitably protected from rain and the level of same should be high enough to avoid contact with water due to water logging.
- xvi) Unarmoured cable directly on ground, wall, roof or trees are not to be laid. All temporary cables are laid at least

750 mm below ground and cable markers are provided. Proper sleeves provided at road crossings. In case temporary cables are required to be laid on wooden poles/steel poles, the minimum cable heights should be 4.5M.

- xvii) Electrical wires/equipment are protected from water and naked flames.
- xviii) Illuminate level in all the work areas are in line with OISD-RP-149.
- xix) All parts of electrical installations so constructed, installed and maintained as to prevent danger of electric shock, fire and explosion. Periodic checking of electrical safety appliances such as gloves, insulating mats, hoods etc. to be done/witnessed in line with OISD-STD- 137, and records to be maintained duly endorsed by the concerned.
- xx) A notice displaying following, is kept exhibited at suitable places in local language also:
 - prohibiting unauthorized persons from entering electrical equipment rooms or from handling or interfering with electrical apparatus;
 - containing directions as to procedures in case of fire, rescue of persons in contact with live conductors and the restoration of persons suffering from electric shock;
 - Specifying the person to be notified in case of electrical accident or dangerous occurrence, and indicating how to communicate with him.
- xxi) No other cables/pipes to be laid in trench used for electrical cables.
- xxii) Utmost care is taken while excavating Earth from cable trench to avoid damage or any accident.
- xxiii) Sub-station floor cut-outs meant for switch board installations to be covered wherever installation is incomplete.
- xxiv) Flameproofness integrity of all flameproof equipment /fittings/fixtures are ensured at all times.

NOTE: A Residual Current Operated Circuit Breaker (RCCB) or Earth Leakage Circuit Breaker (ELCB), when installed, protects a human being to the widest extent. RCCB or ELCB should be provided as per latest CEA Safety Regulation.

3.4.2.1 Inspection and maintenance

- A careful external examination of the equipment and conductors, especially the flexible cables are made at the beginning of every shift by the person using the electrical equipment.
- Apart from some exceptional cases subject to work permits, work on or near live parts of electrical equipment is forbidden. Before starting any work on conductors and/or equipment, it is to be ensured that: power supply should be isolated by an authorized person following the concept of LOTO;
- After work has been done on conductors and/or equipment, the power supply should only be switched on again after work permit is returned back, lock/tag on isolated feeder are removed and the workplace is reported safe.
- Only approved and tested tools and personal protective equipment such as rubber gloves, arc flash suit etc. are provided to the Electricians.

3.4.2.2

The following features shall also be ensured for all electrical installations during construction phase by the contractor:

- i) Each installation shall have a main switch with a protective device, installed in an enclosure adjacent to the metering point. The operating height of the main switch shall not exceed 1.5 M. The main switch shall be connected to the point of supply by means of armoured cable.
- ii) The outgoing feeders shall be double or triple pole switches with fuses/ MCBs. Loads in a three phase circuit shall be balanced as far as possible and load on neutral should not exceed 20% of load in the phase.
- iii) The installation shall be adequately protected against overload, short circuit and earth leakage by the use of suitable protective devices. Fuses wherever used shall be HRC type. Use of rewirable fuses shall be strictly prohibited. The earth leakage device shall have an operating current not exceeding 30 mA.
- iv) All connections to the hand tools / welding receptacles shall be taken through proper switches, sockets and plugs.
- v) All single phase sockets shall be minimum 3 pin type only. All unused sockets shall be provided with socket caps.
- vi) Only 3 core (P+N+E) overall sheathed flexible cables with minimum conductor size of 1.5 mm² copper shall be used for all single phase hand tools.
- vii) Only metallic distribution boxes with double earthing shall be used at site. No wooden boxes shall be used.
- viii) All power cables shall be terminated with compression type cable glands. Tinned copper lugs shall be used for multistrand wires / cables.

- ix) Cables shall be free from any insulation damage.
- x) Minimum depth of cable trench shall be 750 mm for MV & control cables and 900 mm for HV cables. These cables shall be laid over a sand layer and covered with sand, brick & soil for ensuring mechanical protection. Cables shall not be laid in waterlogged area as far as practicable. Cable route markers shall be provided at every 25M of buried trench route. When laid above ground, cables shall be properly cleated or supported on rigid poles of at least 2 M high. Minimum head clearance of 6 meters shall be provided at road crossings.
- xi) Underground road crossings for cables shall be avoided to the extent feasible. In any case no underground power cable shall be allowed to cross the roads without pipe sleeve.
- xii) All cable joints shall be done with proper jointing kit. No taped / temporary joints shall be used.
- xiii) An independent earthing facility should preferably be established within the temporary installation premises. All appliances and equipment shall be adequately earthed. In case of armoured cables, the armour shall be bonded to the earthing system.
- xiv) All cables and wire rope used for earth connections shall be terminated through tinned copper lugs.
- xv) In case of local earthing, earth electrodes shall be buried near the supply point and earth continuity wire shall be connected to local earth plate for further distribution to various appliances. All insulated wires for earth connection shall have insulation of green colour.
- xvi) Separate core shall be provided for neutral. Earth / Structures shall not be used as a neutral in any case.
- xvii) ON/OFF position of all switches shall be clearly designated / painted for easy isolation in emergency.

3.4.3 Environment Management

- i. The Contractor shall use construction equipment designed and equipped to minimise or control air pollution & noise pollution. He shall maintain evidence of such design and equipment and make these available for inspection by employer/INDEPENDENT ENGINEER.
- ii. The Contractor shall consider noise as an environmental constraint in his design, planning and execution of the Works and provide demonstrable evidence of the same. The Contractor shall, take all appropriate measures to ensure that work carried out by the Contractor, whether on or off the Site, will not cause any

- unnecessary or excessive noise.
- iii. Protection against the effects of occupational noise exposure should be provided when the sound levels exceed the threshold values as prescribed

3.4.4 General Care

- i. The contractor shall identify all operations that can adversely affect the health of its workers and issue & implement mitigation measures.
- ii. For surface cleaning operations, sand blasting shall not be permitted even if not explicitly stated elsewhere in the contract.
- iii. To eliminate radiation hazard, Tungsten electrodes used for Gas Tungsten Arc Welding shall not contain Thorium.
- iv. Appropriate respiratory protective devices shall be used to protect workmen from inhalation of air borne contaminants like silica, asbestos, gases, fumes, etc.
- v. Workmen shall be made aware of correct methods for lifting, carrying, pushing & pulling of heavy loads. Wherever possible, manual handling shall be replaced by mechanical lifting equipments.
- vi. For jobs like drilling / demolishing / dismantling where noise pollution exceeds the specified limit of 85 decibels, ear muffs shall be provided to the workers.
- vii. To avoid upper limb disorders and backaches, Display Screen Equipments' workplace stations shall be carefully designed & used with proper sitting postures. Power driven hand-held tools shall be maintained in good working condition to minimize their vibrating effects and personnel using these tools shall be taught how to operate them safely & how to maintain good circulation in hands.
- viii. The contractor shall arrange health check up for all the workers at the time of induction. Health check may have to be repeated if the nature of duty assigned to him is changed necessitating health check or doubt arises about his wellness. PROJECT DIRECTOR / INDEPENDENT ENGINEER reserve the right to ask the contractor to submit test reports.

3.4.5 Weather Protection

Contractor shall take appropriate measures to protect workers from severe storms, solar radiations, poisonous gases, dust, etc. by ensuring proper usage of PPEs like Sun glasses, Sun screen lotions, respirators, dust masks, etc. and rearranging / planning the construction activities to suit the weather conditions.

3.4.6 Communication

All persons deployed at the work site shall have access to effective

means of communication so that any untoward incident can be reported immediately and assistance sought by them.

All health & safety information shall be communicated in a simple & clear language easily understood by the local workforce.

3.4.7 Unsuitable Land Conditions

Contractor shall take appropriate measures and necessary work permits / clearances if work is to be done in or around marshy areas, river crossings, mountains, monuments, etc.

3.4.8 Under Water Inspection

Contractor shall ensure that boats and other means used for transportation, surveying & investigation works shall be certified seaworthy by a recognized classification society. It shall be equipped with all life saving devices like life jackets, adequate fire protection arrangements and shall possess communication facilities like cellular phones, wireless, walkie-talkie. All divers used for seabed surveys, underwater inspections shall have required authorized license, suitable life saving kit. Number of hours of work by divers shall be limited as per regulations. INDEPENDENT ENGINEER shall have the right to inspect the boat and scrutinize documents in this regard.

3.4.9 Tool Box Meeting (TBM)

Contractor shall conduct daily TBM with workers prior to start of work and shall maintain proper record of the meeting. A suggested format is given below. The TBM is to be conducted by the immediate supervisor of the workers.

TOOLBOX MEETING RECORDING SHEET

Date and Time		
Subject		
Presenter		
Hazards involved		
Precautions to be taken		
Worker's name	Signature	Section
Remarks If any		

The topics during TBM shall include

- Hazards related to work assigned on that day and precautions to be taken.
- Any forthcoming HSE hazards / events / instruction / orders, etc.

The above record can be kept in local language, which workers can read. These records shall be made available to INDEPENDENT ENGINEER whenever demanded.

3.4.10 Training

Contractor shall ensure that all his personnel possess appropriate training to carry out the assigned job safely. The training should be imparted in a language understood by them and should specifically be trained about

- Potential hazards to which they may be exposed at their workplace
- Measures available for prevention and elimination of these hazards

topics during training shall cover, at the minimum;

- Education about hazards and precautions required
- Emergency and evacuation plan
- HSE requirements
- Fire fighting and First-Aid
- Use of PPEs
- Local laws on intoxicating drinks, drugs, smoking in force

Records of the training shall be kept and submitted to INDEPENDENT ENGINEER whenever demanded.

For offshore and jetty jobs, contractor shall ensure that all personnel deployed have undergone a structured sea survival training including use of lifeboats, basket landing, use of radio communication etc. from an agency acceptable to NHAI.

3.4.11 Inspection

The contractor shall carryout daily HSE inspection and record observations at a central location. These inspection records shall be freely accessible to INDEPENDENT ENGINEER. The contractor shall also assist INDEPENDENT ENGINEER during the HSE inspections conducted by them.

3.4.12 Additional Safety Requirements for Working Inside a Running Plant/ Pipe Laying in Existing ROU

As a minimum, the contractor shall ensure adherence to following safety requirements while working in or in the close vicinity of an operating plant :

- a) Contractor shall obtain permits for Hot work, Cold work, Excavation and Confined Space from INDEPENDENT ENGINEER in the prescribed format.
- b) The contractor shall monitor, record and compile list of his workers entering the operational plant/unit each day and ensure & record their return after completing the job.
- c) Contractor's workers and staff members shall use designated entrances and proceed by designated routes to work areas only assigned to them. The workers shall not be allowed to enter units' area, tanks area, pump rooms, etc. without work authorization permit.
- d) Work activities shall be planned in such a way so as to minimize

the disruption of other activities being carried out in an operational plant / unit and activities of other contractors.

- e) The contractor shall submit a list of all chemicals / toxic substances that are intended to be used at site and shall take prior approval of the INDEPENDENT ENGINEER.
- f) Specific training on working in a hydrocarbon plant shall be imparted to the work force and mock drills shall be carried out for Rescue operations / First-Aid measures.
- g) Proper barricading / cordoning of the operational units / plants shall be done before starting the construction activities. No unauthorized person shall be allowed to trespass. The height and overall design of the barricading structure shall be finalized in consultation with the INDEPENDENT ENGINEER and shall be got approved from the INDEPENDENT ENGINEER.
- h) Care shall be taken to prevent hitting underground facilities such as electrical cables, hydrocarbon piping during execution of work.
- i) Barricading with water curtain shall be arranged in specific/critical areas where hydrocarbon vapors are likely to be present such as near horton spheres or tanks. Positioning of fire tenders (from INDEPENDENT ENGINEER) shall also be ensured during execution of critical activities.
- j) Emergency evacuation plan shall be worked out and all workmen shall be apprised about evacuation routes. Mock drill operations may also be conducted.
- k) Flammable gas test shall be conducted prior to any hot work using appropriate measuring instruments. Sewers, drains, vents or any other gas escaping points shall be covered with flame retardant tarpaulin.
- l) Respiratory devices shall be kept handy while working in confined zones where there is a danger of inhalation of poisonous gases. Constant monitoring of presence of Gas / Hydrocarbon shall be done.
- m) Clearance shall be obtained from all parties before starting hot tapping, patchwork on live lines and work on corroded tank roof.
- n) Positive isolation of line/equipment by blinding for welding/cutting/grinding shall be done. Closing of valve will not be considered sufficient for isolation.
- o) Welding spatters shall be contained properly and in no case shall be allowed to fall on the ground containing oil. Similar care shall be taken during cutting operations.
- p) The vehicles, cranes, engines, etc. shall be fitted with spark arresters

on the exhaust pipe and got it approved from Safety Department of the INDEPENDENT ENGINEER.

- q) Plant air should not be used to clean any part of the body or clothing or use to blow off dirt on the floor.
- r) Gas detectors should be installed in gas leakage prone areas as per requirement of INDEPENDENT ENGINEER's plant operation personnel.
- s) An experienced full time safety personnel shall be exclusively deployed to monitor safety aspects in running plants.
- t) Standard SOP to be followed while laying new pipeline in existing/ common ROU and all safety precaution taken as per requirement.

3.5 HSE PROMOTION

- 3.5.1 The contractor shall encourage his workforce to promote HSE efforts at workplace by way of organizing workshops / seminars / training programmes, celebrating HSE awareness weeks & National Safety Day, conducting quizzes & essay competitions, distributing pamphlets, posters & material on HSE, providing incentives for maintaining good HSE practices and granting bonus for completing the job without any lost time accident.
- 3.5.2 The contract employees should be suitably rewarded as per a scheme, with monetary benefits/ prizes for proactive actions like timely reporting of the Near miss incidents/ Unsafe conditions/ Unsafe Acts based on the accident potential if it could have occurred

4.0 DETAILS OF HSE MANAGEMENT SYSTEM BY CONTRACTOR

4.1 ON AWARD OF CONTRACT

The Contractor shall prior to start of work submit his Health, Safety and Environment Manual of procedure and HSE Plans for approval by INDEPENDENT ENGINEER/PROJECT DIRECTOR. The Contractor shall participate in the pre-start meeting with INDEPENDENT ENGINEER/PROJECT DIRECTOR to finalize HSE plans including the following.

- Job procedure to be followed by Contractor for activities covering Handling of equipment's, Scaffolding, Electric Installation, describing the risks involved, actions to be taken and methodology for monitoring each.
- Organizations structure along with responsibility and authority records/ reports etc. on HSE activities.

4.2 DURING JOB EXECUTION

- 4.2.1 Implement approved Health, Safety and Environment management procedure including but not limited to as brought out under para 3.0. Contractor shall also ensure to:

- Arrange workmen compensation insurance, registration under ESI Act, third party liability insurance etc. as applicable.

- Arrange all HSE permits before start of activities (as applicable) like hot work, confined space, work at heights, storage of Chemicals/explosives materials and its use and implement all precautions mentioned therein
- Submit timely the completed check list on HSE activities, Monthly HSE report, accident report, investigation report, etc. as per INDEPENDENT ENGINEER requirements. Compliance of instructions on HSE shall be done by Contractor and informed urgently to INDEPENDENT ENGINEER.
- Ensure that resident Engineers/Site-In-Charge of the Contractor shall attend all the Safety Committee/HSE meeting arranged by INDEPENDENT ENGINEER only in case of his absence from site, a seconds senior most person shall be nominated by him in advance and communicated to INDEPENDENT ENGINEER.
- Display at site office and work locations caution boards, list of hospitals for emergency services available.
- Provided posters, banners, for safe working to promote safety consciousness
- Carryout audits/inspection at sub -Contractor work as per approved HSE documents & submit the reports for INDEPENDENT ENGINEER review.
- Assist in HSE audits by INDEPENDENT ENGINEER and submit compliance report.
- Generate & submit HSE records/ reports as per HSE Plan.
- Appraise INDEPENDENT ENGINEER/PROJECT DIRECTOR on HSE activities at site.

5.0 **RECORDS**

At the minimum, the contractor shall maintain/ submit HSE records in the following reporting formats:

1	HSE Checklist cum compliance report	HSE-1
2	Accident / Incident Report	HSE-2
3	Supplementary Accident / Incident Investigation report	HSE-3
4	Near Miss Incident Report	HSE-4
5	Monthly HSE Report	HSE-5
6	Permit for working at height	HSE-6
7	Permit for working in confined space	HSE-7
8	Permit for radiation work	HSE-8
9	Permit for demolishing / dismantling	HSE-9

A. I.S. CODES ON HSE

SP:53	Safety code for the use, Care and protection of hand operated tools.
IS: 818	Code of practice for safety and health requirements in electric and gas welding and cutting operations
IS: 1179	Eye and Face precautions during welding, equipment etc.
IS: 1860	Safety requirements for use, care and protection of abrasive grinding wheels.
IS: 1989(Part-I & II)	Leather safety boots and shoes IS:
2925	Industrial Safety Helmets
IS: 3016	Code of practice for fire safety precautions in welding and cutting operations.
IS: 3043	Code of practice for earthing.
IS: 3764	Code of safety for excavation work
IS: 3786	Methods for computation of frequency and severity rates for industrial injuries and classification of industrial accidents.
IS: 3996	Safety Code of scaffolds and ladders.
IS: 4082	Recommendation on stacking and storage of construction materials and components at site.
IS: 4770	Rubber gloves for electrical purposes
IS: 5121	Safety code for piling and other deep foundations
IS: 5216 (Part-I) electrical works	Recommendations on Safety procedures and practices in
IS: 5557	Industrial and Safety rubber lined boots.
IS: 5983	Eye protectors
IS:6519	Selection, care and repair of Safety footwear
IS: 6994 (Part-I)	Industrial Safety Gloves (Leather & Cotton Gloves) IS:
7293	Safety Code for working with construction Machinery
IS: 8519	Guide for selection of industrial safety equipment for body

protection

IS: 9167	Ear protectors
IS: 11006	Flash back arrestor (Flame arrestor)
IS:11016 operation	General and safety requirements for machine tools and their
IS: 11057	Specification for Industrial safety nets
IS: 11226	Leather safety footwear having direct moulded rubber sole IS:
11972	Code of practice for safety precaution to be taken when entering a sewerage system
IS: 13367	Code of practice-safe use of cranes
IS: 13416 working place	Recommendations for preventive measures against hazards at

B. INTERNATIONAL STANDARDS ON HSE

Safety Glasses	:	ANSI Z 87.1, ANSI ZZ 87.1, AS 1337, BS 2092, BS 1542, BS 679, DIN 4646 / 58211
Safety Shoes	:	ANSI Z 41.1, AS 2210, EN 345
Hand Gloves	:	BS 1651
Ear Muffs	:	BS 6344, ANSI S 31.9
Hard Hat	:	ANSI Z 89.1 / 89.2, AS 1808, BS 5240, DIN 4840
Goggles	:	ANSI Z 87.1
Face Shield	:	ANSI Z 89.1
Breathing Apparatus	:	BS 4667, NIOSH Welding
& Cutting	:	ANSI Z 49.1
Safe handling of compressed Gases cylinders	:	P-1 (Compressed Gas Association 1235 Jefferson Davis Highway, Arlington VA 22202 – USA) in

C. OISD – 192 – SAFETY PRACTICES DURING CONSTRUCTION

D. OISD – 207 – CONTRACTOR SAFETY

ANNEXURE- B**DETAILS OF FIRST AID BOX**

SL. NO	DESCRIPTION	QUANTITY
1.	Small size Roller Bandages, 1 inch wide (Finger Dressing small)	6 Pcs.
2.	Medium size Roller Bandages, 2 inch wide (Hand and Foot Dressing)	6 Pcs.
3.	Large size Roller Bandages, 4 inch wide (Body Dressing Large)	6 Pcs.
4.	Large size Burn Dressing (Burn Dressing Large)	4 Pkts.
5.	Cotton wool (20 gms packing)	4 Pkts.
6.	Antiseptic Solution Dettol (100 ml.) or Savlon	1 Bottle
7.	Mercurochrome Solution (100 ml.) 2% in water	1 Bottle
8.	Ammonia Solution (20 ml.)	1 Bottle
9.	A Pair of Scissors	1 Piece
10.	Adhesive Plaster (1.25 cm x 5 m)	1 Spool
11.	Eye pads in Separate Sealed Packet	4 Pcs.
12.	Tourniquet	1 No.
13.	Safety Pins	1 Dozen
14.	Tinc. Iodine / Betadin (100 ml.)	1 Bottles
15.	Ointment for burns (Burnol 20 gms.)	1 Bottle
16.	Polythene Wash cup for washing eyes	1 No.
17.	Potassium Permanganate (20 gms.)	1 Pkt.
18.	Tinc. Benzoin (100 ml.)	1 Bottle
19.	Triangular Bandages	2 Nos.
20.	Band Aid Dressing	5 Pcs.
21.	Iodex / Moov (25 gms.)	1 Bottle
22.	Tongue Depressor	1 No.
23.	Boric Acid Powder (20 gms.)	2 Pkt.
24.	Sodium Bicarbonate (20 gms.)	1 Pkt.
25.	Dressing Powder (Nebasulf) (10 gms.)	1 Bottle
26.	Medicinal Glass	1 No.
27.	Duster	1 No.
28.	Booklet (English & Local Language)	1 No. each
29.	Soap	1 No.
30.	Toothache Solution	1 No.
31.	Eye Ointment	1 Bottle
32.	Vicks (22 gms.)	1 Bottle
33.	Forceps	1 No.
34.	Cotton Buds (5 nos.)	1 Pkt.
35.	Note Book	1 No.
36.	Splints	4 Nos.
37.	Lock	1 Piece
38.	Life Saving/Emergency/Over-the Counter Drugs	As decided at site
	Box size : 14" x 12" x 4"	

Note : The medicines prescribed above are only indicative. Equivalent medicines can also be used. A prescription, in this regard, shall be required from a qualified Physician.

ANNEXURE – C

TYPE OF FIRES VIS-À-VIS FIRE EXTINGUISHERS

Fire	Water	LOAm	Fire Extinguishers CO2	Dry Powder	Multi Purpose (ABC)
Originated from paper, clothes, wood	√	√	Can control minor surface fires	Can control minor surface fires	√
Inflammable Liquid like alcohol, diesel, petrol, edible oils, bitumen	x	√	√	√	√
Originated from gases like LPG, CNG, H2	x	x	√	√	√
Electrical Fires	x	x	√	√	√

Legend : √ Can be used
 x Not to be used

Note : Fire extinguishing equipment must be checked at least once a year and after every use by an authorized person. The equipment must have an inspection label on which the next inspection date is given. Type of extinguisher shall clearly be marked on it.

ANNEXURE – D**Indicative List of Statutory Acts & Rules Relating to HSE**

- The Indian Explosives Act and Rules
- The Motor Vehicle Act and Central Motor Vehicle Rules
- The Factories Act and concerned Factory Rules
- The Petroleum Act and Petroleum Rules
- The Workmen Compensation Act
- The Gas Cylinder Rules and the Static & Mobile Pressure Vessels Rules.
- The Indian Electricity Act and Rules
- The Indian Boiler Act and Regulations
- The Water (Prevention & Control & Pollution) Act
- The Water (Prevention & Control of Pollution) Cess Act
- The Mines & Minerals (Regulation & Development) Act
- The Air (Prevention & Control of Pollution) Act
- The Atomic Energy Act
- The Radiation Protection Rules
- The Indian Fisheries Act
- The Indian Forest Act
- The Wild Life (Protection) Act
- The Environment (Protection) Act and Rules
- The Hazardous Wastes (Management & Handling) Rules
- The Manufacturing, Storage & import of Hazardous Chemicals Rules
- The Public Liability Act
- The Building and Other Construction Workers (Regulation of Employment and Condition of service) Act
- Other statutory acts Like EPF, ESIS, Minimum Wage Act.

ANNEXURE – E

CONSTRUCTION HAZARDS, THEIR EFFECTS & PREVENTIVE MEASURES

ACTIVITY	TYPE OF HAZARD	EFFECT OF HAZARD	PREVENTIVE MEASURES
(A) EXCAVATION Pit Excavation up to 3.0m	➤ Falling into pit	➤ Personal injury	➤ Provide guard rails/barricade with warning signal. ➤ Provide at least two entries/exits. ➤ Provide escape ladders.
	➤ Earth Collapse	➤ Suffocation / Breathlessness Buried	➤ Provide suitable size of shoring and strutting, if required. ➤ Keep soil heaps away from the edge equivalent to 1.5m or depth of pit whichever is more. ➤ Don't allow vehicles to operate too close to excavated areas. Maintain at least 2m distance from edge of cut. ➤ Maintain sufficient angle of repose. Provide slope not less than 1:1 and suitable bench of 0.5m width at every 1.5m depth of excavation in all soils except hard rock. ➤ Battering/benching the sides.
	➤ Contact with buried electric cables ➤ Gas/ Oil Pipelines	➤ Electrocutation ➤ Explosion	➤ Obtain permission from competent authorities, prior to excavation, if required. ➤ Locate the position of buried utilities by referring to plant drawings. ➤ Start digging manually to locate the exact position of buried utilities and thereafter use

SPECIAL CONDITIONS OF CONTRACT (SCC)

ACTIVITY	TYPE OF HAZARD	EFFECT OF HAZARD	PREVENTIVE MEASURES
			flames are to be strictly prohibited.
	➤ Scattering of stone pieces in atmosphere	➤ Can hurt people	➤ Use PPE like goggles, face mask, helmets etc.
Rock excavating by blasting (Contd)	➤ Entrapping of persons/ animals.	➤ May cause severe injuries or prove fatal	➤ Barricade the area with red flags and blow siren before blasting.
	➤ Misfire	➤ May explode suddenly	➤ Do not return to site for at least 20 minutes or unless announced safe by designated person.
Piling Work	➤ Failure of pile-driving equipment	➤ Can hurt people	➤ Inspect Piling rigs and pulley blocks before the beginning of each shift.
	➤ Noise pollution	➤ Can cause deafness and psychological imbalance	➤ Use personal protective equipments like ear plugs, muffs, etc.
	➤ Extruding rods / casing	➤ Can hurt people	➤ Barricade the area ➤ an install sign boards ➤ Provide first-aid
	➤ Working in the vicinity of 'Live-Electricity'	➤ Can cause electrocution / asphyxiation	➤ Keep sufficient distance from Live-Electricity as per IS code. ➤ Shut off the supply, if possible ➤ Provide artificial/rescue breathing to be injured.
(B) CONCRETING	➤ Air pollution by cement	➤ May affect Respiratory System	➤ Wear respirators or cover mouth and nose with wet cloth.
	➤ Handling of ingredients	➤ Hand s may get injured	➤ Use gloves and other PPE.
	➤ Protruding reinforcement rods.	➤ Feet may get injured	➤ Use Safety shoes. ➤ Provide platform above reinforcement for movement of workers.
	➤ Earthing of electrical mixers,	➤ Can cause electrocution / asphyxiation	➤ Ensure earthing of equipments and proper functioning of

SPECIAL CONDITIONS OF CONTRACT (SCC)

ACTIVITY	TYPE OF HAZARD	EFFECT OF HAZARD	PREVENTIVE MEASURES
	vibrators, etc. not done		electrical circuit before commencement of work.
	➤ Falling of materials from height	➤ Persons may get injured	➤ Use hard hats ➤ Remove surplus material immediately from work place ➤ Ensure lighting arrangements during night hours.
	➤ Continuous pouring by same gang	➤ Cause tiredness of workers and may lead to accident.	➤ Insist on shift pattern ➤ Provide adequate rest to workers between subsequent pours.
	➤ Revolving or concrete mixer/ vibrators	➤ Parts of body or clothes may get entrapped.	➤ Allow only mixers with hopper ➤ Provide safety cages around moving motors ➤ Ensure proper mechanical locking of vibrator
Super-structure	➤ Same as above plus ➤ Deflection in props or shuttering material	➤ Shuttering / props may collapse and prove fatal	➤ Avoid excessive stacking on shuttering material ➤ Check the design and strength of shuttering material before commencement of work ➤ Rectify immediately the deflection noted during concreting
	➤ Passage to work place	➤ Improperly tied and designed props / planks may collapse	➤ Ensure the stability and strength of passage before commencement of work ➤ Do not overload and under the passage.
(C) REINFORCEMENT	➤ Curtailment and binding of rods	➤ Persons may get injured	➤ Use PPE like gloves, shoes, helmets, etc. ➤ Avoid usage of shift tools
	➤ Carrying of rods for short distance/ at	➤ Workers may injure their hands and shoulders	➤ Provide suitable pads on shoulders and use safety

ACTIVITY	TYPE OF HAZARD	EFFECT OF HAZARD	PREVENTIVE MEASURES
	➤ heights		<ul style="list-style-type: none"> ➤ gloves. ➤ Tie up rods in easily liftable bundles ➤ Ensure proper staging.
	➤ Checking of clear distance/ cover with hands	➤ Rods may cut or injure the finger	➤ Use measuring devices tape, measuring rods, etc.
	➤ Hitting projected rods and standing on cantilever rods	➤ Persons may get injured and fall down	<ul style="list-style-type: none"> ➤ Use safety shoes and avoid standing unnecessarily on cantilever rods ➤ Avoid wearing loose clothes
	➤ Falling of material from height	➤ May prove fatal	<ul style="list-style-type: none"> ➤ Use helmets ➤ Provide safety nets
	➤ Transportation of rods by trucks / trailers	➤ Protruded rods may hit the persons	<ul style="list-style-type: none"> ➤ Use red flags/lights at the ends ➤ Do not protrude the rods in front of or by the side of driver's cabin. ➤ Do not extend the rods 1/3rd of deck length or 1.5 m which is less
(D) WELDING AND GAS CUTTING	➤ Welding radiates invisible ultraviolet and infrared rays	➤ Radiation can damage eyes and skin.	<ul style="list-style-type: none"> ➤ Use specified shielding devices and other PPE of correct specifications ➤ Avoid throat tungsten electrodes for GTAW.
	➤ Improper placement of oxygen and acetylene cylinders	➤ Explosion may occur	<ul style="list-style-type: none"> ➤ Move out any leaking cylinder ➤ Keep cylinder in vertical position ➤ Use trolley for transportation of cylinders and chain them ➤ Use flash back arrestors
	➤ Leakage / cuts in hoses	➤ May cause fire	<ul style="list-style-type: none"> ➤ Purge regulators immediately and then turn off ➤ Never use grease or

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			oil on oxygen line connections and copper fittings on acetylene lines ➤ Inspect regularly gas carrying hoses ➤ Always use red hose for acetylene & other fuel gases and black for oxygen.
	➤ Opening-up of cylinder	➤ Cylinder may burst	➤ Always stand back from the regulator while opening the cylinder ➤ Turn valve slowly to avoid bursting ➤ Cover the lug terminals to prevent short circuiting.
	➤ Welding of tanks, container or pipes storing flammable liquids	➤ Explosion may occur	➤ Empty & purge them before welding ➤ Never attach the ground cable to tanks, container or pipe storing flammable liquids ➤ Never use LPG for gas cutting
(E) RADIOGRAPHY	➤ Ionizing Radiation	➤ Radiations may react with the skin and can cause cancer, skin irritation, dermatitis, etc.	➤ Ensure safety regulations as per BARC/AERB before commencement of job. ➤ Cordon off the area and install Radiation warning symbols ➤ Restrict the entry of unauthorized persons ➤ Wear appropriate PPE and film badges issued by BARC/AERB
	➤ Transportation and Storage of Radiography source	➤ Same as above	➤ Never touch or handle radiography source with hands ➤ Store radiography source inside a pit in an exclusive isolated

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			<p>storage room with lock and key arrangement. The pit should be approved by BARC/AERB</p> <ul style="list-style-type: none"> ➤ Radiography source should never be carried either in passenger bus or in a passenger compartment of trains. ➤ BARC/AERB have to be informed before source movement. ➤ Permission from Director General of Civil Aviation is required for booking radio isotopes with airlines.
	<ul style="list-style-type: none"> ➤ Loss of Radio isotope 	<ul style="list-style-type: none"> ➤ Same as above 	<ul style="list-style-type: none"> ➤ Try to locate with the help of Survey Meter. ➤ Inform BARC/AERB(*) <p>(*) Atomic Energy Regulatory Board (AERB), Bhabha Atomic Research Centre (BARC) Anushaktinagar, Mumbai – 400 094</p>
(F) ELECTRICAL INSTALLATION AND USAGE	<ul style="list-style-type: none"> ➤ Short circuiting 	<ul style="list-style-type: none"> ➤ Can cause Electrocution or Fire 	<ul style="list-style-type: none"> ➤ Use rubberized hand gloves and other PPE ➤ Don't lay wires under carpets, mats or door ways. ➤ Allow only licensed electricians to perform on electrical facilities ➤ Use one socket for one appliance ➤ Ensure usage of only fully insulated wires or cables ➤ Don't place bare wire ends in a socket

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			<ul style="list-style-type: none"> ➤ Ensure earthing of machineries and equipments ➤ Do not use damaged cords and avoid temporary connections ➤ Use spark-proof/flame proof type field distribution boxes. ➤ Do not allow open/bare connections ➤ Provide all connections through ELCB ➤ Protect electrical cables / equipment's from water and naked flames ➤ Check all connections before energizing.
	<ul style="list-style-type: none"> ➤ Overloading of Electrical System 	<ul style="list-style-type: none"> ➤ Bursting of system can occur which leads to fire 	<ul style="list-style-type: none"> ➤ Display voltage and current ratings prominently with 'Danger' signs. ➤ Ensure approved cable size, voltage grade and type. ➤ Switch off the electrical utilities when not in use. ➤ Do not allow unauthorized connections. ➤ Ensure proper grid wise distribution of Power.
	<ul style="list-style-type: none"> ➤ Improper laying of overhead and underground transmission lines / cables 	<ul style="list-style-type: none"> ➤ Can cause electrocution and prove fatal 	<ul style="list-style-type: none"> ➤ Do not lay unarmored cable directly on ground, wall, roof of trees ➤ Maintain at least 3m distance from HT cables ➤ All temporary cables should be laid at least 750 mm below ground on 100 mm

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			fine sand overlying by brick soling ➤ Provide proper sleeves at crossings/ intersections ➤ Provide cable route markers indicating the type and depth of cables at intervals not exceeding 30m and at the diversions / termination.
(G) FIRE PREVENTION AND PROTECTION	➤ Small fires can become big ones and may spread to the surrounding areas	➤ Cause burn injuries and may prove fatal.	➤ In case a fire breaks out, press fire alarm system and shout "Fire, Fire" ➤ Keep buckets full of sand & water/fire extinguishing equipment near hazardous locations ➤ Confine smoking to 'Smoking Zones' only ➤ Train people for using specific type of fire equipments under different classes of fire ➤ Keep fire doors/ shutters, passages and exit doors unobstructed ➤ Maintain good house keeping and first-aid boxes (for detail refer Annex-2) ➤ Don't obstruct access to Fire extinguishers ➤ Do not use elevators for evacuation during fire ➤ Maintain lightening arrestors for elevated structures ➤ Stop all electrical motors with internal combustion. ➤ Move the vehicles from dangerous

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			locations. ➤ Remove the load hanging from the crane booms. ➤ Remain out of the danger areas.
	➤ Improper selection of Fire Extinguisher	➤ It may not extinguish the fire	➤ Ensure usage of correct fire extinguisher meant for the specified fire (for details refer Annexure-C) ➤ Do not attempt to extinguish Oil and electric fires with water. Use LOAm cylinders/CO ₂ /sand or earth.
	➤ Improper storage of highly inflammable substances	➤ Same as above	➤ Maintain safe distance of flammable substances from source of ignition ➤ Restrict the distribution of flammable materials to only min. necessary amount ➤ Construct specifically designed fuel storage facilities ➤ Keep chemicals in cool and dry place away from hat. Ensure adequate ventilation ➤ Before welding operation, remove or shield the flammable material properly ➤ Store flammable materials in stable racks, correctly labeled preferably with catchments trays. ➤ Wipe off the spills immediately

ACTIVITY	TYPE OF HAZARD	EFFECT OF HAZARD	PREVENTIVE MEASURES
	<ul style="list-style-type: none"> ➤ Short circuiting of electrical system 	<ul style="list-style-type: none"> ➤ Same as above ➤ Can cause Electrocution 	<ul style="list-style-type: none"> ➤ Don't lay wires under carpets, mats or door ways ➤ Use one socket for one appliance ➤ Use only fully insulated wires or cables ➤ Do not allow open/bare connections ➤ Provide all connections through ELCB ➤ Ensure earthing of machineries and equipments
(H) VEHICULAR MOVEMENT	<ul style="list-style-type: none"> ➤ Crossing the Speed Limits (Rash driving) 	<ul style="list-style-type: none"> ➤ Personal injury 	<ul style="list-style-type: none"> ➤ Obey speed limits and traffic rules strictly ➤ Always expect the unexpected and be a defensive drive ➤ Use seat belts/helmets ➤ Blow horn at intersections and during overtaking operations. ➤ Maintain the vehicle in good condition ➤ Do not overtake on curves, bridges and slopes
	<ul style="list-style-type: none"> ➤ Adverse weather condition 	<ul style="list-style-type: none"> ➤ Same as above 	<ul style="list-style-type: none"> ➤ Read the road ahead and ride to the left ➤ Keep the wind screen and lights clean ➤ Do not turn at speed ➤ Recognize the hazard, understand the defense and act correctly in time.
	<ul style="list-style-type: none"> ➤ Consuming alcohol before and during he 	<ul style="list-style-type: none"> ➤ Same as above 	<ul style="list-style-type: none"> ➤ Alcohol and driving do not mix well. Either choose

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
	driving operation		alcohol or driving. ➤ If you have a choice between hitting a fixed object or an oncoming vehicle, hit the fixed object ➤ Quit the steering at once and become a passenger. Otherwise take sufficient rest and then drive. ➤ Do not force the driver to drive fast and round the clock ➤ Do not day dram while driving
	➤ Falling objects / Mechanical failure	➤ May prove fatal	➤ Ensure effective braking system, adequate visibility for the drives, reverse warning alarm. ➤ Proper maintenance of the vehicle as per manufacturer instructions
(I) PROOF TESTING (HYDROSTATIC/ PNEUMATIC TESTING)	➤ Bursting of piping ➤ Collapse of tanks ➤ Tanks flying off	➤ May cause injury and prove fatal	➤ Prepare test procedure & obtain CONSULTANT/ INDEPENDENT ENGINEER's approval ➤ Provide separate gauge for pressurizing pump and piping/equipment ➤ Check the calibration status of all pressure gauges, dead weight testers and temperature recorders ➤ Take dial readings at suitable defined intervals and ensure most of them fall between 40-60% of the gauge scale range ➤ Provide safety relief valve (set at

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			<p>pressure slightly higher than test pressure) while testing with air/nitrogen</p> <ul style="list-style-type: none"> ➤ Ensure necessary precautions, stepwise increase in pressure, tightening of bolts/nuts, grouting, etc. before and during testing ➤ Keep the vents open before opening any valve while draining out of water used for hydro testing of tanks ➤ Pneumatic testing involves the hazard of released energy stored in compressed gas. Specific care must therefore be taken to minimize the chance of brittle failure during a pneumatic leak test. Test temperature is important in this regard and must be considered when the designer chooses the material of construction ➤ A pressure relief device shall be provided, having a set pressure not higher than the test pressure plus the lesser of 345 KPa (50 psi) or 10% of the test pressure. The gas used as test fluid, if not air, shall be nonflammable and nontoxic.
(J) WORKING AT HEIGHTS	<ul style="list-style-type: none"> ➤ Person can fall down 	<ul style="list-style-type: none"> ➤ May sustain severe injuries or 	<ul style="list-style-type: none"> ➤ Provide guard rails/barricade at the

ACTIVITY	TYPE OF HAZARD	EFFECT OF HAZARD	PREVENTIVE MEASURES
		prove fatal	work place ➤ Use PPE like safety belts, full body harness, life line, helmets, safety shoes, etc. ➤ Obtain a permit before starting the work at height above 3 meters ➤ Fall arrest systems like safety nets, etc. must be installed ➤ Provide adequate working space (min. 0.6 m) ➤ Tie/weld working platform with fixed support ➤ Use roof top walk ladder while working on a slopping roofs ➤ Avoid movement on beams
		➤ May hit the scrap / material stacked at the ground or in between	➤ Keep the work place neat and clean ➤ Remove the scrap immediately
	➤ Material can fall down	➤ May hit the workers working at lower levels and prove fatal.	➤ Same as above plus ➤ Do not throw or drop material or equipment from height ➤ All tools to be carried in a toolkit bags or on working uniform ➤ Remove scrap from the planks ➤ Ensure wearing of helmet by the workers at low level
(K) CONFINED SPACES	➤ Suffocation / drowning	➤ Unconsciousness, death	➤ Use respiratory devices, if required ➤ Avoid over crowding inside a confined space ➤ Provide Exhaust Fans for ventilation ➤ Do not wear loose clothes, neck ties,

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			etc. ➤ Fulfill conditions of the permit. ➤ Check for presence of hydrocarbons, O ₂ level ➤ Obtain work permit before entering a confined space ➤ Ensure that the connected piping of the equipment which is to be opened is pressure free, fluid has been drained, vents are open and piping is positively isolated by a blind flange
	➤ Presence of foul smell and toxic substances	➤ Inhalation can pose threat to life.	➤ Same as above plus ➤ Check for hydrocarbon and Aromatic compounds before entering a confined space ➤ Depute one person outside the confined space for continuous monitoring and for extending help in case of an emergency
	➤ Ignition / flame can cause fire	➤ Person may sustain burn injuries or explosion may occur	➤ Keep fire extinguishers at a hand distance ➤ Remove surplus material and scrap immediately ➤ Do not smoke inside a confined space ➤ Do not allow gas cylinders inside a confined space ➤ Use low voltage (24V) lamps for lighting ➤ Use tools with air motors or electric tools with max.

