



**ORDNANCE FACTORY AMBAJHARI
(A UNIT OF YANTRA INDIA LIMITED)
A GOVERNMENT OF INDIA ENTERPRISE, MINISTRY OF DEFENCE**

REQUEST FOR PROPOSAL (RFP)

**STANDARD ENGINEERING, PROCUREMENT AND
CONSTRUCTION (EPC) CONTRACT MODE
FOR**

**“CIVIL WORK FOR EXTENSION OF FOUNDRY
AND EXTRUSION SECTION FOR NEW 10000
TON CAPACITY PRESS ALONG WITH UP &
DOWN STREAM FACILITIES PROJECT AT
ORDNANCE FACTORY AMBAJHARI, NAGPUR”**

May 2026

 यंत्र इंडिया लिमिटेड ANTRA INDIA LIMITED सशस्त्र सेनाओं का सशक्तिकरण EMPOWERING THE ARMED FORCES (भारत सरकार का उद्यम, रक्षा मंत्रालय) (A GOVT. OF INDIA ENTERPRISE, MINISTRY OF DEFENCE)	 सशस्त्र सेनाओं का सशक्तिकरण EMPOWERING THE ARMED FORCES	आयुध निर्माणी अंबाझरी (यंत्र इंडिया लिमिटेड की इकाई) भारत सरकार का उपक्रम, रक्षा मंत्रालय, Ordnance Factory Ambajhari (A Unit of Yantra India Limited) Govt. of India Enterprise, Ministry of Defence
Phone No. 0712-2393312, 2393133	Fax No. 07104-246705	E-mail ID: ofajeocc@ord.gov.in

Ref No. 9905/01/ExtFdy/ND2401/EOCC/2026-27

Date: 05/05/2026

NOTICE INVITING TENDER

The Executive Director, Ordnance Factory Ambajhari, invites online Request for Proposal (RFP) to execute the Civil Work Project through Standard EPC Contract Mode (Engineering, Procurement and Construction) basis through an open tender enquiry under two bid system (Technical Bid and Price Bid) as per the following details:

1.	Tender Enquiry No.	9905/01/ExtFdy/ND2401/EOCC/2026-27
2.	Tender Category	Works Contract (Civil Works)
3.	Form of Contract	Standard EPC Contract Mode (Engineering, Procurement and Construction)
4.	Name of work	CIVIL WORK FOR EXTENSION OF FOUNDRY AND EXTRUSION SECTION FOR NEW 10000 TON CAPACITY PRESS ALONG WITH UP & DOWN STREAM FACILITIES PROJECT AT ORDNANCE FACTORY AMBAJHARI, NAGPUR
5.	Period of contract	21 Months (Including Design/Drawings & Construction)
6.	Estimated Cost of the work:	Rs. 5781.46 Lakhs (Rs. Five Thousand Seven Hundred Eighty One Lakhs and Forty Six Thousand Only)
7.	Tender Fee	NIL
8.	Earnest Money Deposit (EMD) Amount	Rs. 1,16,00,000.00 (Rs. One Core Sixteen Lakhs Only)
9.	Earnest Money Deposit (EMD) in favour of	Ordnance Factory Ambajhari, Yantra India Limited
10.	Earnest Money Deposit (EMD) validity	At least 06 (six) months from the date of Bid Submission Closing Date.
11.	Payment Mode	FDR / Bank Guarantee
12.	Bank account details for the purpose of preparation of Bank Guarantee only	The following Bank details shall be used for SFMS enable Bank Guarantee preparation: Bank: State Bank Of India (SBI) Current Account No.: 40429114389 IFSC Code: SBIN0010314
13.	Bid Submission Start Date	06/05/2026
14.	Clarifications Start Date	06/05/2026

15.	Site Visit Period	From Bid submission date to Bid opening date. Time : 9:00 AM to 4:00 PM (Excluding Sunday and Holidays) & 9:00 AM to 12:00 Noon (on Saturday)
16.	Pre bid meeting	Pre-bid meeting to be held on 20.05.2026 at 11.00 Hrs. at OFAJ, 8 th Mile, Amravati Road, Nagpur – 440 021 The reply to the queries will be published on https://etenders.gov.in
17.	Clarifications End Date	As mentioned under Critical Dates of Tender Enquiry
18.	Bid Submission Closing Date	As mentioned under Critical Dates of Tender Enquiry
19.	Bid validity from bid closing date	180 Days
20.	Last Date of Receipt of EMD (in Physical Form)	Same as Bid Submission Closing Date
21.	Date of Opening of Technical Bid	As mentioned under Critical Dates of Tender Enquiry
22.	Date of Opening of Price Bid	Date will be intimated to technically qualified bidders.
23.	MSE Benefit	Not Applicable
24.	Integrity Pact	Applicable
25.	Location of Tender Inviting Authority	Ordnance Factory Ambajhari, Nagpur

Note :

1. For Participation in above tender enquiry, online enrollment of the bidder on CPP Portal <https://etenders.gov.in> is required. The Bidder shall have class – III, Digital Signature Certificate (Signing & Encryption). The Bidders / Tenderers are required to submit the bid online by uploading all the relevant documents on CPP Portal <https://etenders.gov.in>
2. All bid documents are to be submitted online only and in the designated cover(s)/ envelope(s) on the Government e-Procurement website. Tenders/bids shall be accepted only through online mode on the Government procurement website and no manual submission of the same shall be entertained. Late tenders will not be accepted.
3. The bidders, who submit their bids for this tender after digitally signing using their Digital Signature Certificate (DSC), accept that they have clearly understood and agreed the terms and conditions including all the Forms/Annexure of this tender.
4. For the above tender enquiry(s), submission of EMD in physical mode before Bid submission closing date is mandatory. Relevant 'Tender ID No.' and 'Name of the Work' shall be clearly indicated on the top of the envelope.
5. All relevant details like Instructions to Bidders, Terms & Conditions, Eligibility Criteria, Document Submission Check List, Scope of Work and other details in respect of EMD etc. are provided in NIT Document available on <https://etenders.gov.in>.
6. Corrigendum(s) / Clarifications for Technical Specifications (if any) related to above tender enquiry will be uploaded only on <https://etenders.gov.in> and shall be a part of this tender document.

7. The Bidders shall keep themselves updated with all such developments.
8. Please go through the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
9. Note :- It is necessary to click on "Freeze bid" link/ icon to complete the process of bid submission otherwise the bid will not get submitted online and the same shall not be available for viewing/ opening during bid opening process.
10. OFAJ reserves the right not to proceed with the Project or to change the configuration of the Project, to alter the timetable reflected in this document or to change the process or procedure to be applied. It also reserves the right to decline to discuss the Project further with any respondent. No reimbursement of cost of any type or on any account will be made to persons or entities submitting their Bid.
11. The Executive Director, Ordnance Factory Ambajhari, reserves the right to reject the submitted bid(s) or to cancel the above tender enquiry at any stage at his discretion without assigning any reasons whatsoever.
12. For any queries / Clarifications, the bidders may contact to EO(Civil) Office / OFAJ on : TEL.NO.07102-2393312 ; 0712-2393133 And Email : ofajeocc@ord.gov.in
13. Address for Communication:
The Executive Director,
Ordnance Factory Ambajhari,
A Unit of Yantra India Ltd.,
8th Mile Amravati Road,
Nagpur (Maharashtra) - 440021

CONTENTS

Sl.No	Particulars	Page No.
	PREAMBLE	
A	Need for EPC Contract	12
B	Model EPC Agreement	12
C	Technical Parameters	12
D	Contract Period	12
E	Risk Allocation	12
F	Design and construction	13-14
G	Key Output Parameters	14
H	Important Instructions	15
I	Bid submission information	15-16
J	Bid Condition	17
K	Pre-Bid Meeting & Site visit	17-18
L	Selection of Contractor	18
M	Minimum Eligibility Criteria	19-21
N	Evaluation of Technical Bid	21-23
O	Opening and Evaluation of Financial bid	23
P	Award Of Contract	23
Q	Technical Specification	23
R	Monitoring and Supervision	24
S	Milestone based payment	24
T	Liquidated Damages for Delay	24
U	Defect Liability Period	24
V	Termination and Dispute Resolution	25
PART - I	PRELIMINARY	26
1	Definitions And Interpretation	27
1.1	Definitions	27
1.2	Interpretation	27-29
1.3	Measurements and arithmetic conventions	29
1.4	Priority of agreements and errors/discrepancies	29
PART - II	SCOPE OF THE PROJECT	31
2	Scope Of Work	31
2.1	Soil investigation & Design drawing submission	31-33
2.2	Site clearance and obstacle demolition	34
2.3	Infrastructure Construction work	35
2.3.1	Foundry Shop Extension civil work	35-36
2.3.2	Extrusion Shop Extension civil work	37-38
2.3.3	Foundry & Extrusion Office civil work	39

2.3.4	Foundry & Extrusion Electrical substation civil work	40
2.3.5	Foundry & Extrusion IEs Change room civil work	41
2.3.6	New Fire Station & Shed civil work	42
2.3.7	LDO Storage facility shifting civil work	43
2.3.8	Vehicle Parking Shed civil work	44
2.3.9	RCC Elevated Service Reservoir (ESR) civil work	45
2.3.10	RCC Static Tank civil work	46
2.3.11	Foundry Dross Collection Shed civil work	47
2.3.12	Scrap Collection Shed civil work	48
2.3.13	Internal Electrical wiring work	49-53
2.3.14	LAN/Telephone network	54
2.3.15	Fire Alarm and Fire Fighting network	54
2.3.16	Internal water line, valves & RCC collection sump work	54
2.3.17	External Services	55-57
3	Design Basis Report	58
3.1	Design Basis Report for Civil Structures	58-66
3.2	Design Basis Report for Plumbing (Water supply and Sanitary)	66-67
3.3	Design Basis Report for Fire Fighting System	67
3.4	Design Basis Report for Electrical Works	68-71
4	Obligations Of The Contractor	72
4.1	Obligations of the Contractor	72-73
4.2	Obligations relating to sub-contracts and any other agreements	73
4.3	Contractor's personnel	73-74
4.4	Contractor's care of the Works	74
4.5	Unforeseeable difficulties	74
4.6	Safety at work site	74
5	Obligations Of The Authority	75
5.1	Obligations of the Authority	75
5.2	Water supply and Electricity for construction	75
5.3	Changes in Scope of work	75-76
5.4	Supports for applicable permits	76
5.5	Environmental and Forest Clearances	76
6	Representations and Warranties	77
6.1	Representations and warranties of the Contractor	77-78
6.2	Representations and warranties of the Authority	78
6.3	Disclosure	78
7	Disclaimer	79
7.1	Disclaimer	79
7.2	Site Visit	79-80

PART - III	CONSTRUCTION	
8	Security Deposit And Performance Guarantee	82
8.1	Security Deposit	82
8.2	Performance Security Deposit	82-83
8.3	Retention Money	83
9	Utilities and Trees	84
9.1	Shifting of obstructing utilities	84
9.2	New utilities	84
9.3	Felling of trees	84
10	Design and Construction of Project	85
10.1	Obligations prior to commencement of Works	85-86
10.2	Design and Drawings	86-87
10.3	Extension of time for completion	88
10.4	Incomplete Works	88
11	Safety Instructions For Working at Height	89
11.1	General	89
11.2	Statuary requirement	89
11.3	Procedure for the jobs at height	89-91
11.4	Safety precautions for working on roof	91
11.5	Safety precaution for exhaust fan/sky jet fans	91
11.6	Safety for cranes & alignment of gantries	91-92
11.7	Safety Precaution during Painting	92
11.8	Cutting of trees/trimming of tree branches	92
11.9	Safety precaution for electrical fittings	93
11.10	DO's And DONT's While working at Height	93-94
11.11	Work Permit for working at height	94
12	Quality Assurance, Monitoring and Supervision	95
12.1	Quality of Materials and workmanship	95
12.2	Quality control system	95
12.3	Methodology	95-96
12.4	Inspection and technical audit by the Authority	96
12.5	External technical audit	96
12.6	Inspection of construction records	96
12.7	Monthly progress reports	96
12.8	Inspection	96
12.9	Samples	97
12.10	Tests	97
12.11	Examination of work before covering up	97
12.12	Rejection	97-98
12.13	Remedial work	98
12.14	Delays during construction	98

12.15	Quality control records and Documents	98
12.16	Suspension of unsafe Construction Works	98-99
13	Completion Of Work	100
13.1	Work start & Completion period	100
13.2	Submission of Completion report	100
13.3	Stability Certification of Buildings	100
13.4	Test Reports of Buildings	101
13.5	Defect Liability Period	101
14	Change of Scope	102
14.1	Change of Scope	102
14.2	Procedure for Change of Scope	102-103
14.3	Payment for Change of Scope	103
14.4	Restrictions on Change of Scope	103
14.5	Power of the Authority to undertake works	104
15	Defect Liability	105
15.1	Defects Liability Period	105
15.2	Remedy and rectification of Defects and deficiencies	105
15.3	Cost of remedying Defects	105-106
15.4	Contractor's failure to rectify Defects	106
15.5	Contractor to search cause	106
15.6	Extension of Defects Liability Period	106
16	Authority's Engineer	107
16.1	Appointment of the Authority's Engineer	107
16.2	Duties and functions of the Authority's Engineer	107
16.3	Instructions of the Authority's Engineer	107
17	Environmental Management System	108
17.1	OFAJ Environmental Management	108
17.2	Disposal of Solid Waste	108
17.3	Air Pollution Prevention	108
17.4	High Noise Area display	108
17.5	Optimum Use of Natural Resources	108
PART - IV	FINANCIAL COVENANTS	
18	Payments	110
18.1	Contract Price	110
18.2	Advance Payment	110-111
18.3	Procedure for estimating the payment for the Works	111-112
18.4	Stage Payment Statement for Works	112
18.5	Stage payment for work	112
18.6	Price Variation for Works	113
18.7	Final Payment Statement	113

18.8	Discharge	113
18.9	Change in Law	113-114
19	Insurance	115
19.1	Insurance for Works	115
19.2	Notices to the Authority	116
19.3	Evidence of Insurance Cover	116
19.4	Remedy for failure to insure	116
19.5	Waiver of subrogation	116
19.6	Contractor's waiver	116-117
19.7	Cross liabilities	117
19.8	Accident or injury to workmen	117
19.9	Insurance against accident to workmen	117
19.10	Application of insurance proceeds	117
19.11	Compliance with policy conditions	117
PART - V	FORCE MAJEURE AND TERMINATION	119
20	Force Majeure	119
20.1	Force Majeure	119
20.2	Non-Political Event	119
20.3	Indirect Political Event	119
20.4	Political Event	119-120
20.5	Duty to report Force Majeure Event	120
20.6	Effect of Force Majeure Event on the Agreement	121-122
20.7	Termination Notice for Force Majeure Event	122
20.8	Termination Payment for Force Majeure Event	122
20.9	Dispute resolution	122
20.10	Excuse from performance of obligations	122-123
21	Suspension of Contractor's Rights	124
21.1	Suspension upon Contractor Default	124
21.2	Authority to act on behalf of Contractor	124
21.3	Revocation of Suspension	124
21.4	Termination	124-125
22	Termination	126
22.1	Termination for Contractor Default	126-127
22.2	Termination for Authority Default	127-128
22.3	Right of Authority to Determine the Contract	128
22.4	Requirements after Termination	128
22.5	Valuation of Unpaid Works	128-129
22.6	Termination Payment	129-130
22.7	Other rights and obligations of the Parties	130
22.8	Survival of rights	130