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			voltage of 24V ➤ Remove all equipments at the end of the day
(L) HANDLING AND LIFTING EQUIPMENTS	➤ Failure of load lifting and moving equipments	➤ Can cause accident and prove fatal	➤ Avoid standing under the lifted load and within the operating radius of cranes ➤ Check periodically oil, brakes, gears, horns and tyre pressure of all moving machinery ➤ Check quality, size and condition of all chain pulley blocks, slings, U-clamps, D-shackles, wire ropes, etc. ➤ Allow crane to move only on hard, firm and leveled ground ➤ Allow lifting slings as short as possible and check gunny packings at the friction points ➤ Do not allow crane to tilt its boom while moving ➤ Install Safe Load Indicator ➤ Ensure certification by applicable authority.
	➤ Overloading of lifting equipments	➤ Can cause electrocution and fire	➤ Safe lifting capacity of derricks and winches written on them shall be got verified. ➤ The max safe working load shall be marked on all lifting equipments ➤ Check the weight of columns and other heavy items painted on them and accordingly decide about the crane

<i>ACTIVITY</i>	<i>TYPE OF HAZARD</i>	<i>EFFECT OF HAZARD</i>	<i>PREVENTIVE MEASURES</i>
			capacity, boom and angle of erection ➤ Allow only trained operators and riggers during crane operation
	➤ Overhead electrical wires	➤ Can cause electrocution and fire	➤ Do not allow boom or other parts of crane to come within 3 m reach of overhead HT cables ➤ Hook and load being lifted shall preferably remain in full visibility of crane operator.
(M) SCAFFOLDING, FORMWORK AND LADDERS	➤ Person can fall down	➤ Person may sustain severe injuries and prove fatal	➤ Provide guard rails for working at height ➤ Face ladder while climbing and use both hands ➤ Ladders shall extend about 1m above landing for easy access and tying up purpose ➤ Do not place ladders against movable objects and maintain base at ¼ unit of the working length of the ladder ➤ Suspended scaffolds shall not be less than 500 mm wide and tied properly with ropes ➤ No loose planks shall be allowed ➤ Use PPE, like helmets, safety shoes, etc.
	➤ Failure of scaffolding material	➤ Same as above	➤ Inspect visually all scaffolding materials for stability and anchoring with permanent structures. ➤ Design scaffolding

SPECIAL CONDITIONS OF CONTRACT (SCC)

ACTIVITY	TYPE OF HAZARD	EFFECT OF HAZARD	PREVENTIVE MEASURES
			for max. load carrying capacity ➤ Scaffolding planks shall not be less than 50x250 mm full thickness lumber or equivalent. These shall be cleared or secured and must extend over the end supports by at least 150mm and not more than 300 mm ➤ Don't overload the scaffolds ➤ Do not splice short ladders to make a longer one. Vertical ladders shall not exceed 6m.
	➤ Material can fall down	➤ Persons working at lower level gets injured.	➤ Remove excess material and scrap immediately ➤ Carry the tools in a tool-kit bag only ➤ Provide safety nets
(N) STRUCTURAL WORKS	➤ Personal negligence and danger of fall	➤ Can cause injury or casualty	➤ Do not take rest inside rooms built for welding machines or electrical distribution system ➤ Avoid walking on beams at height ➤ Wear helmet with chin strap and safety belts when working at height ➤ Use hand gloves and goggles during grinding operations ➤ Cover or mark the sharp and projected edges ➤ Do not stand within the operating radius of cranes
	➤ Lifting / slipping of	➤ Same as above	➤ Do not stand under the lifted load

SPECIAL CONDITIONS OF CONTRACT (SCC)

ACTIVITY	TYPE OF HAZARD	EFFECT OF HAZARD	PREVENTIVE MEASURES
	material		<ul style="list-style-type: none"> ➤ Stack properly all the materials. Avoid slippage during handling ➤ Control longer pieces lifted up by cranes from both ends ➤ Remove loose materials from height ➤ Ensure tightening of all nuts and bolts
(O) PIPELINE WORKS	<ul style="list-style-type: none"> ➤ Erection / lowering failure 	<ul style="list-style-type: none"> ➤ Can cause injury 	<ul style="list-style-type: none"> ➤ Do not stand under the lifted Load ➤ Do not allow any person to come within the radii of the side boom handling pipes ➤ Check the load carrying capacity of the lifting tools and tackles ➤ Use safe Load Indicators ➤ Use appropriate PPEs
	<ul style="list-style-type: none"> ➤ Other 	<ul style="list-style-type: none"> ➤ Same as above 	<ul style="list-style-type: none"> ➤ Wear gum boots in marshy areas ➤ Allow only one person to perform signaling operations while lowering of pipes ➤ Provide night caps on pipes ➤ Provide end covers on pipes for stoppage of pigs while testing/cleaning operations.

FORMAT NO. : HSE-1, REV. 0

HSE CHECKLIST CUM COMPLIANCE REPORT (1/6)

Project: _____

Contractor: _____

Date: _____

INDEPENDENT ENGINEER: _____

Inspection By _____

Report No: _____

Frequency : Fortnightly

Job No: _____

SL. NO.	ITEM	YES	NO	REMARKS	ACTION
1	HOUSEKEEPING				
a)	Waste containers provided and used				
b)	Sanitary facilities adequate and clean				
c)	Passageways and Walkways clear				
d)	General neatness of working areas				
e)	Others				
2	PERSONNEL PROTECTIVE EQUIPMENT				
a)	Goggles; Shields				
b)	Face protection				
c)	Hearing protection				
d)	Safety shoes				
e)	Hand protection				
f)	Respiratory Masks etc.				
g)	Safety Belts				
h)	Safety Helmet/Hard Hat				
i)	Others				
3	EXCAVATIONS/OPENINGS				
a)	Openings properly covered or barricaded				
b)	Excavations shored				
c)	Excavations barricaded				
d)	Overnight lighting provided				
e)	Others				
4	WELDING & GAS CUTTING				
a)	Gas cylinders chained upright				
b)	Cables and hoses not obstructing				
c)	Screens or shields used				
d)	Flammable materials protected				
e)	Fire extinguisher(s) accessible				
f)	Others				
5	SCAFFOLDING				
a)	Fully decked platforms				
b)	Guard and intermediate rails in place				

SL. NO.	ITEM	YES	NO	REMARKS	ACTION
c)	Toe boards in place				
d)	Adequate shoring				
e)	Adequate access				
f)	Others				
6	LADDERS				
a)	Extension side rails 1m above				
b)	Top of landing				
c)	Properly secured				
d)	Angle + 70 from horizontal				
e)	Others				
7	HOISTS, CRANES AND DERRICKS				
a)	Condition of cables and sheaves OK				
b)	Condition of slings, chains, hooks and eyes OK				
c)	Inspection and maintenance logs maintained				
d)	Outriggers used				
e)	Signs/barricades provided				
f)	Signals observed and understood				
g)	Qualified operators				
h)	Others				
8	MACHINERY, TOOLS AND EQUIPMENT				
a)	Proper instruction				
b)	Safety devices				
c)	Proper cords				
d)	Inspection and maintenance				
e)	Others				
9	VEHICLE AND TRAFFIC				
a)	Rules and regulations observed				
b)	Inspection and maintenance				
c)	Licensed drivers				
d)	Others				
10	TEMPORARY FACILITIES				
a)	Emergency instructions posted				
b)	Fire extinguishers provided				
c)	Fire-aid equipment available				
d)	Secured against storm damage				
e)	General neatness				
f)	In accordance with electrical requirements				
g)	Others				
11	FIRE PREVENTION				
a)	Personnel instructed				
b)	Fire extinguishers checked				
c)	No smoking in Prohibited Areas				
d)	Hydrants Clear				

SL. NO.	ITEM	YES	NO	REMARKS	ACTION
e)	Others				
12	ELECTRICAL				
a)	Use of 3-core armoured cables				
b)	Usage of 'All insulated' or 'double insulated' electrical tools				
c)	All electrical connection are routed through ELCB				
d)	Natural Earthing at the source of power (main DB)				
e)	Continuity and tightness of earth conductor				
f)	Covering of junction boxes, panels and other energized wiring places				
g)	Ground fault circuit interrupters provided				
h)	Prevention of tripping hazards				
i)	Others				
13	HANDLING AND STORAGE OF MATERIALS				
a)	Properly stored or stacked				
b)	Passageways clear				
c)	Others				
14	FLAMMABLE GASES AND LIQUIDS				
a)	Containers clearly identified				
b)	Proper storage				
c)	Fire extinguishers nearby				
d)	Others				
15	WORKING AT HEIGHT				
a)	Erection plan and work permit obtained				
b)	Safety nets				
c)	Full body harness and lanyards; chute lines				
d)	Health Check record available for workers going				
e)	Others				
16	CONFINED SPACE				
a)	Work permit obtained				
b)	Test for toxic gas and sufficient availability of oxygen conducted				
c)	At least one person outside the confined space for monitoring deputed				
d)	Availability of sufficient means of entry, exit and ventilation				
e)	Fire extinguishers and first-aid facility ensured				
f)	Lighting provision made by using 24V lamps				
g)	Proper usage of PPEs ensured				
17	RADIOGRAPHY				
a)	Proper storage and handling of source as per BARC / AREB guidelines				
b)	Working permit obtained				
c)	Cordoning of the area done				

SL. NO.	ITEM	YES	NO	REMARKS	ACTION
d)	Use of appropriate PPE's ensured				
e)	Proper training to workers/supervisors imparted				
f)	Minimum occupancy of workplace ensured				
18	HEALTH CHECKS				
a)	Workers medically examined and found to fit for working : i) At heights ii) In confined space.				
b)	Availability of First-aid facilities				
c)	Proper sanitation at site, office and labour camps				
d)	Arrangement of medical facilities				
e)	Measures for dealing with illness				
f)	Availability of Portable drinking water for workmen &				
g)	Provision of crèches for children				
h)	Stand by vehicle available for evacuation of				
19	ENVIRONMENT				
a)	Chemical and other effluents properly disposed				
b)	Cleaning liquid of pipes disposed off properly				
c)	Seawater used for hydro-testing disposed off as per agreed procedure				
d)	Lubricant Waste/Engine oils properly disposed				
e)	Waste from Canteen, offices, sanitation etc. disposed properly				
f)	Disposal of surplus earth, stripping materials, oily rags and combustible materials done				
g)	Green belt protection				

Note: write 'NA' wherever the item is not applicable

Signature of Resident
Engineer with
Seal

FORMAT NO. : HSE-2, REV. 0

ACCIDENT / INCIDENT REPORT**(To be submitted by Contractor after every Accident / Incident within 24 hours)**

Report No: _____

Date: _____

Name of Site:- _____

CONTRACTOR _____

Type of Accident / Incident : ☐ Fatal ☐ Other Lost Time ☐ Non Loss Time ☐First-Aid case ☐

NAME OF THE INJURED.....

AGE

FATHER'S NAME.....

SUB-CONTRACTOR M/S.....

DATE & TIME OF ACCIDENT.....

LOCATION

BRIEF DESCRIPTION OF ACCIDENT

CAUSE OF ACCIDENT NATURE

OF INJURY/DAMAGE

MEDICAL AID PROVIDED/ACTIONS TAKEN

INTIMATION TO LOCAL AUTHORITIES (IF APPLICABLE)

DATE:

SIGNATURE OF CONTRACTOR
WITH SEALTo : INDEPENDENT ENGINEER
: PROJECT DIRECTOR1 COPY
1 COPY

SUPPLEMENTARY ACCIDENT / INCIDENT INVESTIGATION REPORT

Supplementary to Report No: _____ (Copy enclosed)

Project: _____ Site: _____
Name of Work : _____ Date: _____
Contractor: _____ Work Order / LOI No. : _____

NAME OF THE INJURED.....
AGE
FATHER'S NAME.....
SUB-CONTRACTOR M/S.....
DATE & TIME OF ACCIDENT.....
LOCATION

BRIEF DESCRIPTION OF ACCIDENT NATURAL

OF INJURY/DAMAGE

COMMENTS FROM MEDICAL PRACTITIONER WHO ATTENDED THE VICTIM/INJURED

SUGGESTED IMPROVEMENT IN THE WORKING CONDITION IF ANY

LOSS OF MANHOURS AND IMPACT ON SITE WORKS

ANY OTHER COMMENT BY SAFETY OFFICER.

DATE:

SIGNATURE OF CONTRACTOR
WITH SEAL

To : INDEPENDENT ENGINEER
: PROJECT DIRECTOR

1 COPY
1 COPY

NEAR MISS INCIDENT – SUGGESTED PROFORMA

Name of Site : _____ Report No: _____
Name of Work : _____ Date : _____
Contractor : _____

INCIDENT REPORTED BY :

DATE & TIME OF INCIDENT :

LOCATION :

BRIEF DESCRIPTION OF INCIDENT

PROBABLE CAUSE OF INCIDENT SUGGESTED

CORRECTIVE ACTION

STEPS TAKEN TO AVOID RECURRENCE

YES

☐

NO

☐

DATE:

SIGNATURE OF CONTRACTOR
WITH SEAL

To : INDEPENDENT ENGINEER
: PROJECT DIRECTOR

1 COPY
1 COPY

FORMAT NO. : HSE-5, REV. 0

MONTHLY HEALTH, SAFETY & ENVIRONMENT (HSE) REPORT**(To be submitted by each Contractor)**

Actual work start Date: _____ For the Month of: _____

Project: _____ Report No: _____

Name of the Contractor: _____ Status as on: _____

Name of Work: _____ Name of Safety officer: _____

ITEM		UPTO PREVIOUS MONTH	THIS MONT H	CUMU LATIV E
a)	Average number of Staff & Workmen (average daily headcount, not man days)			
b)	Man hours Worked			
c)	Number of HSE meeting organized at site			
d)	Number of HSE awareness programmes conducted at site			
e)	Number of Lost Time Accidents	Fatal		
		Other LTA		
f)	Number of Loss time Injuries (LTI)	Fatalities		
		Other LTI		
g)	Number of Loss Time Accidents			
h)	Number of First Aid Cases			
i)	Number of Near Miss Incidents			
j)	Man-days lost due to accidents			
k)	LTA Free Manhours i.e. Number of LTA free manhours from the Lst LTA			
l)	Compensation cases raised with Insurance			
m)	Compensation case resolved and paid to workmen			
n)	Whether workmen compensation policy	Y/N		
o)	Whether workmen compensation policy	Y/N		
p)	Whether workmen registered under ESI Act	Y/N		
Remark				

DATE:

Safety Officer /Resident Engineer
(Signature and Name)To : INDEPENDENT ENGINEER
: PROJECT DIRECTOR (2 COPIES)

FORMAT NO. : HSE-6, REV. 0

PERMIT FOR WORKING AT HEIGHT (ABOVE 2 METER)

Project Site :Sr. No.:
 Name of the work:Date:
 Name of Contractor :Nature of Work..... Total
 No.of Workers:Exact location of work..... Duration
 of work: from to

The following items have been checked and compliance shall be ensured during the currency of the permit:

Sl. ITEM	DONE	NOT REQD.
1.Equipment/Work Area inspected	<input type="checkbox"/>	<input type="checkbox"/>
2.Considered hazard from other routine/non-routine operations and concerned person alerted	<input type="checkbox"/>	<input type="checkbox"/>
3. ELCB provided	<input type="checkbox"/>	<input type="checkbox"/>
4. Proper lighting Provided	<input type="checkbox"/>	<input type="checkbox"/>
5. Area cordoned off.	<input type="checkbox"/>	<input type="checkbox"/>
6. Precautions against public traffic taken	<input type="checkbox"/>	<input type="checkbox"/>
7. Sound Scaffolding provided	<input type="checkbox"/>	<input type="checkbox"/>
8. Adequate protected Platform provided	<input type="checkbox"/>	<input type="checkbox"/>
9. Acces and Exit to the area (Ladder properly fixed)	<input type="checkbox"/>	<input type="checkbox"/>
10. Floor Openings covered	<input type="checkbox"/>	<input type="checkbox"/>
11. Safety Net provided	<input type="checkbox"/>	<input type="checkbox"/>
12. Heath check of personnel	<input type="checkbox"/>	<input type="checkbox"/>

A. Following personal protective equipment are provided (mark) and used as relevant Safety helmet/Gloves/Goggles/Shoes/Face Shield/Life Line/Safety Belt/Safety Harness.

B. This permit shall be available at the work site at all times.

C. Permit shall be issued for maximum one week only (Monday to Sunday).

D. This permit shall be applicable in non-operational areas.

FORMAT NO. : HSE-7, REV. 0

CONFINED SPACE ENTRY PERMIT

Project Site:Sr. No.:

Name of the work:Date:

Name of Contractor : Nature of Work Exact

location of work :

Safety Requirements: POSITIVE ISOLATION OF THE VESSEL IS MANDATORY**(A) Has the equipment been ?**

Y	NR		Y	NR		Y	NR	
<input type="checkbox"/>	<input type="checkbox"/>	isolated from	<input type="checkbox"/>	<input type="checkbox"/>	water flushed &/or	<input type="checkbox"/>	<input type="checkbox"/>	radiation sources
<input type="checkbox"/>	<input type="checkbox"/>	power / steam / air	<input type="checkbox"/>	<input type="checkbox"/>	steamed Manways	<input type="checkbox"/>	<input type="checkbox"/>	removed
<input type="checkbox"/>	<input type="checkbox"/>	isolated from	<input type="checkbox"/>	<input type="checkbox"/>	open & ventilated	<input type="checkbox"/>	<input type="checkbox"/>	Proper lighting
<input type="checkbox"/>	<input type="checkbox"/>	liquid or gases	<input type="checkbox"/>	<input type="checkbox"/>	cont. inset gas flow	<input type="checkbox"/>	<input type="checkbox"/>	provided
<input type="checkbox"/>	<input type="checkbox"/>	depressurized &/or	<input type="checkbox"/>	<input type="checkbox"/>	arranged adequately			
<input type="checkbox"/>	<input type="checkbox"/>	drained blanked /	<input type="checkbox"/>	<input type="checkbox"/>	cooled			
<input type="checkbox"/>	<input type="checkbox"/>	blinded						
<input type="checkbox"/>	<input type="checkbox"/>	/						
<input type="checkbox"/>	<input type="checkbox"/>	disconnected						

(B) Expected Residual Hazards

Y	NR		Y	NR		Y	NR	
<input type="checkbox"/>	<input type="checkbox"/>	lack of O ₂	<input type="checkbox"/>	<input type="checkbox"/>	Combustible	<input type="checkbox"/>	<input type="checkbox"/>	H ₂ S/Toxic gases
<input type="checkbox"/>	<input type="checkbox"/>	Corrosive	<input type="checkbox"/>	<input type="checkbox"/>	gas/liquid	<input type="checkbox"/>	<input type="checkbox"/>	Proper lighting
<input type="checkbox"/>	<input type="checkbox"/>	chemicals	<input type="checkbox"/>	<input type="checkbox"/>	Manways open &	<input type="checkbox"/>	<input type="checkbox"/>	Electricity/static
<input type="checkbox"/>	<input type="checkbox"/>	Heat/Stream/frost	<input type="checkbox"/>	<input type="checkbox"/>	Pyrophoric	<input type="checkbox"/>	<input type="checkbox"/>	Ionizing radiation
			<input type="checkbox"/>	<input type="checkbox"/>	iron/scales			
			<input type="checkbox"/>	<input type="checkbox"/>	High humidity			

(C) Protective Measures

Y	NR		Y	NR		Y	NR	
<input type="checkbox"/>	<input type="checkbox"/>	Gloves	<input type="checkbox"/>	<input type="checkbox"/>	ear plug / muff dust	<input type="checkbox"/>	<input type="checkbox"/>	goggles / face
<input type="checkbox"/>	<input type="checkbox"/>	protective	<input type="checkbox"/>	<input type="checkbox"/>	/ gas / air line mask	<input type="checkbox"/>	<input type="checkbox"/>	shield personal
<input type="checkbox"/>	<input type="checkbox"/>	clothing	<input type="checkbox"/>	<input type="checkbox"/>	attendant with SCBA	<input type="checkbox"/>	<input type="checkbox"/>	gas alarm
<input type="checkbox"/>	<input type="checkbox"/>	Grounded air	<input type="checkbox"/>	<input type="checkbox"/>	/ air mask safety	<input type="checkbox"/>	<input type="checkbox"/>	rescue equipment
<input type="checkbox"/>	<input type="checkbox"/>	educater /	<input type="checkbox"/>	<input type="checkbox"/>	harness & lifeline	<input type="checkbox"/>	<input type="checkbox"/>	/team
<input type="checkbox"/>	<input type="checkbox"/>	blower /AC				<input type="checkbox"/>	<input type="checkbox"/>	communication
<input type="checkbox"/>	<input type="checkbox"/>	Fire fighting				<input type="checkbox"/>	<input type="checkbox"/>	equipment
<input type="checkbox"/>	<input type="checkbox"/>	arrangements						

Authorization / Renewal (It is safe to enter the confirmed space)

Date	No. of Persons allowed	Name of Persons allowed	Signature		Time		Signature
			Contractor's Supervisor	Contractor's Safety Officers	From	To	workman

Permit Closure :

(A) Entry ☐ was closed ☐ stopped ☐ will continue on(B) ☐ Site left in a safe condition☐ Housekeeping done(C) Multi lock ☐ removed ☐ key transferred☐ Ensured all men have come out ☐ Manways barricaded

Remarks, if any :

FORMAT NO. : HSE-8, REV. 0

RADIATION WORK PERMIT

Project :

Sr. No.:

Name of the work :

Date:

Name of Contractor :

Job No. :

Location of work :

Source Strength :

Cordoned distance (m) :

Name of Radiographing agency :

Approved by

INDEPENDENT ENGINEER / PROJECT DIRECTOR The following items have

been checked & compliance shall be ensured
during currency of the permit :

S. No.	Item Description	Done
1.	Safety regulations as per BARC/AERB ensured while source in use/ in transit & during storage.	<input type="checkbox"/>
2.	Area cordoned off.	<input type="checkbox"/>
3.	Lighting arrangements for working during nights ensured.	<input type="checkbox"/>
4.	Warning signs / flash lights installed.	<input type="checkbox"/>
5.	Cold work permit taken (if applicable)	<input type="checkbox"/>
6.	PPEs like film badges, dosimeters used.	<input type="checkbox"/>

Additional precautions, if any _____
 (Radiography Agency's BARC / AREB authorized Supervisor) (Contractor's Safety Officer)

Permission is granted.

Permit is valid from _____AM/PM _____Date to _____AM/PM _____
 Date

(Signature of permit issuing authority)

Name :

Designation :

Date :

Permit renewal:

Permit extended up to		Additional precautions required, if any.	Sign of issuing authority with date
Date	Time		

Work completed / stopped / area cleared at _____ Hrs. of Date _____

(Sign of permit issuing authority) Name :

FORMAT NO. : HSE-9, REV. 0

DEMOLISHING/DISMANTLING WORK PERMIT

Project:

Sr.No.:

Name of the work:

Date:

Name of Contractor:

Job No. :

Name of Contractor:

Name of Sub-contractor:

No. of Workers to be engaged:

Line No. / Equipment No. /Structure to be dismantled :

Location details of dismantling / demolition with sketch: (Clearly indicate the area)

The following items have been checked & compliance shall be ensured during
currency of the permit:

S. No.	Item Description	Done	Not Applicable
1.	Services like power, gas supply, water, etc. disconnected.		
2.	Dismantling / Demolishing method reviewed & approved.		
3.	Usage of appropriate PPEs ensured.		
4.	Precautions taken for neighboring structures		
5.	First-Aid arrangements made		
6.	Fire fighting arrangements ensured		
7.	Precautions taken for blasting		

Contractor's Supervisor)

(Contractor's Safety Officer)

Permission is granted.

(Permit issuing authority)

Name : Date :

Completion Report:

Dismantling/Demolishing is completed on _____ Date at _____ Hrs.

Materials / debris transported to identified location ☐

Tagging completed (as applicable) ☐

Services like power, gas supply, water, etc. restored ☐

(Permit issuing authority)

**CONDITIONS FOR ISSUE AND RECONCILIATION OF
MATERIAL**

[ANNEXURE - 8 TO SPECIAL CONDITIONS OF CONTRACT]

1. CONDITIONS FOR ISSUE OF MATERIALS

Whenever any material is issued by INDEPENDENT ENGINEER, following conditions for issue of material in addition to other conditions specified in the contract shall be applicable:

- 1.1 Necessary indents will have to be raised by the Contractor as per procedure laid down by the Engineer-in-Charge from time to time, when he requires the above material for incorporation in permanent works.
- 1.2 Materials will be issued only for permanent works and not for temporary works, enabling works etc. unless specifically approved by the Engineer-in-Charge and the same shall not be taken into account for the purpose of materials reconciliation.
- 1.3 The Contractor shall bear all other cost including lifting, carting from issue points to work site/Contractor's store, custody and handling etc. and return of surplus/serviceable scrap materials to INDEPENDENT ENGINEER's storage points to be designated by the Engineer-in-Charge etc. No separate payment for such expenditure will be made.
- 1.4 No material shall be allowed to be taken outside the plant without a gate pass.
- 1.5 The Contractor shall be responsible for proper storage, preservation and watch & ward of the materials.
- 1.6 RETURN OF UNUSED MATERIAL
 - 1.6.1 All unused/scrap materials shall be the property of the INDEPENDENT ENGINEER and shall be returned in good and acceptable condition size wise, category wise by the Contractor at his own cost to INDEPENDENT ENGINEER's Store(s).
 - 1.6.2 No credit will be given to the Contractor for return of scrap. The Contractor should quote the rates accordingly.
 - 1.6.3 In case the Contractor fails to return unused/scrap materials, then recovery for such quantity of materials, not returned by the Contractor shall be affected at following penal rates from the Contractor's bills or from any other dues of the Contractor to the INDEPENDENT ENGINEER. Contractor shall make his own arrangements for weighing the off cuts to be returned to INDEPENDENT ENGINEER's stores.
 - 1.6.4 Penal Rates for non- return / return of materials:

S. No.	Material		Penal Rates
1.	(a)	Penal rate for non return of accountable scrap	Issue Rate + 25% or Landed Rate + 25% (in case issue rate are not indicated in the contract)
	(b)	Penal rate for return of serviceable materials in excess of permitted % allowances	
	(c)	Penal rate for issuance of unplanned OFC jointing kits	
2.	(a)	Penal rates for non return of Unused material and or penal rate for generating scrap in excess of permitted % allowances	Twice the Issue Rates or Twice the Landed Rates (in case Issue Rates are not indicated in the Contract)
	(b)	Penal rate for using excess amount of materials like cement than permitted % allowances	

NOTE:

- 1) Landed Rate shall be arrived from the latest Purchase Order of respective material received at site by INDEPENDENT ENGINEER / NHAI.
- 2) In case different penal rates have been indicated in the Contract (based on Project requirement), the same will supersede the above rates.

2. PIPING MATERIALS

- 2.1 All pipes shall be issued in available lengths/shapes and no claims for extra payments on account of issue of non-standard length & shape will be entertained. Pipes shall be issued on linear measurement basis. All valves, flanges, fittings etc. shall be issued on number(s) basis. Contractor shall store the materials in such a way so as to avoid mixing of different types of material and shall maintain complete identification and traceability at all times.
- 2.2 The scrap allowance for pipes issued by the INDEPENDENT ENGINEER shall be 3% (2½% accountable + ½% non- accountable) of the actual consumption as incorporated in the works.
- 2.3 All pipes in length of 2 meters and above shall be considered as serviceable material provided the material is in good and acceptable condition and has clear identification and traceability (Manufacturer's name, heat number/batch number and test certificates). Pipes in lengths less than 2M shall be treated as scrap.
- 2.4 For the non-account of pipes drawn by the Contractor over and above the actual consumption as determined by the Engineer-in-Charge, plus 3% (2½% accountable + ½% non accountable) thereof to cover the scrap allowance, recovery at penal rate shall be effected from the Contractor's bill(s) or from any other dues of the Contractor to the INDEPENDENT ENGINEER.
- 2.5 All unused/scrap pipes, valves, flanges, forged fitting like elbows, reducers tees shall be returned by the Contractor category wise duly cleaned, greased and spec. marked at his own cost to INDEPENDENT ENGINEER's stores. In case the Contractor fails to do so then recovery for such quantity of pipes not returned by the Contractor at the penal rates shall be effected from the Contractor's bill(s) or from any other dues of the Contractor to the INDEPENDENT ENGINEER.

3. EQUIPMENT

- 3.1 Various equipment/materials intended for the installation will be received by INDEPENDENT ENGINEER in unpacked, skid mounted, crated, packed or loose condition and will be stored in the warehouses and open yards. In general, materials will be issued to the Contractor in 'as received' condition. It will be the Contractor's responsibility to draw, load and transport all materials from INDEPENDENT ENGINEER's designated places of issue to the point of installation and return all packing materials like steel frames, wooden boxes/scrap etc. to INDEPENDENT ENGINEER's stores.

All materials supplied by the INDEPENDENT ENGINEER shall be duly protected by the Contractor at his own cost with appropriate preservative like primer, lacquer coating, grease etc. as required.

4. CABLES

- 4.1 Appropriation of cables shall be done as follows:
 - 4.1.1 All the surplus and serviceable cables out of the cables quantity(ies) issued by the INDEPENDENT ENGINEER to the Contractor shall be returned by the Contractor to the INDEPENDENT ENGINEER's store in good condition and as directed by the Engineer- in-Charge.
 - 4.1.2 The Contractor shall be allowed a cutting/wastage allowance of 1.5% for power cables and 3% for the control cables. This cutting/wastage allowance shall be computed on the length of cables actually laid, measured and accepted.
 - 4.1.3 All cables being returned to store should carry Aluminum sheet tags indicating the size & type of cable. Cables of less than 15 meters length will be termed as scrap. Cables of lengths 15M and above shall be termed as serviceable material & shall be returned size wise and category wise to the INDEPENDENT ENGINEER's store in wooden drums. Cables of serviceable length being returned to stores in drum(s) shall be accepted only after Megger value continuity test and physical measurement is carried out by the Contractor to the satisfaction of Engineer-in-Charge. Empty cable drums and major packing material (as decided by Engineer-in-charge) shall be INDEPENDENT ENGINEER's property and shall be returned to INDEPENDENT ENGINEER's Store/designated place without any additional cost.
 - 4.1.4 While carrying out material appropriation with the Contractor, the above points will be taken into account. All serviceable materials returned by the Contractor (size wise & category wise) shall be deducted from the quantity(ies) issued to the Contractor for the respective sizes. Scrap generated for power cable and control cable shall also be returned to INDEPENDENT ENGINEER's store on Lot basis.
 - 4.1.5 Material appropriation shall be done & allowable scrap quantity calculated. The wastage generated by the Contractor in excess of the allowable percentage shall be charged at the penal rates.

5. LINE PIPES

5.1 All coated line pipes as per Line Pipe specifications shall be issued on linear measurement basis. The line pipes shall be issued in available lengths and shapes and no claim for extra payment on account of issue of non-standard length and shape will be entertained. Contractor shall store and maintain the line pipes in proper manner to avoid mixing of different classes of pipes. Contractor shall maintain complete identification and traceability at all times. All cut pieces when returned to INDEPENDENT ENGINEER's storage points after beveling, shall be considered as serviceable material provided:

5.1.1 Corrosion Protection Coating is intact.

5.1.2 Pipe pieces have pipe specifications, manufacturer's logo/name and heat number duly authenticated with hard stamp of the authorized inspector as per approved procedure. All cut pieces of pipes measuring less than 2 M will be treated as wastage/scrap.

5.2 For the purpose of accounting of coated line pipes, following allowances shall be permitted:

- a. Unaccountable wastage - 0.1%
- b. Scrap (All cut pieces of pipes measuring 0.25% less than 2 Meter) - 0.25%
- c. Serviceable materials - 0.5%
(All cut pieces of pipe 0.5% measuring 2 Meter and above)

Scrap shall be accounted at actuals as per site assessment subject to maximum limits as stated above.

The percentage allowance shall be accounted on the basis of pipe book chainage for main pipeline.

5.2.1 Material appropriation shall be done & allowable scrap quantity calculated. The wastage generated by the Contractor in excess of the allowable percentage shall be charged at the penal rates as given in the contract.

6. OPTICAL FIBRE CABLE

6.1 For the purpose of accounting of optical fiber cable, all cut pieces measuring in length of 40 m and above when returned to INDEPENDENT ENGINEER's storage points shall be treated as serviceable materials. All cut pieces of cable measuring less than 40 M will be treated as scrap.

For the purpose of accounting of OFC (Optical Fibre Cable) following allowances shall be permitted:

- (i) Unaccountable wastage -0.1%
- (ii) Scrap (All cut pieces of cables measuring less than 40 M) -0.25%
- (iii) Serviceable material (measuring 40M and above) -0.25%

Material appropriation shall be done & allowable scrap quantity calculated. The wastage generated by the Contractor in excess of the allowable percentage shall be charged at the penal rates as given the contract.

[ANNEXURE - 9 TO SPECIAL CONDITIONS OF CONTRACT]

**Minimum Construction Equipment Deployment Schedule” (MCEDS) (Part
A)**

**KEY CONSTRUCTION EQUIPMENTS TO BE MOBILIZED BY THE
CONTRACTOR DURING EXECUTION OF PIPELINE LAYING AND ASSOCIATED
STATION WORKS FOR GJPL PIPELINE PROJECT (Part A)**

Sl. No.1	Equipment Description	Quantity
Category- 1		
1	PIPE LAYER/SIDE BOOM (60 MT AND ABOVE)	01
2	HYDRAULIC EXCAVATOR/ BACKHOE EX-100 AND ABOVE	01
3	HYDRAULIC EXCAVATOR/ BACKHOE EX-200 AND ABOVE	01
Category- 2		
4.	Dozer - D7/D6 or equivalent	2
5.	Excavator / back hoe - Ex 200 & above or equivalent	4
6.	Ferhana Crane (8 - 10 MT)	4
7	Pipe Layer / Side Boom - 40 T & above capacity	6
8	DG welding machines	5
9	D. G. Sets : 62.5 5 KVA to 200 KVA (inclusive of generators)	4
10	Welding Rectifier(Multiprocess welder)	5
11	Bevel Cutting machine - manual	1
12	Pipe bending machine	1
13.	Horizontal Auger boring machine	1
14.	Pipe clamp (Pnumatic / Hydralulic) - Internal	2
15.	Pipe clamp external	4
16.	HDD rig with all equipment & accessories (Minimum capacity 60-90 MT)	1
17.	HDD rig with all equipment & accessories (Minimum capacity 100-135 MT)	1
18.	HDD rig with all equipment & accessories (Minimum capacity 250-300 MT)	1
19.	X - Ray M/C - Internal crawler	2

20.	X - Ray M/C - External	2
21.	Gamme Source	2
22.	Manual UT Machine	2
23.	Filling Pumps (400 to 1000 m / hr)	1
24	Pressurizaton Pump - Motorized	1
25	Induction / Resistance Heating equipment or LPG multi Torch	2
26	Air Compressor - (300 CFM)	2
27	Air Compressor - (450/600/800 CFM)	1
28	Blast Cleaning Machine	2
29	Dewatering Pump	1
30	Holiday Detector Unit	2
31	Pipe Trailers	4
32	Dead Wt. Tester	2
33	Pipe / Cable locator	2
34	Dozing pump	1

NOTES:

1. The details of critical key construction equipments in good working condition, required to be mobilized during construction by the Contractor, to complete the work within the schedule. The actual deployment schedule of Construction Equipments shall be approved by Engineer-in-charge. Contractor shall augment the above list with additional numbers/categories of equipments, capacity of equipments, tools & tackles, as required and directed by Engineer-In charge to complete the work within the completion time schedule and quoted price.
2. If required, Contractor shall ensure inventories of HDD Rig(s) ancillary units like Mud pump, Pilots, Drill pipe (Minimum 150% of actual length of HDD), Rock cutting tool/ bits etc. maintained at site to avoid down time in case of any break-down.
3. CATEGORY-1: BIDDER has option to propose equipments from "OWNED" or "To be purchased" against this category. BIDDER to provide proof of INDEPENDENT ENGINEERship (Copy of Invoice payment/ Insurance Cover/ Registration with Statutory body/Certificate from Chartered Engineer) for OWNED equipments, equipment categorized as "To be purchased" shall be supported with a copy of Purchase Order duly accepted by the Vendor provided its delivery period matches with the mobilization schedule at site and. In addition bidder has to submit a recent inspection certificate (issued within 6 months from the bid due date) from Chartered Engineer/ Reputed third party agency certifying that equipments are in good working condition.
4. CATEGORY- 2: No documentary proof is required to be submitted for CATEGORY- 2 equipments. However BIDDER to indicate equipment as OWNED or HIRED for deployment purpose.
5. Construction equipment identified above shall be mobilized by contractor as and when relevant activities are required to be carried out for completing the job within completion time schedule and as per direction of Engineer In-charge.

6. Bidder to confirm that these equipments are spare available for deployment on this project site and shall be timely mobilized in good working condition to maintain work progress. Contractor has the option to hire some of these equipments from equipment-hiring agencies also.
7. INDEPENDENT ENGINEER/Consultant reserves the right to physically check & verify the INDEPENDENT ENGINEERSHIP / availability of these equipments at any stage prior to award of work. Bidder shall organize and coordinate this inspection process. INDEPENDENT ENGINEER/ Consultant opinion shall be final and binding in this regard.
8. Meeting the requirement of deployment of above minimum Construction Equipment's is a part of Bidder Qualification Criteria. Bidder shall confirm compliance for deployment of above equipments. BIDDER to categorize this Equipment List on "Owned/To be purchased/Hired" basis separately and submit along with the bid.
9. Contractor shall replace any defective/damaged equipment promptly to complete the work without any time & cost implication to the INDEPENDENT ENGINEER/EIL. In case some equipment's are not required after completion of relevant activities, the same can be demobilized with prior WRITTEN approval of Engineer-In-Charge.
10. Instruments (as applicable) to be made available with valid calibration certificate, issued by NABL accredited laboratory.
11. Further, month wise equipment built up and deployment at site shall be Annexure 23.

(STAMP & SIGNATURE OF BIDDER)

MINIMUM NO. OF SKILLED MANPOWER TO BE DEPLOYED

[ANNEXURE - 10 TO SPECIAL CONDITIONS OF CONTRACT]

**MINIMUM NUMER OF SKILLED MANPOWER TO BE DEPLOYED
GURDASPUR JAMMU PIPELINE (GJPL) PROJECT (Part A PUNJAB)**

Sl. No.	DESCRIPTION	QUANTITY
1.	Resident Construction Manager	1
2.	Planning engineer	1
3.	QA/QC Engineer	1
4.	Safety Officer	1
5.	Qualified Surveyor	1
6.	Welding/NDT Engineer	2 each
7.	Discipline engineers (Civil/Mech/Elec)	2/2/2
8.	Foreman /Supervisor	8
9.	Civil Surveyor/Liaison team	1 each
10.	Document Controller/Account officer (for line pipe)	1 each
11.	Store Keeper/store – in - Charge	1 each
12.	Welder (Manual)	16
13.	Fitter	10
14.	Grinder	12
15.	Machine Operator	As required
16.	Blast cleaning Crew	4
17.	Electrician/Machine Mechanic	As required
18.	Rigger	16
19.	Drivers	As required
20.	Pipe Bending	2

21.	Thrust/Hor. Auger Boring crew	1
22.	X-ray/Gamma Ray crew	2 each
23	Hydro Testing crew	1
24.	Field Joint Coating Crew	4
25.	Holiday testing Crew	As required (Refer Note 1)
26.	HDD Crew	As required (Refer Note 1)
27.	OFC Jointing Crew	2
28.	Civil Survey Crew (with equipment)	3
29.	Station Civil works (carpenter/bar – bender/mansion/fitter etc.)	As required
30.	Unskilled worker	12
31	Station mechanical , pre-fabrication/erection crew	2

Notes:

- 1) HDD equipment and Crew as required shall be deployed based on the SOW finalized and as per instruction of EIC.
- 2) The details of minimum manpower required to be mobilized by the execution contractor to complete the work within schedule is given above and is not exhaustive. Contractor is required to augment the above list with additional numbers/categories of workmen as required and directed by Engineering in charge to complete the work within the completion time schedule and quoted price.
- 3) For magnetic cleaning and EGP, adequate equipment and crew shall be mobilized to complete the activity within the given time schedule and as approved by Engineer –in- Charge.
- 4) The Manpower as identified above should have required qualification and adequate relevant experience.
- 5) Contractor shall mobilize Resident Construction Manager, QA/QC Engineer, Planning Engineer/Safety officer who will be the permanent employees of the Contractor.
- 6) CV of proposed Resident Construction Manager, QA/CC Engineer, Planning Engineer, Safety offer to be submitted along with the bid. The experience should be related to execution of Cross Country Hydrocarbon Transportation Pipeline Laying.
- 7) This manpower is to be mobilized within 15 days of award of work.

8) PENALTY FOR NON - MOBILIZATION OF KEY CONSTRUCTION PERSONNEL

Penalty for non-mobilization per day per person after the contractual mobilization period / mobilization schedule agreed during Kick off Meeting / jointly agreed between contractor and PROJECT DIRECTOR

/ INDEPENDENT ENGINEER based on front availability etc.

- Rs. 5000/- for Resident Construction Manager/ Resident Engineer/ Site-in-Charge;
- Rs. 3000/- each for Lead QA/QC Engineer, Lead Planning Engineer, Warehouse In-charge Lead Discipline Engineer, Lead Welding/ NDT Engineer and the Quantity Surveyor

- Rs. 2500/-Safety Officer

Notes: (for Penalty clauses)

- a) All intervening off days (Sundays etc.) and holidays will be counted for levy of penalty
- b) Mobilized personnel shall not be demobilized till contractual completion or based on consent of Engineer-in-Charge else penalties as above shall be applied.
- c) Total of above penalties shall not exceed 3% of the contract value.
- d) The above penalties are over & above all other contractual provisions with respect to penalties.

**EXPERIENCE CRITERIA FOR KEY PERSONNEL TO BE
DEPLOYED DURING CONSTRUCTION**

**[ANNEXURE - 10A TO SPECIAL CONDITIONS OF
CONTRACT]**

**EXPERIENCE CRITERIA FOR KEY PERSONNEL TO BE DEPLOYED DURING CONSTRUCTION
FOR GURDASPUR JAMMU PIPELINE (GJPL) PROJECT (Part A PUNJAB)**

- 1) The bidder must provide a detailed organizational chart indicating the organization name, personnel and equipment etc. CVs of main key persons shall be submitted by the Contractor along with bid and replacement of any of these key persons after LOA issuance shall be approved by INDEPENDENT ENGINEER/INDEPENDENT ENGINEER's representative. Key persons shall be deployed during the entire duration of the work till completion of all works. Non deployment of key persons will be subject to recovery as defined elsewhere in the bid.