PART - VI	OTHER PROVISIONS	132
23	Assignment and Charges	132
23.1	Restrictions on assignment and charges	132
23.2	Hypothecation of Materials or Plant	132
24	Liability and Indemnity	133
24.1	General indemnity	133
24.2	Indemnity by the Contractor	133
24.3	Notice and contest of claims	134
24.4	Defense of claims	134-135
24.5	No consequential claims	135
24.6	Survival on Termination	135
25	Dispute Resolution	136
25.1	Disputes	136
25.2	Excepted Matters	136-137
25.3	Adjudication	137
25.4	Mediation	137-138
25.5	Appointment of Mediator (s)	138-139
25.6	Process	139-140
25.7	Arbitration	140
25.8	Notices for Arbitration	140-141
25.9	Reference to Arbitration	141
25.10	Appointment of Arbitrator	141-144
25.11	The Arbitral procedure	144-145
25.12	Arbitral Award	145-146
25.13	Challenging Arbitration/Judicial Award	147
26	Compliance of Labour Law	148
26.1	Contract labour regulation	148
26.2	Payment of wages	148-149
26.3	Labour Safety and Hygiene	149-150
26.4	Sexual harassment of women at workplace	150
27	Miscellaneous	151
27.1	Governing law and jurisdiction	151
27.2	Waiver of immunity	151
27.3	Delayed payments	151
27.4	Waiver	151-152
27.5	Liability for review of Documents and Drawings	152
27.6	Exclusion of implied warranties etc.	152
27.7	Survival	152
27.8	Entire Agreement	153
27.9	Severability	153
27.10	No partnership	153

27.11	Third Parties	153
27.12	Successors and assigns	153
27.13	Notices	153-154
27.14	Language	154
27.15	Counterparts	154
27.16	Confidentiality	154
27.17	Copyright and Intellectual Property rights	154-155
27.18	Limitation of Liability	155
28	Definitions	156
28.1	Definitions	156-161
29	Schedules	163
29.1	Activity Bar Chart: Schedule-A	163
29.2	Activity/Unit wise Percentage cost Breakup: Schedule-B	164-168
29.3	Mile Stone Chart: Schedule C	169-170
29.4	Technical Specification of Materials Schedule-D	171
29.5	List of Bid enclosures and other formats	172
29.6	List of General Arrangement (GA) Drawings	173
29.7	Checklist for Bid Submission	174

 <p>यंत्र इंडिया लिमिटेड ANTRA INDIA LIMITED सशस्त्र सेनाओं का सशक्तिकरण EMPOWERING THE ARMED FORCES (भारत सरकार का उद्यम, रक्षा मंत्रालय) (A GOVT. OF INDIA ENTERPRISE, MINISTRY OF DEFENCE)</p>	 <p>सशस्त्र सेनाओं का सशक्तिकरण EMPOWERING THE ARMED FORCES</p>	<p>आयुध निर्माणी अंबाझरी (यंत्र इंडिया लिमिटेड की इकाई) भारत सरकार का उपक्रम, रक्षा मंत्रालय, Ordnance Factory Ambajhari (A Unit of Yantra India Limited) Govt. of India Enterprise, Ministry of Defence</p>
Phone No. 0712-2393312, 2393133	Fax No. 07104-246705	E-mail ID: ofajeocc@ord.gov.in

Ref No. 9905/Ext & Fdy Project/ND2401/M&R/EO(Civil)/2026-27

Date: 05/05/2026

PREAMBLE

As per the DPR approved by Ministry of Defence for the procurement of 10000 Ton Capacity Press along with UP & DOWN stream facilities, Civil Works infrastructure is proposed within the factory premises of Ordnance Factory Ambajhari, Nagpur. Hence, in the upcoming project for installation of new plant and machinery, it is proposed for extension of existing buildings at South side of Foundry and Extrusion section, including development of related facilities.

For this purpose, Ordnance Factory Ambajhari invites online Bids on Design, Engineering, Procurement and Construction (EPC) basis from eligible contractors/firms for **“CIVIL WORK FOR EXTENSION OF FOUNDRY AND EXTRUSION SECTION FOR NEW 10000 TON CAPACITY PRESS ALONG WITH UP & DOWN STREAM FACILITIES PROJECT AT ORDNANCE FACTORY AMBAJHARI, NAGPUR”**.

A) NEED FOR EPC CONTRACT:

Ordnance Factory Ambajhari (OFAJ) had hitherto been undertaking construction works through the conventional item rate contracts where the Authority provides the detailed estimates of quantities for different items of work (Bill of Quantities). Payments to the contractor are made on the basis of measurements of the work done in respect of each item. However, this is a completely new project which involves structural designing and development of drawings which requires considerable amount of time to work out estimated quantity for each items and also considerable time of Project Engineers will be consumed in dealing with variations in quantities, introduction of Non-Schedule Items and variation in contract price. Since MOD sanctioned the project with definite time line including installation of Plant and Machinery, it has been decided to adopt the Engineering, Procurement and Construction (EPC) mode of contracting for this project. Accordingly, the processes for design approval, supervision and monitoring etc. have been suitably incorporated in the Model EPC Agreement as per the practices being followed.

B) MODEL EPC AGREEMENT:

The aforesaid drawbacks of item rate contracting can be addressed by adopting the EPC approach that relies on assigning the responsibility for investigations, design and construction to the contractor for a lump sum price determined through competitive bidding. The objective is to ensure speedy implementation of the project to the specified standards and cost effective designs, and least time overrun while assigning & balancing various risks judiciously between contractor and authority. This Standard EPC Agreement provides a contractual framework that balances the allocation of risks and rewards, provides equity of obligations and penalties between Authority and the Contractor, minimises the ambiguities and uncertainties, thus improves the predictability of cost & time. It also follows the global best practices related to force majeure, termination and dispute resolution, apart from transparent and fair procedures.

The Contractor also has full freedom to plan the construction schedule for efficient use of its manpower, equipment and other resource while payments are linked to specified stages of construction (payment milestones) vis-à-vis the payment for individual units under this contract. Awarding contract for a lump sum price ensures value engineering, balancing of risks and financial discipline, both for the contractor and the Authority.

C) TECHNICAL PARAMETERS:

The civil works involved in this project are clearly mentioned in scope of work and as per General Arrangement (GA) drawings provided with this bid. The machine foundation work required for installation of plant and machinery is not part of this tender. However, during the development of design and drawing of civil works, the space requirements of new plant and machinery shall be considered.

The Standard EPC Agreement specifies the required design standards and allows the Contractor to design and construct the project using design engineering and global best practices to achieve quality, speed, efficiency and economy. This would provide the requisite flexibility to the contractor in evolving and adopting the efficient designs without compromising on the quality and safety.

D) CONTRACT PERIOD:

The Contract Period for the Project is **21 Months** from appointed date. Appointed date shall be as mentioned in Definitions in Article-28. The allotted contract period includes time for soil investigation and design/drawings submission (3 Months) and construction of buildings/structures (18 Months) till handing over to Authority as indicated in Activity Bar Chart **Schedule – “A”**.

The contract period is determined on a project-specific basis depending on the volume of construction work involved. The Contractor shall be liable to pay Damages at the specified rate for each day of delay beyond the specified date of completion, subject to the total amount of Damages not exceeding 10 per cent of the Contract Price. However, the Contractor shall be entitled to time extension arising out of delays on account of change of scope and force majeure or delays caused by or attributable to the Authority.

E) RISK ALLOCATION:

Projects risks such as soil conditions and weather or commercial and technical risks relating to design and construction have been assigned to the Contractor. The Authority accepts to waive off the liquidated damages to the Contractor for any delays in handing over the land/site, environment clearances, shifting of utilities and approvals in respect of engineering scale plan.

F) DESIGN AND CONSTRUCTION:

OFAJ defines the scope of the project, Bar Chart indicating time period allotted to each activity and predictability with to enable the Contractor to determine its costs and obligations. It also lays down a ceiling of 10% of contract price to cater for any additional work which is not mentioned in the scope of project but essential for completion of project, the cost of which the Authority will bear.

The Contractor shall carry out survey and investigations and also develop designs and drawings in conformity with the specifications and standards laid down in the Agreement. Structural designs of building are to be done from registered structural designer and same shall be approved by **IIT/ NIT / Institutions** only. The drawings related to LDO storage facility and connected network shall have approval as per applicable law.

Authority's engineer shall review the IIT/NIT approved design and drawings to ensure that these conform to the scope of the project, design standards and specifications. Before start of the construction work, contractor shall submit the Bill Of Quantities (BOQ) required for each unit for as per the Design Basis Report "**Article-3**" and Technical Specifications as per "**Schedule-D**". During execution of the works, the quality and quantity shall be monitored as per BOQ submitted for each unit. The EPC agreement also stipulates provisions for quality control and quality assurance.

G) KEY OUT PUT PARAMETERS OF PROJECT:

- Estimated cost of this project is based on item rates from MES SSR-2020 with applicable MV and PA rates from CPWD DSR (including GST & applicable taxes). Bidder will quote the overall price for complete project for Scope of work indicated in bid. The distribution of unit wise cost breakup and activity wise cost breakup as indicated in **Schedule -"B"** will be applicable for disbursement of RAR/FINAL Bills.
- In this project, Design/Drawing and Construction of Two production buildings with allied infrastructure as deliberated in scope of project (Article-2) is proposed. The construction of main two production buildings proposed in the project is Pre Engineered fabricated steel structure buildings and other are RCC framed structure buildings.
- Besides the scope of work given in Bid, if any additional construction work arises which is essential for completion of project then it shall be taken up within 10% applicable deviation limits over contract amount. The costing of additional work will be based on rates with applicable percentage achieved by dividing the quoted price by estimated cost (quoted price/estimated cost) for items available in MES SSR-2020 with applicable MV and for other items as per market rates. Market rates shall be decided by Board of Officers nominated by Authority. Similarly, for deletion of any scope during execution of Project the proportionate percentage cost indicated in cost breakup shall be reduced from disbursement of RAR/FINAL Bill.
- The work is to be executed within OFAJ Factory premises that come under restricted area. Hence the entry of any person deployed on the project must follow the Security norms and entry of the persons will be allowed only after submission of PVR forms and necessary clearance from Security section.
- OFAJ will provide necessary open space for stacking of materials within factory area near the construction site and for Labour camps the open space will be provided outside factory area.
- Water for construction activity will be on chargeable basis from single point source within factory area. For distribution network and storage system, contractor has to arrange as per utility.
- Electricity for construction activity will be on chargeable basis from single point source within factory premises for which contractor have to arrange Electric Meter and necessary temporary distribution network system as per utility.

H) IMPORTANT INSTRUCTIONS:

1)	Estimated Cost (Indicative of the complete Project)	:	Rs. 5781.46 Lakhs (incl. GST & applicable Taxes)
2)	Project Completion Time	:	21 Months (Submission of Design & Drawings: 3 Months and Construction work: 18 Months)
3)	Cost of Tender Documents.	:	NIL
4)	Earnest Money Deposit (In the form of FDR / Bank Guarantee as per “Annexure-VI”, issued in favour of Ordnance Factory Ambajhari, Yantra India Ltd., payable at Nagpur issued by National Bank or Scheduled Commercial Bank for minimum period of 6 Months from Bid date)	:	Rs. 1,16,00,000/- (Rs. One Cores Sixteen Lakhs Only) EMD must be submitted to OFAj in physical form with covering letter indicating Bid details, before bid submission date.
5)	Date of Publishing		06/05/2026
6)	Bid Submission Start Date		06/05/2026
7)	Clarification Start Date		06/05/2026
8)	Date of Pre-Bid Meeting		20/05/2026
9)	Site Visit Period		From Bid submission start date to Bid opening date. Time : 9:00 AM to 4:00 PM (Excluding Sunday and Holidays) & 9:00 AM to 12:00 Noon (on Saturday)
10)	Clarifications End Date		As mentioned under Critical Dates of Tender
11)	Bid Submission End Date		As mentioned under Critical Dates of Tender
12)	EMD Submission (Physical form) last date		As per Bid submission end date.
13)	Technical Bid Opening Date		As mentioned under Critical Dates of Tender
14)	Date of Opening of Financial Bid		To be intimated later to eligible firms

I) BID SUBMISSION INFORMATION:

- Tender documents may be downloaded from Central Public Procurement (CPP) portal <https://etenders.gov.in>. Further details are provided in the subsequent sections of this tender document.
- For submission of Bid, online enrolment of the Bidder on CPP Portal <https://etenders.gov.in> is required. The Bidder shall have Class – III, Digital Signature Certificate (Singing & Encryption). The Bidder is required to submit the Bid online by uploading all the relevant documents (Technical / Price Bid) on CPP Portal <https://etenders.gov.in>.
- All relevant details like Instructions to Bidders, Terms & Conditions, Eligibility Criteria, Document Submission Check List, Scope of Work and other details are provided in the Tender Document.
- Earnest Money Deposit (EMD) in the form of FDR / Bank Guarantee as per “Annexure-VI” issued from Nationalised Bank or Scheduled Commercial Bank must be submitted to OFAj before bid submission date in physical form with covering letter indicating Bid details clearly. OFAj will not be responsible for postal or any delay for submission of EMD within stipulated time and Bid submitted on portal will be rejected.

- Corrigendum(s) / Clarifications for Technical Specifications (if any) related to this tender, will be uploaded only on <https://etenders.gov.in> and shall be a part of this tender document. The Bidder shall keep them updated with all such developments.
- Bidders are advised to keep visiting the CPP Portal from time to time (till the deadline for bid submission) for any updates in respect of notice, if any. Failure to do so will not absolve the bidder of his liabilities to submit the Bid, complete in all respect including updates thereof, if any. An incomplete bid may be liable for rejection.
- Authorized Signatory: Any Regular Employee / Officer of the bidding firm who is authorized by the Bidder to sign the Bid documents, make corrections/ modifications thereto and interacting with OFAJ and act as the contact person. The original signed copy of authorization letter/Power of Attorney must be attached with the bid.
- The bidding process will consist of Two Bid System. The bid must be submitted online in two parts comprising:-
 - a. Part-I: Technical Bid & Part-II: Financial/Commercial/Price Bid (all have same meaning).
 - b. The Part-I (Technical bid) should contain the EMD, Technical details of the firm / organization required as per the Tender document, financial information along with other desired information/certificate as per the Annexures of this tender document.
 - c. The Part-II (Financial Bid) will only contain the price to be offered in the Bid format provided with the tender document.
 - d. The Part-I (Technical Bid) will be opened on the date of the tender opening and Part-II (Financial Bid) after evaluation of Part-I. The Part-II (Financial Bid) of only technically qualified bidders will be opened, as decided by the Technical Evaluation Committee. The decision of the Technical Evaluation Committee (TEC) will be final and binding on all the bidders.
- The Executive Director, Ordnance Factory Ambajhari, reserves the right to accept or reject, wholly or partly, any or all the bids without assigning any reason whatsoever. OFAJ's decision in this regard will be final and binding on all the applicants.
- For any queries / Clarifications, the Bidder may contact to EO(Civil) Office / OFAJ on : TEL. NO. 0712-2393312 ; 0712-2393133 ; Email : ofajeocc@ord.gov.in
- Conditional offers will be out rightly rejected.

J) BID CONDITIONS:

- OFAJ reserves the authority to reject any or all of the bids received and change the scope of work without assigning any reason. OFAJ also reserves the right to terminate the bidding process at any stage without assigning any reason.
- The offer, in which any of the prescribed conditions is not fulfilled or where the bidder puts any condition including that of conditional rebate, the same will be liable to be summarily rejected.
- Canvassing whether directly or indirectly, in connection with the bid is strictly prohibited and the bid submitted by the bidder who resorts to canvassing in any form would be liable to rejection.
- The offer will remain open for acceptance for a period of **180 days** from the date of opening of 'Bids'
- The bid document will form a part of the contract agreement. On acceptance of bid of the successful bidder by the Accepting Authority, Letter of Intent will be issued and award of contract will be signed by the authorised officer of Bidder as per the contract agreement.
- To obtain first-hand information on the assignment and on the local conditions, bidders have to visit the actual site of the project. Bidders must inform themselves about the local conditions.