Following key persons to be deployed during construction as a minimum

Sl. No.	Position	Qualification & Knowledge	Experience	No. of Key personnel (minimum)
1.	Construction manager/Construction in charge	Degree/Diploma in Civil/Mechanical Engineering	At least 8 years experience for Degree holder and 12 years for Diploma holder in Construction of Cross country pipeline including station piping in Hydrocarbon Pipelines (Oil and Gas). Out of the 8 /12 years experience at least 5/8 years experience must be in similar position in works related to construction of hydrocarbon pipeline projects.	As per Annexure 10 of SCC
2.	Safety officer	Degree/Diploma in Engineering/Project Management	At least 4 years of experience for Degree holder and 8 years for Diploma holder in Safety Management in construction of cross country pipeline (Hydrocarbon pipeline) including station piping for the same.	
3.	QA/QC Engineer	Degree/Diploma in Mechanical Engineering	At least 6 years of experience for Degree holder and 10 years for Diploma Holder in quality/NDT management in construction of cross country pipeline including station piping for the same.	
4.	Welding/NDT Engineer	Diploma in Mechanical Engineering	At least 7 years of experience for Degree holder and 10 years for Diploma holder in quality/NDT management in construction of cross country pipeline including station piping for the same.	
5.	Planning Engineer	Degree/Diploma in Engineering/Project Management	At least 4 years of experience for degree holder and 8 years for Diploma Holder in executing projects in construction of cross country pipeline (hydrocarbon pipeline) including station piping for the same.	

- 2) This description is only binding upon the Contractor. He must provide, at his own expense, all the necessary equipment, machinery and personal even in addition to those indicated in the offer.

**HIRING/RECOVERY RATE FOR DEPLOYMENT OF
MANPOWER**

[ANNEXURE - 11 TO SPECIAL CONDITIONS OF CONTRACT]

Deleted

EQUIPMENT HIRING/RECOVERY RATE

[ANNEXURE - 12 TO SPECIAL CONDITIONS OF CONTRACT]

Deleted

EXTENDED STAY COMPENSATION

**(Annexure-13 to Annexure-15 of Special Condition of
Contract)**

Deleted

ANNEXURE-16 TO SCC

SAFETY PRACTICES DURING CONSTRUCTION

OISD-GDN-192

**Oil Industry Safety Directorate
Government of India
Ministry of Petroleum and Natural Gas**

ANNEXURE-16 TO SCC

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SAFETY PRACTICES DURING CONSTRUCTION

1.0 INTRODUCTION

Safety in Construction Management deserves utmost attention especially in the hydrocarbon industry, such as Exploration, Refineries, Pipelines and Marketing installations, Gas Processing units etc. Construction is widely recognised as one of the accident prone activities. Most of the accidents are caused by inadequate planning, failure during the construction process and/or because of design deficiencies. Besides property loss, accidents also result in injuries and fatalities to the personnel; same needs to be prevented.

The reasons for accidents during construction activities are related to unique nature of the industry, human behaviour, difficult work-site conditions, extended odd duty hours, lack of training & awareness and inadequate safety management. Unsafe working methods, equipment failure and improper housekeeping also tend to increase the accident rate in construction.

Ensuring good quality of materials, equipment and competent supervision along with compliance of standard engineering practices shall go a long way to in built safety into the system.

The objective of this standard is to provide practical guidance on technical and educational framework for safety and health in construction with a view to:

- (a) prevent accidents and harmful effects on the health of workers arising from employment in construction;
- (b) ensure appropriate safety during implementation of construction;
- (c) provide safety practice guidelines for appropriate measures of planning, control and enforcement.

2.0 SCOPE

This document specifies broad guidelines on safe practices to be adhered to during construction activities in oil industry. However, before commencing any job, specific hazards and its effects should be assessed and necessary corrective/preventive actions should be taken by all concerned. The document is intended only to supplement and not to

replace or supersede the prevailing statutory requirements, which shall also be followed as applicable. For Personal Protective Equipment, OISD-STD-155 (Part I&II) shall be referred to. The scope of this document does not include the design aspects and quality checks during construction.

3.0 DEFINITIONS

Definitions of various terminology are given below:

- *Adequate, appropriate or suitable* are used to describe qualitatively or quantitatively the means or method used to protect the worker.
- *Brace*: A structural member that holds one point in a fixed position with respect to another point; bracing is a system of structural members designed to prevent distortion of a structure.
- *By hand*: The work is done without the help of a mechanized tool.
- *Competent Authority*: A statutory agency having the power to issue regulations, orders or other instructions having the force of law.
- *Competent person*: A person possessing adequate qualifications, such as suitable training and sufficient knowledge, experience and skill for the safe performance of the specific work. The competent authorities may define appropriate criteria for the designation of such persons and may determine the duties to be assigned to them.
- *Execution agency*:
Any physical or legal person, having contractual obligation with the INDEPENDENT ENGINEER, and who employs one or more workers on a construction site
- *INDEPENDENT ENGINEER*:
Any physical or legal person for whom construction job is carried out.

It shall also include INDEPENDENT ENGINEER's designated representative/consultant/nominee/agent, authorised from time to time to act for and on its behalf, for supervising/

coordinating the activities of the execution agency.

- *Hazard*: Danger or potential danger.
- *Guard-rail*: An adequately secured rail erected along an exposed edge to prevent persons from falling.
- *Hoist*: A machine, which lifts materials or persons by means of a platform, which runs on guides.
- *Lifting gear*: Any gear or tackle by means of which a load can be attached to a lifting appliance but which does not form an integral part of the appliance or load.
- *Lifting appliance*: Any stationary or mobile appliance used for raising or lowering persons or loads.
- *Means of access or egress*: Passageways, corridors, stairs, plat-forms, ladders and any other means for entering or leaving the workplace or for escaping in case of danger.
- *Scaffold*: Any fixed, suspended or mobile temporary structure supporting workers and material or to gain access to any such structure and which is not a lifting appliance as defined above.
- *Toe-board*: A barrier placed along the edge of a scaffold platform, runway, etc., and secured there to guard against the slipping of persons or the falling of material.
- *Worker*: Any person engaged in construction activity.
- *Workplace*: All places where workers need to be or to go by reason of their work.

4.0 GENERAL DUTIES

4.1 GENERAL DUTIES OF EXECUTION AGENCIES

4.1.1 Execution agency should:

- i) provide means and organisation to comply with the safety and health measures required at the workplace.
- ii) provide and maintain workplaces, plant, equipment, tools and machinery and organise

construction work so that, there is no risk of accident or injury to health of workers. In particular, construction work should be planned, prepared and undertaken so that:

- (a) dangers, liable to arise at the workplace, are prevented;
 - (b) excessively or unnecessarily strenuous work positions and movements are avoided;
 - (c) organisation of work takes into account the safety and health of workers;
 - (d) materials and products used are suitable from a safety and health point of view;
 - (e) working methods are adopted to safeguard workers against the harmful effects of chemical, physical and biological agents.
- iii) establish committees with representatives of workers and management or make other arrangements for the participation of workers in ensuring safe working conditions.
 - iv) arrange for periodic safety inspections by competent persons of all buildings, plant, equipment, tools, machinery, workplaces and review of systems of work, regulations, standards or codes of practice. The competent person should examine and ascertain the safety of construction machinery and equipment.
 - v) provide such supervision to ensure that workers perform their work with due regard to safety and health of theirs as well as that of others.
 - vi) Employ only those workers who are qualified, trained and suited by their age, physique, state of health and skill.
 - vii) satisfy themselves that all workers are informed and instructed in the hazards connected with their work and environment and trained in the precautions necessary to avoid accidents and injury to health.
 - viii) Ensure that buildings, plant, equipment, tools, machinery or workplaces in which a dangerous defect has been found should not be used until the defect has been rectified.

- ix) Organise for and remain always prepared to take immediate steps to stop the operation and evacuate workers as appropriate, where there is an imminent danger to the safety of workers.
- x) establish a checking system by which it can be ascertained that all the members of a shift, including operators of mobile equipment, have returned to the camp or base at the close of work on dispersed sites and where small groups of workers operate in isolation.
- xi) provide appropriate first aid, training and welfare facilities to workers as per various statutes like the Factories Act, 1948 etc. and, whenever collective measures are not feasible or are insufficient, provide and maintain personal protective equipment and clothing in line with the requirement as per OISD-STD-155 (Vol. I & II) on Personnel Protective Equipment. They should also provide access to workers to occupational health services.
- xii) Educate workers about their right and the duty at any workplace to participate in ensuring safe working conditions to the extent of their control over the equipment and methods of work and to express views on working procedures adopted as may affect safety and health.
- xiii) Ensure that except in an emergency, workers, unless duly authorised, should not interfere with, remove, alter or displace any safety device or other appliance furnished for their protection or the protection of others, or interfere with any method or process adopted with a view to avoiding accidents and injury to health.
- xiv) Ensure that workers do not operate or interfere with plant and equipment that they have not been duly authorised to operate, maintain or use.
- xv) Ensure that workers do not sleep, rest or cook etc in dangerous places such as scaffolds, railway tracks, garages, confined spaces or in the vicinity of fires, dangerous or toxic substances, running machines or vehicles and heavy equipment etc.
- xvii) Obtain the necessary clearance/permits as required and specified by INDEPENDENT ENGINEER
- xviii) As per the Govt. circular as amended from time to time all contractors who employ more than 50 workers or where the contract value exceeds Rs. 50 crores, the following facilities are to be provided by contractor at site :
- Arrangement for drinking water
 - Toilet facilities
 - A creche where 10 or more women workers are having children below the age of 6 years
 - Transport arrangement for attending to emergencies
- xix) should deploy a safety officer at site
- 4.2 GENERAL DUTIES OF INDEPENDENT ENGINEERS**
- 4.2.1 INDEPENDENT ENGINEERS should:
- i) co-ordinate or nominate a competent person to co-ordinate all activities relating to safety and health on their construction projects;
 - ii) inform all contractors on the project of special risks to health and safety;
 - iii) Ensure that executing agency is aware of the INDEPENDENT ENGINEER's requirements and the executing agency's responsibilities with respect to safety practices before starting the job.
- 5.0 SAFETY PRACTICES AT WORK PLACES**
- 5.1. GENERAL PROVISIONS**
- 5.1.1 All openings and other areas likely to pose danger to workers should be clearly indicated.
- 5.1.2 Workers & Supervisors should use the safety helmet and other requisite Personal Protective Equipment according to job & site requirement. They should be trained to use personal protective equipment.
- 5.1.3 Never use solvents, alkalis and other oils to clean the skin.
- 5.1.4 Lift the load with back straight and knees bent as far as possible. Seek the help in case of heavy load.

- 5.1.5 Ensure the usage of correct and tested tools and tackles. Don't allow the make shift tools and tackles.
- 5.1.6 No loose clothing should be allowed while working near rotating equipment or working at heights.
- 5.2 MEANS OF ACCESS AND EGRESS**
- Adequate and safe means of access (atleast two, differently located) to and egress from all workplaces should be provided. Same should be displayed and maintained.
- 5.3 HOUSEKEEPING**
- 5.3.1 Ensure:
- i) proper storage of materials and equipment;
 - ii) removal of scrap, inflammable material, waste and debris at appropriate intervals.
- 5.3.2 Removal of loose materials, which are not required for use, to be ensured. Accumulation of these at the site can obstruct means of access to and egress from workplaces and passageways.
- 5.3.3 Workplaces and passageways, that are slippery owing to oil, grease or other causes, should be cleaned up or strewn with sand, sawdust, ash etc.
- 5.4 PRECAUTIONS AGAINST THE FALL OF MATERIALS & PERSONS AND COLLAPSE OF STRUCTURES**
- 5.4.1 Precautions should be taken such as the provision of fencing, look-out men or barriers to protect any person against injury by the fall of materials, or tools or equipment being raised or lowered.
- 5.4.2 Where necessary to prevent danger, guys, stays or supports should be used or other effective precautions should be taken to prevent the collapse of structures or parts of structures that are being erected, maintained, repaired, dismantled or demolished.
- 5.4.3 All openings through which workers are liable to fall should be kept effectively covered or fenced and displayed prominently.
- 5.4.4 As far as practicable, guardrails and toe-boards should be provided to protect workers from falling from elevated workplaces.
- 5.5 PREVENTION OF UNAUTHORISED ENTRY**
- 5.5.1 Construction sites located in built-up areas and alongside vehicular and pedestrian traffic routes should be fenced to prevent the entry of unauthorised persons.
- 5.5.2 Visitors should not be allowed access to construction sites unless accompanied by or authorised by a competent person and provided with the appropriate protective equipment.
- 5.6 FIRE PREVENTION AND FIRE FIGHTING**
- 5.6.1** All necessary measures should be taken by the executing agency and INDEPENDENT ENGINEER to:
- i) avoid the risk of fire;
 - ii) control quickly and efficiently any outbreak of fire;
 - iii) bring out a quick and safe evacuation of persons.
 - iv) Inform unit/fire station control room, where construction work is carried out within existing operating area.
- 5.6.2** Combustible materials such as packing materials, sawdust, greasy/oily waste and scrap wood or plastics should not be allowed to accumulate in workplaces but should be kept in closed metal containers in a safe place.
- 5.6.3** Places where workers are employed should, if necessary to prevent the danger of fire, be provided with:
- i) suitable and sufficient fire-extinguishing equipment, which should be easily visible and accessible;
 - ii) an adequate water supply at sufficient pressure meeting the requirements of various OISD standards.
- 5.6.4** To guard against danger at places having combustible material,

- workers should be trained in the action to be taken in the event of fire, including the use of means of escape.
- 5.6.5** At sites having combustible material, suitable visual signs should be provided to indicate clearly the direction of escape in case of fire.
- 5.6.6** Means of escape should be kept clear at all times. Escape routes should be frequently inspected particularly in high structures and where access is restricted.
- 5.7 LIGHTING**
- 5.7.1** Where natural lighting is not adequate, working light fittings or portable hand-lamps should be provided at workplace on the construction site where a worker will do a job.
- 5.7.2** Emergency lighting should be provided for personnel safety during night time to facilitate standby lighting source, if normal system fails.
- 5.7.2** Artificial lighting should not produce glare or disturbing shadows.
- 5.7.3** Lamps should be protected by guards against accidental breakage.
- 5.7.4** The cables of portable electrical lighting equipment should be of adequate size & characteristics for the power requirements and of adequate mechanical strength to withstand severe conditions in construction operations.
- 5.8 PLANT, MACHINERY, EQUIPMENT AND HAND TOOLS**
- 5.8.1 General Provisions**
- i) Plant, machinery and equipment including hand tools, both manual and power driven, should:
- a) be of proper design and construction, taking into account health, Safety and ergonomic principles.
- b) be maintained in good working order;
- c) be used only for work for which they have been designed.
- d) be operated only by workers who have been authorised and given appropriate training.
- e) be provided with protective guards, shields or other devices as required.
- ii) Adequate instructions for safe use should be provided.
- iii) Safe operating procedures should be established and used for all plant, machinery and equipment.
- iv) Operators of plant, machinery and equipment should not be distracted while work is in progress.
- v) Plant, machinery and equipment should be switched off when not in use and isolated before any adjustment, clearing or maintenance is done.
- vi) Where trailing cables or hose pipes are used they should be kept as short as practicable and not allowed to create a hazard.
- vii) All moving parts of machinery and equipment should be enclosed or adequately guarded.
- viii) Every power-driven machine and equipment should be provided with adequate means, immediately accessible and readily identifiable to the operator, of stopping it quickly and preventing it from being started again inadvertently.
- ix) Operators of plant, machinery, equipment and tools should be provided with PPEs, including where necessary, suitable ear protection.
- 5.8.2 Hand tools**
- i) Hand tools should be repaired by competent persons.
- ii) Heads of hammers and other shock tools should be dressed or ground to a suitable radius on the edge as soon as they begin to mushroom or crack.
- iii) When not in use and while being carried or transported sharp tools should be kept in sheaths, shields, chests or other suitable containers.
- iv) Only insulated or nonconducting tools should be used on or near live electrical installations.

- v) Only non-sparking tools should be used near or in the presence of flammable or explosive dusts or vapours.

5.8.3 Pneumatic Tools

- i) Operating triggers on portable pneumatic tools should be:
 - a) so placed as to minimise the risk of accidental starting of the machine.
 - b) so arranged as to close the air inlet valve automatically when the pressure of the operator's hand is removed.
- ii) Hose and hose connections for compressed air supply to portable pneumatic tools should be:
 - a) designed and tested for the pressure and service for which they are intended;
 - b) fastened securely on the pipe outlet and equipped with the safety chain, as appropriate.
- iii) Pneumatic shock tools should be equipped with safety clips or retainers to prevent dies and tools from being accidentally expelled from the barrel.
- iv) Pneumatic tools should be disconnected from power and the pressure in hose lines released before any adjustment or repair is made.

5.8.4 Electrical Tools

- i) Low voltage portable electrical tools should generally be used.
- ii) All electrical tools should be earthed, unless they are "all insulated" or "double insulated" tools which do not require earthing.
- iii) All electrical tools should get inspected and maintained on a regular basis by a competent electrician and complete records kept.

5.8.5 Engines

- i) Engines should:
 - a) be installed so that they can be started safely and the maximum safe speed cannot be exceeded.
 - b) have controls for limiting speed.

- c) have devices to stop them from a safe place in an emergency.
- ii) IC engines should not be run in confined spaces unless adequate exhaust ventilation is provided.
- iii) When IC engines are being fuelled:
 - a) the engine should be shut off.
 - b) care should be taken to avoid spilling fuel;
 - c) no person should smoke or have an naked light in the vicinity.
 - d) a fire extinguisher should be kept readily available.
- iv) Secondary fuel reservoir should be placed outside the engine room.

6.0 CONSTRUCTION ACTIVITIES

The various common activities in construction are as under:

- Excavation
- Scaffolding, Platforms & Ladders
- Structural Work, Laying of Reinforcement & Concreting
- Road Work (Laying of roads)
- Cutting /Welding
- Working in Confined Space
- Proof/Pressure Testing
- Working at Heights
- Handling & Lifting Equipments
- Vehicle Movement
- Electrical
- Offshore
- Demolition
- Radiography
- Sand/shot blasting/ spray painting
- Work above water

The safe practices to be followed during the implementation of above construction activities are given below:

6.1 EXCAVATION

- 6.1.1 All excavation work should be planned and the method of excavation and the type of support

work required should be decided considering the following:

- i) the stability of the ground;
 - ii) the excavation will not affect adjoining buildings, structures or roadways;
 - iii) to prevent hazard, the gas, water, electrical and other public utilities should be shut off or disconnected, if necessary;
 - iv) presence of underground pipes, cable conductors, etc.,
 - v) the position of culvert/bridges, temporary roads and spoil heaps should be determined;
- 6.1.2 Before digging begins on site, all excavation work should be planned and the method of excavation and the type of support work required decided.
- 6.1.3 All excavation work should be supervised.
- 6.1.4 Sites of excavations should be thoroughly inspected:
- i) daily, prior to each shift and after interruption in work of more than one day;
 - ii) after every blasting operation;
 - iii) after an unexpected fall of ground;
 - iv) after substantial damage to supports;
 - v) after a heavy rain, frost or snow;
 - vi) when boulder formations are encountered.
- 6.1.5 Safe angle of repose while excavating trenches exceeding 1.5m depth upto 3.0m should be maintained. Based on site conditions, provide proper slope, usually 45°, and suitable bench of 0.5m width at every 1.5m depth of excavation in all soils except hard rock or provide proper shoring and strutting to prevent cave-in or slides.
- 6.1.6 As far as possible, excavated earth should not be placed within one meter of the edge of the trench or depth of trench whichever is greater.
- 6.1.7 Don't allow vehicles to operate too close to excavated area. Maintain atleast 2m distance from edge of excavation. No load, plant or equipment should be placed or moved near the edge of any excavation where it is likely to cause

its collapse and thereby endanger any person unless precautions such as the provision of shoring or piling are taken to prevent the sides from collapsing.

- 6.1.8 Adequately anchored stop blocks and barriers should be provided to prevent vehicles being driven into the excavation. Heavy vehicles should not be allowed near the excavation unless the support work has been specially designed to permit it.
- 6.1.9 If an excavation is likely to affect the security of a structure on which persons are working, precautions should be taken to protect the structure from collapse.
- 6.1.10 Barricade at 1m height (with red & white band/self glowing caution board) should be provided for excavations beyond 1.5m depth. Provide two entries/exits for such excavation.
- 6.1.11 Necessary precautions should be taken for underground utility lines like cables, sewers etc. and necessary approvals/clearances from the concerned authorities shall be obtained before commencement of the excavation job.
- 6.1.12 Water shall be pumped/bailed out, if any accumulates in the trench. Necessary precautions should be taken to prevent entry of surface water in trenches.
- 6.1.13 During rains, the soil becomes loose. Take additional precaution against collapse of side wall.
- 6.1.14 In hazardous areas, air should be tested to ascertain its quality. No one should be allowed entry till it is suitable for breathing.
- 6.1.15 In case of mechanised excavation, precaution shall be taken to not to allow anybody to come within one meter of extreme reach of the mechanical shovel. The mechanised excavator shall be operated by a well-trained experienced operator. When not in operation, the machine shall be kept on firm leveled ground with mechanical shovel resting on ground. Wheel or belt shall be suitably jammed to prevent any accidental movement of the

machine. Suitable precautions as per manufacturer guidelines should be taken for dozers, graders and other heavy machines.

- 6.1.16 In case of blasting, follow strictly IS:4081-1986 & Indian Explosive Act and rules for storage, handling and carrying of explosive materials and execution of blasting operation.

6.2 SCAFFOLDING, PLATFORMS & LADDERS

6.2.1 Metal as material of construction

- i) A scaffold should be provided and maintained or other equally safe and suitable provision should be made where work cannot safely be done on or from the ground or from part of a building or other permanent structure.
- ii) Scaffolds should be provided with safe means of access, such as stairs, ladders or ramps. Ladders should be secured against inadvertent movement.
- iii) Every scaffold should be constructed, erected and maintained so as to prevent collapse or accidental displacement when in use.
- iv) Every scaffold and part thereof should be constructed :
 - (a) in such a way so as not to cause hazards for workers during erection and dismantling;
 - (b) in such a way so as guard rails and other protective devices, platforms, ladders, stairs or ramps can be easily put together;
 - (c) with sound material and of requisite size and strength for the purpose for which it is to be used and maintained in a proper condition.
- v) Boards and planks used for scaffolds should be protected against splitting.
- vi) Materials used in the construction of scaffolds should be stored under good conditions and apart from any material unsuitable for scaffolds.
- vii) Couplers should not cause deformation in tubes. Couplers should be made of drop forged steel or equivalent material.
- viii) Tubes should be free from cracks, splits and excessive corrosion and be straight to the eye, and tube ends cut cleanly square with the tube axis.
- ix) Scaffolds should be designed for their maximum load as per relevant code.
- x) Scaffolds should be adequately braced.
- xi) Scaffolds which are not designed to be independent should be rigidly connected to the building at designated vertical and horizontal places.
- xii) A scaffold should never extend above the highest anchorage to an extent which might endanger its stability and strength.
- xiii) Loose bricks, drainpipes, chimney-pots or other unsuitable material should not be used for the construction or support of any part of a scaffold.
- xiv) Scaffolds should be inspected and certified:
 - (a) before being taken into use;
 - (b) at periodic intervals thereafter as prescribed for different types of scaffolds;
 - (c) after any alteration, interruption in use, exposure to weather or seismic conditions or any other occurrence likely to have affected their strength or stability.
- xv) Inspection should more particularly ascertain that:
 - (a) the scaffold is of suitable type and adequate for the job;
 - (b) materials used in its construction are sound and of sufficient strength;
 - (c) it is of sound construction and stable;
 - (d) that the required safeguards are in position.
- xvi) A scaffold should not be erected, substantially altered or dismantled except by or under the supervision.
- xvii) Every scaffold should be maintained in good and proper condition, and every part should be kept fixed or secured so that no part can be

displaced in consequence of normal use.

- xviii) If out-rigger scaffolding is to be used, it should be specifically designed and inspected before putting in use.

6.2.2 Lifting appliances on scaffolds

- i) When a lifting appliance is to be used on a scaffold:
 - (a) the parts of the scaffold should be carefully inspected to determine the additional strengthening and other safety measures required;
 - (b) any movement of the scaffold members should be prevented;
 - (c) if practicable, the uprights should be rigidly connected to a solid part of the building at the place where the lifting appliance is erected.

6.2.3 Prefabricated scaffolds

- i) In the case of prefabricated scaffold systems, the instructions provided by the manufacturers or suppliers should be strictly adhered to. Prefabricated scaffolds should have adequate arrangements for fixing bracing.
- ii) Frames of different types should not be intermingled in a single scaffold.
- iii) Scaffolding shall be erected on firm and level ground.
- iv) All members of metal scaffolding shall be checked periodically to screen out defective / rusted members. All joints should be properly lubricated for easy tightening.
- v) Entry to scaffolding should be restricted.
- vi) Erection, alteration and removal shall be done under supervision of experienced personnel.
- vii) Use of barrels, boxes, loose bricks etc., for supporting platform shall not be permitted.
- viii) Each supporting member of platform shall be securely fastened and braced
- ix) Where planks are butt-joined, two parallel putlogs shall be used, not

more than 100mm apart, to give support to each plank.

- x) Platform plank shall not project beyond its end support to a distance exceeding 4 times the thickness of plank, unless it is effectively secured to prevent tipping. Cantilever planks should be avoided.
- xi) The platform edges shall be provided with 150mm high toe board to eliminate hazards of tools or other objects falling from platform.
- xii) Erect ladders in the "four up-one out position"
- xiii) Lash ladder securely with the structure.
- xiv) Using non-slip devices, such as, rubber shoes or pointed steel ferules at the ladder foot, rubber wheels at ladder top, fixing wooden battens, cleats etc.
- xv) When ladder is used for climbing over a platform, the ladder must be of sufficient length, to extend at least one meter above the platform, when erected against the platform in "four up-one out position."
- xvi) Portable ladders shall be used for heights not more than 4m. Above 4m flights, fixed ladders shall be provided with at least 600 mm landings at every 6m or less.
- xvii) The width of ladder shall not be less than 300mm and rungs shall be spaced not more than 300mm.
- xviii) Every platform and means of access shall be kept free from obstruction.
- xix) If grease, mud, gravel, mortar etc., fall on platform or scaffolds, these shall be removed immediately to avoid slippage.
- xx) Workers shall not be allowed to work on scaffolds during storms or high wind. After heavy rain or storms, scaffolds shall be inspected before reuse.
- xxi) Don't overload the scaffolding. Remove excess material and scrap immediately.
- xxii) Dismantling of scaffolds shall be done in a pre-planned sequential manner.

6.2.4 Suspended scaffolds/boatwain's chair

- i) In addition to the requirements for scaffolds in general as regards soundness, stability and protection against the risk of falls, suspended scaffolds should meet the following specific requirements.
 - (a) platforms should be designed and built with dimensions that are compatible with the stability of the structure as a whole, especially the length;
 - (b) the number or anchorage should be compatible with the dimensions of the platform;
 - (c) the safety of workers should be safeguarded by an extra rope having a point of attachment independent of the anchorage arrangements of the scaffold;
 - (d) the anchorage and other elements of support of the scaffold should be designed and built in such a way as to ensure sufficient strength;
 - (e) the ropes, winches, pulleys or pulley blocks should be designed, assembled, used and maintained according to the requirements established for lifting gear adapted to the lifting of persons according to national laws and regulations;
 - (f) Before use, the whole structure should be checked by a competent person.

6.2.5 Bamboo Scaffolding

- i) In general, it should be avoided as far as possible. It should not be used in the unit/off-site areas and where hot work is to be done.
- ii) For construction and maintenance of residential and office buildings, situated outside explosive licensed area, bamboo scaffold, if used, should conform to provisions given in IS-3696 (Part 1)-1987.

6.3 STRUCTURAL WORK, LAYING OF REINFORCEMENT & CONCRETING

6.3.1 General provisions

- i) The erection or dismantling of buildings, structures, civil

engineering works, formwork, falsework and shoring should be carried out by trained workers only under the supervision of a competent person.

- ii) Precautions should be taken to guard against danger to workers arising from any temporary state of weakness or instability of a structure.
- iii) Formwork, falsework and shoring should be so designed, constructed and maintained that it will safely support all loads that may be imposed on it.
- iv) Formwork should be so designed and erected that working platforms, means of access, bracing and means of handling and stabilising are easily fixed to the formwork structure.

6.3.2 Erection and dismantling of steel and prefabricated structures

- i) The safety of workers employed on the erection and dismantling of steel and prefabricated structures should be ensured by appropriate means, such as provision and use of:
 - (a) ladders, gangways or fixed platforms;
 - (b) platforms, buckets, boatswain's chairs or other appropriate means suspended from lifting appliances;
 - (c) safety harnesses and lifelines, catch nets or catch platforms;
 - (d) Power-operated mobile working platforms.
- ii) Steel and prefabricated structures should be so designed and made that they can be safely transported and erected.
- iii) In addition to the need for the stability of the part when erected, the design should explicitly take following into account:
 - (a) the conditions and methods of attachment in the operations of transport, storing and temporary support during erection or dismantling as applicable;
 - (b) Methods for the provision of safeguards such as railings and working platforms, and, when necessary, for mounting them

- easily on the structural steel or prefabricated parts.
- iv) The hooks and other devices built in or provided on the structural steel or prefabricated parts that are required for lifting and transporting them should be so shaped, dimensioned and positioned as:
 - (a) to withstand with a sufficient margin the stresses to which they are subjected;
 - (b) Not to set up stresses in the part that could cause failures, or stresses in the structure itself not provided for in the plans, and be designed to permit easy release from the lifting appliance. Lifting points for floor and staircase units should be located (recessed if necessary) so that they do not protrude above the surface;
 - (c) To avoid imbalance or distortion of the lifted load.
 - v) Storeplaces should be so constructed that:
 - (a) there is no risk of structural steel or prefabricated parts falling or overturning;
 - (b) storage conditions generally ensure stability and avoid damage having regard to the method of storage and atmospheric conditions;
 - (c) racks are set on firm ground and designed so that units cannot move accidentally.
 - vi) While they are being stored, transported, raised or set down, structural steel or prefabricated parts should not be subjected to stresses prejudicial to their stability.
 - vii) Every lifting appliance should:
 - (a) be suitable for the operations and not be capable of accidental disconnection;
 - (b) be approved or tested as per statutory requirement.
 - viii) Lifting hooks should be of the self-closing type or of a safety type and should have the maximum permissible load marked on them.
 - ix) Tongs, clamps and other appliances for lifting structural steel and prefabricated parts should:
 - (a) be of such shape and dimensions as to ensure a secure grip without damaging the part;
 - (b) be marked with the maximum permissible load in the most unfavourable lifting conditions.
 - x) Structural steel or prefabricated parts should be lifted by methods or appliances that prevent them from spinning accidentally.
 - xi) When necessary to prevent danger, before they are raised from the ground, structural steel or prefabricated parts should be provided with safety devices such as railings and working platforms to prevent falls of persons.
 - xii) While structural steel or prefabricated parts are being erected, the workers should be provided with appliances for guiding them as they are being lifted and set down, so as to avoid crushing of hands and to facilitate the operations. Use of such appliances should be ensured.
 - xiii) A raised structural steel or prefabricated part should be so secured and wall units so propped that their stability cannot be imperiled, even by external agencies such as wind and passing loads before its release from the lifting appliance.
 - xiv) At work places, instruction should be given to the workers on the methods, arrangements and means required for the storage, transport, lifting and erection of structural steel or prefabricated parts, and, before erection starts, a meeting of all those responsible should be held to discuss and confirm the requirements for safe erection.
 - xv) During transportation within the construction area, attachments such as slings and stirrups mounted on structural steel or prefabricated parts should be securely fastened to the parts.
 - xvi) Structural steel or prefabricated parts should be so transported that the conditions do not affect the stability of the parts or the means of transport result in jolting, vibration or stresses due to blows, or loads of material or persons.

- xvii) When the method of erection does not permit the provision of other means of protection against fall of persons, the workplaces should be protected by guardrails, and if appropriate by toe-boards.
- xviii) When adverse weather conditions such as snow, ice and wind or reduced visibility entail risks of accidents, the work should be carried on with particular care, or, if necessary, interrupted.
- xix) Structures should not be worked on during violent storms or high winds, or when they are covered with ice or snow, or are slippery from other causes.
- xx) If necessary, to prevent danger, structural steel parts should be equipped with attachments for suspended scaffolds, lifelines or safety harnesses and other means of protection.
- xxi) The risks of falling, to which workers moving on high or sloping girders are exposed, should be limited by all means of adequate collective protection or, where this is impossible, by the use of a safety harness that is well secured to a strong support.
- xxii) Structural steel parts that are to be erected at a great height should as far as practicable be assembled on the ground.
- xxiii) When structural steel or prefabricated parts are being erected, a sufficiently extended area underneath the workplace should be barricaded or guarded
- xxiv) Steel trusses that are being erected should be adequately shored, braced or guyed until they are permanently secured in position.
- xxv) Load-bearing structural member should not be dangerously weakened by cutting, holing or other means.
- xxvi) Structural members should not be forced into place by the hoisting machine while any worker is in such a position that he could be injured by the operation.
- xxvii) Open-web steel joists that are hoisted singly should be directly

placed in position and secured against dislodgment.

6.3.3 Reinforcement

- i) Ensure that workers use Personnel Protective equipment like safety helmet, safety shoes, gloves etc.
- ii) Don't place the hand below the rods for checking clear distance. Use measuring devices.
- iii) Don't wear loose clothes while checking the rods.
- iv) Don't stand unnecessarily on cantilever rods.
- v) To carry out welding/cutting of rods, safety procedures/precautions as mentioned in Item No. 6.5 to be followed.
- vi) For supplying of rods at heights, proper staging and/or bundling to be provided.
- vii) Ensure barricading and staging for supplying and fixing of rods at height.
- viii) For short distance carrying of materials on shoulders, suitable pads to be provided.
- ix) While transporting material by trucks/trailers, the rods shall not protrude in front of or by the sides of driver's cabin. In case such protrusion cannot be avoided behind the deck, then it should not extend 1/3rd of deck length or 1.5M whichever is less and tied with red flags/lights.

6.3.4 Concreting

- i) Ensure stability of shuttering work before allowing concreting.
- ii) Barricade the concreting area while pouring at height/depths.
- iii) Keep vibrator hoses, pumping concrete accessories in healthy conditions and mechanically locked.
- iv) Pipelines in concrete pumping system shall not be attached to temporary structures such as scaffolds and formwork support as the forces and movements may affect their integrity.

- v) Check safety cages & guards around moving motors/parts etc. provided in concreting mixers.
 - vi) Use Personal Protective Equipment like gloves, safety shoes etc. while dealing with concrete and wear respirators for dealing with cement.
 - vii) Earthing of electrical mixers, vibrators, etc. should be done and verified.
 - viii) Cleaning of rotating drums of concrete mixers shall be done from outside. Lockout devices shall be provided where workers need to enter.
 - ix) Where concrete mixers are driven by internal combustion engine, exhaust points shall be located away from the worker's workstation so as to eliminate their exposure to obnoxious fumes.
 - x) Don't allow unauthorised person to stand under the concreting area.
 - xi) Ensure adequate lighting arrangements for carrying out concrete work during night.
 - xii) Don't allow the same workers to pour concrete round the clock. Insist on shift pattern.
 - xiii) During pouring, shuttering and its supports should be continuously watched for defects.
- 6.4 ROAD WORK**
- 6.4.1 Site shall be barricaded and provided with warning signs, including night warning lamps at appropriate locations for traffic diversion.
 - 6.4.2 Filled and empty bitumen drums shall be stacked separately at designated places.
 - 6.4.3 Mixing aggregate with bitumen shall preferably be done with the help of bitumen batch mixing plant, unless operationally non-feasible.
 - 6.4.4 Road rollers, Bitumen sprayers, Pavement finishers shall be driven by experienced drivers with valid driving license.
 - 6.4.5 Workers handling hot bitumen sprayers or spreading bitumen aggregate mix or mixing bitumen with aggregate, shall be provided with PVC hand gloves and rubber shoes with legging up to knee joints.
- 6.4.6 At the end of day's work, surplus hot bitumen in tar boiler shall be properly covered by a metal sheet, to prevent anything falling in it,
 - 6.4.7 If bitumen accidentally falls on ground, it shall be immediately covered by sprinkling sand, to prevent anybody stepping on it. Then it shall be removed with the help of spade.
 - 6.4.8 For cement concrete roads, besides site barricading and installation of warning signs for traffic diversion, safe practices mentioned in the chapter on "Concreting", shall also be applicable.
- 6.5 CUTTING/WELDING**
- 6.5.1 Common hazards involved in welding/cutting are sparks, molten metal, flying particles, harmful light rays, electric shocks etc. Following precautions should be taken: -
 - i) A dry chemical type fire extinguisher shall be made available in the work area.
 - ii) Adequate ventilation shall be ensured by opening manholes and fixing a shield or forced circulation of air etc, while doing a job in confined space.
 - iii) Ensure that only approved and well-maintained apparatus, such as torches, manifolds, regulators or pressure reducing valves, and acetylene generators, be used.
 - iv) All covers and panels shall be kept in place, when operating an electric Arc welding machine.
 - v) The work piece should be connected directly to Power supply, and not indirectly through pipelines/structures/equipments etc.
 - vi) The welding receptacles shall be rated for 63 A suitable for 415V, 3- Phase system with a scraping earth. Receptacles shall have necessary mechanical interlocks and earthing facilities.
 - vii) All cables, including welding and ground cables, shall be checked for

- any worn out or cracked insulation before starting the job. Ground cable should be separate without any loose joints.
- viii) Cable coiling shall be maintained at minimum level, if not avoidable.
 - ix) An energised electrode shall not be left unattended.
 - x) The power source shall be turned off at the end of job.
 - xi) All gas cylinders shall be properly secured in upright position.
 - xii) Acetylene cylinder shall be turned and kept in such a way that the valve outlet points away from oxygen cylinder.
 - xiii) Acetylene cylinder key for opening valve shall be kept on valve stem, while cylinder is in use, so that the acetylene cylinder could be quickly turned off in case of emergency. Use flash back arrestors to prevent back-fire in acetylene/oxygen cylinder.
 - xiv) When not in use, valves of all cylinders shall be kept closed.
 - xv) All types of cylinders, whether full or empty, shall be stored at cool, dry place under shed.
 - xvi) Forced opening of any cylinder valve should not be attempted.
 - xvii) Lighted gas torch shall never be left unattended.
 - xviii) Store acetylene and oxygen cylinders separately.
 - xix) Store full and empty cylinders separately.
 - xx) Avoid cylinders coming into contact with heat.
 - xxi) Cylinders that are heavy or difficult to carry by hand may be rolled on their bottom edge but never dragged.
 - xxii) If cylinders have to be moved, ensure that the cylinder valves are shut off.
 - xxiii) Before changing torches, shut off the gas at the pressure reducing regulators and not by crimping the hose.
 - xxiv) Do not use matches to light torches, use a friction lighter.
 - xxv) Move out any leaking cylinder immediately.
 - xxvi) Use trolleys for oxygen & acetylene cylinder and chain them.
 - xxvii) Always use Red hose for acetylene and other fuel gases and Black for oxygen, and ensure that both are in equal length.
 - xxviii) Ensure that hoses are free from burns, cuts and cracks and properly clamped.
 - xxix) Avoid dragging hoses over sharp edges and objects
 - xxx) Do not wrap hoses around cylinders when in use or stored.
 - xxxi) Protect hoses from flying sparks, hot slag, and other hot objects.
 - xxxii) Lubricants shall not be used on Ox-fuel gas equipment.
 - xxxiii) During cutting/welding, use proper type goggles/face shields.
- ## 6.6 WORKING IN CONFINED SPACES
- ### 6.6.1
- Following safety practices for working in confined space like towers, columns, tanks and other vessels should be followed in addition to the safety guidelines for specific jobs like scaffolding, cutting/welding etc.
- i) Shut down, isolate, depressurise and purge the vessel as per laid down procedures.
 - ii) Entry inside the vessel and to carry out any job should be done after issuance of valid permit only in line with the requirement of OISD-STD- 105.
 - iii) Ensure proper and accessible means of exit before entry inside a confined space.
 - iv) The number of persons allowed inside the vessel should be limited to avoid overcrowding.
 - v) When the work is going on in the confined space, there should always be one man standby at the nearby manway.

- vi) Before entering inside the vessels underground or located at lower elevation, probability of dense vapours accumulating nearby should also be considered in addition to inside the vessel.
 - vii) Ensure requisite O₂ level before entry in the confined space and monitor level periodically or other wise use respiratory devices.
 - viii) Check for no Hydrocarbon or toxic substances before entry and monitor level periodically or use requisite Personal Protective Equipment.
 - ix) Ensure adequate ventilation or use respiratory devices.
 - x) Depending upon need, necessary respirator system, gas masks and suit shall be worn by everyone entering confined space. In case of sewer, OWS or in the confined area where there is a possibility of toxic or inert gas, gas masks shall be used by everyone while entering.
 - xi) Barricade the confined spaces during hoisting, radiography, blasting, pressure testing etc.
 - xii) Use 24V flameproof lamp fittings only for illumination.
 - xiii) Use tools with air motors or electric tools with maximum voltage of 24V.
 - xiv) House keeping shall be well maintained.
 - xv) Safety helmet, safety shoes and safety belt shall be worn by everyone entering the confined space.
 - xvi) Don't wear loose clothing while working in a confined space.
 - xvii) In case of the vessels which are likely to contain pyrophoric substances (like Iron Sulphide), special care need to be taken before opening the vessel. Attempt should be made to remove the pyrophoric substances. Otherwise, these should be always kept wet by suitable means.
 - xviii) The cutting torches should also be kept outside the vessel immediately after the cutting.
 - xix) The gas cylinders used for cutting/welding shall be kept outside.
 - xx) All cables, hoses, welding equipment etc., shall be removed from confined space at end of each work day, even if the work is to be resumed in the same space the next day.
 - xxi) To the extent possible sludge shall be cleared and removed from outside before entering.
 - xxii) No naked light or flame or hot work such as welding, cutting and soldering should be permitted inside a confined space or area unless it has been made completely free of the flammable atmosphere, tested and found safe by a competent person. Only non-sparking tools and flameproof hand lamps protected with guard and safety torches should be used inside such confined space or area for initial inspection, cleaning or other work required to be done for making the area safe.
 - xxiii) Communication should be always maintained between the worker and the attendant.
- 6.7 PROOF/PRESSURE TESTING**
- 6.7.1 Review test procedure before allowing testing with water or air or any other fluid.
 - 6.7.2 Provide relief valves of adequate size while testing with air or other gases.
 - 6.7.3 Ensure compliance of necessary precautions, step wise loading, tightening of fasteners, grouting etc. before and during testing.
 - 6.7.4 Inform all concerned in advance of the testing.
 - 6.7.5 Keep the vents open before opening any valve for filling/drainage of liquid used for hydrotesting. The filling/drainage should not exceed the designed rate for pressure testing.
 - 6.7.6 Provide separate gauges of suitable range for pressurising pump and the equipment to be tested.
 - 6.7.7 Provide gauges at designated locations for monitoring of pressures.