K) PRE BID MEETING AND SITE VISIT:

- Pre-Bid meeting will be held at OFAJ premises as per **“Time Schedule For Various Tender related Events”**.
- For attending pre-bid meeting, Bidder shall intimate the visiting personnel's details, minimum 2 (Two) day before the Pre-Bid meeting date, on **Email: ofajeocc@ord.gov.in** with UID number which the visiting personnel has to carry with him during entry inside the factory premises.
- Email confirmation regarding the Pre-Bid meeting timings will be communicated to bidder by return email. Any person, other than the person registered for pre-bid meeting will not be allowed to attend the meeting at any circumstances.
- Before attending the pre-bid meeting, Bidder shall Email the queries related to Bid conditions to discuss on it in the meeting.
- Visit of proposed project site (near existing Extrusion and Foundry section at OFAJ) can be made by the prospective bidders on any date as mentioned in NIT document. The time for entry for site visit will be from 9 AM to 4 PM on working days (Excluding Sunday and Holidays) and 9:00 AM to 12:00 Noon (on Saturday).
- For any issues or clarifications related to the published tender bidders are requested to contact the Tender Inviting Authority.
- The Bidder shall be deemed to have inspected the Site and its surroundings and taken into account all relevant factors pertaining to the Site, while preparing and submitting the Bid.

- Any Site information and drawings given in this Bid Document is for guidance only. The Bidders are instructed to visit and examine the Site of works and its surroundings, understand the scope of work at his/their cost and obtain at his/their own responsibility, any information that may consider necessary for preparing the Bid and entering into a Contract with OFAj, including availability of electricity, water and other resources
- The Bidder may obtain all necessary information as to risks, contingencies & other circumstances (insurgencies etc.) which may influence or affect their tender. Bidder shall be deemed to have considered site conditions before quoting his rates and no claim or extra charges whatsoever in this regard shall be entertained / payable by the Authority at a later date.
- Before submitting a Bid, the Bidder shall be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates entered in the Price Bid document are adequate and all-inclusive for the completion of work to the entire satisfaction of the Employer/Owner.
- The bidders shall submit a declaration for Site visit as per “**Annexure-IX**” which will be signed by nominated representative of OFAj after the site visit. Submission of bid without “**Annexure-IX**” will be summarily rejected.

L) SELECTION OF CONTRACTOR:

Selection of the contractor will be based on Least Cost System (LCS) through open competitive bidding. Project parameters such as the contract period, price adjustments and technical parameters will be as mentioned in the tender document.

For selection of contractor Two Bid system will be followed as under:

- 1) In First stage, the Preliminary evaluation will be carried out based on the documents submitted by Bidder as per Eligibility criteria and submission of EMD in physical form before Bid closing time. Technical evaluation will be carried out by TEC (Technical Evaluation Committee) based on the documents submitted by firm. After verifications of documents submitted by firms the list of qualified bidders will be declared.
- 2) In Second stage, the technically evaluated Bids, as per evaluation criteria will be considered for opening of price bid. After opening of price bid L-1 contractor will be decided based on the lowest offer/price bid.

M) MINIMUM ELIGIBILITY CRITERIA:

The Bidder who fulfils the following minimum eligibility requirements will be eligible to bid. Ineligible bids will be rejected outright and no further action/technical consideration will be given to such bids:

- i) Registration/ Licence:** The bidder should have their valid Registration with any Central Govt./State Govt/DPSU/PSUs/PSEs/Any Govt Organisation for Civil and Electrical Contract work and Electrical licence issued by State Govt. Bidder should possess Labour License, EPFO, ESIC, BOCW Welfare Board Registration etc., PAN number, GST number, CIN (Corporate Identification Number), FRN (Firm Registration Number) with the appropriate Authorities. All the Registration/Licence details duly filled in “**Annexure-I**” and attached with copy of License/ Registration shall be submitted with tender. In case the firm is not having Labour License, EPFO, ESIC, BOCW Welfare Board Registration at the time of submission of bid, they will submit an undertaking that they will get themselves registered with the concerned authorities in case they are awarded the work.
- ii) Work Experience:** The Bidder should have satisfactorily completed the similar works of the value mentioned as below within (07) Seven years, ending previous day of last date of submission of tenders. For this purpose, cost of work shall mean gross value of the completed work in “**Annexure-II**”. Copies of completion certificates shall be attached.
- a. Three similar works each costing not less than 40% of the estimated cost of the project.
- OR**
- b. Two similar works each costing not less than 50% of the estimated cost of the project.
- OR**
- c. One similar work costing not less than 80% of the estimated cost of the project.

“Similar works” shall mean works: Bidder should have experience of having executed and completed One work for Industrial shed/buildings with Steel structures (Columns and beams of steel), including civil works, foundation works, internal water supply, Sanitary installations, Electrical wiring work, Electrical substation buildings and related infrastructures etc.

The leading work in this project is Steel Structure shed/building work. Therefore, the proportion of the Steel Structure shed/building work in total value of executed work shall be more than 50% amount of the work executed as per Experience Certificate. Work experience in the format as mentioned in “**Annexure-III**” shall be submitted with supporting documents with work done certificates issued by the concerned department.

Experience of completed work as per “**Annexure -III**” will be scrutinised and if completion time is **more than Twice the Stipulated Time/Original DP with Liquidated Damages (LD)** then it shall be treated as **poor performance** and shall not be accepted as proof of satisfactory past experience.

The following shall also be considered while assessing the eligibility of the bidder:

- Experience should be in the name of the bidding company and not in subsidiary/ associate company/ Group Company etc.
- Own works / work under the same management / own certification of the bidder shall not be considered.

- In case the work experience is of Private sector the completion certificate shall be supported with copies of Corresponding TDS Certificates. The TDS amount shall tally with the actual amount of work done mentioned in experience certificate. Otherwise, the amount that will tally with the TDS shall only be considered for eligibility.
 - For the purpose of similar works, works executed in India only shall be considered. For foreign work, the bidder shall submit the completion certificate duly certified by concerned embassy in India.
- iii) **Turn Over:** Cumulative average annual financial turn over during the immediate last 03 (three) consecutive financial years should be at least **30% (Thirty Percent)** of the estimated cost of proposed project. Turnover shall be duly filled in “**Annexure-IV**” audited & certified by a Chartered Accountant with his seal / signatures and registration number with UDIN.
- iv) **Profit/loss:** The bidder should not have incurred any financial loss (Profit After Tax should be positive) in more than two years during the last Three years ending FY 2024-25. This should be duly certified by the Chartered Accountant as per “**Annexure-IV**” with his seal / signatures and firm registration number.
- v) **Net Worth:** Banker's Certificate from a Commercial Bank or Net worth Certificate: Banker's Certificate of the amount equal to 40% of the Estimated Cost put to tender (EPC) as per “**Annexure-V(A)**”.

OR

Net worth certificate of minimum 10% of the estimated cost put to tender issued by certified Chartered Accountant with UDIN as per “**Annexure-V(B)**”.

- vi) **Sole Bidder:** The bids received as a joint venture or consortium are not eligible for participation. Only sole bidders are allowed to participate in the bid.
- vii) **Blacklisted firm:** The Contractor / Firms that have been debarred or blacklisted by any Govt. Departments or PSUs/PSEs are not eligible to participate in the tender. A notarized certificate as per “**Annexure-X**” is to be submitted along with the bid by the bidders to the effect that they are not debarred or blacklisted by any such Departments. In case, if it is found at later stage that the bidder is a blacklisted company declared by any of these organisations then the works will be withdrawn, and Security Deposit shall be forfeited.
- viii) **Litigation:** The bidders who have initiated litigation against OFAJ or any other Ordnance Factory under YIL shall be considered only after the litigation is completed.
- ix) The bidders shall submit along with the bid a declaration duly signed by nominated representative of OFAJ/Client after site visit. This is mandatory. Bids submitted without undertaking in the format provided at “**Annexure-IX**” which shall be duly signed by nominated representative of OFAJ/Client and bidder will be summarily rejected and will not be considered for evaluation.
- x) **Indian Bidder:** The bidder should be an Indian firm only, hence all the details of bidder as per

“Annexure-I” shall be supported with valid documents.

- xi)** For verification of the Bidder’s credential, Authority/OFAJ may depute it’s representative to inspect the similar works carried out by the bidder which are submitted by the bidder as proof of work experience.

N) EVALUATION OF TECHNICAL BID:

The Bids will be evaluated in the following stages:

Stage 1- Preliminary & Technical Evaluation

Stage 2- Financial Evaluation.

In Preliminary Stage, EMD / Bid security will be checked. EMD will be checked for veracity of Amount and receipt of the same in physical form at OFAJ within bid due date. If EMD submitted by any bidder is not as per e-tender terms and conditions, his bid will be rejected and will not be considered for further stages of evaluation. Bidders should confirm the physical submission of EMD, uploading of all qualifying documents and comply with the technical specification as per the tender document before Bid closing date.

The duly constituted Technical Evaluation Committee (TEC) will evaluate the bidder as per the following criteria:

Sl No	Minimum Eligibility Criteria	Technical Evaluation
1.	<p>Work Experience of with similar nature of works during last 07 (seven) years:</p> <p>a) Three similar works each costing not less than 40% of the estimated cost of the project.</p> <p style="text-align: center;"><u>OR</u></p> <p>b) Two similar works each costing not less than 50% of the estimated cost of the project.</p> <p style="text-align: center;"><u>OR</u></p> <p>c) One similar work costing not less than 80% of the estimated cost of the project.</p>	<p>As per similar nature work definition mentioned in Eligibility Criteria, the bidder who have executed the work for the minimum value (a) or (b) or (c) will be considered for evaluation.</p> <p>The credentials submitted by bidder along with “Annexure –II” will be verified to match with the criteria of “Similar Work” Experience as mentioned in Minimum Eligibility Criteria.</p> <p>Experience of completed work as per “Annexure –III” will be scrutinised and if completion time is more than Twice the Stipulated Time/Original DP with Liquidated Damages (LD) then it shall be treated as poor performance and shall not be accepted as proof of satisfactory past experience.</p> <p>The Work Experience not matching with minimum work done value with “Similar Nature” in (a), (b) & (c) shall be rejected.</p>

2.	<p>Financial strength</p> <p>a) Turn Over: Cumulative average annual financial turn over during the immediate last 03 (three) consecutive financial years should be at least 30% (Thirty Percent) of the estimated cost of proposed project.</p> <p>b) Profit/loss: The bidder should not have incurred any financial loss (Profit After Tax should be positive) in more than two years.</p> <p>c) Net Worth: Banker's Certificate from a Commercial Bank for Net worth of the amount equal to 40% of the Estimated Cost. <u>OR</u> Net worth of 10% of the estimated cost put issued by certified Chartered Accountant with UDIN.</p>	<p>Turnover for financial year 2023-24, 2024-25, 2025-26 as per the “Annexure-IV” shall be audited & certified by a Chartered Accountant with his seal / signatures and registration number with UDIN.</p> <p>No Loss during the last Two years ending FY 2024-25 shall be certified by the Chartered Accountant as per “Annexure-IV”.</p> <p>Net worth 40% of the Estimated Cost put to tender (EPC) as per “Annexure-V(A)” Certificate from a Commercial Bank <u>OR</u> Net worth Certificate of minimum 10% of the estimated cost put to tender as per “Annexure-V(B)” issued by certified Chartered Accountant with UDIN. The Bidder having the Financial Strength less than above criteria shall be rejected.</p>
3.	<p>Valid Registration for Civil & Electrical work and valid Electrical Licence.</p>	<p>The bidder's valid Registration with any Central Govt./State Govt/DPSU/PSUs/PSEs/Any Govt Organisation for Civil and Electrical Contract work and Electrical licence will be checked for validity as per enclosed credentials.</p> <p>The other details as mentioned “Annexure-I” for Labour License, EPFO, ESIC, BOCW Welfare Board Registration etc., PAN number, GST number, CIN (Corporate Identification Number), FRN (Firm Registration Number) will be matched with credentials submitted for further evaluation.</p>
4.	<p>Other parameters.</p> <p>a) Sole Bidder: Only sole bidders are allowed to participate in the bid.</p> <p>b) Blacklisted firm: Are not debarred or blacklisted by any Govt. Departments or PSUs/PSEs.</p> <p>c) Litigation: No litigation against OFAJ or any other Ordnance Factory under YIL.</p> <p>d) Site visit before bid end date is mandatory</p>	<p>The bids received as a joint venture or consortium are not eligible for participation.</p> <p>A notarized certificate as per “Annexure-X” is to be submitted by the bidders that they are not debarred or blacklisted by any Departments.</p> <p>The bidders having litigation against OFAJ or any other Ordnance Factory under YIL will not be considered till the litigation is completed.</p> <p>Bids submitted without undertaking in the format provided at “Annexure-IX” which shall be duly signed by nominated representative of OFAJ and bidder will be summarily rejected and will not be considered for evaluation.</p>

5. Technical Bids shall be evaluated as per eligibility criteria detailed in above table on the basis of details submitted by bidder in ANNEXURE-I, II, III, IV, V(A), V(B), III(B), (IX) & (X). If bidder is not meeting with the minimum eligibility criteria as detailed above, his bid will be rejected and will not be considered for further stages of evaluation.
6. Even though a bidder may satisfy the above requirements, on physical verification of credentials submitted, the bidder would be liable to disqualification if it has:
 - Made misleading or false representation or deliberately suppressing the information in the forms, statements and enclosures required in the prequalification document.
 - Record of poor performance such as abandoning work, not properly completing the contract, or financial failures / weaknesses etc.
 - Non-Indian Bidder or Firm shall be rejected
7. The decision of the TEC will be final and binding on all the bidders in all respect.

O) OPENING AND EVALUATION OF FINANCIAL BID:

Financial Bids will be opened only of those bidders who qualify Preliminary & Technical Evaluation (Stage-I) and each is termed as Technically Qualified Bidder (**TQB**). The financial bid of only Technically Qualified Bidder (TQB) will be opened. After opening of financial bid and bid evaluation (Stage-II), the cost indicated in the Financial Bid will be deemed as final and reflecting the Total Cost of Project with all services (including GST, IT TDS, GST TDS and BOCW). The GST TDS 1% & IT TDS 1% on basic value of work done and BOWC charges 1% on work done value will be deducted at source while making payment.

P) AWARD OF CONTRACT:

Selection of Bidder for Award of Work: The final selection of the bidder for the award of work will be based on L-1 Ranking in Financial Bid. The Successful Bidder would be notified in writing by OFAJ by issuing the Letter of Intent (LOI) in favour of the Lowest (L-1) Bidder. Within 10 days issue of LOI, contractor shall submit "**Security Deposit**" (**SD**), for an amount equal to **3% (Three per cent), of the Contract Price** an irrevocable and unconditional Bank Guarantee from a Nationalized bank or Scheduled Commercial Bank in the form set forth in **Annexure-VII**. Only after submission of the "Security Deposit" by contractor, the EMD submitted with bid will be released within 7 Days after verification of Security Deposit documents.

Q) TECHNICAL SPECIFICATION:

For Technical Specification please refer "**Schedule-D**" and Design Basis Report "**Article-3**". The work shall be executed as per the Design Basis Report and Technical Specifications with applicable IS Standards and acceptable make mentioned in it.

R) MONITORING AND SUPERVISION:

Monitoring and supervision of construction are proposed to be undertaken through an engineer to be designated as 'Authority's Engineer', who would be assisted by requisite organizational support for day-to-day interaction between the Authority and the Contractor. The Authority's Engineer will act as a single window for coordination with the contractor.

The Agreement indicates the timeline within which Authority will ensure the clearances of design proposals submitted by the contractor and shall be as per 10.2. Any comment by the Authority on the design proposals submitted by the contractor will be communicated in a time-bound manner. The contractor will be free to proceed with construction after the expiry of specified period in case no remarks/clearances are given by the Authority.