- 6.7.8 Check the calibration of all pressurising equipment and accessories and maintain records.
- 6.7.9 Take readings at pre-defined intervals.
- 6.8 WORKING AT HEIGHTS**
- 6.8.1 General Provision**
- i) While working at a height of more than 3 meters, ISI approved safety belt shall be used.
 - ii) While working at a height of more than 3 meters, permit should be issued by competent person before commencement of the job.
 - iii) Worker should be well trained on usage of safety belt including its proper usage at the time of ascending/descending.
 - iv) All tools should be carried in tool kit to avoid their falling.
 - v) If the job is on fragile/sloping roof, roof walk ladders shall be used.
 - vi) Provide lifeline wherever required.
 - vii) Additional safety measures like providing Fall Arrestor type Safety belt, safety net should be provided depending upon site conditions, job requirements.
 - viii) Keep working area neat and clean. Remove scrap material immediately.
 - ix) Don't throw or drop material/equipment from height.
 - x) Avoid jumping from one member to another. Use proper passageway.
 - xi) Keep both hands free while climbing. Don't try to bypass the steps of the ladder.
 - xii) Try to maintain calm at height. Avoid over exertion.
 - xiii) Avoid movements on beam.
 - xiv) Elevated workplaces including roofs should be provided with safe means of access and egress such as stairs, ramps or ladders.
- 6.8.2 Roof Work**
- i) All roof-work operations should be pre-planned and properly supervised.
 - ii) Roof work should only be undertaken by workers who are physically and psychologically fit and have the necessary knowledge and experience for such work.
 - iii) Work on roofs shouldn't be carried on in weather conditions that threaten the safety of workers.
 - iv) Crawling boards, walkways and roof ladders should be securely fastened to a firm structure.
 - v) Roofing brackets should fit the slope of the roof and be securely supported.
 - vi) Where it is necessary for a person to kneel or crouch near the edge of the roof, necessary precautions should be taken.
 - vii) On a large roof where work has to be carried out at or near the edge, a simple barrier consisting of crossed scaffold tubes supporting a tubing guardrail may be provided.
 - viii) All covers for openings in roofs should be of substantial construction and be secured in position.
 - ix) Roofs with a pitch of more than 10 should be treated as sloping.
 - x) When work is being carried out on sloping roofs, sufficient and suitable crawling boards or roof ladders should be provided and firmly secured in position.
 - xi) During extensive work on the roof, strong barriers or guardrails and toe-boards should be provided to stop a person from falling off the roof.
 - xii) Where workers are required to work on or near roofs or other places covered with fragile material, through which they are liable to fall, they should be provided with suitable roof ladders or crawling boards strong enough and when spanning across the supports for the roof covering to support those workers.
 - xiii) A minimum of two boards should be provided so that it is not necessary for a person to stand on a fragile roof to move a board or a ladder, or for any other reason.

6.8.3 Work on tall chimneys

- i) For the erection and repair of tall chimneys, scaffolding should be provided. A safety net should be maintained at a suitable distance below the scaffold.
- ii) The scaffold floor should always be at least 65 cm below the top of the chimney.
- iii) Under the working floor of the scaffolding the next lower floor should be left in position as a catch platform.
- iv) The distance between the inside edge of the scaffold and the wall of the chimney should not exceed 20 cm at any point.
- v) Catch platforms should be erected over:
 - (a) the entrance to the chimney;
 - (b) Passageways and working places where workers could be endangered by falling objects.
- vi) For climbing tall chimneys, access should be provided by:
 - (a) stairs or ladders;
 - (b) a column of iron rungs securely embedded in the chimney wall;
 - (c) Other appropriate means.
- vii) When workers use the outside rungs to climb the chimney, a securely fastened steel core rope looped at the free end and hanging down at least 3 m should be provided at the top to help the workers to climb onto the chimney.
- viii) While work is being done on independent chimneys the area surrounding the chimney should be enclosed by fencing at a safe distance.
- ix) Workers employed on the construction, alteration, maintenance or repair of tall chimneys should not:
 - a) work on the outside without a safety harness attached by a lifeline to a rung, ring or other secure anchorage;
 - b) put tools between the safety harness and the body or in pockets not intended for the purpose;

- c) haul heavy materials or equipment up and down by hand to or from the workplace on the chimney;
- d) fasten pulleys or scaffolding to reinforcing rings without first verifying their stability;
- e) work alone;
- f) climb a chimney that is not provided with securely anchored ladders or rungs;
- g) Work on chimneys in use unless the necessary precautions to avoid danger from smoke and gases have been taken.

- x) Work on independent chimneys should not be carried on in high winds, icy conditions, fog or during electrical storms.

6.9 HANDLING AND LIFTING EQUIPMENT:

6.9.1 General Provisions

Following are the general guidelines to be followed with regard to all types of handling and lifting equipment in addition to the guidelines for specific type of equipments dealt later on.

- i) There should be a well-planned safety programme to ensure that all the lifting appliances and lifting gear are selected, installed, examined, tested, maintained, operated and dismantled with a view to preventing the occurrence of any accident;
- ii) All lifting appliances shall be examined by competent persons at frequencies as specified in "The Factories act".
- iii) Check thoroughly quality, size and condition of all lifting tools like chain pulley blocks, slings, U-clamps, D-shackles etc. before putting them in use.
- iv) Safe lifting capacity of all lifting & handling equipment, tools and shackles should be got verified and certificates obtained from competent authorities before its use. The safe working load shall be marked on them.
- v) Check periodically the oil, brakes, gears, horns and tyre pressure of all moving equipments like cranes,

forklifts, trailers etc as per manufacturer's recommendations.

- vi) Check the weights to be lifted and accordingly decide about the crane capacity, boom length and angle of erection.
- vii) Allow lifting slings as short as possible and check packing at the friction points.
- viii) While lifting/placing of the load, no unauthorised person shall remain within the radius of the boom and underneath the load.
- ix) While loading, unloading and stacking of pipes, proper wedges shall be placed to prevent rolling down of the pipes.
- x) Control longer jobs being lifted up from both ends.
- xi) Only trained operators and riggers should carry out the job. While the crane is moving or lifting the load, the trained rigger should be there for keeping a vigil against hitting any other object.
- xii) During high wind conditions and nights, lifting of heavy equipments should be avoided. If unavoidable to do erection in night, operator and rigger should be fully trained for night signaling. Also proper illumination should be there.
- xiii) Allow crane to move on hard, firm and leveled ground.
- xiv) When crane is in idle condition for long periods or unattended, crane boom should either be lowered or locked as per manufacturer's guidelines.
- xv) Hook and load being lifted shall remain in full visibility of crane operators, while lifting, to the extent possible.
- xvi) Don't allow booms or other parts of crane to come within 3 meters reach of overhead electrical cables.
- xvii) No structural alterations or repairs should be made to any part of a lifting appliance, which may affect the safety of the appliance without the permission and supervision of the competent person.

6.9.2 Hoists

- i) Hoist shafts should be enclosed with rigid panels or other adequate fencing at:
 - (a) ground level on all sides;
 - (b) all other levels at all points at which access is provided;
 - (c) all points at which persons are liable to be struck by any moving part.
- ii) The enclosure of hoist shafts, except at approaches should extend where practicable at least 2m above the floor, platform or other place to which access is provided except where a lesser height is sufficient to prevent any person falling down the hoistway and there is no risk of any person coming into contact with any moving part of the hoist, but in no case should the enclosure be less than 1m in height.
- iii) The guides of hoist platforms should offer sufficient resistance to bending and, in the case of jamming by a safety catch, to buckling.
- iv) Where necessary to prevent danger, adequate covering should be provided above the top of hoist shafts to prevent material falling down them.
- v) Outdoor hoist towers should be erected on firm foundations, and securely braced, guyed and anchored.
- vi) A ladderway should extend from the bottom to the top of outdoor hoist towers, if no other ladderway exists within easy reach.
- vii) Hoisting engines should be of ample capacity to control the heaviest load that they will have to move.
- viii) Hoists should be provided with devices that stop the hoisting engine as soon as the platform reaches its highest stopping place.
- ix) Winches should be so constructed that the brake is applied when the control handle is not held in the operating position.
- x) It should not be possible to set in motion from the platform a hoist, which is not designed for the conveyance of persons.

- xi) Winches should not be fitted with pawl and ratchet gears on which the pawl must be disengaged before the platform is lowered.
 - xii) Hoist platforms should be capable of supporting the maximum load that they will have to carry with a safety factor.
 - xiii) Hoist platforms should be equipped with safety gear that will hold the platform with the maximum load if the hoisting rope breaks.
 - xiv) If workers have to enter the cage or go on the platform at landings there should be a locking arrangement preventing the cage or platform from moving while any worker is in or on it.
 - xv) On sides not used for loading and unloading, hoist platforms should be provided with toe-boards and enclosures of wire mesh or other suitable material to prevent the fall of parts of loads.
 - xvi) Where necessary to prevent danger from falling objects, hoist platforms should be provided with adequate covering.
 - xvii) Counterweights consisting of an assemblage of several parts should be made of specially constructed parts rigidly connected together.
 - xviii) Counterweights should run in guides.
 - xix) Platforms should be provided at all landings used by workers.
 - xx) Following notices should be posted up conspicuously and in very legible characters:
 - (a) on all hoists:
 - on the platform: the carrying capacity in kilograms or other appropriate standard unit of weight;
 - on the hoisting engine: the lifting capacity in kilograms or other appropriate standard unit of weight;
 - (b) on hoists authorised or certified for the conveyance of persons:
 - on the platform or cage: the maximum number of persons to be carried at one time;
 - (c) on hoists for goods only:
 - on every approach to the hoist and on the platform: prohibition of use by persons.
 - xxi) Hoists intended for the carriage of persons should be provided with a cage so constructed as to prevent any person from falling out or being trapped between the cage and any fixed part of the structure when the cage gate is shut, or from being struck by the counterbalance weight or by articles or materials tailing down the hoistway.
 - xxii) On each side in which access is provided, the cage should have a gate fitted with devices which ensure that the gate cannot be opened except when the cage is at a landing and that the gate must be closed before the cage can move away from the landing.
 - xxiii) Every gate in the enclosure of the hoist shaft which gives access from a landing place to the cage should be fitted with devices to ensure that the gate cannot be opened except when the cage is at that landing place, and that the cage cannot be moved away from that landing place until the gate is closed.
- 6.9.3 Derricks**
- Stiff-leg derricks**
- i) Derricks should be erected on a firm base capable of taking the combined weight of the crane structure and maximum rated load.
 - ii) Devices should be used to prevent masts from lifting out of their seating.
 - iii) Electrically operated derricks should be effectively earthed from the sole plate or framework.
 - iv) Counterweights should be so arranged that they do not subject the backstays, sleepers or pivots to excessive strain.
 - v) When derricks are mounted on wheels:

- a) a rigid member should be used to maintain the correct distance between the wheels;
- b) they should be equipped with struts to prevent them from dropping if a wheel breaks or the derrick is derailed.
- vi) The length of a derrick jib should not be altered without consulting the manufacturer.
- vii) The jib of a scotch derrick crane should not be erected within the backstays of the crane.

Guy derricks

- i) The restraint of the guy ropes should be ensured by fitting stirrups or anchor plates in concrete foundations.
- ii) The mast of guy derricks should be supported by six top guys spaced approximately equally.
- iii) The spread of the guys of a guy derrick crane from the mast should not be more than 45° from the horizontal.
- iv) Guy ropes of derricks should be equipped with a stretching screw or turnbuckle or other device to regulate the tension.
- v) Gudgeon pins, sheave pins and fool bearings should be lubricated frequently.
- vi) When a derrick is not in use, the boom should be anchored to prevent it from swinging.

6.9.4 Gin poles

- i) Gin poles should:
 - (a) be straight;
 - (b) consist of steel or other suitable metal;
 - (c) be adequately guyed and anchored;
 - (d) be vertical or raked slightly towards the load;
 - (e) be of adequate strength for the loads that they will be required to lift/move.
- ii) Gin poles should not be spliced and if a gin pole is composed of different elements, they should be assembled in conformity with their intrinsic material strength.

- iii) Gin poles should be fastened at their feet to prevent displacement in operation.
- iv) Gin poles, which are moved from place to place and re-erected, should not be taken into use again before the pole, lifting ropes, guys, blocks and other parts have been inspected, and the whole appliance has been tested under load.
- v) When platforms or skips are hoisted by gin poles, precautions should be taken to prevent them from spinning and to provide for proper landing.

6.9.5 Tower cranes

- i) Where tower cranes have cabs at high level, persons, capable and trained to work at heights, should only be employed as crane operators.
- ii) The characteristics of the various machines available should be considered against the operating requirements and the surroundings in which the crane will operate before a particular type of crane is selected.
- iii) Care should be taken in the assessment of wind loads both during operations and out of service. Account should also be taken of the effects of high structures on wind forces in the vicinity of the crane.
- iv) The ground on which the tower crane stands should have the requisite bearing capacity. Account should be taken of seasonal variations in ground conditions.
- v) Bases for tower cranes and tracks for rail-mounted tower cranes should be firm and level. Tower cranes should only operate on gradients within limits specified by the manufacturer. Tower cranes should only be erected at a safe distance from excavations and ditches.
- vi) Tower cranes should be sited where there is clear space available for erection, operation and dismantling. As far as possible, cranes should be sited so that loads do not have to be handled over occupied premises, over public thoroughfares, other construction works and railways or near power cables.

- vii) Where two or more tower cranes are sited in positions where their jibs could touch any part of the other crane, there should be direct means of communication between them and a distinct warning system operated from the cab so that one driver may alert the other of impending danger.
- viii) The manufacturers' instructions on the methods and sequence of erection and dismantling should be followed. The crane should be tested before being taken into use.
- ix) The climbing operation of climbing tower cranes should be carried out in accordance with manufacturers' instructions. The free-standing height of the tower crane should not extend beyond what is safe and permissible in the manufacturers' instructions.
- x) When the tower crane is left unattended, loads should be removed from the hook, the hook raised, the power switched off and the boom brought to the horizontal. For longer periods or at times when adverse weather conditions are expected, out of service procedures should be followed. The main jib should be slewed to the side of the tower away from the wind, put into free slew and the crane immobilised.
- xi) A wind speed measuring device should be provided at an elevated position on the tower crane with the indicator fitted in the drivers' cab.
- xii) Devices should be provided to prevent loads being moved to a point where the corresponding safe working load of the crane would be exceeded. Name boards or other items liable to catch the wind should not be mounted on a tower crane other than in accordance with the manufacturers' instructions.
- xiii) Tower cranes should not be used for magnet, or demolition ball service, piling operations or other duties, which could impose excessive loading on the crane structure.

6.9.6 Lifting ropes

- i) Only ropes with a known safe working capacity should be used as lifting ropes.
- ii) Lifting ropes should be installed, maintained and inspected in accordance with manufacturers' instructions.
- iii) Repaired steel ropes should not be used on hoists.
- iv) Where multiple independent ropes are used, for the purpose of stability, to lift a work platform, each rope should be capable of carrying the load independently.

6.10 VEHICLE MOVEMENT

- 6.10.1 Park vehicles only at designated places. Don't block roads to create hindrance for other vehicles.
- 6.10.2 Don't overload the vehicle.
- 6.10.3 Obey speed limits and traffic rules.
- 6.10.4 Always expect the unexpected and be a defensive driver.
- 6.10.5 Drive carefully during adverse weather and road conditions.
- 6.10.6 Read the road ahead and ride to the left.
- 6.10.7 Be extra cautious at nights. Keep wind screens clean and lights in working condition.
- 6.10.8 All vehicles used for carrying workers and construction materials must undergo predictive/preventive maintenance and daily checks
- 6.10.9 Driver with proper valid driving license shall only be allowed to drive the vehicle
- 6.10.10 Routes shall be leveled, marked and planned in such a way so as to avoid potential hazards such as overhead power lines and sloping ground etc.
- 6.10.11 While reversing the vehicles, help of another worker should be ensured at all times
- 6.10.12 An unattended vehicle should have the engine switched off
- 6.10.13 Wherever possible one-way system shall be followed
- 6.10.14 Barriers/fixed stops should be provided for excavation/openings to prevent fall of vehicle

- 6.10.15 Load should be properly secured
- 6.10.16 The body of the tipper lorry should always be lowered before driving the vehicle off.
- 6.10.17 Signs/signals/caution boards etc. should be provided on routes .

6.11 ELECTRICAL

6.11.1 General Provisions

- i) Only persons having valid licenses should be allowed to work on electrical facilities.
- ii) No person should be allowed to work on live circuit. The same, if unavoidable, special care and authorisation need to be taken.
- iii) Treat all circuits as "LIVE" unless ensured otherwise.
- iv) Electrical "Tag Out" procedure "MUST" be followed for carrying out maintenance jobs.
- v) Display voltage ratings prominently with "Danger" signs.
- vi) Put caution/notice signs before starting the repair works.
- vii) All electrical equipment operating above 250V shall have separate and distinct connections to earth grid.
- viii) Proper grounding to be ensured for all switch boards and equipment including Portable ones prior to taking into service.
- ix) Make sure that electrical switchboards, portable tools, equipments (like grinding machine etc.) don't get wet during their usage. If it happens, stop the main supply, make the tools dry and then only use them. Check proper earthing.

All temporary switch boards/ KIOSKS put up at work site should be suitably protected from rain and the level of same should be high enough to avoid contact with water due to water logging.
- x) Don't work wet on electrical system.
- xi) Don't overload the electrical system.
- xii) Use only proper rated HRC fuses.
- xiii) Industrial type extension boards and Plug sockets are only to be used.
- xiv) ELCB for all temporary connections must be provided. Use insulated 3- pin plug tops.
- xv) All power supply cables should be laid properly and neatly so that they don't cause hindrance to persons working and no physical damage also takes place to the cables during various construction activities.
- xvi) All Power cables to be properly terminated using glands and lugs of proper size and adequately crimped.
- xvii) Use spark-proof/flame proof type electrical fittings in Fire Hazard zones as per area classification under OISD-STD-113.
- xviii) Check installations of steel plates/pipes to protect underground cables at crossings.
- xix) Don't lay unarmored cable directly on ground, wall, roof or trees. All temporary cables should be laid at least 750 mm below ground and cable markers should be provided. Proper sleeves should be provided at road crossings. In case temporary cables are to be laid on wooden poles/steel poles, the minimum cable heights should be 4.5 M.
- xx) Maintain safe overhead distance of HT cables as per Indian Electricity Rules and relevant acts.
- xxi) Don't connect any earthing wire to the pipelines/structures.
- xxii) Don't make any unsafe temporary connections, naked joints/wiring etc.
- xxiii) Ensure that temporary cables are free from cuts, damaged insulation, kinks or improper insulated joints.
- xxiv) Check at periodic intervals that pins of sockets and joints are not loose.
- xxv) Protect electrical wires/equipments from water and naked flames.
- xxvi) Illuminate suitably all the work areas.
- xxvii) All switchboards should be of MS structure only and incoming source should be marked.
- xxviii) Hand lamps should not be of more than 24V rating.
- xxix) Fire extinguishers (DCP/CO₂/Sand buckets) should be kept near

temporary switch boards being used for construction purposes. Don't use water for fighting electrical fires.

xxx) Insulating mats shall be provided in the front and back end of switch boards.

xxxii) All parts of electrical installations should be so constructed, installed and maintained as to prevent danger of electric shock, fire and external explosion.

Periodic checking/certification of electrical safety appliances such as gloves, insulating mats, hoods etc. to be done/witnessed along with maintaining a register at site signed by competent authority.

xxxiii) A notice displaying following, should be kept exhibited at suitable places:

- a) prohibiting unauthorised persons from entering electrical equipment rooms or from handling or interfering with electrical apparatus;
- b) containing directions as to procedures in case of fire, rescue of persons in contact with live conductors and the restoration of persons suffering from electric shock;
- c) specifying the person to be notified in case of electrical accident or dangerous occurrence, and indicating how to communicate with him.

xxxiv) No other cables/pipes to be laid in trench used for electrical cables.

xxxv) Utmost care should be taken while excavating Earth from cable trench to avoid damage or any accident.

xxxvi) Sub-station floor cut-outs meant for switch board installations to be covered wherever installation is incomplete.

NOTE: A Residual Current Operated Circuit Breaker (RCCB) or Earth Leakage Circuit Breaker (ELCB), when installed, protects a human being to the widest extent. RCCB or ELCB should be provided as per Indian Electricity Rules.

6.11.2 Inspection and maintenance

- i) All electrical equipment should be inspected before taking into use to

ensure suitability for its proposed use.

ii) At the beginning of every shift, the person using the electrical equipment should make a careful external examination of the equipment and conductors, especially the flexible cables.

iii) Apart from some exceptional cases, work on or near live parts of electrical equipment should be forbidden.

iv) Before any work is begun on conductors or equipment that do not have to remain live:

- a) the current should be switched off by a responsible authorised person;
- b) precautions should be taken to prevent the current from being switched on again;
- c) the conductors or the equipment should be tested to ascertain that they are dead;
- d) the conductors and equipment should be earthed and short-circuited;
- e) neighbouring live parts should be adequately protected against accidental contact.

v) After work has been done on conductors and equipment, the current should only be switched on again on the orders of a competent person after the earthing and short-circuiting have been removed and the workplace reported safe.

vi) Electricians should be provided with approved and tested tools, and personal protective equipment such as rubber gloves, mats etc.

vii) All conductors and equipment should be considered to be live unless there is a proof of the contrary.

viii) When work has to be done in dangerous proximity to live parts the current should be cut off. If for operational reasons this is not possible, the live parts should be fenced off or enclosed by qualified staff from the sub-station concerned.

6.11.3. Testing

- i) Electrical installations should be inspected and tested and the results recorded.
- ii) Periodic testing of the efficiency of the earth leakage protective devices should be carried out.
- iii) Particular attention should be paid to the earthing of apparatus, the continuity of protective conductors, polarity and insulation resistance, protection against mechanical damage and condition of connections at points of entry.

6.12 OFFSHORE

6.12.1 General

The isolated nature of offshore installations are hazardous. They call for greater need for safety and survival at offshore. Safety at offshore is safety of installations and safety of personnel. Safety problems and accidents at offshore have high risks due to limited space, helicopter operation, sea transport etc. Following are the general safety guidelines to be followed in addition to the safety guidelines stipulated for specific jobs dealt later on:

- i) Workers should be well trained to do their job independently with high degree of self-control and self-discipline.
- ii) On arrival at offshore, everyone should be briefed about the safety rules to be followed at offshore, evacuation system etc. All personnel should wear overall (dangri), helmet and shoes for personnel protection.
- iii) In case of emergency, workers should follow instruction of Field Production Superintendent (F.P.S.) In certain cases instructions may be given to abandon the offshore installation and evacuate the persons to safe location.
- iv) To overcome above problems, offshore personnel must receive training for using life saving appliances and other personal survival techniques.
- v) Any person working at offshore should have one person as standby for any eventuality.

6.12.2 Drilling Rigs

- i) Location of jack up rigs should not be less than 5 Kms from shipping route. Orientation of the rig, wind direction etc are required for safe landing of helicopter. Information w.r.t. sea currents, wind speed, High tide etc are required for mooring of supply vessels.
- ii) Sea bed condition at every location should be ensured for safety of rig.
- iii) Radio and other communication facilities should be such to maintain contact with base all times.
- iv) During toeing of rig, the rig deck should be clear of load, toeing lines should be in good condition and tensions in various toeing lines should be constantly monitored.
- v) Few steps during toeing are:
 - a) crane booms should be secured to their vests,
 - b) all hatches and water tight doors should be closed,
 - c) number of personnel on board should be restricted,
 - d) evacuate in case of emergency and operation should be completed preferably in day light.

6.12.3 Drilling

- i) In view of CO₂ and H₂S gas cut from well, effective ventilation should be provided where drilling is in progress.
- ii) Safety alarm shall be checked in advance in view of failure of ventilation system.
- iii) Suitable sensors for H₂S and Methane should be function tested time to time and suitable colour code should be given.
- iv) Working areas of the crane should be illuminated during night to avoid accident.
- v) Clear space should be available for despatch and receipt of load and, in particular, basket transfer of passengers. Persons engaged in loading/unloading of materials should be protected from falling into the sea.

- vi) Signal light should be fitted at the top of the jib.
- vii) Crane hook should be fitted with safety latches.
- viii) Experienced person should be engaged in operation of specific equipment like winches, cranes etc.
- ix) At least three cable turns shall always be there on the winch drum.
- x) Adequate communication like walkie talkie, round robin phone should be available between the crane operator, supervisor and helper.
- xi) Crane operation should be completely stopped during helicopter landing/taking off.
- xii) Except for helicopter landing deck, all decks, platforms, bridges, ladders should have rigid and fixed guard rails at least one meter high and should have one intermediate rail midway between the handrail and 100 mm toe board.
- xiii) Wooden ladders shall not be used at offshore.
- xiv) Flow sensor in the flow line should be ensured for safe working and to avoid blow out.
- xv) Hydrogen sulphide gas in offshore is of great risk and at 10 ppm (0.001%) concentration in air, a person should not be exposed for more than 8 hours. If concentration is more, then breathing apparatus should be used. Corrosion of equipment is also caused by H₂S.
- xvi) Portable H₂S gas detector should be continuously used.
- iii) Surface safety valve or SDV should be checked for no gas leakage from bleed port / flange etc., in the well head area. It should not be in "mechanical override" or bypassed from panel.
- iv) High pressure gas lift lines - blowdown system should be O.K.
- v) Auto actuation of SDVs in the inlet of pressure vessels should be O.K. and in "normal position" from shutdown panels. A record of status of switches normal/bypassed in auto-con* panels (PSH, PSL, LSL, ILSL) should be maintained.

☐ Shut Down Panels

6.12.4 Production Platforms

- i) In case hydrocarbon is released due to overpressure, leak, overflow, gas blow etc., shut down process to stop flow of hydrocarbon. Prevent ignition of released hydrocarbon and in case of fire shut in the process complex and follow emergency contingency plan.
- ii) Sub surface safety valve (SSSV) below the well head should be actuated during uncontrolled well - flow and they should be regularly checked.
- vi) Welders rectifier set and electrical connections to it should be checked and approved by electrical-in-charge for proper electrical safety.
- vii) "SCADA" telemetry system if available should be operational for remote opening and closing of wells at unmanned platforms (through RPROJECT DIRECTOR).
- viii) Local ESD/FSD (near the work site) should be provided for jobs of very critical nature, so that the persons working can access it immediately in emergency for safety. Safety officer should judge the requirement & inform FPS for the same.
- ix) Railings and Gratings etc. in and around work area should be O.K. and inspected to avoid slippage of man into sea.
- x) Emergency shut down (ESD) system is initiated when an abnormal condition is detected. ESD should be checked once in six months.
- xi) Platform should be manned round the clock.
- xii) Welding and cutting work should be regulated by hot work permit.
- xiii) All detectors should be calibrated as per recommendation of the manufacturer.
- xiv) No system should be by-passed which affects the system of platform.

xv) In H₂S field platforms, due care shall be taken as per recommendations.

xvi) Follow the instructions of F.P.S. during stay at platform

6.12.5 Fire Prevention And Control

i) Provision be made for safe handling and storage of dirty rags, trash, and waste oil. Flammable liquids and chemicals applied on platform should be immediately cleaned.

ii) Paint containers and hydrocarbon samples, gas cylinders for welding and cutting should be stored properly. Cylinders should be transported in hand-cart.

iii) Smoking should be restricted and no smoking area should be identified.

iv) Special attention should be given to crude oil pump seals, diesel and gas engines which are potential source of ignition in the event of failure.

v) Fire and smoke detectors i.e. ultraviolet heat, thermal and smoke detector should be function tested once in three months.

vi) Fire is controlled in offshore by water spraying, Halon, CO₂ flooding, DCP and sprinkler system.

vii) LOAming agent is applied for controlling fire in liquid hydrocarbon. The system is not effective in gas fire.

viii) Light weight breathing system should be used.

ix) The fire control plan at offshore should reveal control station, fire alarms and fire detectors, deluge valves and sprinkler, fire extinguishing appliances, fireman outfit and ventilation system.

x) Fire fighting equipment should be maintained in ready to use condition.

6.12.6 Life Saving Appliances

i) Life boats with a speed of 6 knots and carrying capacity upto 50 persons are used in offshore.

ii) No. of life boats on one installation should have a capacity to

accommodate twice the number of persons onboard installation.

iii) Launching appliances and life boat equipment should be checked every week.

iv) Boat landing areas should be adequately illuminated.

v) Life raft has no power and they rely on drift.

vi) Life jacket lifts the wearer after entering water.

vii) Life buoys are used to rescue persons if any person accidentally falls in the sea.

viii) All life saving appliances should be inspected by the MMD surveyor /sr. officials once a year.

ix) Every life boat shall be inspected once a week.

x) Every life boat and life raft should be serviced once a year by a competent authority,

6.12.7 Safety Precautions during Helicopter Transportation

i) Passenger briefing regarding safety rules while travelling in helicopter should be carried out before boarding the helicopter.

ii) Emergency procedure should be briefed to all the passenger. In case helicopter is to ditch into the sea.

iii) Heli-pad should have a non-skid surface. Nylon rope net should be stretched on the deck.

iv) Proper drainage should be available on helideck.

v) There should be no obstruction on the helideck itself and within 3 meters of its parameter. Closest super structure above the helideck should have red obstruction light.

vi) While landing fire crew of two persons should be standby adjacent to helideck.

vii) Heli-deck should be properly illuminated for night landing.

viii) During switching off helicopter, persons should not be allowed to go out/ towards helicopter

6.13 DEMOLITION

6.13.1. General provisions

- i) When the demolition of any building or structure might present danger to workers or to the public:
 - (a) necessary precautions, methods and procedures should be adopted, including those for the disposal of waste or residues;
 - (b) the work should be planned and undertaken only under the supervision of a competent person.
- ii) Before demolition operations begin:
 - (a) structural details and builders' drawings should be obtained wherever possible;
 - (b) details of the previous use should be obtained to identify any possible contamination and hazards from chemicals, flammables, etc.;
 - (c) an initial survey should be carried out to identify any structural problems and risks associated with flammable substances and substances hazardous to health. The survey should note the type of ground on which the structure is erected, the condition of the roof trusses, the type of framing used in framed structures and the load-bearing walls;
 - (d) a method of demolition should be formulated after the survey and recorded in a method statement having taken all the various considerations into account and identifying the problems and their solutions;
- iii) All electric, gas, water and steam service lines should be shut off and, as necessary, capped or otherwise controlled at or outside the construction site before work commences.
- iv) If it is necessary to maintain any electric power, water or other services during demolition operations, they should be adequately protected against damage.
- v) As far as practicable, the danger zone round the building should be adequately fenced off and sign posted. To protect the public a fence 2m high should be erected enclosing the demolition operations and the access gates should be secured outside working hours.
- vi) The fabric of buildings contaminated with substances hazardous to health should be decontaminated. Protective clothing and respiratory devices should be provided and worn.
- vii) Where plant has contained flammable materials, special precautions should be taken to avoid fire and explosion.
- viii) The plant to be demolished should be isolated from all other plant that may contain flammable materials. Any residual flammable material in the plant should be rendered safe by cleaning, purging or the application of an inert atmosphere as appropriate.
- ix) Care should be taken not to demolish any parts, which would destroy the stability of other parts.
- x) Demolition activities should not be continued under adverse climatic conditions such as high winds, which could cause the collapse of already weakened structures.
- xi) To prevent hazards parts of structures should be adequately shored, braced or otherwise supported.
- xii) Structures should not be left in a condition in which they could be brought down by wind pressure or vibration.
- xiii) Where a deliberate controlled collapse technique is to be used, expert engineering advice should be obtained, and:
 - (a) it should only be used where the whole structure is to come down because it relies on the removal of key structural members to effect a total collapse;
 - (b) it should only be used on sites that are fairly level and where there is enough surrounding space for all operatives and equipment to be withdrawn to a safe distance.
- xiv) When equipment such as power shovels and bulldozers are used for

demolition, due consideration should be given to the nature of the building or structure, its dimensions, as well as to the power of the equipment being used.

- xv) If a swinging weight is used for demolition, a safety zone having a width of at least one-and-a-half times the height of the building or structure should be maintained around the points of impact.

6.13.2. Demolition of structural steelwork

- i) All precautions should be taken to prevent danger from any sudden twist, spring or collapse of steelwork, ironwork or reinforced concrete when it is cut or released.
- ii) Steel construction should be demolished tier by tier.
- iii) Structural steel parts should be lowered and not dropped from a height.

6.14 RADIOGRAPHY

- 6.14.1 All radiography jobs shall be carried out as per BARC Safety Regulations
- 6.14.2 During field radiography, nearby area around the radiation source should be cordoned off.
- 6.14.3 If the field radiography is to be done at the same location repeatedly, it is advisable to provide either a wire fencing around or a temporary brick enclosure.
- 6.14.4 Special permission/permit should be taken for radiography from area-in-charge.
- 6.14.5 As far as possible, field radiography should be done only during night time when there is little or no occupancy there.
- 6.14.6 Radiation warning signals should be pasted all along the cordoned off area.
- 6.14.7 Entry into the restricted area by unauthorised persons should be strictly prohibited during exposure.
- 6.14.8 The radiation level along with the cordon should be monitored by a suitable and well-calibrated radiation survey meter.

- 6.14.9 All personnel working with radiography sources should wear appropriate protective equipment and film badges issued by BARC.

- 6.14.10 Protection facilities such as manipulator rod, remote handling tongs, lead pots, radiation hazard placards and means of cordon off shall be available at each site.

- 6.14.11 The radiography source shall never be touched or handled directly with hands.

- 6.14.12 The package containing radiography cameras and sources should never be carried by public transport like bus, train etc.

- 6.14.13 Radiography sources and cameras, when not in use, should be stored inside a source pit with lock and key arrangement as approved by BARC. The storage room should preferably be located in an isolated area of minimum occupancy and radiation level outside the storage room should not exceed 0.25 mR/hr as per BARC Regulations.

- 6.14.14 In case of an accident (due to loss or damage to radiography source), action should be taken in line with BARC Safety Rules/Guidelines.

6.15 SAND/SHOT BLASTING/ SPRAY PAINTING

- 6.15.1 Sand blasting should be used only after approval from competent person.

- 6.15.2 Air Compressor used for sand/shot blasting/painting should have guard and positioned away from the work place.

- 6.15.3 Exhaust of the prime mover, if IC engine is used, should be directed away from the work place.

- 6.15.4 In case of motor driven compressor, the body of the motor as well as the compressor should be properly earthed.

- 6.15.5 The hoses used for compressed air should be of proper quality, and health of the same should be ensured through regular check/ test.

- 6.15.6 The operator of sand/shot blasting/painting should wear suitable PPE's including mask.
- 6.15.7 Adequate measures to be taken to suppress dust/spray particle.
- 6.15.8 Sand used for sand blasting should be suitably covered & protected from rain/moisture.
- 6.15.9 When these activities are done in confined places, adequate measure to be taken for proper ventilation.

6.16 WORK ABOVE WATER

6.16.1 General Provisions

- i) Where work is done over or in close proximity to water & where possibility of drowning exists, provision should be made for:
 - a) Preventing workers from falling into water;
 - b) The rescue of workers in danger of drowning;
 - c) Safe and sufficient transport.
- ii) Provisions for the safe performance of work over or in close proximity to water should include, where appropriate, the provision and use of suitable and adequate:
 - a) fencing, safety nets and safety harnesses;
 - b) lifebuoys, life jackets and manned boats;
 - c) protection against such hazards as reptiles and other animals.
- iii) Gangways, pontoons, bridges, footbridges and other walkways or work places over water should:
 - a) possess adequate strength and stability;
 - b) be sufficiently wide to allow safe movement of workers;
 - c) have level surfaces free from tripping hazards;
 - d) be adequately lit when natural light is insufficient;
 - e) where practicable and necessary, to prevent danger, be provided with toe-boards, guard rails, hand ropes etc.
 - f) be secured to prevent dislodgment by rising water or high winds;
- iv) if necessary, be equipped with ladders which should be sound, of sufficient strength and length

and be securely lashed to prevent slipping.

All deck openings including those for buckets should be fenced.

6.16.2 Rescue & Emergency procedures

- i) Persons who work over water should be provided with some form of buoyancy aid. Life jackets should provide sufficient freedom of movement, have sufficient buoyancy to bring persons to the surface and keep them afloat face upwards, be easily secured to the body, be readily visible by way of self luminous paint/strip.
- ii) Nobody should work alone on or above water.
- iii) Each worker should be trained in the procedure to be followed in the event of an emergency.

7.0 ADDITIONAL SAFETY PRECAUTION FOR UNITS WITH HYDROCARBONS

In addition to general safety precautions as outlined above for the activities in Clause 6.0, following additional safety precautions need to be taken for the sites within the operating area or nearby, where presence of Hydrocarbons cannot be ruled out.

- i) No job shall be carried out without a valid permit. Permit should be in line with OISD-STD-105 "Work Permit System".
- ii) Smoking should be prohibited in all places containing readily combustible or flammable materials and "No Smoking" notices be prominently displayed.
- iii) In confined spaces and other places where flammable gases, vapours or dusts can cause danger, following measures should be taken:
 - (a) only approved type electrical installations and equipment, including portable lamps, should be used;
 - (b) there should be no naked flames or source of ignition;
 - (c) oily rags, waste and clothes or other substances liable to spontaneous ignition should be removed without delay to a safe place;
 - (d) ventilation should be provided.

- iv) Regular inspections should be made of places where there are fire risks. These include the vicinity of heating appliances, electrical installations and conductors, stores of flammable and combustible materials, welding and cutting operations.
- v) Welding, flame cutting and other hot work should only be done after issuance of work permit in line with the requirement of OISD-STD-105 after appropriate precautions, as required, are taken to reduce the risk of fire. For carrying out other jobs also, OISD-STD-105 should be followed strictly.
- vi) Fire-extinguishing equipment should be well maintained and inspected at suitable intervals by a competent person. Access to fire-extinguishing equipment such as hydrants, portable extinguishers and connections for hoses should be kept clear at all times.
- vii) All supervisors and a sufficient number of workers should be trained in the use of fire-extinguishing equipment, so that adequate trained personnel are readily available during all working periods.
- viii) Audio means to give warning in case of fire should be provided where this is necessary to prevent danger. Such warning should be clearly audible in all parts of the site where persons are liable to work. There should be an effective evacuation plan so that all persons are evacuated speedily without panic and accounted for and all plant and processes shut down.
- ix) Notices should be posted at conspicuous places indicating:
 - (a) the nearest fire alarm;
 - (b) the telephone number and address of the nearest emergency services.
- x) The work site shall be cleared of all combustible materials, as Sparks and molten metal coming from the welding job can easily ignite combustible materials near or below the welding site. If the combustible materials cannot be removed from the area, the same shall be properly shielded.
- xi) A dry chemical type fire extinguisher shall be made available in the work area. Also fire protection facilities like running hoses etc. as per permit should be complied with.
- xii) Wherever required, welding screens shall be put up to protect other equipment in adjoining areas against flying sparks. Material used should be metal/asbestos/water curtain.
- xiii) Welding or cutting of vessels/equipments used in Hydrocarbon/hazardous chemicals shall be done after proper gas freeing and verifying the same with the explosive-meter.
- xiv) The confined space/equipment shall be gas freed and cleaned.
- xv) Absence of any toxic gas and any flammable gas above explosion limit shall be ensured with the help of gas detection instrument and explosive meter respectively.
- xvi) Used and hot electrode stubs shall be discarded in a metal bucket.
- xvii) Use approved and certified flame arrestors for vehicles.
- xviii) Work permit to be obtained, if construction work is carried out within existing operating area.

8.0 FIRST AID

First aid facilities should be provided in line with various statutory regulations like factory act etc. However following care should be taken:

- i) First aid, including the provision of trained personnel should be ensured at work sites. Arrangement should be made for ensuring the medical attention of the injured workers. First aid box should be as per the Factory rules.
- ii) Suitable rescue equipment, like stretchers should be kept readily available at the construction site.
- iii) First-aid kits or boxes, as appropriate and as per statutory requirements, should be provided at workplaces and be protected against contamination by dust, moisture etc.

- iv) First-aid kit or boxes should not keep anything besides material for first aid in emergencies.
- v) First-aid kits and boxes should contain simple and clear instructions to be followed, be kept under the charge of a responsible person qualified to render the first aid and be regularly inspected and stocked.
- vi) Where the work involves risk of drowning, asphyxiation or electric shock, first-aid personnel should be proficient in the use of resuscitation and other life saving techniques and in rescue procedures.
- vii) Emergency telephone numbers of nearby Hospitals, Police, Fire Station and Administration should be prominently displayed.

9.0 DOCUMENTATION

The intention of keeping documentation of all types of accident(s) is to prevent recurrence of similar accident(s). All accidents should be reported as per OISD Guidelines (OISD-GDN-107) and Factories Act, 1948.

All accidents (major, minor or near miss) should be investigated, analysed and recommendations should be documented along with implementation status.

All related data should be well-documented and further analysis highlighting the major cause(s) of accidents be done. This will help in identifying thrust areas and training needs for prevention of accidents.

10.0 SAFETY AWARENESS & TRAINING

Safety awareness to all section of personnel ranging from site-in-charge to workmen helps not only preventing the risk but also build up the confidence. Time and expenditures also get saved as a result.

Safety awareness basically seeks to persuade/inform people on safety besides supplementing skill also. Awareness programme may include followings:

- i) **Poster:** Posters with safety slogan in humorous, gruesome demonstrating manner may be used to discourage bad habits attributable to accidents by appealing to the workers' pride, self-love, affection curiosity or human aspects. These should be displayed in prominent location(s).
- ii) **Safety Sign Boards:** Different type of message of cautioning, attention, notice etc. should be displayed at the appropriate places for learning/awareness of the workmen while working at site.
- iii) **Films & Slides:** Film(s) narrating the accident including the causes and possible remedial ways of preventing the recurrence of a similar accident should be displayed at regular intervals. Slides consisting main points of the film show may also be shown to workers.
- iv) **Talks, lectures & conferences:** The success of these events would depend much on audience's understandings of the speaker(s). The speakers are to be knowledgeable and good presenter. Speakers should know to hold the attention and to influence the audiences.
- v) **Competitions:** Organise competition(s) between the different deptts/categories of workers. The sense of reward/recognition also will improve safety awareness and result in enhancing safety levels.
- vi) **Exhibitions:** Exhibitions also make the workers acquainted with hazards and means of preventive measures.
- vii) **Safety Publication:** Safety publications including pocket books dealing with ways of investigation and prevention in the field of safety and so on, may be distributed to workers to promote the safety awareness.
- viii) **Safety Drives:** From time to time, an intensive safety drive by organising a safety day or a safety week etc. should be launched.
- ix) **Training:** Training for covering the hazards for different trade should be imparted. Training should also include the specific hazards related to a job in addition to the general safety training as has been dealt in various chapters and should include all workers. Reference may be drawn from OISD-STD-154.

11.0 REFERENCES

- i) *Factory Act, 1948*
- ii) *Indian Electricity Rules Safety & Health in Construction by ILO*
- iii) *The Building & Other Construction Workers (Regulation, Employment and Conditions of Service) Act 1996*

**LIST OF SAFETY CODES FOR CIVIL WORKS PUBLISHED BY BUREAU OF
INDIAN STANDARDS**

Sr.no	Code No.	Title
01. IS : 818		Code of Practice for Safety and Health Requirements in Electric and Gas Welding and Cutting Operations – First Revision.
02. IS : 875		Code of practice for Structural safety of buildings: Masonry walls
03. IS : 933		Specification for Portable Chemical Fire Extinguisher, LOAm Type – Second Revision.
04. IS : 1179		Specification for Equipment for Eye and Face Protection during Welding – First Revision.
05. IS : 1904		Code of practice for Structural safety of buildings: Shallow foundations
06. IS : 1905		Code of practice for Structural safety of buildings: Masonry walls
07. IS : 2171		Specification for Portable Fire Extinguishers, Dry Powder Type – Second Revision.
08. IS : 2361		Specification for Building Grips – First Revision.
09. IS : 2750		Specification for Steel Scaffoldings.
10. IS : 2925		Specification for Industrial Safety Helmets – First Revision.
11. IS : 3016		Code of Practice for Fires Precautions in Welding and Cutting Operations – First Revision.
12. IS : 3521		Industrial safety belts and harnesses
13. IS : 3696 – Part I		Safety Code for Scaffolds and Ladders : Part I – Scaffolds.
14. IS : 3696 – Part II		Safety Code for Scaffolds and Ladders : Part II – Ladders.
15. IS : 3764		Safety Code for Excavation Work.
16. IS : 4014 -Part I & II		Code of practice for Steel tubular scaffolding
17. IS : 4081		Safety Code for Blasting and Related Drilling Operations.
18. IS : 4082		Recommendations on staking and storage of construction materials at site
19. IS : 4130		Safety Code for Demolition of Buildings – First Revision.
20. IS : 4138		Safety Code Working in Compressed Air-First Revision
21. IS : 4756		Safety code for Tunneling works
22. IS : 4912		Safety requirements for Floor and Wall Openings, Railings and toe Boards –First Revision.
23. IS : 5121		Safety Code for Piling and other Deep Foundations.
24. IS : 5916		Safety Code for Construction involving use of Hot Bituminous Materials.
25. IS : 5983		Specification for Eye Protectors – First Revision.
26. IS : 6922		Structures subject to underground blasts, criteria for safety and design of

27. IS : 7155 Code of recommended practices for conveyor safety
 28. IS : 7205 Safety Code for Erection on Structural Steel Works.

Sr.no	Code No.	Title
29. IS : 7069		Safety Code for Handling and Storage of Building Materials.
30. IS : 7293		Safety Code for Working with Construction Machinery.
31. IS : 7323		Guidelines for operation of Reservoirs
32. IS : 7969		Safety code for handling and storage of building material
33. IS : 8758		Recommendation for Fire Precautionary Measures in construction of Temporary Structures and Pandals.
34. IS : 8989		Safety Code for Erection of Concrete Framed Structures.
35. IS : 9706		Code of Practices for construction of Arial ropeways for transportation of material
36. IS : 9759		Guidelines for de-watering during construction
37. IS : 9944		Recommendations on safe working load for natural and man-made fibre roap slings
38. IS : 10291		Safety code for dress divers in civil engineering works
39. IS :10386 – Part I		Safety Code for Construction, Operation and Maintenance for River Valley Projects.
40. IS :10386 – Part II		Safety Code for Construction, Operation and Maintenance of River Valley Projects.
41. IS : 11057		Code of practice for Industrial safety nets
42. IS : 13415		Code of Practice on safety for Protective barriers in and around building
43. IS : 13416		Recommendations for preventive measures against hazards at working places

OISD – GDN – 207

**FOR RESTRICTED
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CONTRACTOR SAFETY

OISD – GUIDELINES – 207

**Oil Industry Safety Directorate
Government of India
Ministry of Petroleum & Natural Gas**

CONTRACTOR SAFETYCONTENTS

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CONTRACTOR SAFETY

1.0 INTRODUCTION

Oil and Gas operations like Drilling, Production, Refining, Transportation and Distribution are inherently hazardous. A large number of contractor workforce is deployed to carry out construction, maintenance and other jobs. The analysis of the incidents in the Petroleum Sector indicates that a large number of incidents involved contractor workforce and have resulted in either casualty or injury besides leading to property damage and operational interruptions and environmental degradation.

In order to improve the safety levels of oil installations, the contractor safety is of utmost importance and there is a need to institute a good contractor safety system.

2.0 SCOPE

This standard covers broadly the guidelines on the management system for enhancing the safety levels of the contractor workforce deployed in construction, maintenance and operation activities in the hydrocarbon industry.

The safety precautions to be taken while carrying out different activities during construction / maintenance have separately been covered in OISD-GDN-192 on "Safety Practices during Construction".

3.0 DEFINITIONS

Work station/Work site

A place/unit where the job is carried out by contractor/executing agency in specified manner with safety, during construction phase or in operation phase.

INDEPENDENT ENGINEER

Any physical or legal person/entity for whom prescribed job is carried out.

It shall also include INDEPENDENT ENGINEER's designated representative / consultant / nominee / agent, authorized from time to time to act for and on its behalf, for supervising / coordinating the activities of the contractor/execution agency

Contractor / Executing Agency

A physical or legal person/entity having contractual obligation with the INDEPENDENT ENGINEER, and who deploys one or more worker on the site.

Contractor Worker

It covers all workmen who are either self-employed or employed through contractor, the casual workers and includes contractor's supervisor, working at a location / site employed directly by INDEPENDENT ENGINEER or through their contractor.

Incident

An incident is an unplanned, uncontrolled, unintended or unforeseen event, caused by unsafe acts and / or unsafe conditions, resulting in or having the potential to result in personal injury and/or property damage.

Consultant

Consultant is a physical or legal person/entity engaged by INDEPENDENT ENGINEER to provide the consultancy services to INDEPENDENT ENGINEER for management of the contract on their behalf or as specified.

Designer

Designer is a physical or legal person / entity engaged by INDEPENDENT ENGINEER to provide design services of a work site.

INDEPENDENT ENGINEER's Representative / Engineer In Charge

The INDEPENDENT ENGINEER's representative/Engineer-in-charge is the one, who has been designated by the INDEPENDENT ENGINEER to manage the contract.

INDEPENDENT ENGINEER's Safety Officer

A properly trained person designated by INDEPENDENT ENGINEER who ensures safety at work site.

4.0 DUTIES/ RESPONSIBILITIES

4.1 INDEPENDENT ENGINEER

4.1.1 INDEPENDENT ENGINEER's

Management

The commitment to safety has to be emphasized by the INDEPENDENT ENGINEER by practice by its own management and employees at all levels. The duties and responsibilities of INDEPENDENT ENGINEER should include

- i) To institute a mechanism for identification and compliance of all applicable statutory rules & regulations (Refer Annexure I for a list of few important Bureau of Indian Standards & statutory regulations).
- ii) To provide specific information to contractors and make workers aware on the hazards associated with job assigned.
- iii) To provide information about Risk Mitigation measures available at the place of work.
- iv) To provide the contractor with information on INDEPENDENT ENGINEERs Safety Plan & Regulations, Emergency Management Plan, lockout/ tag out procedure, confined space entry, work permit system, excavation/trench permit system etc.
- v) To specify rules (e.g. for security including access arrangements) and safety rules such as fire protection, first aid arrangements, Work Permit systems etc.
- vi) To provide comprehensive list of statutory regulations / standards and specification, to be complied with during execution of contract, in the tender document itself.
- vii) To ensure training of the contractor workforce, medical examination, and proper usage of safety equipment.
- viii) specify the requirements of Health, Safety and Environment (HSE) (commensurate with the nature of job) in Pre- Qualification criteria.
- ix) To designate Engineer-in-charge and safety officer.
- x) To arrange for a multi- disciplinary safety audit team to conduct surprise / regular safety audits and monitor the implementation of the recommendations.
- xi) To introduce suitable schemes for motivation of the contractor worker to adhere to safety guidelines.
- xii) To review safety practices & their implementation through periodic surprise visit of the work sites and monthly review meeting.
- xiii) To develop the HSE plans and incorporate the same in the tender document.
- xiv) To liaise with external agencies like

press, public etc and with law enforcement, regulatory, statutory agencies etc.

- xv) To report to statutory agencies on safety compliance and accidents, if any.

4.1.2 INDEPENDENT ENGINEER's Representative/Engineer-in- charge

The duties & responsibilities of engineer-in-charge should include:

- i) To ensure that all Contract requirements including Health, Safety, Environment & Security are complied with.
- ii) To ensure that contractor workforce deployed is adequately qualified, trained and in state of health to commensurate with the requirements of the job.
- iii) To ensure that the Tools / Tackles and Machinery being used are properly tested and are in sound working conditions and necessary resources proposed for providing safe place of work and necessary PPE are being used.
- iv) To take the required necessary corrective action immediately upon noticing or receipt of a report on noncompliance or any such condition which poses a threat to health, safety or environment. If during the course of execution of the contract, any situation of non-compliance with the contractor's safety and health plan are noticed / reported, the same will be taken up with the contractor for correction. In the event of repeated noncompliance, suitable action to be initiated as per the contract
- v) To ensure that the incidents are reported to all concerned within stipulated timeframe.
- vi) To ensure submission of a plan for safe working (Method Statement) from contractor and approval of the same by competent person / department.
- vii) To ensure that Work Permit System in line with OISD-STD-105 is adhered to.
- viii) To ensure availability of all the documentation needed for the execution of contract.
- ix) To ensure that the quality controls have been maintained during fabrication/erection and all jobs required for safe commissioning have been carried out.
- x) to ensure safe dismantling of all temporary facilities/connections put up by the contractor, after completion of work

xi) To compile a report on the safety performance (at the conclusion of each contract or periodically such as annually for renewable and long- term contracts), which is to be considered in future when selecting contractors.

xii) To ensure that the Consultant, contractor and sub-contractor employ / designate qualified & trained Safety Engineer / Officer commensurate with requirement of the job.

4.1.3 INDEPENDENT ENGINEER's Safety Officer

The duties & responsibilities of the INDEPENDENT ENGINEER's Safety Officer should include:

- i) To assess the hazards associated with jobs in consultation with all concerned and establish safe working procedure including identification of the escape routes.
- ii) To establish a written record of factors which can cause injuries and illness.
- iii) To undertake routine/surprise inspections of all work sites and identify unsafe conditions & practices, if any. Check for compliance of the safety practices being followed with approved HSE Plan.
- iv) To investigate promptly the incidents (including near-miss) in order to advise corrective and/or preventive action.
- v) To maintain statistical information for use in analyzing all phases of incidents and events involving contract personnel
- vi) To provide the means for complying with the reporting requirements for occupational injuries and illnesses.
- vii) To check whether the proposed working arrangements are safe and satisfactory, particularly at the interface between the contractor's planned work and INDEPENDENT ENGINEER's existing facilities.
- viii) To communicate to the Contractor the imposed restrictions which may affect the work/personnel such as the temporary closure of a corridor or electrical isolation of equipment

ix) To review and monitor the contractor's adherence to approved HSE plan and all applicable environmental, health, and safety requirements.

x) To ensure that Consultant, Contractor's Managers, Supervisors and workmen at all levels (who will plan, monitor, oversee and carry out the work) undergo Health, Safety and Environmental training in their respective responsibilities with respect to conducting work safely and with due regard for the protection of the environment.

xi) To identify areas of operations where specialized training is required to deal with potential dangers.

xii) To document and to bring to the attention of the INDEPENDENT ENGINEER's Supervisor and Contractor any non-compliance/violation of the safety norms against approved safety and health plan or safety and health requirements and also raise these issues in the Safety Committee Meetings.

xiii) To take part in Tool Box Meetings at random and to ensure maintenance of records

4.2 CONTRACTOR

4.2.1 Contractor's Management

Duties & responsibilities of the contractor should include the following:

- i) To implement safe methods and practices, deploy appropriate machinery, tools & tackles, experienced supervisory personnel and skilled work force etc. required for execution.
- ii) To prepare a comprehensive and documented plan for implementation, monitoring and reporting of Health, Safety and Environment (HSE) and implement the same after its approval.
- iii) To nominate qualified & trained Safety Engineers / Officers reporting to the Site in charge, for supervision, co- ordination and, liaison for the implementation of the safety plan.

Similar HSE Plan should be implemented at the sub- contractor's or supplier's site /office. However the compliance with the HSE Plan is to be the sole responsibility of the Contractor.

- iv) To arrange suitable facilities in liaison with the INDEPENDENT ENGINEER for drinking water, toilets, lighting, canteen, crèche etc as applicable as per Laws/ Legislation at site and also arrange for workmen compensation insurance, third party liability insurance, registration underESI / PF act etc as applicable.
- v) To arrange for fire protection equipment as per the advice of INDEPENDENT ENGINEER.
- vi) To ensure that its employees have completed appropriate health and safety training as required by the statute / regulation and also as per requirements of the INDEPENDENT ENGINEER / Consultant. The documentation of such training imparted to all its employees should be maintained and produced for verification as required.

vii) To comply with all the security arrangements of INDEPENDENT ENGINEER.

viii) To ensure that the plant and equipment used on-site by him / his employees is correctly registered, controlled and maintained in sound working condition.

ix) To ensure availability of First Aid boxes and First Aid trained attendant.

x) To ensure that all incidents including near misses are reported to all concerned immediately.

In construction projects where sub- contractors are engaged, the contractor should set out the responsibilities, duties and safety measures that are expected of the sub-contractor's workforce. These measures should include the provision and use of specific safety equipment, methods of carrying out specific tasks on safety and the inspection and appropriate use of tools.

The responsibilities indicated separately under contractor's Supervisor, Safety Officer and contract worker are contractually that of the Contractor and legally binding on the Contractor only. However the specific detailing as above has been given separately for guidance and operational convenience.

The selection of sub contractors, if employed, should be approved by the INDEPENDENT ENGINEER. Sub-contractor should comply fully with all safety rules and conditions applicable to the main contractor.

4.2.2 Contractor's Supervisor / Safety Officer

Duties & responsibilities of the Contractor's supervisor/Safety Officer should include the following:

- i) To ensure strict compliance with work permit system by carrying out work only with appropriate work permits and after ensuring that all safety precautions / conditions in the permit are complied with and closing the same after job completion.

- ii) To ensure that required guards and protective equipment are provided, used, and properly maintained.
 - iii) To ensure that tools and equipment are properly maintained and tested.
 - iv) To plan the workload and assign workers to jobs in commensuration with their qualification, experience and state of health.
 - v) To ensure that the workers understand the work to be done, the hazards that may be encountered, and the proper precautions/procedure for carrying out the work safely.
 - vi) To take immediate action to correct any violation of safety rules observed or reported.
 - vii) To ensure that the workers likely to be exposed to hazardous chemicals/materials have access to appropriate Material Safety Data Sheets (MSDS), wherever applicable, and provide necessary mitigation measures.
 - viii) To ensure inspection and certification of all tools (hand operated as well as mechanically operated) being used. Defective tools shall be immediately removed.
 - ix) To ensure that appropriate warning signboards or tags are displayed.
 - x) To ensure that workers have proper training for their job assignments, including use of appropriate PPE and first aid firefighting equipment.
 - xi) To comply with all applicable safety and health standards, rules, regulations and orders issued by competent authority pertaining to the assigned activities.
 - xii) To ensure that sick and/or injured workers receive appropriate first aid and/or medical attention.
 - xiii) To report each incident and/or injury in accordance with established procedures and assist in investigation.
 - xiv) To take necessary action for correction of any unsafe act / condition at the workplace. However, in case the same is outside the limits of authority, it should be reported to INDEPENDENT ENGINEER's Engineer-in-charge immediately.
 - xv) To conduct daily inspections to ensure compliance with safety standards, codes, regulations, rules and orders applicable to the work concerned.
 - xvi) To ensure that workers under their supervision are aware of their responsibilities.
 - xvii) To arrange daily tool box meeting and regular site safety meetings and maintain records in the required formats. (Refer Clause 5.9.1)
 - xviii) To arrange stand-by supervisor/ worker where situations so demand.
 - xix) To develop methods and display banners/posters to inculcate safety consciousness.
 - xx) To attend training and ensure participation of his workers for training as per schedule arranged by the INDEPENDENT ENGINEER / Consultant and keeps himself updated.
 - xxi) To keep records of number of persons working at the site.
 - xxii) To keep a constant liaison with Engg-in-charge / INDEPENDENT Engineers' representative on safety issues.
 - xxiii) To maintain accident & near miss record in a register.
 - xxiv) To ensure that only PPE of the approved type by INDEPENDENT ENGINEER is used at site.
- A separate Safety Officer should be assigned, where more than 100 workers are employed at site. For smaller jobs, the supervisor should assume the role of the safety officer also.
- 4.2.3 Contract workers**
The duties & responsibilities of the contractor worker should include the following:

- i) To perform work safely as per the job requirement and instructions.
- ii) To inform all concerned regarding unsafe conditions/acts.
- iii) To wear PPE as stipulated and necessary for the job.
- iv) To inform promptly to their supervisor regarding all work related incidents resulting in personal injury, illness and/or property damage.
- v) To take all necessary and appropriate safety precautions to protect themselves, other personnel and the environment.

4.3 CONSULTANT

The activities and responsibilities covered under the scope of the INDEPENDENT ENGINEER may be delegated to the consultant in those cases as applicable, based on the respective contract conditions. The primary responsibility of Consultant is to ensure compliance with agreed HSE plan for the contract by the Contractor. However those responsibilities conferred on INDEPENDENT ENGINEER as Principal employer cannot be delegated to consultant.

Where the consultant's scope involves Engineering and Design, those factors under **Designer** should also be applicable.

In all cases, the Consultant's scope should include submission of latest HSE plans for work under his and Contractor's purview and implementing the same till job completion. It should conform to INDEPENDENT ENGINEER's overall HSE plan. This should include Guidelines and Implementation and Reporting Methodology to be followed with required report formats.

Adequate number of Safety Officers shall be provided by the Consultant with necessary skills required for the work to be performed.

The Consultant shall review the documents submitted by the contractor and advise INDEPENDENT ENGINEER on acceptance as well as advise suitability and number of Contractor's safety officers / supervisors.

4.4 DESIGNER

The Process Designer should identify all hazards and risks likely to be encountered during fabrication, erection including dismantling, Pre-commissioning, commissioning and Performance run to meet the Guarantees and advise the risk mitigation measures.

All the hazards and safety measures to be adopted while handling Dangerous chemicals and Catalysts should be detailed by the Process Licensor and the same should be again included in the scope of the suppliers. Specific write ups/MSDS should be obtained from Patented single source suppliers also.

Designs should recognize, include and apply safe practice during preparation, construction and subsequent operational use and maintenance after completion of the Project.

All documents including drawings and calculations are to be originated, checked and approved in accordance with latest international codes, standards, specifications and design basis philosophy.

Preferred use of low risk materials, policy on hazardous substances, preferred use of low noise and dust-suppressed equipment etc. should be encouraged.

5.0 SAFETY MANAGEMENT

5.1 JOB SAFETY ANALYSIS (JSA)

Job safety analysis (JSA) provides a mechanism by which the contractor, safety officer or supervisor take a detailed look at how an individual task is performed and its inherent hazards and preventive measures. This procedure helps in integrating accepted safety and health principles and practices into a particular operation. In a JSA, each step of the job is examined to identify potential hazards and to determine the safest way to do the job.

A job safety analysis includes five steps as below:

- Select a job
- Break the job down into a sequence of steps
- Identify the hazards against each of these steps (based on knowledge of

accident, causes of injuries and personal experience) and determine the preventive measures to overcome these hazards

- Apply the controls to the hazards
- Evaluate the controls

5.2 CRITERIA OF SELECTION OF A CONTRACTOR

“Contractor Safety” can be ensured to a large extent if competent agency for execution of assignment or job, based on HSE system agreed upon by INDEPENDENT ENGINEER, is selected. It is necessary to assess his capabilities and competencies to perform work safely.

A databank should be developed for all the contractors for their past performance on HSE aspects. An attempt should also be made to get similar data from other similar industries.

The data required will depend upon complexity involved in the job and type / size of resources required. Format needs to be suitably developed depending upon size, nature of the job & hazard associated therein. The format designed should also take care of the skill required to carry out the job.

Performance review is essential for all type of contractors. It helps in recording actual performance/experience with contractors while the contract is in progress. It is essential that resources agreed as per the contract are reviewed at mobilization stage for ensuring compliance from the day one and thorough effective supervision / monitoring system are at place.

This activity also helps in taking timely action in case of unsatisfactory performance to correct the situation and ensure safe work during execution period and deciding about suitability of the contractor for future jobs.

The periodicity of such performance review will depend upon size/type/complexity of contract. However, the performance should be reviewed at least at mobilization stage and at the end of the contract.

5.3 SITE PLANNING AND LAYOUT

Before starting the construction/maintenance job at existing workplace in operation or green field locations, following should be ensured: -

- i) Details regarding location of workshop/fabrication yard, site office, stores, laboratory, electrical installations, placement of construction machinery, medical and welfare facilities, lighting underground and above ground piping route, cable route etc. should be decided prior to commencement of the work in consultation with INDEPENDENT ENGINEER / Consultants and implementation should be ensured. Layout should be displayed at strategic locations.
- ii) The resources required to meet any emergency situations like fire fighting, first aid etc. should be planned and mobilized as per the job requirement.
- iii) The sequence or order in which work to be done and any hazardous operations or processes should be identified.
- iv) Free access to site shall be provided with clear roads, passage, gangways, staircases etc. Access to construction site should be leveled, open and free from any obstructions like construction material or scrap/waste, exposure to hazards such as falling materials, material handling equipment and vehicles. Any pit or ditch shall be covered or barricaded.
- v) Arrangements should be made to maintain good housekeeping at site. Scrap and debris generated out of construction work should be removed/disposed off at a regular interval as directed. Emergency exit should be provided in case of blockade of primary exit.
- vi) Suitable warning notices and also the routes to and from welfare facilities should be displayed prominently.
- vii) Pedestrian pathways and routes for vehicular traffic (light/heavy vehicles including material handling equipment) should be earmarked.
- viii) Artificial lighting to be provided at places where work continues or workers pass by after sunset or in case natural light is insufficient like confined spaces.

- ix) Keep all equipment /machines under cover to prevent them from dust, rain/flood water, heat etc. and follow storage instructions as applicable for each of them.

5.4 GATE ENTRY PROCEDURE

Gate entry at any site / workplace / unit is to be restricted to ensure entry of only authorized persons / vehicles.

5.4.1 Entry procedure for all contractor worker should be as follows:

A. Issuance of Pass

- i) The passes are to be issued after the INDEPENDENT ENGINEER's representative/engineer-in-charge forwards the application of the contractor providing complete details of the workers being engaged. The contractor may be asked to submit Character & Antecedents (C&A) verification of individual worker from concerned authorities.
- ii) With regard to issuance of passes for all vehicles including material handling equipment, INDEPENDENT ENGINEER's representative / engineer-in-charge should forward the application only after ensuring that all documents pertaining to the fitness of the vehicle/equipment and valid driving license of the driver etc. are available.
- iii) The passes should be serially numbered with address, contractor name, identification mark, signature of the worker etc.
- iv) Special colour code for passes should be used for persons entering different areas like Administrative Block, Unit area, Project Area (wherever applicable).
- v) Contractor workers engaged on routine basis for long periods should be provided with monthly photo pass.
- vi) Special permit is required separately for working beyond normal working hours and holidays.

B. Gate Entry

- i) Entry of the contractor's employees should be permitted with valid gate passes only.
- ii) Entry of contractor's workers should be allowed in presence of authorized representative of contractor.
- iii) Records of persons at the time of entry/exit should be maintained.
- iv) At the entry gate of the location, a physical checking for non-carrying of lighter, matchboxes, explosives etc. should be carried out.
- v) Gate passes/Identity Cards should be displayed on persons at all the times.
- vi) For Mega-projects at existing / operating installations, it is preferable to have a separate gate for entry of contractor workers and also the project areas should be segregated fencing from operational area by fencing / other physical means.
- vii) No vehicle should be allowed to enter in an operational area without proper flame arrestor.
- viii) Awareness on Safety through training / posters etc. highlighting Do's and Don'ts should be spread within entire contractor workforce. Video/Audio tapes on Safety Topics should be played preferably.
- ix) For occasionally engaged laborers such as for material handling etc., spot photograph may be preferably taken with two copies (one for preparing the pass and other for attachment with gate register). Specific advice and recommendation of User Department may be given due cognizance. Relevant details are to be written. The pass should be collected back at the gate after day's work.

5.4.2 Tank Truck Loading (TTL) Operation :

At the loading / unloading location, a large no. of Tank Trucks of petroleum products enter the installation. Crew members are generally not

regular entrants. The procedure should be as follows:

- i) The gate pass should be issued to the individual crew members on written request of the transporter mentioning TT registration nos., License and certificate of training as per MV rule 9.
- ii) Character & Antecedent (C & A) verification of the TTL crew through local police is to be done preferably and record maintained.
- iii) For loading/unloading purpose, register entry at security gate is made before allowing entry into the premises with recording of names of crew members, time of entry, pass Sr. No., TT no. etc.
- iv) For loading/unloading, crew is allowed entry alongwith TT only, after checking of TT from explosive/security point of view.
- v) Out time, invoice no., Destination etc., are recorded while TTs go out of the security gate.

5.5 TRAINING

Training is to educate contractor workforce on various hazards associated with the job/workplace and on the respective preventive / mitigation measures to avoid untoward incidents.

- i) Workers should be adequately and suitably:
 - (a) informed of potential safety and health hazards to which they may be exposed to at their workplace;
 - (b) instructed and trained in the measures available for the prevention, control and protection against those hazards.
- ii) No person should be employed in any work at a workplace unless that person has received the necessary information, instruction and training so as to be able to do the work competently and safely. The competent authority should, in collaboration with employers, promote training programs to enable all the workers

to read and understand the information / instructions related to safety and health matters.

- iii) The information, instruction and training should be given in a language understood by the worker and written, Oral, visual and participative approaches should be used to ensure that the worker has assimilated the information.
- iv) Every worker should receive instruction and training regarding the general safety and health measures common to the workplace. This should include:
 - (a) general rights and duties of workers at the workplace;
 - (b) means of access and egress both during normal working and in an emergency;
 - (c) measures for good housekeeping;
 - (d) location and proper use of welfare amenities and first aid facilities provided;
 - (e) proper use and care of the items of personnel protective equipment and protective clothing provided to the worker;
 - (f) general measures for personal hygiene and health protection;
 - (g) fire precautions to be taken;
 - (h) action to be taken in case of an emergency;
 - (i) requirements of relevant safety and health rules and regulations.

Copies of the relevant safety and health rules, regulations and procedures should be available to workers upon the commencement of and upon any change of employment.

5.5.1 Training Techniques

a) Lectures

This technique should be applied when it is required to transfer information in local language to a large contractor workforce with controlled content and time.

b) Case Study

This is an effective technique based on the presentation of case of real events by Trainer to highlight probable causes like Human Error, ignorance about the job etc.

c) Videos

Videos, an effective technique of communication, should be used to display the right techniques of performing a task in a safe manner and hazards associated with a job.

d) Demonstration at site

Right way to do a job should invariably be demonstrated to workers at the site itself. The right way is also a safe way. Hazards due to wrong procedures, short cuts and their adverse effects etc. should also be highlighted.

5.5.2 Training/Awareness Module and Frequency

A. General Safety Training to all categories of contractor employees should be imparted before induction and annually thereafter. No person should be allowed to enter the installation without undergoing this training. This training program may cover:

i) Mandatory uses of PPE like Cotton clothes, Helmet, Safety Shoes, Safety Belts etc.

ii) Probable Hazards

iii) Important Telephone No / Escape route

iv) First Aid

v) Use of Fire extinguisher

The contractor workers, if engaged in operation of the plants/facilities, should be trained in line with Clause No. 4.6 of OISD- GDN-206 on "Safety Management System". For other categories of contractor workers, training modules for different category employees are as follows:

B. Contractor Supervisor

Contractor Supervisor should be trained in accordance with the provision of clause no. 5.1.1.2, 5.2.7, 5.3.10, 5.6.12 and 5.7.8 of

OISD-STD-154 on 'Safety Aspects in Functional Training'

C. Contractor Worker

Yearly training programme should be carried out for contractor worker and the records should be maintained. The training programme should cover at least the following:

i) Worker responsibility for safety of himself and work area.

ii) Associated hazards with the job and job area including electrical shock hazards.

iii) Importance of First Aid fire fighting equipment, their use & operations

iv) Communication system at the installation

v) Fire / Accident Reporting procedure

vi) General Safety rules

vii) Safety Measures during execution of job such as:

- Welding / Cutting / Grinding
- Working at height
- Confined space entry
- X ray / radiation
- Erection / Dismantling of scaffolding
- Tank construction and repairs
- Handling of chemicals etc.

viii) Importance & use of PPE

ix) Emergency Routes

x) Assembly Points

xi) Job Specific Training

D. Consultant / Contractor

Awareness program should be carried out for Consultant / Contractor at the time of induction. This program should cover at least the following:

- i) Responsibility of contractor for safety of their personnel and work area
- ii) Hazardous property of Petroleum products and chemical used
- iii) Communication system
- iv) Fire / Accident Reporting procedure
- v) Medical facility available
- vi) Statutory requirements
- vii) Importance of First Aid equipment and required at the site
- viii) Work Permit system
- ix) Direct/ Indirect losses due to accident
- x) Safety Measures while executing the jobs such as:
 - Welding / Cutting / Grinding
 - Working at height
 - Confined space entry
 - X ray / radiation

- Erection / Dismantling of scaffolding
- Tank construction and repairs
- Handling of chemicals etc.
- electrical jobs

xi) Safety training needs of their supervisors and workers

xii) Importance & Use of PPE at the site

xiii) General Safety rules at the installation

E Security Personnel

Training program should be carried out for Security personnel at the time of induction and annually thereafter and the records should be maintained. The training program should cover at least the following:

- i) Layout of Plant and Facilities
- ii) Vulnerable locations
- iii) Safety regulations (Statutory and in company)
- iv) Fire Protection Facilities and Locations
- v) Role in case of Fire / Disaster
- vi) Emergency Procedure and Drills
- vii) Industrial First Aid
- viii) Use of Personnel Protective Equipment
- ix) Disaster Management Plan

5.6 INSPECTION / AUDIT

Inspection / Audit is a tool to evaluate compliance of all safety requirements. Most of the information could be gathered through site inspection using ready-made check lists to ensure that contractors / agencies abide by the safety rules and norms while working at operating / construction sites.

A checklist, while carrying out different type of jobs, should be developed based on hazards associated with the job being performed and requirements as per OISD- GDN-192 on "Safety Practices during Construction". Typical format is enclosed at Annexure II, which should be

modified to suit the requirement of the site / job to be done.

Before starting the work and at regular intervals thereafter,

Contractor's Supervisor/safety Officer and INDEPENDENT ENGINEER's representative / Engineer-in charge/safety Officer should inspect as per the checklist soprepared to ensure that contractor hasprepared to start the work with all safety precaution required for safe execution of job.

5.7 PENALTIES FOR NON-COMPLIANCE

Financial or other type of penalties like seizure of gate passes, stoppage of work for a limited period etc. may be levied on the contractors or their workers for non-compliance of safety rules. A provision of suitable accident severity based penalty clause for contractor may be incorporated to ensure adherence of systems and procedures. A few of the usual non-compliance are as follows:

- Non-usage of PPEs like Safety helmet / Safety shoes / Safety goggles / Respiratory protection etc. by the contractor personnel
- Non-usage of the safety belt and life line by the workers while working at height
- Non-provision of basic safety requirement such as 24 V lamp for working in confined space, uncertified / non standard lifting tools, earth leakage protection & earthing connections for electrical appliances as per Indian Electricity Rules, emergency isolation switches etc.
- Violation of Safety Permit conditions like Fire fighting equipment
- Non-barricading of area while rigging, digging etc.

-- Working without valid work permit

-- Unauthorised road closure/blockage

5.8 INCIDENT REPORTING AND INVESTIGATION SYSTEM

All the incidents including near-miss should be reported immediately by contractor's Supervisor to Contractor and INDEPENDENT ENGINEER's Supervisor/Engineer-in-charge, who should inform to INDEPENDENT ENGINEER's Safety Officer and INDEPENDENT ENGINEER's Management. INDEPENDENT ENGINEER's Safety Department will be required for onward reporting as per OISD, Statutory requirements.

All accidents regardless of the extent of injury or damage should be investigated in order to find probable causes, lessons learnt thereof and remedial measures required to prevent its recurrence.

The incident investigation should be done as per provision of clause no. 4.12 of OISD-GDN-206 on 'Safety Management System'. All the recommendations of investigation / Enquiry Report need to be monitored closely for its implementation. A proper record needs to be maintained to ensure implementation of all the recommendations and same should be reviewed from time to time.

5.9 SAFETY COMMITTEE MEETINGS

Following three types of safety committee meetings should be held aiming at raising the level of safety consciousness at the site:

5.9.1 Toolbox meeting

To maintain awareness, update training and convey important safety and health information, contractor supervisors should conduct tool box meetings at least weekly and also prior to start of any work. All the contractor workers should attend this meeting. The INDEPENDENT ENGINEER's supervisor/Engineer-in-charge and safety officers should also attend these meetings on a random basis. Tool box meeting should be conducted more frequently depending upon circumstances. Record of the same can be maintained in the following typical format.

TOOLBOX MEETING FORM

SUBJECT :

made by workers.

PRESENTER :

DATE :

TIME :

From.....

To.....

CONTENT IN BRIEF :

v) Dissemination of acquired knowledge through training programs and information sharing sessions.

vi) Discussion & review of Fire Prevention & Disaster Management Plan.

vii) To send recommendation to Apex Body for consideration/approvals.

Participant's Name Signature

5.9.2 Site Safety Committee Meeting

Primary purpose of this safety committee is to enable INDEPENDENT ENGINEER, contractor and workers to work together to monitor the site safety and health plan so as to prevent accidents and improve working condition on site. Its size and membership will depend on the size and nature of job.

The safety committee should include representatives of INDEPENDENT ENGINEER, consultant, contractor identified as safety officer/supervisor. It should be headed by Engineer-in-charge.

The safety committee should have regular and frequent meetings, at least fortnightly, to discuss the safety and health program onsite and to make suggestions for improvement. The meetings should be documented with a time bound action plan. The functions carried out by safety committee should include:

- i) Review compliance of pending items of last Safety meetings.
- ii) Consideration of the reports of safety personnel.
- iii) Discussion of accident/near-miss and illness reports in order to make appropriate recommendation for prevention.
- iv) Examination/evaluation of suggestions

5.9.3 Safety Review Meeting by Location Head

This meeting should be headed by the Location head and attended by INDEPENDENT ENGINEER's Supervisor/Engineer-in-charge, INDEPENDENT ENGINEER's safety Officer and all concerned department heads. Prime purpose of this review is to ensure that all the recommendations of various committees are being complied with and to take decisions on critical points raised. This meeting should take place at least once in every quarter. All the investigation reports/ audit findings with status of implementation of recommendations should be discussed.

5.10 SAFETY EQUIPMENT / PERSONNEL PROTECTIVE EQUIPMENT

The type of safety equipment to be used is decided based on the job requirement. Selection should be made based on OISD- GDN-192, OISD-STD-155 (Part I & II) and

the job requirement. Safety equipment / Personnel Protective Equipment (PPE) shall be of approved make. Contractor shall provide necessary training to each employee regarding proper usage and upkeep of PPE including its limitation.

A register showing stock and issue of PPE should be maintained by the contractor at site and must be available for inspection.

6.0 REFERENCES

- 1) OISD-GDN-206 on "Safety Management System"
- 2) OISD-GDN-192 on "Safety During Construction"
- 3) OISD-STD-155 Part(I&II) on "Personnel Protective Equipment"
- 4) Building & Other Construction workers (Regulation of Employment & Condition of Service) Act 1996

ANNEXURE I**LIST OF SAFETY CODES FOR CIVIL WORKS PUBLISHED BY BUREAU OF
INDIAN STANDARDS**

Sl.no.	Code No.	Title
1	IS: 818	Code of Practice for Safety and Health Requirements in Electric and Gas Welding and Cutting Operations – First Revision.
2	IS: 875	Code of practice for Structural safety of buildings: Masonry walls
3	IS: 933	Specification for Portable Chemical Fire Extinguisher, LOA mType – Second Revision.
4	IS: 1179	Specification for Equipment for Eye and Face Protection during Welding – First Revision
5	IS: 1904	Code of practice for Structural safety of buildings: Shallow foundations
6	IS: 1905	Code of practice for Structural safety of buildings: Masonry walls
7	IS: 1989 – Part II	Leather Safety Boots and shoes for heavy metal industry
8	IS: 2171	Specification for Portable Fire Extinguishers, Dry Powder Type – Second Revision
9	IS: 2361	Specification of Building Grips – First Revision
10	IS: 2750	Specification for Steel Scaffoldings
11	IS: 2925	Specification for Industrial Safety Helmets – First Revision
12	IS: 3016	Code of Practice for Fires Precautions in Welding and Cutting Operations – First Revision
13	IS: 3521	Industrial Safety Belts and harnesses
14	IS: 3696 – Part I	Safety Code for Scaffolds and Ladders: Part I – Scaffolds
15	IS: 3696 – Part II	Safety Code for Scaffolds and Ladders: Part II – Ladders
16	IS: 3764	Safety Code for Excavation Work
17	IS: 4014 – Part I & II	Code of Practice for Steel Tubular Scaffolding
18	IS: 4081	Safety Code for Blasting and Related Drilling Operations
19	IS: 4082	Recommendations on stacking and storage of construction materials at site
20	IS: 4130	Safety Code for Demolition of Buildings – First Revision
21	IS: 4138	Safety Code for working in compressed air – First Revision

22	IS: 4756	Safety Code for Tunneling works
23	IS: 4912	Safety requirements for Floor and Wall openings, Railings and toe boards – First Revision
24	IS: 5216 – Part I & II	Recommendations on safety procedures and practices in electrical work
25	IS: 5121	Safety code for piling and other deep foundations
26	IS: 5916	Safety Code for Construction involving use of Hot Bituminous materials
27	IS: 6994 – Part I	Specifications for safety gloves: Part I – Leather and Cotton gloves
28	IS: 5983	Specification for Eye Protectors – First Revision
29	IS: 6922	Criteria for safety and design of structures subject to underground blasts
30	IS: 7155	Code of recommended practices for conveyor safety
31	IS: 7205	Safety Code for Erection on Structural Steel Works
32	IS: 7069	Safety Code for Handling and Storage of Building Materials
33	IS: 7293	Safety Code for Working with Construction Machinery
34	IS: 7323	Guidelines for operation of Reservoirs
35	IS: 7969	Safety Code for handling and storage of building materials
36	IS: 8758	Recommendation for Fire Precautionary Measures in construction of Temporary Structures and Pandals
37	IS: 8989	Safety Code for Erection of Concrete Framed Structures
38	IS: 9706	Code of Practices for construction of Aerial ropeways for transportation of material
39	IS: 9759	Guidelines for de-watering during construction
40	IS: 9944	Recommendations on safe working load for natural and manmade fibre rope slings
41	IS: 10667	Guide for selection of industrial safety equipment for protection of foot and leg
42	IS: 10291	Safety Code for dress divers in civil engineering works
43	IS: 10386 – Part I	Safety Code for Construction, Operation and Maintenance for River Valley Projects
44	IS: 10386 – Part II	Safety Code for Construction, Operation and Maintenance for

River Valley Projects

45	IS: 11057	Code of Practice for Industrial Safety Nets
46	IS: 13415	Code of Practice on safety for Protective barriers in and around building
47	IS: 13416	Recommendations for preventive measures against hazards at working places

Statutory Regulations

Latest Statutory Acts and Rules, as given below, may be referred:-

1. The Petroleum Acts 1934 and Petroleum Rules 2002
2. The Factory Act, 1948 (As amended by Factory Amendment Act 1987) and concerned Factory Rules
3. The Water (Prevention and Control of Pollution) Act 1974 & Rules 1975
4. The Environment (Protection) Act 1986
5. The Manufacturing, Storage and Import of Hazardous Rules 1989
6. The Hazardous Wastes Management (Management & Handling) Rules 1989
7. The Indian Electricity Act 1901 and Rules 1956
8. The Indian Explosive Acts, 1884 & The Indian Explosive Rules 1983
9. The Gas Cylinder Rules 1981 and the static & Mobile Pressure Vessels (Unfired) Rules 1981
10. The Indian Boiler Act 1923 and Regulations 1950
11. The Public Liability Act 1991 as amended in 1992
12. The Motor Vehicle act 1988 and Central Motor Vehicle rules 1989
13. Building & Other Construction workers (Regulation of Employment & Condition of Service) Act 1996

In addition to above, various other statutory acts like EPF, ESIS, Minimum wage act and other local statutory requirements shall also be complied with.