S) MILESTONE BASED PAYMENTS:

A simple and rational method for estimating interim payments to the Contractor has been provided in the Agreement. It ensures that payments are made for works conforming to the Agreement and commensurate with the stages of completion of works. Unit wise activity percentage cost breakup of project and stage wise percentage cost breakup for each activity shown in **Schedule –“B”** shall be the guiding parameters for release of RAR/interim payments to the contractor. Each item of work has been further sub-divided into stages and payment will be made for each completed stage of work. Payment for completed stages of various activities mentioned in milestone table in **Schedule –“C”** can be released even if all the activities under a milestone are not completed subject to withholding of the amount as mentioned in the milestone table in case contractor fails to achieve completion of all the activities to particular stages mentioned in that particular milestone.

Works have been broadly divided into three categories, namely (1) Services for Sub soil investigation and submission of IIT/NIT approved Architectural/Structural design & drawings, working drawings for construction work (2) Site clearance by Demolition/Dismantling of existing structures obstructing the proposed extension and allied civil works (3) Construction of Civil infrastructure for main production buildings and service buildings with internal electrification and other civil/electrical infrastructure development work as mentioned in activity wise payment breakup chart. Each item of work has been further sub-divided into stages and payment will be made for each completed stage of work.

T) LIQUIDATED DAMAGES FOR DELAY:

A provision has been made for liquidity damages @ 0.071% of total Contract value for each day of delay beyond the specific date of completion for which the Contractor shall pay to Authority for not achieving the prescribed milestones, subject to the total amount of Damages not exceeding 10% of the contract value. However, the Contractor shall be entitled to time extension arising out of delays on account of change of scope and force majeure or delays caused by or attributable to the Authority.

U) DEFECT LIABILITY PERIOD:

Defect liability period for the project is **24 Months** after Completion of project in all respect and handing over of the work to OFAJ with related drawings/documents. Defect liability period shall be covered with Performance Security Deposit 5% (Five percent) of completion cost of work, valid till 60 (Sixty) days after expiry of defect liability period.

V) TERMINATION AND DISPUTE RESOLUTION:

In the event the Authority terminates the Agreement on account of any of the specified defaults of the Contractor, the Agreement allows the Authority to forfeit the performance security & retention money of the Contractor. Similarly, defaults by the Authority are proposed to qualify for adequate extension of time to the contractor. The Agreement also addresses issues relating to dispute resolution and provides a mechanism for the same.

PART – I
PRELIMINARY

ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT

THIS AGREEMENT is entered into on this the _____ day of _____, 2026
BETWEEN

1 [The Executive Director, Ordnance Factory Ambajhari, A Unit of Yantra India Limited and having its offices Ambajhari, Nagpur (hereinafter referred to as the “Authority” which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) of One Part.

AND

2 M/s _____, means the selected bidder having its registered office at _____ (hereinafter referred to as the “Contractor” which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns) of the Other Part.

WHEREAS:

- (A) The Authority has the responsibility to develop Civil Works infrastructure for installation of 10000 Ton Capacity Press along with UP & DOWN stream facilities, at Ordnance Factory Ambajhari, Nagpur.
- (B) The Authority had resolved to undertake “**CIVIL WORK FOR EXTENSION OF FOUNDRY AND EXTRUSION SECTION FOR NEW 10000 TON CAPACITY PRESS ALONG WITH UP & DOWN STREAM FACILITIES PROJECT AT ORDNANCE FACTORY AMBAJHARI, NAGPUR**” on Engineering, Procurement, Construction (“EPC”) basis in accordance with the terms and conditions to be set forth in an agreement to be entered into.
- (C) The Authority had prescribed the Technical and Financial terms and conditions, and invited Request for Proposal (RFP) No. 9906/Ext. Press Project/EO(Civil)/EPC/2025-2 Dated ____/04/2026 from the bidders for undertaking the Project
-
- (D) After evaluation of the bids received, the Authority had accepted the bid of the selected bidder and issued its Letter of Acceptance No. _____ dated _____ (hereinafter called the “**LOI**”) to the selected bidder for construction of the above Project at the Contract Price specified hereinafter, requiring the selected bidder to inter alia:
- (i) deliver to the Authority a legal opinion from the legal counsel of the selected bidder with respect to the authority of the selected bidder to enter into this Agreement and the enforceability of the provisions thereof, within 10 (ten) days of the date of issue of LOI;
- (ii) execute this Agreement within 10 (Ten) days of the date of issue of LOI.
- And
- (E) The Contractor has fulfilled the requirements specified in Recital (D) above:
Now, therefore, in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the sufficiency and adequacy of which is hereby acknowledged, the Authority hereby covenants to pay the Contractor, in consideration of the obligations specified herein, the Contract Price or such other sum as may become payable under the provisions of the Agreement at the times and in the manner specified by the Agreement and intending to be legally bound hereby, the Parties agree as follows:

ARTICLE-1

DEFINITIONS AND INTERPRETATION

1.1 Definitions

The words and expressions beginning with capital letters and defined in this Agreement (including those in Article - 28) shall, unless the context otherwise requires, have the meaning ascribed thereto herein, and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules.

1.2 Interpretation

1.2.1 In this Agreement, unless the context otherwise requires,

- (a) references to any legislation or any provision thereof shall include amendment or re-enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;
- (b) references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted;
- (c) references to a "person" and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;
- (d) the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
- (e) the words "include" and "including" are to be construed without limitation and shall be deemed to be followed by "without limitation" or "but not limited to" whether or not they are followed by such phrases;
- (f) references to "construction" or "building" include, unless the context otherwise requires, survey and investigation, design, developing, engineering, procurement, supply of plant, materials, equipment, labour, delivery, transportation, installation, processing, fabrication, testing, and commissioning of the Project, including maintenance during the Construction Period, removing of defects, if any, and other activities incidental to the construction and "construct" or "build" shall be construed accordingly;
- (g) references to "development" include, unless the context otherwise requires, construction, renovation, refurbishing, augmentation, up-gradation and other activities incidental thereto during the Construction Period, and "develop" shall be construed accordingly;
- (h) any reference to any period of time shall mean a reference to that according to Indian standard time;
- (i) any reference to day shall mean a reference to a calendar day;

- (j) reference to a “business day” shall be construed as reference to a day (other than a Sunday) on which banks in the State are generally open for business;
- (k) any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;
- (l) references to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this Agreement;
- (m) any reference to any period commencing “from” a specified day or date and “till” or “until” a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;
- (n) the words importing singular shall include plural and vice versa;
- (o) references to any gender shall include the other and the neutral gender;
- (p) “lakh” means a hundred thousand (100,000) and “crore” means ten million (10,000,000);
- (q) “indebtedness” shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;
- (r) references to the “winding-up”, “dissolution”, “insolvency”, or “reorganisation” of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganisation, dissolution, arrangement, protection or relief of debtors;
- (s) save and except as otherwise provided in this Agreement, any reference, at any time, to any agreement, deed, instrument, licence or document of any description shall be construed as reference to that agreement, deed, instrument, licence or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Sub- clause(s) shall not operate so as to increase liabilities or obligations of the Authority hereunder or pursuant hereto in any manner whatsoever;
- (t) any agreement, consent, approval, authorisation, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or the Authority shall be valid and effective only if it is in writing under the hand of a duly authorised representative of such Party or the Authority Engineer, as the case may be, in this behalf and not otherwise;
- (u) the Schedules and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- (v) references to Recitals, Articles, Clauses, Sub-clauses, Provisos or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses, Provisos and Schedules of or to this Agreement; reference to an Annex shall, subject to anything to the contrary specified therein, be construed as a reference to an Annex to the Schedule in which such reference occurs; and reference to a Paragraph shall, subject to anything to the contrary specified therein, be construed as a reference to a Paragraph of the Schedule or Annex, as the case may be, in which such reference appears;
- (w) the damages payable by either Party to the other of them, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the “Damages”); and

- (x) Time shall be of the essence in the performance of the Parties' respective obligations. If any time period specified herein is extended for the reasons specified in the Agreement, such extended time shall also be of the essence.

1.2.2 Unless expressly provided otherwise in this Agreement, any Documentation required to be provided or furnished by the Contractor to the Authority shall be provided free of cost and in three copies, and if the Authority is required to return any such Documentation with its comments and/or approval, it shall be entitled to retain two copies thereof.