ANNEXURE II

CHECK LIST FOR SAFETY INSPECTION / AUDIT

Job _____ Location _____ Date of Audit _____ Frequency _____

Inspected by _____ Contractor (s) _____

Sl.no.	ITEM	YES	NO	NA	REMARKS / ACTION
1.0	PERSONNEL PROTECTIVE EQUIPMENT (PPE): Are following PPEs being used as per the job requirements?				
1.1	Safety Helmets				
1.2	Safety Shoes				
1.3	Gum Boots				
1.4	Safety Belts with life line				
1.5	Gloves				
1.6	Ear Plug				
1.7	Goggles				
1.8	Shield Glass				
1.9	Face Protection				
1.10	Breathing Apparatus				
1.11	Canister Mask				
1.12	Hand wash / Eye wash/ Respirating filter /cloth				
1.13	Boiler Suit				
1.14	Others				
2.0	HOUSE KEEPING				
2.1	Whether Waste Bins are provided / used				
2.2	Are Passageways / Walkways clear?				
2.3	Is General neatness O.K.?				
2.4	Is the Ground free from oil, grease etc.and is not found to be slippery?				
2.5	Others				

3.0	EXCAVATION				
3.1	Whether soil stability is checked?				
3.2	Whether proper shoring for the excavation is provided to prevent cave-in for side of slope >45 Degree?				
3.3	Whether proper precautions have been taken if the excavation is adjoining to heavy structure like building, street and roadways?				
3.4	While excavating whether proper slope usually 45° & suitable benches of 0.5 m width at each 1.5 m depth are provided?				
3.5	Whether barricading of 1m height with glowing caution board is provided for excavation beyond 1.5m depth?				
3.6	Whether excavating earth is placed beyond 1m of the edge of the trench?				
3.7	Whether heavy vehicle movement is restricted to come too close to the excavating area?				
3.8	Whether necessary precaution is taken for underground pipes, sewers, cables by contractors?				
3.9	Whether excavation hot work permit is taken?				
3.10	Whether extra precaution is taken for bailing out water properly while excavating?				
3.11	During rains whether the excavation is done with extra precaution to prevent caving in?				
3.12	Whether two separate entry/ exit points with necessary ladders / steps, as per requirement, have been provided?				
3.13	Whether one person is available at all the time to communicate any hazards noticed with workers working in deep trenches or excavation?				
3.14	Whether necessary precautions like				

	regular gas testing are being taken in areas having hydrocarbons and LPG so that no gas accumulation takes place in the trenches.				
3.15	Whether IS: 4081-1986 & Indian Explosive act & rules for storage, handling & carrying of explosive material and execution of blasting operation is followed?				
3.16	Whether in case of mechanised excavation, caution board is provided for do's and don'ts like 'Nobody to enter' within one meter of the extreme reach?				
3.17	Whether the following are inspected during excavation work :- a) Boulder formation encountered b) Collapsing / development of cracks of sides c) Marked damage to support d) Unexpected fall of ground e) Inspection of site after each blast.				
3.18	Others				
4.0	PERMITS				
4.1	Whether valid work permit is issued to start any work?				
4.2	Whether all conditions of the permit are fulfilled before starting the job?				
4.3	As noted in the permit, whether compliance of all the recommendations are ensured?				
4.4	Whether permits are available at work site all the times?				
4.5	Whether hot work permit registered in fire station?				
4.6	Whether permits are being closed after the completion of job?				
4.7	Others				
5.0	SAFETY IN CUTTING / WELDING/GRINDING				
5.1	Whether LPG / Oxygen / Acetylene/ Gas				

	cylinders are kept outside only while working in confined space?				
5.2	Are Acetylene /LPG cylinders kept in upright position and secured at designated places under shed – wet gunny bags wrapped around it if the same is under sun at designated place?				
5.3	Check cylinder and cylinder valves for any kind of damage?				
5.4	Whether protective valves are kept on cylinder while not in use?				
5.5	Whether proper means and method for transportation of cylinders to avoid dropping and rolling are being adopted / followed?				
5.6	Whether gas cylinders, regulators are kept away/free from oil and grease?				
5.7	Whether all hoses were found to be free of any damage or crack?				
5.8	Whether oxygen and acetylene cylinders are stored separately?				
5.9	Whether color coding is being used for easy identification of different type of cylinders and hoses?				
5.10	Whether cylinder keys are available near the cylinder?				
5.11	Whether gas torches with NRV with flash back arrestor of approved make are only being used?				
5.12	Whether pressure gauges are in working condition and checked from time to time?				
5.13	Whether welding shields are used while welding?				
5.14	Whether proper earthing for welding machines are provided?				
5.15	Whether power is taken from approved sources (welding receptacles)?				
5.16	Whether welding receptacles are properly grounded?				

5.17	Whether welding cables are maintained in good condition and without any joints/ cuts?				
5.18	Whether to avoid short circuit, welding machines are protected against rain?				
5.19	Whether earth connectors are securely connected to the job and not to the adjoining pipeline or structure?				
5.20	Whether flame arrestor of DG set is of approved make and quality?				
5.21	Others				
6.0	SAND / SHOT BLASTING				
6.1	Whether sand blasting is used only after getting approval from competent authority?				
6.2	Whether air compressor used for sand / shot blasting are positioned away from work place?				
6.3	Whether exhaust of the prime mover is directed away from the work place?				
6.4	Whether in case of motor driven compressor, the body of the motor as well as the compressor is properly earthed?				
6.5	Whether line operator of sand/shot blasting wear suitable PPEs including mask?				
6.6	Whether adequate measures are adopted to confine dust/spray particles?				
6.7	Whether adequate measures are taken for proper ventilation while the work is done in confined space?				
6.8	Others				
7.0	SAFETY WHILE WORKING AT HEIGHTS / SCAFFOLDING / LADDERS				
7.1	Whether work permit is obtained to take up work at height above 3 mts?				
7.2	Whether steel pipes scaffoldings are used in unit/off site areas?				

7.3	Whether provision for suitable platform with all scaffoldings are made? Whether its construction is as per specification with toe board and railing?				
7.4	Whether the area below working at height is cordoned?				
7.5	Whether suitable platform is provided?				
7.6	Whether ISI approved quality and good condition safety belts are used while working at heights?				
7.7	Whether life line of safety belt is Anchored to an independent secured support capable of withstanding load of a falling person?				
7.8	Whether the area around the scaffold is cordoned off to prohibit the entry of unauthorized person?				
7.9	Whether ropes used are of good condition and adequate strength free of defects?				
7.10	Whether ladder is placed at secured and leveled surface?				
7.11	Whether it is extended 1.5 Mts. Above the landing point?				
7.12	Whether ladder used are of adequate length and tying short ladder is avoided?				
7.13	Whether metallic ladders are placed away from electrical system?				
7.14	Whether tools or materials are removed after completion of the day's job at heights?				
7.15	Whether a valid permit is obtained before taking up work on asbestos or fragile roof?				
7.16	Whether sufficient precaution is taken while working on fragile roof?				
7.17	Whether provision is made to arrange duck ladder, crawling board for working at fragile roof?				
7.18	Whether scaffolding has been erected on rigid / firm / levelled surfaces only?				

7.19	Whether scaffold has been inspected by competent person prior to being put in use?				
7.20	Whether the scaffolding has been designed for the load to be borne?				
7.21	Whether the erection and dismantling of the scaffolding is being done only by trained persons and under supervision?				
7.22	Whether safety net with proper working arrangement and life line has been provided?				
7.23	Others				
8.0	SAFETY IN CONFINED SPACE				
8.1	Whether a permit is obtained to enter a confined space?				
8.2	Whether gas test for hydrocarbon, toxic gas, oxygen level is obtained before entering any confined space?				
8.3	Whether adequate oxygen level is ensured in confined space before entering? If not, whether all precaution like using of Breathing Apparatus set is ensured?				
8.4	Whether, in case of chance of ingress of hydrocarbon gases / toxic gases, Personnel Monitoring System (PMS) is used or not?				
8.5	Whether only in presence of a supervisor, worker enters in confined space?				
8.6	Whether provision of sufficient means of entry and exit is available?				
8.7	Whether provision of ventilation to remove welding fumes, dust, exhaust gases are made?				
8.8	Whether provision of 24V (Hand lamps with cage as per OISD-STD-155) light for working inside space is made?				

8.9	Is it strictly ensured that a stand-by trained person is standing outside before a person enters a confined space and communication is being maintained all the time with workers working inside?				
8.10	Whether life belt with one end under control of stand-by person outside is kept while working in confined space?				
8.11	Whether Personnel protective Equipment are in good condition as specified in the permit?				
8.12	Whether absence of Hydrogen Sulfide, CO or other toxic gas is ensured before entering into a confined space? If yes, whether proper required PPE like BA, Gas Mask are used.				
8.13	Whether boxing up is being done only as per the approved procedures and by competent persons?				
8.14	Whether all the safety precautions listed in OISD-GDN-192 are taken while working in sewers, OWS etc.?				
8.15	Whether proper house keeping is being maintained inside the confined space?				
8.16	Whether training has been provided to workers working in the confined space and the workers only of sound health are being asked to work in the confined space?				
8.17	Others				
9.0	SAFETY IN MATERIAL HANDLING				
9.1	Whether all lifting tools, tackles, machines, chains, ropes etc. are of sound construction, made of sound material and maintained in good condition?				
9.2	Whether safe working load, date of testing visibly marked/painted on the equipment?				
9.3	Whether lifting tools, tackles are of adequate strength for the load to be handled?				
9.4	Whether all parts including the working gears fixed or movable of every lifting machine, chain, rope, tackles specify the				

	<p>following condition:</p> <p>a) Thoroughly examined by competent person at least once a year or such interval as required by statutory authority.</p> <p>b) Document of such examination are maintained and produced to INDEPENDENT ENGINEER supervisor before use of particular equipment?</p>				
9.5	Whether chain blocks and cables are inspected before each use to assure their sound condition?				
9.6	<p>Whether hoist and lift if used are:</p> <p>a) Properly maintained and thoroughly examined by competent authority at least once in every year.</p> <p>b) A register to be maintained to record particulars of such examination in prescribed forms and shall be produced to the INDEPENDENT ENGINEER supervisor before use.</p>				
9.7	Whether area below the movement of boom of crane is cleared to avoid injury from falling objects?				
9.8	Whether it is ensured that crew of truck leave the truck in crane handling area before starting loading / unloading, if not involved in rigging operation?				
9.9	Whether transporting material from one place to another is done by suitable means?				
9.10	Whether carrier with sufficient capacity without projecting parts is used for transporting materials?				
9.11	Whether riggers engaged are well trained and conversant with signaling procedures including night signalling if required?				
9.12	Whether permission of authorized person is obtained before working on or near an overhead crane?				
9.13	Whether trained riggers are available all the time along with crane?				

9.14	Whether barricading has been done to ensure no unauthorized person enters in the working area of the crane?				
9.15	Whether lifting plan has been prepared and approved before start of the work?				
9.16	Whether route of crane movement has been planned before the crane moves out of the garage?				
9.17	Whether it has been ensured that no electrical cable come within 3 metres or safe distance from the boom of the crane?				
9.18	Whether boom is being kept in the horizontal position or locked while idling?				
9.19	Whether material is being stacked / de-stacked in trucks with the help of wedges to ensure no slippage while loading / unloading takes place?				
9.20	Whether the forklift / crane is being operated only by trained person?				
9.21	Others				
10.0	ELECTRICAL SAFETY				
10.1	Has the Electrical Line Clearance procedure been followed involving electrical and other concerned Dept. and filling of formats?				
10.2	Have Danger Signs with Voltage rating/ Men at work signboards been displayed at both Sub Station as well as the work site?				
10.3	Has the contractor worker understood the electrical circuit on which he is going to work with probable electrical hazards and mitigation measures to be adopted?				
10.4	Whether contractor has engaged electrician (s) having valid electrical license in line with provisions in Indian Electricity Rules?				

10.5	Have all checks prior to switching operation been carried out and authorization of INDEPENDENT ENGINEER/ user section obtained subsequently?				
10.6	Have all earthing links on electrical conductors removed before charging the line/ apparatus?				
10.7	Have PPE as prescribed under Indian Electricity Rules been in place, kept healthy and used?				
10.8	Are earthing and bonding arrangement of non-current carrying metallic parts in line with provisions of Indian Electricity Rules – 1956 amended time to time as IS: 3043?				
10.9	Have electrical part of OISD-GDN-192 and Clause No. 9.0 for Temporary installations in OISD-173 been understood and followed wherever applicable?				
10.10	Are flexible wires having voltage of 240 volts above earth potential taken through PVC conduits?				
10.11	Whether portable hand lamps with a voltage rating of not more than 24 volts used with flameproof enclosures in confined spaces within columns, vessels etc?				
10.12	Have the Switches, MCBs, fuses etc.been inspected for proper ratings?				
10.13	Has Earth Leakage Circuit Breaker (ELCB) been used on the incoming side to protect against leakage of current? Is the device tested every time the work is started?				
10.14	Whether all portable appliances are provided with insulated Three pin Plugs and socket arrangement?				
10.15	Whether industrial type extension boards and plug sockets are used?				
10.16	Has the electrical equipment brought to site by contractor been inspected by INDEPENDENT ENGINEER's supervisor/ safety officer for damage/cuts/abrasion etc? Is record of				

	Insulation Resistance, wherever required , being kept?				
10.17	Have standard practices for termination of conductors/ cables been followed (e.g. use of proper lugs, crimping tool, cable glands etc)? Is cable armour in continuity from feeding point to load?				
10.18	Are the Contractor supervisor and workmen well acquainted with first aid for electrical shock?				
10.19	Are the wires/ cables identifiable along their route towards the load by using colour coding and/or markers?				
10.20	Others				
11.0	ROAD WORK				
11.1	Whether site is barricaded and provided with warning signs including night warning lamps/ self glowing markers at appropriate location for diversion of traffic?				
11.2	Whether mixing aggregates with bitumen is done with the help of batch mixing plants? If no, whether adequate precautions have been taken?				
11.3	Whether road rollers, bitumen sprayers, pavement finishers are driven by experienced drivers with valid driving licenses?				
11.4	Whether the worker handling hot bitumen sprayers or spreading bitumen aggregate mix or mixing bitumen with aggregate are provided with PVC hand gloves rubber shoes with pegging upto knee joints?				
11.5	Others				
12.0	FORM WORK, REINFORCEMENT				
12.1	Whether form work, shuttering, shoring etc. are adequately designed and provided to erect the structure and to support the expected load?				

12.2	Whether staging (support) for shuttering is designed for loads like worker movement, impact load and other incidental loads during construction?				
12.3	Whether workers use PPEs at work site?				
12.4	Whether all safety procedures are adopted while cutting rod?				
12.5	Whether proper staging and bundling is provided for supplying rods at height?				
12.6	Whether sufficient cross bracings are provided for high staging works at vulnerable points?				
12.7	Others				
13.0	CONCRETING				
13.1	Whether the concreting area is barricaded?				
13.2	Whether vibrator hoses, pumping concrete accessories are in healthy condition and mechanically strong?				
13.3	Whether it is ensured that no pipe line in concrete pumping system is attached to any temporary strut such as scaffolds etc.?				
13.4	Whether it is checked that safety guards around moving parts are provided in concrete mixer/ machines?				
13.5	Whether earthing of electrical mixers,vibrator etc. are checked?				
13.6	Whether entry of unauthorized person in the concreting area is restricted?				
13.7	Whether adequate lighting arrangement is made in the concreting area if working during night?				
13.8	Whether PPEs like gum boots, gloves and dust masks etc. are being used?				
13.9	For overhead or underground work, whether form work and shuttering have been checked so that the same do not collapse during concreting?				

13.10	Others				
14.0	DEMOLISHING (DEMOLISHING BY BLAST NOT CONSIDERED)				
14.1	Has the stability of structure been examined by competent person and found OK?				
14.2	Are non-sparking tools being used, if required?				
14.3	Is intermittent clearing operation being done to keep the area reasonably tidy and clean?				
14.4	Whether effective barricading has been provided?				
14.5	Whether Electrical and other facilities like water, oil, gas pipelines have been isolated/protected?				
14.6	Whether the plan of demolition (including sequence of activities) has been prepared and approved prior to start of the work?				
14.7	Others				
15.0	RADIOGRAPHY				
15.1	Are safety precautions for handling of source as per guidelines of BARC being followed?				
15.2	Is the potency of the source being used within acceptable limits as per the BARC regulations?				
15.3	Is the area being cordoned with proper signs during radiography?				
15.4	Does proper place exist as per BARC regulations for storage of source / Personnel safety equipment?				
15.5	Does the radiographer has valid certificate of radiography from competent authority (BARC)?				
15.6	Is radiographer using Exposure Meter /Dosi Meter?				
15.7	Whether minimum occupancy of the				

	premises / workplace is being ensured while radiography is in progress?				
15.8	Is permit system being followed?				
15.9	Others				
16.0	ADDITIONAL SAFETY PRECAUTION FOR UNITS WITH HYDROCARBONS				
16.1	Are jobs being carried out with a valid work permit only as per OISD-STD-105 "Work Permit System".				
16.2	Is smoking prohibited in all places containing combustible or flammable materials and "No Smoking" notices prominently displayed.				
16.3	Are only approved type electrical installations and equipment, including portable lamps, being used?				
16.4	Are oily rags, waste, wooden materials and clothes or other substances liable to spontaneous ignition being removed?				
16.5	Are the combustible materials properly shielded in case same cannot be removed from the area?				
16.6	Has welding screens (like metal/asbestos/water curtain) been put up to protect other equipment / facilities/ OWS/ drains in adjoining areas against flying sparks, as may be required?				
16.7	Is Gas-testing being done with the means of a calibrated Gas detection Meter prior to start of Hot work and being done subsequently at regular intervals as per the requirement?				
16.8	Are regular inspections being done of places where there are fire risks like in the vicinity of heating appliances, electrical installations and conductors, stores of flammable and combustible materials, welding and cutting operations?				
16.9	Are fire-extinguishing equipment being placed at strategic locations and are kept well maintained and inspected at suitable intervals by a competent person.				
16.10	Are access to fire-extinguishing equipment such as hydrants, portable				

	extinguishers and connections for hoses kept clear at all times?				
16.11	Are all supervisors and a sufficient number of workers trained in the use of fire-extinguishing equipment?				
16.12	Are audio means, to give warning in case of fire provided, audible in all parts of the site where persons are liable to work?				
16.13	Is there an effective evacuation plan in place so that all persons are evacuated speedily without panic?				
16.14	Others				
17.0	EMERGENCY PROCEDURES				
17.1	Is signaling / siren system effective?				
17.2	Is arrangement for rescuing affected person adequate?				
17.3	Are signs showing emergency exit route installed?				
17.4	Is emergency exit route clear of obstacles?				
17.5	Is communication system adequate?				
17.6	Whether emergency vehicle with driver has been provided to meet any emergency situation?				
17.7	Does any tie-up with hospitals or local doctors exist?				
17.8	Has the assembly point for workers in case of emergency been identified and earmarked?				
17.9	Has training been provided to a few workers for First Aid?				
17.10	Others				
18.0	WELFARE FACILITIES				
18.1	Is hygienic conditions prevailing at labour camps?				
18.2	Are First Aid facilities available?				

18.3	Does proper sanitation exist at site office and labour camps?				
18.4	Does any arrangement of medical facilities like tie ups with nearby hospital exist?				
18.5	Is proper drinking water facility available for workmen & staff?				
18.6	Are crèches provided for children (if applicable)?				
18.7	Is any proper place/canteen/restroom provided for eating food and taking rest?				
18.8	Is any place earmarked for storing /keeping clothing?				
18.9	Is Adequate washing facility available?				
18.10	Does proper ventilation at working place exist?				
18.11	Others				
19.0	GENERAL				
19.1	Are illumination levels at workplace and passages adequate?				
19.2	Is communication system adequate?				
19.3	Are display and caution boards provided at strategic locations?				
19.4	Are road barriers being used for blocking any roads/passage?				
19.5	Has the structure been adequately secured against storm/high winds during construction/ erection?				
19.6	Are the equipment properly earthed?				
19.7	Are vehicles being checked like brakes, oil, lights etc. on regular basis?				
19.8	Is compressed air being used only for its intended purpose and not for any other purpose?				
19.9	Are only proper clothes and not loose clothes being used while working around				

	machinery?				
19.10	Are nails or other sharp objects being removed or bent?				
19.11	Are machine guards over moving parts of machinery such as coupling, pulley, wheel etc. installed?				
19.12	Whether after maintenance of machinery the guards are securely fitted before putting into operation?				
19.13	Are working platforms / gangways provided with hand rails & toe guards?				
19.14	Are swing platforms provided with chains& secured adequately when not in use?				
19.15	Are the approaches to work sites being maintained & kept clear of obstacles?				
19.16	Whether engines of equipment entering into the operating area have exhaust and muffler system with approved spark arrestor?				
19.17	Whether vehicles/engine driven equipment, electrical equipment and tools used are certified?				
19.18	Whether contractors inform his workers about hazards and safe procedures?				
19.19	Whether sufficient care is taken so that spark do not go outside working enclosure & falls below?				
19.20	Whether contractor's qualified / trained supervisor is present?				
19.21	Whether all exhausts of engines are provided with approved type of flame arrestors and exhaust is not facing toward the place where the workers are working?				
19.22	Others				

Signature of the Auditor

SPECIFICATION FOR DOCUMENTATION REQUIREMENTS
(Annexure-17 to SCC)

SPECIFICATION FOR DOCUMENTATION REQUIREMENTS
FROM CONTRACTORS

Abbreviations

DCI	-	Document Control Index
LOA	-	Letter of Acceptance
HOD	-	Head of Division / Department
IC	-	Inspection Certificate
IRN	-	Inspection Release Note
ITP	-	Inspection and Test Plan
LOA	-	Letter of Acceptance
MOU	-	Memorandum of Understanding
QMS	-	Quality Management System
URL	-	Universal Resource Locator

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1.0	SCOPE
2.0	DEFINITIONS
3.0	REFERENCE DOCUMENTS
4.0	DOCUMENTATION REQUIREMENT

1.0 SCOPE

This specification establishes the Documentation Requirements from Contractors

All documents/data against the Tender / Contract shall be developed and submitted to CONSULTANT / INDEPENDENT ENGINEER by the contractor for review / records, in line with this specification.

2.0 DEFINITIONS

2.1 Contractor

For the purpose of this specification, the word "CONTRACTOR" means the person(s), firm, company or organization who is under the process of being contracted by CONSULTANT / INDEPENDENT ENGINEER for delivery of some products and services. The word is considered synonymous to bidder, supplier or vendor.

2.2 INDEPENDENT ENGINEER

INDEPENDENT ENGINEER means the INDEPENDENT ENGINEER of the project for which services / products are being purchased and includes their representatives, successors and assignees.

3.0 REFERENCE DOCUMENTS

Specification for Quality Management System Requirements from bidders as per tender documents.

4.0 DOCUMENTATION REQUIREMENTS

4.1. Documents / Data to be submitted by the Contractor.

4.1.1. The contractor shall submit the documents and data against the Tender/Contract as per the list specified in respective Tender/Contract.

4.1.2. Review of the contractor drawings by CONSULTANT would be only to review the compatibility with basic designs and concepts and in no way absolve the contractor of his responsibility/contractual obligation to comply with Tender/Contract requirements, applicable codes, specifications and statutory rules/regulations. Any error/deficiency noticed during any stage of manufacturing/execution/installation shall be promptly corrected by the contractor without any extra cost or time, whether or not comments on the same were received from CONSULTANT during the drawing review stage.

4.1.3. Unless otherwise specified, submission of documents for Review/Records shall commence as follows from the date of Fax of Intent / Letter of Intent/ Letter of Acceptance (LOA)/ Letter of Acceptance (LOA), whichever is earlier:

QMS	- 1 week
Drawing/Document Control Index	- 2 weeks
Other Documents/Drawings	- As per approved Drawing/Document Control Index/Schedule

4.1.4. Documents as specified in Tender/Contract are minimum requirements. Contractor shall submit any other document/data required for completion of the job as per CONSULTANT/INDEPENDENT ENGINEER instructions.

4.2. Style and Formatting

4.2.1. All Documents shall be in ENGLISH language and in M.K.S System of units.

- 4.2.2. Before submitting the drawings and documents, contractor shall ensure that the following information are properly entered in each drawing:

Tender Number

Name of Equipment / Package

Equipment / Package Tag No.

Name of Project

INDEPENDENT ENGINEER

Main Contractor (if work is sub-contracted as per tender terms & condition) Drawing / Document Title

Drawing / Document No.

Drawing / Document Revision No. and Date

4.3. **Review and Approval of Documents by Contractor**

- 4.3.1 The Drawing/Documents shall be reviewed, checked, approved and duly signed/stamped by contractor before submission. Revision number shall be changed during submission of the revised contractor documents and all revisions shall be highlighted by clouds. Whenever the contractor requires any sub-contractor drawings to be reviewed by CONSULTANT, the same shall be submitted by the contractor after duly reviewed, approved and stamped by the contractor. Direct submission of subcontractor's drawings without contractor's approval shall not be entertained.

4.4. **Document Category**

4.4.1 Review Category

Following review codes shall be used for review of contractor Drawings/Documents:

Review Code A: No comments. Proceed with manufacture/ fabrication/ Construction as per the document.

Review Code B: Proceed with manufacture/ fabrication/ Construction as per commented document. Revised document required.

Review Code C: Document does not conform to basic requirements as marked. Resubmit for review.

R : Document is retained for Records. Proceed with manufacture/ fabrication.

V : Void

4.5. **Methodology for Submission of Documents to INDEPENDENT ENGINEER**

4.5.1 Document Control Index (DCI)

Contractor shall create and submit Document Control Index (DCI) for review based on PO/PR/MR along with schedule date of submission of each drawing/document through email. The DCI shall be specific with regard to drawing/document no. and the exact title. Proper sequencing of the drawings/documents should be ensured in schedule date of submission.

4.5.2 Submission of Drawings/Documents

Drawings/documents and data shall be submitted through email and hard copy.

4.5.3 Statutory Approvals

Wherever approval by any statutory body is required to be taken by Contractor, the Contractor shall submit copy of approval by the authority to Consultant/INDEPENDENT ENGINEER.

4.5.4 Details of Contact Persons of Contractor

After placement of order contractor shall assign a Project Manager for that order. The details are to be shared through email. The details include e-mail address, mailing address, telephone nos., fax nos. and name of Project Manager. All the system generated emails pertaining to that order shall be sent to the assigned Project Manager.

4.5.5 Schedule and Progress Reporting

Contractor shall submit monthly progress report and updated procurement,

engineering and manufacturing status (schedule vs. actual) every month. First report shall be submitted within 2 weeks from LOA/LOA. In case of exigencies, Consultant/INDEPENDENT ENGINEER can ask for report submission as required on weekly/fortnightly/adhoc basis depending upon supply status and contractor shall furnish such reports promptly without any price implication. Format for progress report shall be submitted by the contractor during kick off meeting or within one week of receiving LOA/LOA, whichever is earlier.

4.5.6 Quality Assurance Plan/Inspection and Test Plan

Inspection and test plans attached if any, to the tender are generic and indicative only.

Immediately after receipt of the order, contractor shall submit within one week of receiving LOA/LOA, job specific ITPs based on the indicative ITPs. Further, contractor shall also submit Quality Assurance Plan for project activities in the scope of contract, starting from manufacturing to handing over/ commissioning, these plans shall cover/identify the activities, relevant procedure, if any, code of conformance, resources for performance and checking/monitoring, approval requirements and authority, records to be generated and audit scope by Consultant /INDEPENDENT ENGINEER.

For EPCC/LSTK/Package contracts, the contractor shall prepare a list of items/ equipment's and their inspection categorization plans for all items included in the scope of supply immediately after receipt of order and obtain approval for the same from Consultant. The items shall be categorized into different categories depending upon their criticality for the scope of inspection of TPIA and/or Consultant.

4.5.7 Inspection Release Note (IRN)/ Inspection Certificate (IC)

Contractor shall ensure that all documents viz. documents reviewed, manufacture's test certificate etc., mentioned in Inspection Release Note (IRN), issued by Consultant /third party against the materials supplied by contractor., are sent to Consultant along with the IRN. IRN/ IC shall be issued by CONSULTANT Inspector/ third party inspection agency only after all the drawings/documents as per DCI are submitted and are accepted under review code-A & code R. Material/Equipments dispatch from contractor's/sub vender's works shall not commence till above condition Note: Non fulfilling above requirement shall result into appropriate penalty or withholding of payment as per conditions of Tender/Contract.

4.6. Final Documentation

4.6.1 As built Drawings

Shop/Site changes made by contractor after approval of drawings under 'Code A' by CONSULTANT and deviations granted through email, if any, shall be marked in hard copies of drawings which shall then be stamped 'As-

built' by the contractor. These 'As-built' drawings shall be reviewed and stamped by Consultant Inspector/Site engineer/TPIA also. Format for completeness of final documents is attached with this specification. Contractor shall prepare scanned images files of all marked — up 'As — built' drawings. Simultaneously contractor shall incorporate the shop/site changes in the native soft files of the drawings also.

4.6.2 As built Final Documents

As built final documents shall be submitted as listed in Tender/Contract.

4.6.3 Packing/Presentation of Final Documents is met.

Final Documents shall be legible photocopies in A4, A3 size only. Drawings will be inserted in plastic pockets (both sides transparent, sheet thickness minimum 0.1 mm) with an extra strip of 12 mm wide for punching so that drawings are well placed.

Final Documentation shall be bound in hard board plastic folder(s) of size 265 mm x 315 mm (10 1/2 inch x 12 1/2 inch) and shall not be more than 75 mm thick. It may be of several volumes and each volume shall have a volume number, index of volumes and index of contents of that particular volume. Where numbers of volumes are more, 90mm thickness can be used. Each volume shall have top PVC sheet of minimum 0.15 mm thick duly fixed and pressed on folder cover and will have 2 lever clips. In case of imported items documents, 4 lever clip shall also be accepted. All four corners of folders shall be properly metal clamped. Indexing of contents with page numbering must be incorporated by contractor. Spiral/Spico bound documents shall not be acceptable. As mentioned above, books should be in hard board plastic folders with sheets punched and having 2/4 lever clips arrangement.

Each volume shall contain on cover a title block indicating Tender No., name of project, name of customer, package equipment tag no. & name (if applicable). Each volume will have hard front cover and a reinforced spine to fit thickness of book. These spines will also have the title printed on them. Title shall include also volume number (say 11 of 15) etc.

4.6.4 Submission of Soft copies

Contractor shall submit to CONSULTANT, the scanned images files as well as the native files of drawings/documents, along with proper index.

In addition to hard copies, contractor shall submit electronic file (Hard Disk Drive / Pen Drive) covering soft copies of all the final drawings and documents, all text documents prepared on computer, scanned images of all important documents (not available as soft files), all relevant catalogues, manuals available as soft files (editable copies of drawings/text documents, while for catalogues/manuals/proprietary information and data PDF files can be furnished).

All the above documents shall also be submitted through email.

4.6.5 Completeness of Final Documentation

Contractor shall get the completeness of final documentation verified by CONSULTANT/TPIA and attach the Format for Completeness of Final Documentation duly signed by CONSULTANT or TPIA as applicable to the document folder.

COMPLETENESS OF FINAL DOCUMENTATION

Name of Supplier/Contractor Customer :

Project :

CONSULTANT's Job No. :

Purchase Order No./ :

Contract No. :

Purchase Requisition No./ :

Tender No. Rev. No. :

Name of the Work/ Equipment

Tag. No.

Supplier's/ Contractor's Works Order No. :

Certified that the Engineering Documents/ Manufacturing & Test Certificates submitted by the supplier are complete in accordance with the Vendor Data Requirements of Purchase Requisition.

Signature	Signature
Date	Date
Name	Name
Designation Department	Designation Department
Supplier / Contractor	Consultant

CONTRACTOR'S / VENDOR'S DRAWING/ DOCUMENT SCHEDULE

CONSULTANT JOB NO. :
 PROJECT CONTRACTOR'S / VENDOR'S NAME :
 LOI/PO NO. :
 DATE :
 CLIENT :

CONTRACTOR'S / VENDOR'S NAME, LOGO ETC
 PL. DO NOT CHANGE LOCATION OR EXCEED THIS
 PAGE

CONSULTANT/TPIA

S.NO .	CONTRACTOR'S / VENDOR'S DRAWING/ DOCUMENT	REV	SHEET T NO.	TOTAL NO. OF SHEET S	DRAWING/ DOCUMENT TITLE	CATEGOR Y	DISCIPLIN E	SCHEDULE DATE OF SUBMISSIO N	AFC/ FINA L ISSUE DATE	SUB VENDO R	PACKAG E UNIT

CATEGORY CODES:

R - Drawings which are required to be reviewed by CONSULTANT.

I - Drawings which are to be submitted for CONSULTANT record.

COMMENT RESOLUTION SHEET

JOB NO. _____

JOB TITLE _____

DRAWING/ DOCUMENT NO. _____

REVISION NO. _____

S. NO.	CONSULTANT COMMENT	INCORPORATED RESOLUTION	REMARKS

COMPLETENESS OF FINAL DOCUMENTS

NAME OF SUPPLIER / CONTRACTOR :
NAME OF CUSTOMER :
PROJECT :
CONSULTANT’S JOB NO. :
PURCHASE ORDER NO. / CONTRACT NO. :
PURCHASE REQUISITION NO. / TENDER NO. :
NAME OF THE WORK / EQUIPMENT :
TAG NO.
SUPPLIER’S / CONTRACTORS WORK ORDER NO. :

Certified that engineering documents /manufacturing and test certificates submitted by the supplier are complete in accordance with supplier data requirements of the purchase requisition.

Signature

Date

Name

Designation Department

Signature

Date

Name

Designation Department

supplier / contractor

CONSULTANT

**SPECIFICATION FOR DOCUMENTATION
REQUIREMENTS FROM SUPPLIERS**

Abbreviations:

DCI	-	Document Control Index
LOA	-	Letter of Acceptance
HOD	-	Head of Division / Department
IC	-	Inspection Certificate
IRN	-	Inspection Release Note
ITP	-	Inspection and Test Plan
LOA	-	Letter of Acceptance
MOU	-	Memorandum of Understanding
MR	-	Material Requisition
PO	-	Purchase Order
PR	-	Purchase Requisition
PVC	-	Polyvinyl Chloride
QMS	-	Quality Management System
TPIA	-	Third Party Inspection Agency
URL	-	Universal Resource Locator

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1.0 SCOPE

2.0 DEFINITIONS

3.0 REFERENCE DOCUMENTS

4.0 DOCUMENTATION REQUIREMENTS

CONTENT
Attachments

Format for completeness of Final Documentation Format

- 1.0

SCOPE

This specification establishes the Documentation Requirements from Suppliers

All documents/data against the PO / PR / MR shall be developed and submitted to CONSULTANT/INDEPENDENT ENGINEER by the suppliers for review / records, in line with this specification.
- 2.0

DEFINITIONS
- 2.1

Supplier

For the purpose of this specification, the word "SUPPLIER" means the person(s), firm, company or organization who is under the process of being contracted by CONSULTANT / INDEPENDENT ENGINEER for delivery of some products (including service). The word is considered synonymous to bidder, contractor or vendor.
- 2.2

INDEPENDENT ENGINEER

INDEPENDENT ENGINEER means the INDEPENDENT ENGINEER of the project for which services / products are being purchased and includes their representatives, successors and assignees.
- 3.0

REFERENCE DOCUMENTS

Specification for Quality Management System Requirements from bidders as per tender documents.
- 4.0

DOCUMENTATION REQUIREMENTS
- 4.1.

Documents / Data to be submitted by the Supplier.
- 4.1.1.

The Supplier shall submit the documents and data against the PO/PR/MR as per the list given in respective PO/PR/MR.
- 4.1.2.

Review of the supplier drawings by CONSULTANT would be only to review the compatibility with basic designs and concepts and in no way absolve the supplier of his responsibility/contractual obligation to comply with PR requirements, applicable codes, specifications and statutory rules/regulations. Any error/deficiency noticed during any stage of manufacturing/execution/installation shall be promptly corrected by the supplier without any time and cost implications, irrespective of comments on the same were received from CONSULTANT during the drawing review stage or not.
- 4.1.3.

Unless otherwise specified, submission of documents for Review/Records shall commence as follows from the date of fax of intent / letter of Intent / Letter of Acceptance (LOA)/ Letter of Acceptance (LOA), whichever is earlier:

QMS

Drawing/Document Control Index

Other Documents/Drawings

- 1 week

- 2 weeks

- As per approved Drawing/Document Control Index/Schedule

4.1.4.

Documents as specified in PO/PR/MR are minimum requirements. Supplier shall submit any other document/data required for completion of the job as per CONSULTANT/INDEPENDENT ENGINEER instructions.

4.2.

Style and Formatting

4.2.1.

All Documents shall be in ENGLISH language and in M.K.S System of units.

4.2.2.

4.2.2 Before forwarding the drawings and documents, contractor shall ensure that the following information are properly mentioned in each drawing::

Purchase Requisition Number

Name of Equipment / Package

Equipment / Package Tag No.

Name of Project

Client

Drawing / Document Title

Drawing / Document No.

Drawing / Document Revision No. and Date

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4.3. Review and Approval of Documents by Contractor

4.3.1 The Drawing/Documents shall be reviewed, checked, approved and duly signed/stamped by supplier before submission. Revision number shall be changed during submission of the revised supplier documents and all revisions shall be highlighted by clouds. Whenever the supplier require any sub-supplier drawings to be reviewed by CONSULTANT, the same shall be submitted by the supplier after duly reviewed, approved and stamped by the supplier. Direct submission of sub-supplier's drawings without contractor's approval shall not be entertained.

4.4. Document Category

4.4.1 Review Category

Following review codes shall be used for review of Supplier Drawings/Documents:

Review Code A: No comments. Proceed with manufacture/ fabrication as per the document.

Review Code B: Proceed with manufacture/ fabrication as per commented document.
Revised document required.

Review Code C: Document does not conform to basic requirements as marked.
Resubmit for review.

R : Document is retained for Records. Proceed with manufacture/ fabrication.

V : Void

4.5. Methodology for Submission of Documents to CONSULTANT/INDEPENDENT ENGINEER

4.5.1 Document Control Index (DCI)

Supplier shall create and submit Document Control Index (DCI) for review based on PO/PR/MR along with schedule date of submission of each drawing/document through email. The DCI shall be specific with regard to drawing/document no. and the exact title. Proper sequencing of the drawings/documents should be ensured in schedule date of submission

4.5.2 Submission of Drawings/Documents

Drawings/documents and data shall be submitted through email.

4.5.3 Statutory Approvals

Wherever approval by any statutory body is required to be taken by Supplier, the Contractor shall submit copy of approval by the authority to CONSULTANT/INDEPENDENT ENGINEER.

4.5.4 Details of Contact Persons of Contractor

After placement of order supplier shall assign a Project Manager for that order. The details are to be shared through email. The details include e-mail address, mailing address, telephone nos., fax nos. and name of Project Manager. All the system generated emails pertaining to that order shall be sent to the assigned Project Manager

4.5.5 Schedule and Progress Reporting

Supplier shall submit monthly progress report and updated procurement, engineering and manufacturing status (schedule vs. actual) every month, beginning within 2 weeks from LOA/LOA. In case of exigencies, CONSULTANT/INDEPENDENT ENGINEER can ask for report submission as required on weekly/fortnightly/adhoc basis depending upon supply status and supplier shall furnish such reports promptly without any price implication. Format for progress report shall be submitted by the Supplier during kick off meeting or within one week of receiving LOA/LOA, whichever is earlier.

4.5.6 Quality Assurance Plan/Inspection and Test Plan

Inspection and test plans (ITP) attached if any, to the MR/PR are to be followed. However, for cases wherein ITPs have not been attached with MR/PR, Supplier shall submit within one week of receiving LOA/LOA, the Quality Assurance Plan for manufacturing, covering quality control of critical bought out items/materials, inspection & testing at various stages of production, quality control records and site assembly & testing as may be applicable to the specific order and obtain approval from CONSULTANT/third party inspection agency, as applicable.

For Package equipment contracts, the supplier shall prepare a list of items/ equipment's and their inspection categorization plan for all items included in the scope of supply immediately after receipt of order and obtains approval for the same from CONSULTANT. The items shall be categorized into different categories depending upon their criticality for the scope of inspection of TPIA and/or CONSULTANT.

4.5.7 Inspection Release Note (IRN)/ Inspection Certificate (IC)

IRN/ IC shall be issued by CONSULTANT Inspector/ third party inspection agency on the basis of successful inspection, review of certificates as per specifications & agreed quality plan (as applicable) and only after all the drawings/documents as per DCI are submitted and are accepted under review code-A or code R. Supplier shall ensure that necessary documents/manufacturing and test certificates are made available to CONSULTANT/TPIA as and when desired.

Note: Non fulfilling above requirement shall result into appropriate penalty or withholding of payment as per conditions of PO/PR/MR.

4.5.8 Transportation Plan

Transportation Plan for Over Dimensional Consignments (ODC), if any, shall be submitted within 2 weeks of receiving LOA/LOA (whichever is earlier), for approval. Consignment with parameters greater than following shall be considered as over dimensional.

Dimensions: 4 meters width x 4 meters height x 20 meters length

Weight : 32 MT

4.6. Final Documentation

4.6.1 As built Drawings

Shop changes made by Supplier after approval of drawings under 'Code A' by CONSULTANT and deviations granted through email, if any, shall be marked in hard copies of drawings which shall then be stamped 'As-built' by the supplier. These 'As-built' drawings shall be reviewed and stamped by CONSULTANT Inspector/ TPIA also. Supplier shall prepare scanned images files of all marked — up 'As — built' drawings. Simultaneously Supplier shall incorporate the shop changes in the native soft files of the drawings also.

4.6.2 As Built Final Documents

As built final documents shall be submitted as listed in PO/PR/MR.

4.6.3 Packing/Presentation of Final Documents

Final Documents shall be legible photocopies in A4, A3 size only. Drawings will be inserted in plastic pockets (both sides transparent, sheet thickness minimum 0.1 mm) with an extra strip of 12 mm wide for punching so that drawings are well placed.

Final Documentation shall be bound in Hard board Plastic folder(s) of size 265 mm x 315 mm (10 1/2 inch x 12 1/2 inch) and shall not be more than 75 mm thick. It may be of several volumes and each volume shall have a volume number, index of volumes and index of contents of that particular volume. Where number of volumes are more, 90mm thickness can be used. Each volume shall have top PVC sheet of minimum 0.15 mm thick duly fixed and pressed on folder cover and will have 2 lever clip.

In case of imported items documents, 4 lever clip shall also be accepted. All four corners of folders shall be properly metal clamped. Indexing of contents with page numbering must be incorporated by supplier. Spiral/Spico bound documents shall not be acceptable. As mentioned above, books should be in hard board plastic folders with sheets punched and having 2/4 lever clips arrangement.

Each volume shall contain on cover a Title Block indicating package Equipment Tag No. & Name, PO/Purchase Requisition No., Name of Project and Name of Customer. Each volume will have hard front cover and a reinforced spine to fit thickness of book. These spines will also have the title printed on them. Title shall include also volume number (say 11 of 15) etc.

4.6.4 Submission of Soft copies

Supplier shall submit to CONSULTANT, the scanned images files as well as the native files of drawings/documents, along with proper index.

In addition to hard copies, Supplier shall submit electronic file (Hard Disc drive / Pen Drive) covering soft copies of all the final drawings and documents, all text documents prepared on computer, scanned images of all important documents (not available as soft files), all relevant catalogues, manuals

available as soft files (editable copies of drawings/text documents, while for catalogues/manuals/proprietary information and data, PDF files can be furnished).

All the above documents shall also be submitted through email.

4.6.5 Completeness of Final Documentation

Supplier shall get the completeness of final documentation verified by CONSULTANT/TPIA and attach the Format for Completeness of Final Documentation duly signed by CONSULTANT Inspector or TPIA as applicable to the document folder.

COMPLETENESS OF FINAL DOCUMENTATION

Name of Supplier/Contractor Customer :
Project :
CONSULTANT's Job No. :
Purchase Order No./ Contract No. :
Purchase Requisition No./ :
Rev. No. :
Tender No. :
Name of the Work/ :
Equipment
Tag. No.
Supplier's/ Contractor's Works Order No.

Certified that the Engineering Documents/ Manufacturing & Test Certificates submitted by the supplier are complete in accordance with the Vendor Data Requirements of Purchase Requisition.

Signature

Date

Name

Designation Department

supplier / contractor

Signature

Date

Name

Designation Department

CONSULTANT

**STRUCTURAL STEEL AND TMT BAR
MANUFACTURERS & CONTRACT CLAUSE
FOR ACCEPTANCE OF CEMENT
MANUFACTURERS**

(Annexure-18 to SCC)

Structural Steel and TMT bar Manufacturers

1. Steel manufacturers having valid BIS certificate and listed in the BIS website as on date of procurement of steel shall be allowed for supply of steel (Structural and TMT bars) and contractor shall procure from them with prior intimation to Engineer-in-charge.

2. Test after receipt of structural steel at site:

In addition to availability of valid BIS license and MTC, testing at site shall be conducted by the contractor as per following requirement:

- For each category/size of structural steel procured, one sample for every 50 MT or part thereof shall be drawn and tested in approved laboratory.
- The charges for such testing shall be borne by the contractor.

3. Test after receipt of TMT bars at Site.

In addition to availability of valid BIS license and MTC, testing at site in approved laboratory shall be conducted by the contractor as per the following requirement:

- Under 10 mm bars one sample (diameter wise) for each 25 MT (or part thereof) for consignment below 100 MT and one sample (diameter wise) for each 40 MT for consignment above 100 MT shall be tested.
- For 10 mm to 16 mm bars, one sample (diameter wise) for each 35 MT (or part thereof) for consignment below 100 MT and one sample (diameter wise) for each 45 MT (or part thereof) for consignment above 100 MT shall be tested.
- Over 16 mm bars one sample (diameter wise) for each 45 MT (or part thereof) for consignment below 100 MT and one sample (diameter wise) for each 50 MT (or part thereof) for consignment above 100 MT shall be tested.

The charges for such testing shall be borne by the contractor.

4. Further, any latest circular on testing of Steel released by MoRTH/NHAI shall be followed in addition to above said procedure.

ANNEXURE-18 A TO SCC

CONTRACT CLAUSE FOR ACCEPTANCE OF CEMENT MANUFACTURERS

1. Cement manufacturers having valid BIS certificate and listed in the BIS website as on date of procurement of cement shall be allowed for supply of cement and contractor shall procure cement from them with prior intimation to Engineer-in-charge.
2. Test after receipt of cement at site: Each batch of cement (week wise as mentioned on cement bags) supplied by the contractor after delivery at site shall be subjected to the tests and analysis required by the relevant Indian Standard Codes. The contractor shall carry out and bear the cost of all tests and analysis to ensure quality of cement before using in actual works.
3. Further, any latest circular on testing of Cement released by MoRTH/NHAI shall be followed in addition to above said procedure

ANNEXURE-19 TO SCC

FORMAT FOR ‘NO CLAIM CERTIFICATE’ AND ‘INDEMNITY BOND’

**[SHALL BE AS PER FORMS AND FORMATS (F-15 & F18) OF ITB OF TENDER
DOCUMENT]**

ANNEXURE-20 to SCC

(APPROVAL OF CONSTRUCTION SUB-CONTRACTOR)

- 1) NAME OF MAIN CONTRACTOR: _____
- 2) NAME OF WORK, LOCATION: _____
- 3) NAME OF PROPOSED SUB-CONTRACTOR : _____
- 4) SCOPE OF WORK PROPOSED TO
BE SUB-CONTRACTED (BRIEF) : _____

5) ESTIMATED VALUE OF THE PROPOSED
WORK TO BE SUB-CONTRACTED (INR): _____

6) QUALIFYING CRITERIA FOR SUB-CONTRACTOR:

- a. Similar Work experience: _____
- b. Annual Turnover: _____

7) TECHNICAL EXPERIENCE AND FINANCIAL DETAILS OF PROPOSED SUB-CONTRACTOR:

- a. Contract of similar work executed (as evidenced by work Order & Completion Certificate):
- b. Maximum Annual Turnover during last 3(three) years (as evidenced by Balance Sheets) :

8) CRITERIA FOR QUALIFICATION OF SUB-CONTRACTOR:

9) Based on above information, we M/s _____ (Name of Main Contractor) propose M/s. _____ (Name of proposed sub contractor) as our sub-contractor for the above mentioned works. We understand that notwithstanding above approval, we shall remain fully responsible for the performance of the said sub-contractor and any failure of the sub-contractor shall not absolve/relieve us of our responsibility to complete the works as per the terms and conditions of the Contract.

NOTE: Bidders to fill all the details in the above proforma. Further Bidder shall also fill-in the details at Sl.No.5 above based on the estimated value of the proposed work to be subcontracted.

(STAMP & SIGNATURE OF CONTRACTOR)

10) QUALIFICATION STATUS (TO BE STAMPED BY CONSULTANT/INDEPENDENT ENGINEER):

CALIBRATION REQUIREMENTS OF MONITORING AND MEASURING DEVICES AT CONSTRUCTION SITES (ANNEXURE-21 TO SCC)

Abbreviations:

BIS	:	Bureau of Indian Standard
NABL	:	National Accreditation Board for Testing and Calibration Laboratories
CEIL	:	Certification Engineers International Ltd.
LRS	:	Lloyd's Register Group Limited
BV	:	Bureau Veritas
ABS	:	ABS Consultancy
DNV	:	Det Norske Veritas
IRS	:	Indian Registrar for Shipping
PMI	:	Positive Material Identification

Requirement for control of monitoring and measuring devices.

SI. No.	Description	Calibration requirements	Frequency	Remarks
A.	Civil-Survey			
A.1.	Theodolite	To check for permanent adjustments by traversing and observing the closing error. (Refer Note).	Once in a year or project duration whichever is earlier.	Record to be maintained
A.2.	Level Instruments (Auto Level / Dumpy Level)	To check by backsight / foresight readings, the temporary adjustments of level. (Refer Note).	Every use.	Record to be maintained
A.3.	Steel Measurement tapes	-----	-----	a. "Freemans" make or BIS approved make shall be used. b. Mutilated, or broken tapes shall not be used. c. Marking on the tape shall be legible
A.4.	Cross staff	-----	-----	Same as 3b & 3c above.
A.5.	Distomat	Actual Physical Verification at Site.	Before using first Time at site	Record to be maintained
A.6.	Total station	To check for permanent adjustments by traversing and observing the closing error, etc. (Refer Note).	Once in a year or project duration whichever is earlier.	Record to be maintained
B.	Civil Laboratory			
B.1	All balances -	Check for zero error	Whenever used.	-----
B.2.	Weight Batchter / Batching plant	Calibration of scales	Once in three months	Record to be maintained
B.3.	Cube testing machine	Calibration certificate from manufacturers or from calibrating laboratories / agency. (Refer Note).	As per manufacturer specification or once a year whichever is earlier	Record to be maintained
B.4.	Moisture Meter	Calibration of scales.	Six Months	Record to be maintained
B.5.	Vicat Appratus	Calibration certificate from manufacturers or from calibrating laboratories / agency. (Refer Note).	As per manufacturer specification or once a year whichever is earlier.	Record to be maintained
C.	Mechanical/ Electrical/Welding			
C.1.	Pressure gauges	Calibration certificate from calibrating laboratories / agencies or calibrate by dead weight testers with standard weights or with master Gauge. (Refer Note)	Once in six months	Record to be maintained

C.2.	Dia gauges	Check for zero error	Whenever used	---
C.3.	Dead weight tester	Calibration from manufacturer or calibrating laboratories / agency. Calibration certificate shall not be older than one month from the date of mobilization. (Refer Note).	As per manufacturer's recommendation or once in a six month whichever is earlier.	Records (Calibration certificate) to be maintained.
C.4.	Vernier caliper / screw gauge	Check for zero error	Whenever used	---
C.5.	Holiday tester	Calibration from manufacturer or calibrating laboratories / agency or calibration by zeep meter. (Refer Note).	Once in six months	Record to be maintained
C.6.	Elcometer	Check with standard test films supplied by the manufactures.	Before use	Record to be maintained
C.7.	Universal Testing machine	Calibration Certificate from various third party inspection agency. Viz. CCONSULTANT, LRS, BV, ABS, DNV or IRS etc.	As per manufacturer's recommendation or once a year whichever is earlier.	Record to be maintained
C.8.	Charpy V-notch Impact testing machine.	Calibration Certificate from various third party inspection agency. Viz. CCONSULTANT, LRS, BV, ABS, DNV or IRS etc.	As per manufacturer's recommendation or once a year whichever is earlier.	Record to be maintained
C.9.	Hardness Testing machine.	Check with the standard test block supplied with the machine as per manufacturer's Recommendation.	Before use.	Record to be maintained
C.10.	Chemical Analysis, ex : PMI etc.	Various Digital and Analog meters.	Before use.	Record to be maintained
C.11.	Various Digital and Analog meters.	Calibration Certificate from calibrating laboratories / agencies or the Manufacturer (Refer Note).	Once in Six Months or as per manufacturer's recommendation Whichever is earlier	Record to be maintained
C.12.	HIPOT Kit, Multimeter / Clampmeter, Ohmmeter Kit, CT Analyser, CRM Kit, BDV Kit, Tachometer etc.	Calibration Certificate from calibrating laboratories / agencies (Refer Note).	Once in six months	Record to be maintained
C.13.	Temperature / Pressure recorders	Calibration from manufacturer or any calibrating laboratories / agency (Refer Note).	Once in six months	Record to be maintained
C.14.	Temperature gauges	Calibration Certificate from calibrating laboratories / agencies (Refer Note).	Once in six months	To be discarded in case of damage or malfunctioning.

C.15.	Thermocouples	Manufacturer's Certificate or Chemical Check	---	---
C.16.	Vibration probes	Calibration from calibrating laboratories / agencies (Refer Note).	Once in a year	To be discarded in case of damage or malfunctioning.
C.17.	Decibel-Meter	Calibration from calibrating laboratories / agencies (Refer Note).	Once in a year	To be discarded in case of damage or malfunctioning.
C.18.	Manual Torque Wrench / Electric Torque Machine	Calibration from manufacturer or any calibrating laboratories / agency (Refer Note).	As per manufacturer's recommendation or once in a year whichever is earlier	Record to be maintained
C.19.	Mother Oven	Calibration from manufacturer or any calibrating laboratories / agency (Refer Note).	As per manufacturer's recommendation or once in a year whichever is earlier	Record to be maintained

Note: If Error is found, it has to be sent to manufacturers or their agents (Calibrating laboratories / agency) or to any other lab / agency for recalibration / rectification and certification. The calibrating laboratory / agency shall be NABL accredited, or any other lab accredited as per ISO/IEC:17025 by any of the National/International accreditation body for relevant testing.

GENERAL REQUIREMENTS FOR RADIOGRAPHY & OTHER NDT FOR**MECHANICAL / COMPOSITE ITEM RATE CONTRACTS**

1. CONTRACTOR shall appoint radiography/ NDT agency(ies) only after acceptance of such agency(ies) by INDEPENDENT ENGINEER/Consultant. However, acceptance of radiography/ NDT agency by INDEPENDENT ENGINEER/Consultant shall not absolve the CONTRACTOR of his responsibility to execute radiography work as per requirements of the Contract.
2. CONTRACTOR shall mobilize Radiography/ NDT agency at site along with adequate number of radiography resources/ NDT equipments & appliances, commensurate with the welding activity and quantum of Radiography/NDT work load to avoid delays in Radiography/ NDT and consequent generation of back log. In the event of generation of back log leading to Delay/ Holdup of subsequent activities INDEPENDENT ENGINEER/Consultant has right to engage additional agency for carrying out the radiography at the risk and cost of CONTRACTOR including 100% overhead charge.
3. Date and extent of mobilization of radiography/ NDT agency/resources shall be agreed by the CONTRACTOR and the Engineer-in-Charge at the start of work.
4. Radiography Check Shots
 - a) To verify that radiographs are being taken on the prescribed / selected welds / spots only, 5% of already radiographed spots shall be selected by the Engineer-in-Charge or his designated person for check shots. The check shots shall be taken up before any further radiography work.
 - b) The CONTRACTOR will be paid for the check shots at the quoted rates if no variation is found. If mismatch / variation is found in any of the check shot as per para 1.4 (a), CONTRACTOR shall have to take re-radiography of the entire lot represented by mismatched check shot (a days production or more as decided by Engineer In-Charge). In such cases, no payment will be made for the check shots as well as the re-radiography of the entire lot represented by the check shot.
 - c) In the event of any non-matching / variation is observed in re-radiography of the entire lot as per para 1.4(b) above with reference to the earlier radiographs taken, the radiography agency shall be forthright debarred from site. CONTRACTOR shall then carryout re-radiography up to maximum of 100% of all the prescribed / selected welds/ spots radiographed by the debarred radiography agency (as per direction of the Engineer In-Charge) at his own cost by engaging a separate Radiography agency acceptable to INDEPENDENT ENGINEER/Consultant. The process for verification of radiographs through check shots shall be continued as per clause 1.4(a) above from the lots selected by the Engineer In- Charge till 2 (two) consecutive lots are found with matching check shot radiographs to the satisfaction of Consultant/ INDEPENDENT ENGINEER.

FORMAT F-23

FORMAT FOR CERTIFICATE BY CHARTERED ACCOUNTANT FOR OWNED EQUIPMENT

Project Name: ----- Pipeline

Project Date: DD.MM.YYYY

To whom-so-ever it may concern

This is to certify that M/s. (Bidder's Name), having their registered office at (Bidder's Address), is the INDEPENDENT ENGINEER of the equipment mentioned below (or in the attachment) as per our inspection of records / books of accounts / documents of M/s. (Bidder's Name) on (Date).

S. No.	Equipment	Make / Model	Capacity	Qty.	Year of Manufacture	Present Location of Equipment

Further, these equipments will be deployed for (Project Name) in case M/s. (Bidder's Name) is awarded with the job.

(Signature of Chartered Accountant /Statutory Auditor)

Place: -----

Membership No. of CE: -----

Date: DD.MM.YYYY

Firm Registration No.: -----

Note: The above certificate shall be issued in the letter head of Chartered Accountant /Statutory Auditor

FORMAT F-24

FORMAT FOR CERTIFICATE BY CHARTERED ENGINEER FOR OWNED EQUIPMENT

Project Name:-----

Pipeline Project Date: DD.MM.YYYY

To whom-so-ever it may concern

During our visit to various storage yards and project sites of M/s. (Bidder's Name), from (Date) to (Date), we have inspected the condition of equipment mentioned below (or in attachment). We certify that the below mentioned equipment are in good health and working condition presently. Further, these equipment are fit be deployed in Project Name.

S. No.	Equipment	Make / Model	Capacity	Qty.	Year of Manufacture	Present Location of Equipment

(Signature of Chartered Engineer)

Place: -----

Membership No. of CE: -----

Date: DD.MM.YYYY

Firm Registration No.: -----

Note: The above certificate shall be issued in the letter head of Chartered Engineer

Compliances under various Labour Laws

The Contractor has to fully comply with all applicable Labour Laws and Regulations passed, modified and notified from time to time by the Central, State and Local Government agencies/authorities. Specific attention of the Contractor is drawn to the following obligations amongst others:

1. The Minimum Wages Act, 1948, Payment of Wages Act, 1936 and Payment of Bonus Act 1965 or The Code on Wages, 2019 (after it comes into force)

1.1. Minimum Wages:

- a. During the tenure of the contract, the Contractor must ensure the payment of minimum wages, as notified by the Central Government or State Government whichever is higher, as per the provisions of the Minimum Wages Act, 1948 / Code on Wages, 2019 (after it comes into force).
- b. Wage period and monthly wages:** Wage period shall be monthly and wages for a month shall be calculated by multiplying daily rate of Minimum Wages by 26. The monthly wages include the wages of the weekly days of rest as applicable to the office/establishment of NHAI.

Deduction in case of any days of absence other than weekly days of rest shall be calculated using the following formula:

$$\text{Deduction for absence} = \text{days of absence} \times \text{applicable wage rate}$$

1.2. Payment of Wages:

- a. The Contractor shall disburse monthly wages **through e-banking / digital mode through cashless transaction only**, and avoid illegitimate deductions and maintain records /returns as prescribed. The Contractor shall be solely responsible for the payment of wages and other dues to the resources, if any, deployed by him latest by 7th day of the subsequent month as per the provisions of the Payment of Wages Act, 1936 / as applicable under Code on Wages, 2019 (after it comes into force) in the presence of Engineer In-charge (EiC) or authorized representative of NHAI. After disbursement of wages, the representative of the Contractor and EiC/ authorised representative of NHAI have to certify the payment of wages to the resources and sign the Wage Register - Form B (under The Ease of Compliance to Maintain Registers under various Labour Laws Rules, 2017) / FORM-I of Code on Wages, 2019 (after it comes into force) with specific seal detailing name/designation/Company.

1.3. Payment of Bonus:

Contractor shall ensure payment of bonus as per the provisions of the Payment of Bonus Act, 1965 / Code on Wages, 2019 (after it comes into force). Present minimum rate of payment of Bonus as per the Payment of Bonus Act, 1965 is 8.33% of minimum wages per month or 8.33% of Rs.7,000/- per month whichever is higher. The rate shall be subject to amendments made from time to time to the legislation.

Payment of Bonus / ex-gratia shall be made preferably before Deepawali festival falling after the end of relevant financial year(s) and the balance payment at the time of closure of contract.

For service contracts, the payment towards the bonus/ex-gratia (**made on yearly basis**) shall be released / reimbursed to the contractor, after submission of proof of payment. No reimbursement shall however be applicable in works contract.

2. Leaves/ Leave with wages/ Holiday:

The Contractor shall comply with all the applicable leave Rules including leave with wages in terms of applicable labour legislations i.e. Factories Act, 1948 / Shops & Establishment Act/ Industrial Establishment (national & festival holidays, casual & sick leave) Act, 1965.

The Contractor shall extend the leave with wages and maintain the Register of Leave pertaining to the resource deployed. The payment towards un-availed leave, as per the Factories Act, 1948 / Shops & Establishment Act, shall be settled with the resource at the time of closure of the contract or separation of resource from the contract by the contractor.

- i. As per the **Factories Act, 1948 (if applicable):-Annual Leave with Wages@** 01 day for every 20 days of work performed by him in the previous calendar year becomes due.
- ii. As per the **Shops & Establishment Act (if applicable)** : Privilege Leave not less than 15 days and Sickness/Casual Leave not less than 12 days (this provision may vary from state to state).
- iii. As per the **Industrial Establishment (National & Festival Holidays, Casual & Sick Leave) Act, 1965 / Negotiable Instrument Act 1881 / Shops & Establishment Act (as applicable):** (a) three national holidays of one whole day each on the 26th January, 15th August and 2nd October (b) five other holidays on any of the festivals specified in the - Schedule appended to this Act. (c) Every worker shall in each calendar year, be allowed by the employer 07 casual leave and 14 sick leave in such manner and on such conditions as may be prescribed (This provision may vary from state to state).

3. The Employees' Provident Fund & Miscellaneous Provisions Act 1952

- a) The Contractor shall have independent PF code no. with the RPFC as required under the Employees' PF & Misc. Provisions Act, 1952.
- b) The Contractor has to ensure compliance (as per prevailing rates) and extend benefits under the Employees' Provident Fund Scheme 1952, the Employees' Pension Scheme 1995 & the Employees' Deposit Linked Insurance Scheme, 1976 to the resources deployed by him.
- c) The Contractor is required to submit copies of *separate e-Challans / ECR alongwith proof of payment/receipt* in respect of resources engaged through this contract only, on monthly basis. **Common challans would not be acceptable in NHAI.** The Contractor should submit copies of previous months EPF e-Challans / ECR alongwith current month's bill. The TRRN. No. of the ECR would be verified online from EPFO portal by the Engineer-in-charge to confirm the status of payment and names of the resources deployed.
- d) **PF is mandatory irrespective of the number of resources deployed** by the Contractor under this contract. **PF membership and deposit of PF contribution is also mandatory even if the wage payment to the resource is exceeding the prescribed monthly wage ceiling (i.e. Rs. 15,000/-)**

under the Employees' PF & Misc. Provisions Act, 1952 and in such case the liability of the Contractor towards PF contribution shall be limited to the prescribed monthly wage ceiling notified from time to time (i.e. Rs. 15,000/- currently).

- e) In case, the Contractor deploys any "**International Worker**", the Contractor should also make compliance under para 83 of EPF Scheme, 1952 i.e. the "International Workers" and must register on the *International Worker Portal of EPFO*.

4. The Employees' State Insurance Act, 1948 (If applicable and as per prevailing rates)

- a) The Contractor shall have his own ESI code No. allotted by Employees' State Insurance Corporation (ESIC) as required under the Employees' State Insurance Act, 1948.'
- b) The Contractor has to arrange **Smart Cards (i.e. ESI Identity Card) /e-Pehchan Card** for the resource(s) engaged by him from the Corporation.

5. The Employees' Compensation Act 1923 (wherever applicable)

In case, the work place is out of the notified coverage area under ESIC i.e. ESIC is not implemented in the area or in case of excluded employees under ESIC, the Contractor is required to take Employee Compensation / Workmen Compensation Policy from IRDAI approved Insurance Company taking into consideration the **maximum compensation liability** as per provisions of Employees' Compensation Act, 1923. It must be ensured that the contractor/contracting firm should extend coverage to the contract workers through Employee Compensation Policy, to meet the **Compensation Liability** under **Employee's Compensation Act, 1923** along with **Medi-claim Floater Policy** with a coverage of Rs. 3 Lakhs per resource covering his/her spouse and two children.

6. Group Personal Accident Insurance Policy

The Contractor is required to take a Group Personal Accident Insurance Policy with coverage of **Rs. 5 Lakhs** (covering death, permanent disability+ partial disability) per resource for the entire period of contract covering all resources deployed under the contract.

7. The Payment of Gratuity Act, 1972

In case of Death or permanent disablement of a resource during execution of work under the contract, the Contractor has to pay the Gratuity as per the provision under the Payment of Gratuity Act, 1972 to the nominee(s) of the resource as per the details maintained in the duly signed Nomination Form maintained by the Contractor. The proof of disbursement may be submitted to the EiC for claiming reimbursement of amount paid towards death Gratuity from NHAI.

8. The Contract Labour (R&A) Act, 1970

- a) The Contractor is required to obtain Labour license under the provisions of the Contract Labour (R&A) Act, 1970 from the office of Licensing Officer, Central Labour Authority, Ministry of Labour and Employment, Govt. of India having jurisdiction of the Region.
- b) The Contractor shall discharge obligations as provided under the Contract Labour (R&A) Act, 1970 rules and regulations framed under the same and enforced from time to time.

- c) The Contractor shall ensure regular and effective supervision and control over the resources deployed for which a supervisor / representative of the Contractor should be available at all the times for giving suitable direction for undertaking the Contractual Obligations.
 - d) The Contractor is solely responsible for payment of wages to each resource deployed by him and such wages shall be paid before the expiry of such period as may be prescribed.
 - e) It shall be the duty of the Contractor to ensure the disbursement of wages to resource(s) through e-banking/digital mode. In case the resource does not have a bank account, the disbursement of wages may be made in cash in the presence of the Engineer-in-charge/ authorized representative of NHAI initially and Contractor shall simultaneously arrange for opening the bank account of each contract labour deployed by him.
 - f) In case, the Contractor fails to make payment of wages and deposit of PF contribution within the prescribed period or makes short payment of wages/ short deposit of PF contribution, it shall be treated as FAILURE and action as per the provisions of General Conditions of Contract shall be taken. Further, NHAI as Principal Employer, will make payment of wages in full or the unpaid balance due, as the case may be, to the resource(s) deployed by the Contractor and deposit the PF contribution with PF authorities. Such amounts will be recovered from the Contractor either by deduction from any amount payable to the Contractor under any contract or as a debt payable by the Contractor.
9. The contractor is required to comply with all applicable labour laws and regulations including, but not limited to the following:
- a) The Factories Act, 1948/ The Shops & Establishment Act, 1948 (which ever applicable)
 - b) The Maternity Benefit Act, 1961
 - c) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1979 & Building and Other Construction Workers Welfare Cess Act, 1996
 - d) The Inter State Migrant Workmen (RECS) Act 1979 (if applicable)
 - e) Contract Labour (R&A) Act-1970
 - f) Employees' Provident Fund & Misc. Provisions Act- 1952
 - g) Employees' State Insurance Act-1948
 - h) Employees' Compensation Act, 1923
 - i) Payment of Gratuity Act, 1972
 - j) Minimum of Wages Act, 1948
 - k) The Payment of Wages Act, 1936
 - l) The Payment of Bonus Act, 1965

Responsibilities of the Contractor

1. The Contractor shall be solely responsible and indemnify NHAI against all charges, dues, claim etc. arising out of the disputes relating to the dues and employment of resources, if any, deployed by him.
2. The Contractor shall indemnify NHAI against all losses or damages, if any, caused to it on account of acts of the resource(s) deployed by him.
3. The Contractor shall indemnify NHAI from all claims, demands, actions, cost and charges etc. brought by any court, competent authority / statutory authorities against NHAI.
4. The Contractor shall also indemnify NHAI for any action brought against him for violation, non-compliance of any act, rules & regulation of center / state / local statutory authorities.
5. All resources deployed by the Contractor are deemed to be on the rolls of the Contractor.
6. **Age:** No resource below the age of 18 years shall be deployed by the contractor for the execution of the contract. However, maximum age of resources deployed under the contract would be 60 years. (In case of Security and Fire & Safety Services, no resource below the age of 18 years shall be deployed by the contractor for the execution of the contract. However, in view of nature of business operation and nature of duty, for efficacy & efficiency purpose, resources will be deployed up to the age of 58 years. However, the age limit can be relaxed for a further period of two (02) years up to the age of 60 years if the contract worker is competent, efficient and medically fit i.e. physically fit with good health, good eye sight without any disease. The contractor we agree has to produce Medical Fitness Certificate, to this effect, against such contract workers if deployed beyond 58 years.)
7. **Appointment/Nomination of supervisor:**
As a part of the contract, the Contractor is required to appoint/nominate a supervisor (s) who will supervise, control and give directions to the resource(s) for discharging the contractual obligations. Accordingly, the Contractor has to give in writing the name and contact details of the supervisor (s) to the EIC. A copy of the same is also to be sent to HR In-charge and Security In-charge for records.
8. A copy of the Letter of Acceptance (LOA) should be submitted to the Security Department by the Contractor / his representative or supervisor for facilitating the movement of resource(s) including machine & materials involved in the contract.
9. The resources to be deputed/ deployed by the Contractor shall observe all security, fire and safety rules of NHAI while at the site/work. All existing and amended safety / fire rules of NHAI are to be followed at the work site by the Contractor and his deployed resource(s).
10. **Personal Protective Equipment/ Safety Kit and Liveries:** Contractor shall ensure adequate supply of personal protective equipment / Safety Kit and Liveries as mentioned in the Scope of Work to all such resources deployed.

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11. In case of accident, injury or death caused to the resource(s) while executing the Work under the contract, the Contractor shall be solely responsible for payment of adequate compensation, insurance money etc. to the next kith & kin of injured / diseased. Contractor shall indemnify NHAI from such liabilities.
 12. The Contractor shall not deploy any resource suffering from any contagious or infectious disease. The Contractor shall get the deployed resource(s) examined from a civil Govt. Doctor / NHAI's Doctor.
 13. No resource(s) or representatives of Contractor (including Contractor) be allowed to consume alcoholic drinks or any narcotics within the premises of NHAI (including Plant, Office and Residential etc.). If found under the influence of above, the Contractor shall immediately replace that resource(s) with intimation to the EIC.
 14. While engaging / deploying the resources, the Contractor is required to make efforts to provide opportunity of employment to resources belonging to ***Schedule Caste, Schedule Tribe and Other Backward Class*** in order to have a fair representation of these sections of the society.
 15. While engaging the resources, the Contractor is required to make efforts to provide an ***opportunity*** to candidates with experience of ***apprentice training in NHAI*** under the provisions of the Apprentices Act, 1961.
 16. The Contractor is required to maintain all Registers and other records in an ***office*** within the premises of NHAI or at a place ***within a radius of three kilometers***.
 17. Contractor shall provide proper ***Employment cards (FORM XII)*** for the resource to be deployed by him, duly signed by the Contractor or authorized person on behalf of Contractor.
 18. **Gate/ Entry Pass or Authorization:**
Entry to the premises of NHAI is restricted and is subject to appropriate entry authorization in the prescribed format of a Gate Pass or any other entry authorization w.r.t police verification as per instruction of Security department from time to time. Similarly, entry for material/ equipment's/ tools/ tackles etc. is restricted & subject to entry authorization by security department.
 19. The Contractor shall issue ***Identity cards*** in his firm's name to the resource deployed.
 20. Discipline of the resource(s) during discharge of duties must be regulated by the Contractor himself or by his representative.
 21. **Police verification**
 - a) The Contractor (including his sub-Contractors/Petty Contractors etc, if allowed) will undertake police verification in respect of the resource(s) engaged by him in NHAI's premises. Such verification will have to be carried out from concerned police station of their permanent place of residence/present place of residence.
 - b) Further, the Contractor is advised not to deploy any resource having past criminal record in the establishment/premises of NHAI under this contract awarded to him.
 - c) In the event of violation of above clauses at (a) and (b), the Contractor will be solely responsible for the same.

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- d) If any such resource(s) having criminal record is deployed by the Contractor in the premises of NHAI and has come to the notice of NHAI at any point of time, the Contractor shall immediately replace that resource(s), failing which that particular resource(s) of the Contractor will not be allowed to enter into the premises of NHAI.
22. While confirming to any of these conditions, the Contractor must ensure that all applicable Laws of State regarding labour, their welfare, conduct etc. are complied.
23. *The contractor shall ensure the KYC of contract workers in EPFO portal at all time during the period of contract and submit a proof of the same to the Engineer-in-charge.*
24. *The contractor shall ensure that the nomination of contract workers deployed by him under the said contract is duly updated in the EPFO Portal.*

Compliance of Government of India Directives

1. Pradhan Mantri Suraksha Bima Vojna (PMSBV) and Pradhan Mantri Jeevan Jyoti Bima Vojna (PMJJBV)

Contractor shall, ensure that all its resources deployed under this contract have obtained additional insurance coverage under the Pradhan Mantri Suraksha Bima Yojana (PMSBY) and Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) through the participating banks and submit the proof of such insurance coverage to the satisfaction of NHAI. The Contractor shall submit evidence / proof to NHAI in this respect. Both the schemes are to be regulated continuously on yearly basis and the same should be renewed on each successive relevant date in subsequent years during the period of the contract.

2. Labour Identification Number (i.e. LIN) Registration (Mandatory)

The Unified Shram Suvidha Portal, developed by Government of India, facilitates reporting of Inspections & submission of Returns and has also been envisaged as a single point of contact between employer, resources and enforcement agencies bringing in transparency in their day-to-day interactions. For integration of data among various enforcement Agencies, the Contractor, as an inspectable unit, is required to register and obtain Labour Identification Number (i.e. LIN) from Shram Suvidha Portal and submit the same in NHAI.

3. Pradhan Mantri Rojgar Protsahan Vojna (PMRPY) / Aatmanirbhar Bharat Rozgar Vojana (ABRY)/ Pradhan Mantri Garib Kalyan Yojana- if applicable

In order to support the Govt. of India's Initiative on Employment Generation, the Contractor must register for Pradhan Mantri Rojgar Protsahan Yojna (PMRPY) Scheme / Aatmanirbhar Bharat Rozgar Vojana (ABRY) /Pradhan Mantri Garib Kalyan Yojana (as applicable). In service contracts, the Contractor shall inform NHAI/Engineer in Charge about the benefit availed, if any, against the scheme for adjustment against the invoice(s) / bill(s).

Records and Registers

1. Maintenance of records and registers

The Contractor is required to maintain statutory records and registers for applicable labour laws as prescribed under the following rules:

- a) Ease of Compliance to Maintain Registers under the various Labour Laws, 2017
- b) Rationalization of Forms and Reports under Certain Labour Laws Rules, 2017
- c) Labour Codes (after they are made effective by Government of India)

2. The Contractor has to maintain the following (but not limited to) Registers/ Forms/ Reports / Returns at all times:

- a) Employee Register in FORM A (to be replaced by FORM-IV of Code on Wages-2019 after it comes into force)
- b) Wage Register in FORM B (to be replaced by Register of Wages, Overtime, Fine, Deduction for damage and Loss in FORM-I of Code on Wages-2019 after it comes into force)
- c) Register of Loan / Recoveries in FORM C
- d) Attendance Register in FORM D
- e) Register of rest/leave/leave wages in FORM E
- f) Copies of Wage Slips in FORM XIX (to be replaced by FORM- V of Code on Wages-2019, after it comes into force)
- g) Copies of Employment Card in FORM XII

3. Documents to be submitted by the Contractor to EIC at various stages during the currency of the contract

a) Immediately after issuance/receiving of (Letter of Acceptance (LOA))

- i. Details as required for issuance of FORM - VII (Notice of Commencement of Work)
- ii. Application for issuance of FORM -III (Form of Certificate by Principal Employer) for obtaining Labour License from Licensing Authority for engaging 20 or more resources.
- iii. Copy of FORM - VI (License) before commencement of work if 20 or more resources are engaged.
- iv. Copy of Provident Fund Registration Certificate issued by concerned Regional Provident Fund Commissioner.
- v. Copy of ESI Registration Certificate issued by concerned ESIC.
- vi. Copies Insurance Policy(ies) as mentioned ***at Annexure-iv***
- vii. Copy of Labour Identification Number (i.e. LIN) Registration done in Shram Suvidha Portal of Govt. of India.
- viii. Copy of registration under the Building and Other Construction Workers (RE&CS) Act, 1996 in case he employs ten or more building workers in any building or other construction work.

b) At the time of submission of monthly bills

1. Copy of Employee Register in FORM - A under The Ease of Compliance to Maintain Registers under various Labour Laws Rules, 2017 (to be replaced by FORM- IV (of Code on Wages-2019, after it comes into force).
- i. Copy of Wage Register in FORM-B under The Ease of Compliance to Maintain Registers under various Labour Laws Rules, 2017 (to be replaced by Register of Wages, Overtime, Fine, Deduction for damage and Loss in FORM-I of Code on Wages-2019, after it comes

into force) duly certified by **authorized representative** of the Contractor and **authorised person** in NHAI certifying as *"Certified that the amount shown in the column No has been paid to the workman concerned in my presence on----- (date) at (place)"* along with **copy of bank statement** duly certified by bank and *copy of online transaction statement against each resource with details of name, account number, amount paid & date of payment* as proof of **Cashless Transaction / Payment of wages through e- banking/digital mode.**

- ii. As a part of compliance and proof of depositing Provident Fund, EDLI and ESI contributions the Contractor shall submit copies of the **Separate eChallans I ECR**, bank receipts/bank statement in respect of resources deployed iv. NHAI in the previous month in this contract. The documents should also contain details of resources, PF account No., ESI No., contributions of resources and employer etc.
- 1v. Dully filled in statement as per **Annexure- i.**
- v. Copy of Wage Slips in FORM XIX
- vi. *Proof of deposit of Cess under The Building and Other Construction Workers' Welfare Cess Act, 1996, (if applicable)*

c) **At the time of closure of contract**

- 1. **Indemnity Bond** of Rs. 100/- duly notarized from Notary indemnifying NHAI from all liabilities w.r.t. the resource engaged by the Contractor regarding payment of wages, Provident Fund/ESI contributions, Insurance and other statutory payments. Format for Indemnity Bond is enclosed **at Annexure- ii.**
 - ii. Copy of the **Wage Register** in FORM- **B** (to be replaced by FORM-I of Code on Wages- 2019 after it comes into force) for the last month.
 - iii. Copies of **Service Certificates** issue to resource in FOR.1\I **VIII**
 - 1v. Copy of the ECR related to EPF and ESIC Compliance in respect of Resource.
 - v. Details as required for issuance of FORM- **VII (Notice of Completion of Work)**
 - vi. Copies of FORM-C & FORM -D under the Payment of Bonus Act 1965 as proof of payment towards Bonus.
 - vii. Copy of proof towards release of Leave Encashment
 - viii. Copies of No Dues Certificate from contract workers stating they have received all statutory payments and social benefits.
 - ix. *Proof towards PF KYC compliance of contract workers*
 - x. *Proof of deposit of total Cess under The Building and Other Construction Workers' Welfare Cess Act, 1996, (if applicable) with final assessment from respective Cess Collector(s).*
4. **Verifications of bills and documents submitted by the Contractor**

Before certifying/verifying the running/ final bill/invoice of the Contractor, the designated EIC of the respective contract of NHAI, shall verify from the ECRs of PF/ESI, through respective web portals, the detail/status of the payment made by the Contractor. In case the information furnished by the Contractor is found to be incorrect, NHAI shall take appropriate action against the Contractor under relevant conditions as available in the tender document.

Annexure-i**Statement in support of RA Bill for the Month of _____, 20__**

- (1) Name of the Firm/Agency/Contractor _____
- (2) Nature of Contract: Job/ Service _____
- (3) Period of Contract: From _____ to _____
- (a) Extension Period of Contract, if any from _____ to _____
- (b) Place where contract workmen are working _____
- (4) Postal address of the Contractor: _____
- (5) Phone No. of the Contractor: _____
- (6) Fax No. and Email of the Contractor: _____
- (7) Name and Address of PF office from where EPF Code No. has been allotted: _____
- (8) EPF Code No. allotted by PF office: _____
- (9) Name and Address of ESIC office from where ESI Code No. has been allotted: _____
- (10) ESI Code No. allotted by ESIC office: _____
- (11) Labour License No. _____ dated _____
- (12) Validity period of Labour License from _____ to _____
- (13) Detail of Resource engaged by the Contractor:

Category	No. of Resources		Prevailing Minimum Wages
	Male	Female	
Unskilled			
Semi-skilled			
Skilled			
Highly skilled			
Total			

- (14) Copy of Wage Register in FORM-B (to be replaced by FORM-I as per Code on Wages-2019, after it comes into force)
- (15) Details of deposit of contribution towards EPF:
a) EPF Challan No. _____ Amount _____ Date _____
- (16) Details of Deposition of contribution towards ESI
a) ESI Challan No. _____ Amount _____ Date _____
- (17) Whether any arrangement / agreement has been entered with any resource for extending benefits under Inter-state Migrant Workmen (RE&CS) Act, 1979: ___(Yes /No)
If Yes, No. of such Inter-state Migrant Workers: _____

SIGNATURE OF CONTRACTOR/AUTHORIZED REPRESENTATIVE

Place:

Date:

INDEMNITY BOND

WHEREAS National Highways Authority of India (hereinafter referred to as NHAI) which expression shall, unless repugnant to the context include their legal representatives, successors and assigns, having their Registered Office at ~~16, Bhikaiji, Cama Place, R.K. Puram, New Delhi~~ has entered into a CONTRACT with **<name of the Contractor>** Incorporated (hereinafter referred to as the ('CONTRACTOR')) which expression shall unless repugnant to the context include their legal representatives, successors and assigns, having their Registered Office ----- for Rs. -----for **<NAME OF THE CONTRACT>**----- for a period of -----" and on the terms and conditions as set out, inter-alia in the Letter of Acceptance No. -----and various documents forming part thereof hereinafter collectively referred to as the 'CONTRACT' which expression shall include all amendments, modifications and/ or variations thereto.

NHAI has also requested the CONTRACTOR to execute an Indemnity Bond in favour of NHAI indemnifying it from all consequences which may arise out of any Case filed by any Resources/ vendors/ sub- Contractors/partner etc. who may have been engaged by the CONTRACTOR directly or indirectly with or without consent of NHAI for above works , which may be pending before any court of Law including Quasi-Judicial Authority, Competent Authority, Labour Court, Arbitrator, Tribunal etc. and the Contractor has readily agreed for the same.

NOW, THEREFORE, in consideration of the promises aforesaid; the CONTRACTOR hereby irrevocably and unconditionally undertakes to indemnify and keep indemnified NHAI from any loss, which may arise out of any such contract/Case. The CONTRACTOR undertakes to compensate to NHAI forthwith, on demand, without protest the loss suffered by NHAI together direct / indirect expenses. AND THE CONTRACTOR hereby agrees with NHAI that:

- (i) This Indemnity Bond shall remain valid and irrevocable for all claims of NHAI arising from any such contract/case for which NHAI has been made party until now or here-in- after.
- (ii) This Indemnity Bond shall not be discharged / revoked by any change / modification / amendment / deletion in the constitution of the firm / Contractor or any conditions thereof including insolvency etc. of the CONTRACTOR but shall be in all respects and for all purposes binding and operative until any claims for payment are settled by the Contractor.

The undersigned has full power to execute this Indemnity Bond on behalf of the CONTRACTOR and the same stands valid.

Place:

Date:

SIGNATURE OF CONTRACTOR/
AUTHORIZED REPRESENTATIVE

UNDERTAKING

{To be submitted along with un-priced bid}

I/We hereby undertake that I/We have completely understood the statutory & non-statutory components, minimum resources required to be deployed and the cost involved thereof in deployment of resources as per the tender conditions.

I/We further undertake to ensure all compliances of the tender conditions. Any non-compliance may be construed as deficiency in the performance of the contract. If such non-compliance is noticed NHAI/INDEPENDENT ENGINEER is at liberty to take action in line with the tender conditions including termination of the contract.

Signature of Bidder... ..

Name of Bidder... ..

Annexure - iv**Summary of Insurance Policies**

Contractor is required to cover all resources deployed by him with the following insurances/ schemes:

Sl. No.	SCHEME	APPLICABILITY	PREMIUM/ CONTRIBUTION	SUM ASSURED/ BENEFITS	REMARKS
1	The Employees' State Insurance Act, 1948	Applicable to all resources of the Contractor (within ES! wage limit) working in notified area.	3.25% of wages by employer 0.75% of wages by employees	Benefits under the Employees' State Insurance Act, 1948.	
2	The Employees' Compensation Act, 1923 (in lieu of ESI - mentioned at Sl. 1)	Applicable to excluded employees under ESI and those who are working in notified area to 1923 similar benefits as available under ESI Act, 1948	Premium to be calculated considering wage who under EC Act, non-extend 15,000/- p.m. currently)	Maximum Compensation Liability under Employee's Compensation Act, 1923 along with a Medi-claim Floater Policy with a coverage of Rs. 3 Lakhs per resource covering his/her spouse and two children	Provides compensation and medical facility to resources.
3	Group personal	Applicable to all	Based on the	Insured value:	
4	Death, Accident Insurance	resources of the Contractor	coverage	Rs. 5 Lakh to cover expenses associated with any accident.	permanent disablement, temporary total disability or any other medical expenses related to accident.
5	Pradhan Mantri Suraksha Bima Yojana (PMSBY)	Eligibility - age group 18 to 70 years	Rs. 12/- per annum	Accidental death and permanent disability: (i) Permanent total disability-Rs. 2 lakhs. (ii) Permanent partial disability - Rs. 1 Lakh.	
6	Pradhan Mantri Jeevan Jyoti Bima Yojana(PMJJB)	Eligibility - age group 18 to 50 years. (can continue upto 55 years)	Rs. 330/- per annum.	Risk coverage - Rs. 2 Lakhs- in case of death due to any reason	

SECTION-VI: SCHEDULE OF RATES / Bill Of Quantities

PREAMBLE TO BOQ

1. Prices must be filled in format for "BOQ" enclosed as part of Tender document. If quoted in separate typed sheets and any variation in item description, unit or quantity is noticed; the Bid is liable to be rejected.
2. Unless stated otherwise in the Bidding Documents, the Contract shall be for the whole works as described in Bidding Documents, based on the rates and prices submitted by the Bidder and accepted by the Employer. The prices quoted by the Bidders will be inclusive of all taxes & duties except GST (CGST & SGST/UTGST or IGST).
3. Bidder shall quote for all the items of "BOQ" after careful analysis of cost involved for the performance of the completed item considering all parts of the Bidding Document. In case any activity though specifically not covered in description of item under "BOQ" but is required to complete the works as per Specifications, Scope of Work / Service, Standards, "GCC", "SCC" or any other part of Bidding Document, the prices quoted shall deemed to be inclusive of cost incurred for such activity.
4. The BOQ/Schedule of Rates/Price shall be read with all other sections of this Bidding Document.
5. The Contractor is deemed to have studied the drawings, specifications and details of works to be done within the Time Schedule and should have acquainted himself of the conditions prevailing at site.
6. No claim shall be entertained during currency of this Contract towards any items due to the above including where the Contractor has quoted low/ high rates.
7. Employer/Consultant reserves the right to interpolate or extrapolate the rates for any new item of work not covered in BOQ/Schedule of Price from the similar items already available in BOQ/schedule of rates. All the works shall be measured upon completion and paid for at the rate quoted and accepted in the "BOQ". In case any activity though specifically not covered in BOQ/schedule of rates descriptions but the same is covered under scope of work/ scope of supply/ specification/ drawings etc. no extra claim on this account shall be entertained, since BOQ/Schedule of Price is to be read in conjunction with all other documents forming part of the Contract.
8. All items of work mentioned in the "BOQ" shall be carried out as per the specifications, drawings and instructions of Employer/Consultant and the rates are deemed to be inclusive of material, consumable, labour, supervision, tools & tackles and detailing of construction/fabrication drawings, isometric wherever required as called for in the detail specification and conditions of the Contract.
9. Employer/Consultant reserves the right to cancel/ delete any item or group of work if necessary. Such a step shall not be construed as reason for changing the rates.
10. Quoted prices should be inclusive of all taxes and duties, except GST (CGST & SGST / UTGST or IGST). GST shall be quoted by the bidder separately in line with BOQ format.
11. While quoting and filling the rate in this BOQ, Bidder shall take into consideration complete scope of work/item description as mentioned in BOQ.
12. Bidders to note that the Prices are to be filled in the MS EXCEL FILE of BOQ in Financial folder only.
13. The GST quoted in BOQ shall be considered for evaluation and ordering. For details refer relevant provisions of ITB.

ABSTRACT OF COST

S.No.	Description	Amount
1	Grand Total of BOQ	Rs. 61,07,58,233/- excluding GST (Rupees Sixty one crores Seven Lakhs Fifty Eight Thousand Two Hundred and Thirty Three only)
	I/We agree to execute the above works on the tender premium -----% above/below the Grand Total of the Project Cost as given above.	(In words) -----percent Above /Below

Bo Q	Description Of item	Unit	Qty	Unit Rate	Amount
STEEL LAYING CVK-C (PART-A)					
1	PIPELINE LAYING AND ASSOCIATED WORKS (Excavation, Pipe Alignment, Laying, Welding, Testing, Equipments & Backfilling) in line with MoRT&H Circular No.RW/NH-33044/29/2015/S&R(R) dated 22.11.2016.				
1.1	Steel Pipeline laying of size: 12" NB ,WT 6.4 mm, API 5L Gr. X52	M	42,940.00	4,580.00	19,66,65,200.00
1.2	Pipe Laying/Installation of 125mm MDPE pipeline in the already excavated trench for laying of Steel pipeline of various sizes.	M	35,070.00	435.24	1,52,63,866.80
2.0	Pipeline laying by HDD without casing in all types of soil			-	
	HDD Length Less than 300m			-	
2.1	Pipeline Laying _All soil types _Through Horizontal Directional drilling (HDD) method for HDD length less than 300m, without casing pipe. SIZE: 323.9(12" NB) ,WT 6.4 mm, API 5L Gr. X52 Pipeline and 2 Nos HDPE Ducts inside 4" DWC Pipe	M	1,200.00	7,834.32	94,01,184.00
	HDD for Rocky Strata			-	
2.2	Pipeline Laying _Rocky Strata _Through Horizontal Directional drilling (HDD) method without casing pipe. SIZE: 323.9(12" NB) ,WT 6.4 mm, API 5L Gr. X52 Pipeline and 2 Nos HDPE Ducts inside 4" DWC Pipe	M	500.00	35,363.25	1,76,81,625.00
3.0	Construction of 12" Valve Chambers/ Installation of Valves/ Incl. Piping work (AGP-TES-STEEL/TYPE/020)		-	-	
3.1	Piping works for Isolating Valve / Sectionalizing Valve / Tap-off Valve including construction of RCC valve chamber _ Isolating Valves / SV / Tap-Off Valves Station for 12" line. All sectionalizing valve and any other inline assemblies shall be prefabricated and tested hydrostatically at site as per applicable specification. All such assemblies shall be installed at the locations shown in the drawings only after successful completion of the hydrostatic test and dewatering.Including supply and application of Protective coating of 500micron thick 2 components (applied with the help of minimum 3 coats) High build liquid epoxy.(R95 or equivalent)	EA	11.00	2,17,620.00	23,93,820.00
3.4	Construction of Valve pits for MDPE line Construction of Valve Pits having Internal size of Minimum 600x600mm (for 125 mm) as per the enclosed drawing and specification. The item includes supply of all the material including Pre-cast RCC cover/ FRP frame and cover, shuttering,reinforcement,labour,curing etc. as per the drgs ,specification and instruction of EIC.	EA	8.00	27,202.50	2,17,620.00
4.0	Preservation of Pipeline			-	
	Preservation of pipeline by filling the pipeline system with nitrogen at a positive pressure of 2 barg as per the direction of EIC			-	
4.1	Preservation of 12"NB line	M	44,040.00	43.29	19,06,491.60
5.0	Supply and Installation of Route Markers			-	
5.1	INSTALLATION OF PERMANENT ROUTE MARKERS_RCC TYPE ROUTE MARKERS AS PER COMPANY SPECIFICATIONS/DRAWINGS	Each	294.00	1,632.15	4,79,852.10
5.2	INSTALLATION OF PERMANENT MARKERS_WARING SIGN BOARDS WITH POST & FOUNDATIONS AS PER COMPANY SPECIFICATIONS/DRAWINGS	Each	88.00	8,704.80	7,66,022.40
6	Temporary Cathodic Protection			-	
6.1	Temporary Cathodic Protection (TCP)_Type A for Potential Measurement with minimum 2 cables including 1Cx06sqmm armoured Potential Measurement cables, pin brazing connection encapsulation kit etc.	Each	44.00	72,902.70	32,07,718.80
6.2	Temporary Cathodic Protection (TCP)_Type B for Current Measurement with minimum 4 cables including 1Cx06sqmm current measurement armoured cables, pin brazing connection encapsulation kit etc.	Each	6.00	48,964.50	2,93,787.00

6.3	Temporary Cathodic Protection (TCP)_Type E for HT Line Crossing with minimum 4 cables including 1Cx06sqmm & 1Cx25sqmm cables, Prepacked 20KG Zinc Anode with connecting of 1Cx06 sqmm unarmoured cable for grounding, Solid state Polarization Cell & pin brazing connection encapsulation kit for pipe to cable connection etc.	Each	2.00	48,964.50	97,929.00
6.4	Temporary Cathodic Protection (TCP)_Type F for Insulating Joints with minimum 4 cables including supply of 1Cx06sqmm & 1Cx25sqmm cables, Prepacked 20KG + 20KG Zinc Grounding Cell with connecting 1Cx25sqmm cable for grounding, Surge Diverter & pin brazing connection encapsulation kit for pipe to cable connection etc.	Each	3.00	48,964.50	1,46,893.50
6.5	Temporary Cathodic Protection (TCP)_Supply & installation of pre-packed Mg anode(7.6 Kg) with connecting cable(to be terminated at Type A TLP) & pin brazing connection encapsulation kit for pipe to cable connection etc.	Each	72.00	31,554.90	22,71,952.80
6.60	Temporary Cathodic Protection (TCP)_AC Interference Mitigation at HT Location	Each	1.00	17,409.60	17,409.60
6.7	Temporary Cathodic Protection (TCP)_Monitoring, maintenance including any rectification of the Installed [TCP] System for 1 year after laying of the pipelines. The one year will be considered from the last date of laying of pipelines in the stretch	LUM	1.00	3,80,835.00	3,80,835.00
7.0	Structural works, Fencing works			-	
7.1	Pipe Supports, Valve supports & Other Structures_Supply fabrication and erection of all types of pipe supports like clamps, saddle, guide, stops, cradles, Neoprene sheet, turn buckles, anchors, T posts, stockade/trestle and pipe bridge for overhead piping, frames for canopy, approach ladders and platforms, crossover, cable tray supports, gates etc., including painting suitable for highly corrosive area as per specification, labour and supervision & complete work as per drawing, specifications and instructions of Engineer-in-charge (bolts, nuts, washers, u-clamps etc. for supporting shall be supplied by the Contractor within the rates quoted. These items will not be measured and paid separately) The work is to be completed in all respect as per scope of work and specification.	MT	2.00	1,36,012.50	2,72,025.00
A	TOTAL VALUE OF WORK_STEEL LAYING CVK-C-PART A				25,14,64,232.60
BILL OF MATERIALS (PART-B)					
1	SUPPLY OF MAINLINE PIPE CS 12" ERW 3LPE API5L PSL 2 GR.X52 6.4MM (ERW 323.9 MM OD X 6.4 MM WT COATED PIPE) Incl.Transportation.	M	44,040.00	7,000.00	30,82,80,000.00
2	Supply of Valve Actuator with assembly SCADA Valve Incl.Transportation.	EA	2.00	20,00,000.00	40,00,000.00
3	CS Pipe/Flanges/Elbows/Bends/Tee/Reducer/Ball Valves/Insulation Joints/End cap and other additional items	LS			4,00,00,000.00
4	Supply of 125mm MDPE Pipe	M	35,070.00	200.00	70,14,000.00
B	TOTAL VALUE OF WORK_BILL OF MATERIALS (PART-B)			-	35,92,94,000.00
Total Order Value Excl. GST (A+B+C)					61,07,58,233



**GOVERNMENT OF INDIA
MINISTRY OF ROAD TRANSPORT & HIGHWAYS
AN ISO 9001:2008 CERTIFIED MINISTRY**

S&R(R) ZONE

**IAHE Campus,
A-5, Sector-62,
Noida-201301.**

F. No. RW/NH-33044/29/2015/S&R(R)

Dated: 22nd November, 2016

To,

1. The Chief Secretaries of all the State Governments/ UTs
2. The Principal Secretaries/ Secretaries of all States/ UTs Public Works Department dealing with National Highways, other centrally sponsored schemes.
3. All Engineers-in-Chief and Chief Engineers of Public Works Department of States/ UTs dealing with National Highways, other centrally sponsored schemes.
4. The Director General (Border Roads), Seema Sadak Bhawan, Ring Road, New Delhi-110 010.
5. The Chairman, National Highways Authority of India, G-5 & 6, Sector-10, Dwarka, New Delhi-110 075.
6. The Managing Director, NHIDCL, PTI Building, New Delhi-110001

Subject: Accommodation of Public and Industrial Utility Services along and across National Highways – Policy guidelines regarding.

Sir,

The Government has realized that development of infrastructure across the Country on a sustainable and integrated manner continues to be an imperative for improving the state of economy, enhancing quality of life of the citizens and ensuring equitable development throughout the country.

Land being among the most precious of natural resources available, optimum utilization of land shall play a critical role in integrated development of infrastructure. One of the ways to effect such optimum utilization is leveraging land within National Highway (NH) Right of Way (ROW) for laying utility services. This may be achieved through granting permissions for laying utility services along and /or across the ROW. However, environment and safety of the road users are the prime factors in deciding permission for utility services. Permission may be denied, if it is not feasible to ensure safety and environment through requisite safeguards. The Administration of ROW, has been defined in the National Highway Land and traffic Control Act 2002 and relevant Rules 2004.

Keeping in view the need for consistency and clarity, in supersession of all the instructions contained in the earlier previous circulars on the subject, following guidelines shall apply for accommodation of Utility Services along and across National Highways.

2. Laying of Utility Services along the National Highways:

- 2.1 There shall be a provision for utility ducts for appropriate categories/combination of utilities in the construction of new/4-6 laning of National Highways. The ducts shall be located at appropriate location preferably as close to the extreme edge of ROW.
- 2.2 Utility services shall be laid in the utility ducts, if provided for the purpose.
- 2.3 In stretches where utility ducts have not been provided, the utility services shall be located, beyond the toe line of the embankment and drains, as close to the extreme edge of the RoW as possible. While granting permission, requirement of up-gradation also needs to be kept in view.

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2.4 It is to be ensured that at no time there is interference with the drainage of the road land and maintenance of the National Highways. Towards this, the top of the utility services shall be at least 0.6 metre below the ground level.

2.5 No utility service shall be laid over existing culverts and bridges except through the utility ducts where such provision exists. In case of absence of such provisions, the Licensee shall make his own arrangement for crossing of cross drainage structure, rivers, etc. below the bed.

2.6 In exceptional cases, where ROW is restricted the utility services can be allowed beneath the carriageway of service road, subject to the condition that the utility services be laid in concrete ducts, which will be designed to carry traffic on top. The width of the duct in such case shall not be less than one lane. In such cases, it also needs to be ensured that maintenance of the utility services shall not interfere with the safe and smooth flow of traffic. The cost of operation and maintenance will have to be borne by the Licensee as per the agreement.

3. Laying of Utility Services across the National Highway:

3.1 The utility services shall be permitted to cross the National Highway either through structure or conduits specially built for that purpose. The casing / conduit pipe should, as minimum, extend from drain to drain in cuts and toe of slope to toe of slope in the fills and shall be designed in accordance with the provision of IRC and executed following the Specifications of the Ministry.

3.2 Existing drainage structures shall not be allowed to carry the lines across.

3.3 The utility services shall cross the National Highway preferably on a line normal to it or as nearly so as practicable.

3.4 The casing/conduit pipe may be installed under the road embankment either by boring or digging a trench. Installation by boring method shall be preferred.

3.5 In case of trenching, the sides of the trench should be done as nearly vertical as possible. The trench width should be at least 30 cm wider, (but not more than 60 cm wider), than the outer diameter of the utility pipe. Filling of the trench shall conform to the specifications contained here-in-below or as supplied by the Highway Authority.

3.5.1 Bedding shall be to a depth not less than 30 cm. It shall consist of granular material, free of lumps, clods and cobbles, and graded to yield a firm surface without sudden change in the bearing value. Unsuitable soil and rock edges should be excavated and replaced by selected material.

3.5.2 The backfill shall be completed in two stages (i) Side-fill to the level of the top of the pipe (ii) Overfill to the bottom of the road crust.

3.5.3 The side fill shall consist of granular material laid in 15 cm. Layers each consolidated by mechanical tamping and controlled addition of moisture to 95% of the modified Proctor's density. Overfill shall be compacted to the same density as the material that had been removed. Consolidation by saturation or ponding will not be permitted.

3.5.4 The road crust shall be built to the same strength as the existing crust on either side of the trench or to thickness and specifications stipulated by the Highway Authority.

3.6 When utilities are allowed overhead, the horizontal and vertical clearance in accordance with the IRC shall be maintained.

4. Procedure for processing application for granting permission for use of highway land: Any person who intends to obtain permission shall make an application online in the prescribed form to Highway Administration or an officer authorized by Highway Administration on his behalf. The application must mention details the various safety clearances from the respective authorities such as Directorate of Electricity, Chief Controller of Explosives, Petroleum and Explosives Safety Organization, Oil Industry Safety

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Directorate, State/Central Pollution Control Board and any other statutory clearances as applicable, which must be obtained by the Applicant before applying to the Highway Administration.

The application shall be put out in the public domain for 30 days for seeking claims and objections (on grounds of public inconvenience, safety and general public interest). The permission for laying utility services is to be normally granted within 30 days from the day of closure of public objections and claims. If no communication is received from the Highway Administration within 30 days from the day of closure of public objections and claims, the permission shall be deemed to be granted. The initial permission would be valid for a maximum of 5 years at a time, which can thereafter be considered for renewal. On payment of additional fee at the time of renewal, the permission shall automatically be renewed, unless defaults exist. In case of renewal, rate prevailing at the time of renewal shall be charged.

5. Charges for granting licence for use of highway land: For the purpose of license fee/lease rentals, the utilities have been divided into two categories; i) Public utilities and b) Industrial utilities as per the details given in **Annexure I**.

License Fee/lease rentals described below is for Industrial utilities. The license fee for Public utilities shall be 33% of the fee prescribed for Industrial utilities.

5.1 The following methodology shall be followed for license fees/lease rental determination for utility service lines other than localized infrastructure facilities like towers, repeaters and junction boxes).

License Fees (Rs/sq m/ month) = (Utilized NH land area X prevailing Circle Rate of land per unit area) / (10 x 12) where,

Utilized NH land area = Outer diameter/width of the concerned utility line X length

5.2 The following methodology shall be followed for license fees/lease rental determination for utility services such as towers/repeaters/ junction boxes etc.

License Fees (Rs/sq m/ month) = (Utilized NH land area X prevailing Circle Rate of land per unit area) / (10 x 12) where,

Utilized NH land area = Projection of utility on the ground including area of support system/tower

However, for public utilities, area below the support system/tower shall only be charged.

5.3 Fee shall have to be paid in advance for the period for which permission is granted. In case of renewal, rate prevailing at the time of renewal shall be charged. Delay in deposition of fee shall attract interest @ 15% per annum compounded annually.

5.4 A system to redress grievances and to consider relaxation from the guidelines, in exceptional cases, shall be notified separately and shall be effective from the date of notification.

6. All required restoration, maintenance work subsequent to laying of utility services shall be required to be undertaken by the Licensee at its cost either by itself or through its authorized representative in consultation with the Authority as per predetermined time schedule and quality standards. To process for the granting of permission and prior to signing of Lease agreement, a Performance Bank Guarantee for an amount based on per route metre with a validity of one year initially, in the prescribed format (extendable if required till satisfactory completion of work) shall have to be furnished by the utility service provider/ Licensee, as a security against improper restoration of ground in terms of

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filling/unsatisfactory compaction damages caused to other underground installations/utility services & interference, interruption, disruption or failure caused thereof to any services etc.;

Utility services such as pipes etc (rate in per m)

provided in the ducts already provided

Rs 50

<= 300 mm dia/width

Rs 100

> 300 mm dia/width but <=1000 mm

Rs 250

> 1000 mm

Rs 500

Utility services such as towers etc (rate in Rs per sq m)

Rs 100

In case the Licensee fails to discharge the obligation of making good of the excavated trench/other restoration work, the Authority shall have a right to make good the damages caused by excavation, at the cost of the Licensee and recover the amount by forfeiture of the Bank Guarantee. In case, the Performance Bank Guarantee is invoked as mentioned above, the Licensee shall be required to replenish and reinstate the required Performance Bank Guarantee within one month of such invoking.

Notwithstanding this, the Licensee shall be liable to pay full compensation to the aggrieved Authority/ its designated agency for any damage sustained by them by reason of the exercise of the RoW facility.

7. The Authority shall enter into a License Agreement with the respective utility service provider in the format enclosed (**Appendix**) including any other conditions imposed by Highway Administration, to ensure safe and uninterrupted flow of traffic. Post signing of the agreement, the utility service provider shall be designated as 'Licensee' for the purpose of this project and will be authorized to install and operate utility services within the NH RoW. However, utility services shall be made operational by the Licensee only after a completion certificate to the effect is issued by the Highway Administration.

Encls: As above.

Manoj Kumar

(Manoj Kumar)

**Executive Engineer(NFSG) (S,R&T) (Roads)
For Director General (Road Development) & SS**

Copy to:

1. All Technical Officers in the Ministry of Road Transport & Highways
2. All ROs and ELOs of the Ministry
3. The Secretary General, Indian Roads Congress
4. The Director, IAHE
5. Technical circular file of S&R (R) Section
6. NIC-for uploading on Ministry's website under "What's new"

Copy for kind information to:

7. PS to Hon'ble Minister (RTH&S)
8. PS to Hon'ble MOS (RTH&S)
9. Sr. PPS to Secretary (RT&H)
10. PPS to DG (RD) & SS
11. PPS to SS&FA
12. PS to ADG-I/ ADG-II
13. PS to JS (T)/ JS (H)/ JS (LA&C)/ JS (EIC)

Public Utility provider and Industrial infrastructure

A. Public Utility Provider

A **Public Utility Provider** in context of this Guideline shall mean any organization that provides and maintains the infrastructure for a public service like electricity, gas, water supply, telecom cables and sewage disposal subject to applicable regulation.

B. Eligible activities for Industrial Units or 'Industrial Infrastructure'

Industrial Infrastructure in context of this Guideline shall mean any physical infrastructure that is required to facilitate industrial operations and is constructed, operated and maintained along/across Right of Way of National Highways. Such infrastructure shall include the following:

- a. Underground & above ground pipelines including provisions for booster pumping facilities, maintenance bays and other required support infrastructure for transport of legally permitted materials for industrial usage by a business entity having valid license for industrial operations.
- b. Conveyor Belts including provisions for maintenance bays and other required support infrastructure for transport of legally permitted materials, by a business entity having valid license for industrial operations.
- c. Power cables/wires etc. meant for industrial usage by a business entity having valid license for industrial operations.
- d. Any other such associated industrial infrastructure facility.

Draft

Enclosure to Ministry of Road Transport & Highways letter No. 33044 / 29 / 2015
/S&R(R) dated 22.11.2016.

AGREEMENT REGARDING GRANTING OF RIGHT OF WAY
PERMISSIONS

FOR LAYING UTILITY SERVICES ON NATIONAL HIGHWAYS

Agreement to lay Telecom cable / OFC cable / electrical cable / pipe line/ ducts etc.
from _____ to _____ Km of _____ land.

This Agreement made this _____ day of _____ (month) _____ of
(year) between _____ acting in his executive capacity through _____
(hereinafter referred to as the "Authority" which expression shall unless excluded by or
repugnant to the context, include his successors in office and assigns) on the one part, and
M/s _____, a company registered under the Companies Act, 1956 and having its
Registered Office at _____ (hereinafter called the "Licensee") which expression shall
unless excluded by repugnant to the context, include his successors/administrator assignees
on the second part.

Whereas the Authority is responsible, inter-alia, for development and maintenance of
lands in Km to of NH No.....RoW.

Whereas the Licensee proposes to lay Telecom cable / OFC cable / electrical cable /
pipe line / ducts etc. referred to as utility services in subsequent paras.

Whereas the Licensee has applied to the Authority for permission to lay utility
services from Km _____ to Km _____ of road/route up to _____
and from km _____ to km _____ of road/route up to _____.

And whereas the Authority has agreed to grant such permission for way leave on the
NH RoW as per terms and conditions hereinafter mentioned.

Now this agreement witnesseth that in consideration of the conditions hereinafter
contained and on the part of the Licensee to be observed and performed, the Authority hereby
grants to the Licensee permission to lay utility services as per the approved drawing attached
hereto subject to the following conditions, namely.

1. RoW permissions are only enabling in nature. The purpose of extending the way
leave facility on the National Highway RoW is not for enhancing the scope of
activity of a utility service provider, either by content or by intent. Further,
enforceability of the permission so granted shall be restricted only to the extent of
provisions/scope of activities defined in the license agreement & for the purpose
for which it is granted.

2. No Licensee shall claim exclusive right on the RoW and any subsequent user will be permitted to use the RoW, either above or below, or by the side of the utilities laid by the first user, subject to technical requirements being fulfilled. Decision of the Authority in relation to fulfilment of technical requirements shall be final and binding on all concerned parties. In case any disruption/damage is caused to any existing user by the subsequent user, the Authority shall not be held accountable or liable in any manner.
3. The Licensee shall be responsible for undertaking all activities including, but not limited to site identification, survey, design, engineering, arranging finance, project management, obtaining regulatory approvals & necessary clearances, supply of equipment, material, construction, erection, testing and commissioning, maintenance and operation and all other activities essential or required for efficient functioning of their own utility/ industrial infrastructure facilities.
4. The Licensee shall pay license fees @ Rs/sq m/month to the Authority. The License fee shall become payable from the date of handing over of RoW land to the Licensee, for laying of utilities/cables/conduits/pipelines for infrastructure/ service provider. As regards Tariff and Terms and conditions for providing common utility ducts along National Highways, there shall be a separate agreement regime.
5. Fee shall have to be paid in advance for the period for which permission is granted for entering into a license agreement. In case of renewal, rate prevailing at the time of renewal shall be charged. Delay in deposition of fee shall attract interest @ 15% per annum compounded annually.
6. Present policy of the MoRT&H is to provide a 2.00 m wide utility corridor on either side of the extreme edge of RoW. In cases where utility ducts with sufficient space are already available along NH, the utility services shall be laid in such ducts subject to technical requirements being fulfilled.
7. The utility services shall be laid at the edge of the RoW. In case of restricted width of RoW, which may be adequate only to accommodate the carriageway, central verge, shoulders, slopes of embankment, drains, other road side furniture etc; the utility services shall be laid beyond the toe line of the embankments and clear of the drain.
8. The Licensee shall make his own arrangement for crossing of cross drainage structure, rivers, etc. below the bed. In case, this is not feasible, the utility services may be carried outside the railings/parapets and the bridge superstructure. The fixing and supporting arrangement with all details shall be required to be approved in advance from the concerned Highway Administration. Additional cost on account of fixing and supporting arrangement as assessed by the Authority shall be payable by the Licensee.

9. In exceptional cases, where RoW is restricted the utility services can be allowed beneath the carriageway of service road, if available, subject to the condition that the utility services be laid in concrete ducts, which will be designed to carry traffic on top. The width of the duct shall not be less than one lane. In such cases, it also needs to ensure that maintenance of the utility services shall not interfere with the safe and smooth flow of traffic. The cost of operation and maintenance will have to be borne by the Licensee.
10. It is to be ensured that at no time there is interference with the drainage of the road land and maintenance of the National Highways. Towards this, the top of the utility services shall be at least 0.6 metre below the ground level. However, any structure above ground shall be aesthetically provided for / landscaped with required safety measures as directed by the concerned Authority;
11. The utility services shall be permitted to cross the National Highway either through structure or conduits specially built for that purpose. The casing / conduit pipe should, as minimum, extend from drain to drain in cuts and toe of slope to toe of slope in the fills and shall be designed in accordance with the provision of IRC and executed following the Specifications of the Ministry.
12. Existing drainage structures shall not be allowed to carry the lines across.
13. The top of the casing/conduit pipe containing the utility services to cross the road shall be at least 1.2m below the top of the sub grade or the existing ground level whichever is lower, subject to being at least 0.3m below the drain inverts. A typical sketch showing the clearances is given in Attachment-I.
14. The utility services shall cross the National Highway preferable on a line normal to it or as nearly so as practicable.
15. The casing/conduit pipe for crossing the road may be installed under the road embankment either by boring or digging a trench. Installation by boring method shall be preferred.
16. In case of trenching, the sides of the trench should be done as nearly vertical as possible. The trench width should be at least 30 cm. but not more than 60 cms wider than the outer diameter of the pipe. Filling of the trench shall conform to the specifications contained here-in-below or as supplied by the Highway Authority.
 - a. Bedding shall be to a depth not less than 30 cm. It shall consist of granular material, free of lumps, clods and cobbles, and graded to yield a firm surface without sudden change in the bearing value. Unsuitable soil and rock edges should be excavated and replaced by selected material.

- b. The backfill shall be completed in two stages (i) Side-fill to the level of the top of the pipe (ii) Overfill to the bottom of the road crust.
 - c. The side fill shall consist of granular material laid in 15 cm. Layers each consolidated by mechanical tamping and controlled addition of moisture to 95% of the Proctor's Density. Overfill shall be compacted to the same density as the material that had been removed. Consolidation by saturation or ponding will not be permitted.
 - d. The road crust shall be built to the same strength as the existing crust on either side of the trench or to thickness and specifications stipulated by the Highway Authority.
17. The Licensee shall ensure making good the excavated trench for laying utility services by proper filling and compaction, so as to restore the land in to the same condition as it was before digging the trench, clearing debris/loose earth produced due to execution of trenching at least 50m away from the edge of the right of way;
18. All required restoration work subsequent to laying of the cable shall be required to be undertaken by the Licensee at its cost either by itself or through its authorized representative in consultation with the Authority as per predetermined time schedule and quality standards.
19. Prior to commencement of any work on the ground, a performance Bank Guarantee @ Rs. per route metre / Rs per sq m with a validity of one year initially (extendable if required till satisfactory completion of work) shall have to be furnished by the Licensee to the Authority/its designated agency as a security against improper restoration of ground in terms of filling/unsatisfactory compaction damages caused to other underground installations/utility services & interference, interruption, disruption or failure caused thereof to any services etc. In case of the Licensee failing to discharge the obligation of making good of the excavated trench/other restoration work, the Authority shall have a right to make good the damages caused by excavation, at the cost of the Licensee and recover the amount by forfeiture of the Bank Guarantee.
20. In case, the Performance Bank Guarantee is invoked as mentioned above, the Licensee shall be required to replenish and reinstate the required Performance Bank Guarantee within one month of such invoking. In case the work contemplated herein is not completed to the satisfaction of the Authority, which has granted the permission, within a period of 11 months from the date of issue of the Bank Guarantee, the Licensee shall either furnish a fresh guarantee or extend the guarantee for a further period of one year. Notwithstanding this, the Licensee shall be liable to pay full compensation to the aggrieved Authority/ its designated agency for any damage sustained by them by reason of the exercise of the RoW facility;

21. The Licensee shall shift the utility services within 90 days (or as specified by the respective Authority) from the date of issue of the notice by the concerned Authority to shift/relocate the utility services, in case it is so required for the purpose of improvement/widening of the road/route/highway or construction of flyover/bridge and restore the road/land to its original condition at his own cost and risk.
22. The Licensee shall be responsible to ascertain from the respective agency in co-ordination with Authority, regarding the location of other utilities /underground installations/ facilities etc. The Licensee shall ensure the safety and security of already existing underground installations/utilities/facilities etc. before commencement of the excavation/using the existing cable ducts. The Licensee shall procure insurance from a reputed insurance company against damages to already existing underground installations/utilities/facilities etc.
23. The Licensee shall be solely responsible/ liable for full compensation/indemnification of concerned agency / aggrieved Authority for any direct, indirect or consequential damage caused to them/claims or replacements sought for, at the cost and risk of the Licensee. The concerned agency in co-ordination with Authority shall also have a right make good such damages/ recover the claims by forfeiture of Bank Guarantee.
24. If the Licensee fails to comply with any condition to the satisfaction of the Authority, the same shall be executed by the Authority at the cost and risk of the Licensee.
25. Grant of License is subject to the Licensee satisfying (a) minimum disruption of traffic and (b) no damage to the highways. As far as possible, the Licensee should avoid cutting of the road for crossing highway, and other roads and try to carry out the work by trenchless technology. In case any damage is caused to the road pavement in this process, the Licensee will be required to restore the road to the original condition at its cost. If due to unavoidable reasons the road needs to be cut for crossing or laying utility services, the Licensee has to execute the restoration work in a time bound manner at its cost either by itself or through its authorized representative in consultation with the Authority as per predetermined time schedule and quality standards. In case of the Licensee failing to discharge the obligation of making good of the excavated trench/other restoration work, the Authority shall have a right to make good the damages caused by excavation, at the cost of the Licensee and recover the amount by forfeiture of the Bank Guarantee.
26. The Licensee shall inform/give a notice to the concerned agency designated by the Authority at least 15 day in advance with route details prior to digging trenches,

for fresh or maintenance/repair works. A separate performance Bank Guarantee for maintenance/repair works shall have to be furnished by the Licensee.

27. Each day, the extent of digging the trenches should be strictly regulated so that utility services is laid and trenches filled up before the close of the work that day. Filling should be completed to the satisfaction of the concerned agency designated by the Authority.
28. The licensee shall indemnify the concerned agency in co-ordination with Authority, against all damages and claims, if any due to the digging of trenches for laying cables/ducts.
29. The permission for laying utility services is granted maximum for 5 years at a time, which can thereafter be considered for renewal. On payment of additional fee at the time of renewal, the permission shall automatically be renewed, unless defaults exist. In case of renewal, rate prevailing at the time of renewal shall be charged. Delay in deposition of fee shall attract interest @ 15% per annum compounded annually.
30. The permission shall be valid only for the period it is issued and fee deposited. However, the Authority also has a right to terminate the permission or to extend the period of Agreement.
31. That the Licensee shall not undertake any work of shifting, repairs or alterations to the utility services without prior written permission of the concerned agency in co-ordination with the Authority.
32. The permission granted shall not in any way be deemed to convey to the Licensee any ownership right or any interest in route/road/highway land /property, other than what is herein expressly granted. No use of NH RoW will be permitted for any purpose other than that specified in the Agreement.
33. During the subsistence of this Agreement, the utility services located in highway land / property shall be deemed to have been constructed and continued only by the consent and permission of the Authority so that the right of the Licensee to the use thereof shall not become absolute and indefeasible by lapse of time.
34. The Licensee shall bear the Stamp Duty charged on this Agreement.
35. Three copies of 'as laid drawings' of utilities (hard and soft copies) with geo-tagged photographs and geo-tagged video recordings of laying of cables in the trench (with respect to the NH) and after complete restoration shall be submitted to the Authority for verification and record within a month of completion of works.
36. The Licensee shall allow free access to the Site at all times to the authorised representatives of Authority to inspect the Project Facilities and to investigate any

matter within their Authority, and upon reasonable notice, shall provide reasonable assistance necessary to carry out their respective duties and functions.

37. The utility services shall not be made operational by the Licensee unless a completion certificate to the effect that the utility services has been laid in accordance with the approved specifications and drawings and the trenches have been filled up to the satisfaction of the concerned agency in co-ordination with the Authority has been obtained. Notwithstanding anything contained herein, this Agreement may be cancelled at any time by Authority for breach of any condition of the same and the Licensee shall neither be entitled to any compensation for any loss caused to it by such cancellation nor shall it be absolved from any liability already incurred.
38. The Licensee shall ensure adherence to relevant Indian standards and follow best industry practices, methods and standards for the purpose of ensuring the safe, efficient and economic design, construction, commissioning, operation, repair and maintenance of any part of the utility lines/industrial infrastructure facilities and which practices, methods and standards shall be adjusted as necessary, to take account of:
 - a. operation, repair and maintenance guidelines given by the manufacturers,
 - b. the requirements of Law,
 - c. the physical conditions at the Site, and
 - d. The safety of operating personnel and human beings.
39. The Licensee shall have to provide safety measures like barricading, danger lighting and other necessary caution boards while executing the work.
40. While laying utility services, at least one lane of road shall be kept open to traffic at all times. In case of single lane roads, a diversion shall be constructed. If any traffic diversion works are found necessary during the working period such diversion shall be provided at the cost of Licensee.
41. After the termination/expiry of the agreement, the Licensee shall remove the utility services within 90 days and the site shall be brought back to the original condition failing which the Licensee will lose the right to remove the utility services. However before taking up the work of removal of utility services the Licensee shall furnish a Bank Guarantee to the Authority for a period of one year for an amount assessed by the Authority as a security for making good the excavated trench by proper filling and compaction, clearing debris, loose earth produced due to excavation of trenching at least 50m away from the edge of the RoW.
42. Any disputes in interpretation of the terms and conditions of this Agreement or their implementation shall be referred to the redress mechanism prevailing in the Ministry and the decision of the redress mechanism shall be final and binding on all.

43. For PPP Projects, in case of any financial loss incurred by the respective project concessionaires due to such laying/shifting of utility services by the Licensee, compensation for the same shall be required to be borne by the Licensee in mutual agreement with the respective project concessionaires. MoRT&H/ NHAI/ implementing authorities for the project shall not be liable to the concessionaire in any way in this regard.

This agreement has been made in duplicate, each on a Stamp Paper, Each party to this Agreement has retained one stamped copy each.

IN WITNESS WHEREOF THE PARTIES HERETO HAVE CAUSED THIS AGREEMENT TO BE EXECUTED THROUGH THEIR RESPECTIVE AUTHORISED REPRESENTATIVES THE DAY AND THE YEAR FIRST ABOVE WRITTEN.

SIGNED SEALED AND DELIVERED FOR AND ON BEHALF OF AUTHORITY.

BY SHRI _____

(Signature, name & address with stamp)

SIGNED ON BEHALF OF M/S _____ (LICENSEE)

BY SHRI _____

(Signature, name & address with stamp)

HOLDER OF GENERAL POWER OF ATTORNEY DATED _____

EXECUTED IN ACCORDANCE WITH THE RESOLUTION NO. _____
DATED _____ PASSED BY HTE BOARD OF DIRECTORS IN THE
MEETING HELD ON _____

IN THE PRESENCE OF (WITNESSES):

1.

2.

Attachment-I

Enclosure to Ministry of Road Transport & Highways letter No.RW/NH-33044/
..29/2015).54(R(R) dated 22.11.16.

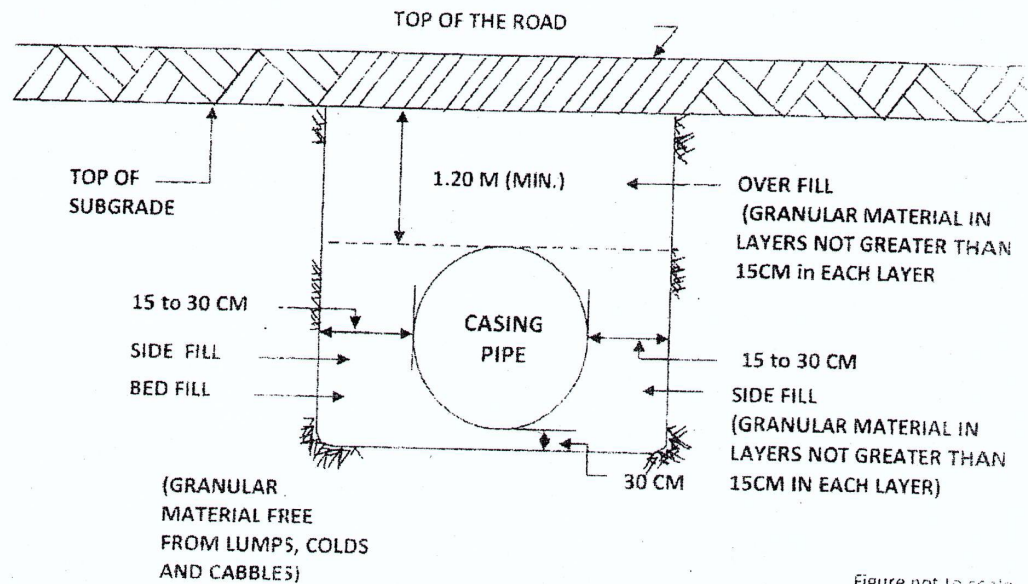


Figure not to scale

**FIGURE-1 INSTALLATION OF CASING PIPE FOR
CROSSING THE ROAD**