1.2.3 The rule of construction, if any, that a contract should be interpreted against the parties responsible for the drafting and preparation thereof, shall not apply.

1.2.4 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act, 1897 shall not apply.

1.3 Measurements and arithmetic conventions

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down.

1.4 Priority of agreements and errors/discrepancies

1.4.1 This Agreement, and all other agreements and documents forming part of or referred to in this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and agreements forming part hereof or referred to herein shall, in the event of any conflict between them, be in the following order:

- (a) this EPC Agreement; and
- (b) all other agreements and documents forming part hereof or referred to herein, i.e. this Agreement at (a) above shall prevail over the agreements and documents at (b).

1.4.2 Subject to the provisions of Clause 1.4.1, in case of ambiguities or discrepancies within this Agreement, the following shall apply:

- (a) between two or more Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses;
- (b) between the Clauses of this Agreement and the Schedules, the Clauses shall prevail and between Schedules and Annexes, the Schedules shall prevail;
- (c) between any two Schedules, the Schedule relevant to the issue shall prevail;
- (d) between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
- (e) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail; and
- (f) between any value written in numerals and that in words, the latter shall prevail.

PART – II
SCOPE OF THE PROJECT

ARTICLE-2

SCOPE OF THE PROJECT

2.0 SCOPE OF WORK:

Under this agreement, the scope of project shall mean and include soil investigation, development of design and detailed drawings (architectural, structural and working), site clearance by removing obstacles/structures and construction of Buildings with connected services as mentioned in Clause (2.1), (2.2) and (2.3) with sub clause as under;

2.1 Services for Sub soil investigation and submission of Architectural/Structural design & drawings, working drawings for extension of Extrusion and Foundry shop with allied structures:

For preparing detailed Architectural/Structural & working drawings, GA (general arrangement) Drawings shall be refer as under;

Sl.No.	Drawing title	Drawing No.
1	Existing layout of Foundry and Extrusion shops area.	Drg No: Existing layout Fdy & Ext/OFAJ/01
2	Proposed layout of Foundry and Extrusion extension.	Drg No: Proposed layout Fdy & Ext/OFAJ/02
3	GA drawing for proposed Foundry shop extension.	Drg No: Foundry Extension/OFAJ/03
4	GA drawing for proposed Extrusion shop extension.	Drg No: Extrusion Extension/OFAJ/04
5	GA drawing for proposed Foundry & Extrusion Offices Buildings.	Drg No: Office Bldg/OFAJ/05
6	GA drawing for proposed Foundry Electrical Substation Building.	Drg No: Foundry E-Sub.st/OFAJ/06-A
7	GA drawing for proposed Extrusion Electrical Substation Building.	Drg No: Extrusion E-Sub st/OFAJ/06-B
8	GA drawing for proposed Foundry & Extrusion IE's Rest Room Buildings.	Drg No: IE's Room Bldg/OFAJ/07
9	GA drawing for proposed Scrap & Dross shed for Foundry.	Drg No: Scrap & Dross Shed/OFAJ/08

- 2.1.1 The proposed plant extension will come up at South side of existing Foundry and Extrusion plant as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02 for which sub soil investigation comprising of Test pit, boreholes, standard penetration sample collection and laboratory testing required for structural design are to be carried out from NABL accredited Lab/Govt Lab/Reputed lab after obtaining approval from Authority Engineer. Report of safe bearing capacity and other parameters shall be submitted to structural designer along with loading data, plant layout, working space and other details.
- 2.1.2 Based on sub soil data structural design of building are to be done from registered structural designer and same shall vetted/approved from **IIT/NIT /Institute**. The drawings related to LDO storage facility shall be in accordance with existing norms for such structures.
- 2.1.3 After preparation of Structural design/drawing based on the GA drawing provided with this bid, the contractor shall submit the architectural drawings for approval from Authority Engineer. Authority Engineer shall give approval within 7 days.

- 2.1.4 Upon approval of structural design and drawing by the Authority Engineer which shall be given within 7 days, the working drawing shall be submitted in 3 (Three) Sets of hard copies and soft copy in flash drive to Authority. After approval of working drawings by the Authority Engineer which shall be given within 7 days, further execution of work shall be started.
- 2.1.5 Based on the site requirement for installation of plant and machinery, OFAj reserves the rights to direct to the bidder to revise the drawings as per requirement during execution of the work.
- 2.1.6 The Architectural/Structural design and drawing, plumbing/electrical drawings and working drawing shall be submitted for Buildings/Unit/Structures/Facilities as under;

Sl.No.	Design/Drawing for structure/unit
a)	For extension of Foundry Shop – 5900 Sqm.
b)	For extension of Extrusion Shop – 5600 Sqm.
c)	For Office of Foundry Section – 672 Sqm.
d)	For Office of Extrusion Section – 672 Sqm.
e)	For Foundry Electrical substation – 315 Sqm.
f)	For Extrusion Electrical substation – 540 Sqm.
g)	For Foundry IE's Change room – 220 Sqm.
h)	For Extrusion IE's Change room – 220 Sqm.
i)	For Fire station – 230 Sq. M. & Structural Shed for pipes – 150 Sqm.
j)	For shifting and installation of elevated LDO tanks 2 Nos (10 Thousand Liter capacity each) to other location <u>AND</u> new installation of ground level LDO tanks 2 Nos (1.16 Lakh Liter capacity each) against demolition of 2 Nos (2.35 Lakh liter capacity each) existing LDO tank with necessary foundation & repair work including pipeline network & pumping facility.
k)	For Parking shed 2 Nos of area- 250 Sqm. (Each shed 125 Sqm.)
l)	For ESR (Elevated Service Reservoir) – 3.0 Lakh Litre Cap.
m)	For Static water tank – 3.0 Lakh Litre Cap.
n)	For Aluminium dross collection shed (2Nos) for Foundry - 340 Sqm. (Each shed 170 Sqm)
o)	For Scrap collection godown building (2Nos) for Foundry - 280 Sqm. (Each shed 140 Sqm)
p)	Internal Electrification drawings & Telephone cable network drawings for Foundry extension, Extrusion extension, Electrical substations Building, Office buildings, IEs change room and Fire station building.
q)	Internal water lines network with underground RCC collection sump 2.0 Lakh Lit capacity and firefighting/fire alarm system network for Foundry extension, Extrusion extension, Electrical substations building, Office buildings, IEs change room and Fire station building.
r)	Layout and working drawings for external services i.e. Roads, Rain water drains, Water supply main lines, Electrical main lines, Sewage disposal, surrounding area drainage of existing Foundry & Extrusion shop, face lift and Landscaping of surrounding areas.

- 2.1.7 All structural design/drawings shall be submitted by the contractor only after approval/vetting from IIT/NIT with other Architectural and working drawings. Contractor shall obtain approval of drawings from Authority Engineer before starting the work.

- 2.1.8 Before start of the construction work, contractor shall submit the Bill Of Quantities (BOQ) required

for each unit for as per the Design Basis Report “**Article-3**” and Technical Specifications as per “**Schedule-D**”. During execution of the Civil & Electrical works, the quality and quantity shall be monitored as per BOQ submitted for each unit.

- 2.1.9 Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.1) shall be applicable for any cost reference in this Project/Work.
- 2.1.10 In parallel to design and drawing activities, contractor will execute the site clearance works like shifting the existing structure as mentioned in Clause (2.2) above and shown in **Drg No: Existing layout Fdy & Ext/OFAJ/01** along with pipelines shifting for smooth execution of work without affecting the production activities.

Scope of work for Site clearance and Area development by Demolition/Dismantling of existing structures obstructing the proposed extension:

- 2.2.1 Dismantling of MS sheet shed temporary go-down of size 8.10 m x 9.6 m attached to South side of Foundry shop and shifting of the usable materials to scrap yard and disposal of debris within 3.0 KM area of OFAj premises.
- 2.2.2 Dismantling of MS sheet dross shed of size 10.0 m x 8.5 m at South side of Foundry shop and shifting of the usable materials to scrap yard and disposal of debris.
- 2.2.3 Dismantling of permanent Go-down of size 20.0 m x 6.5 m at South side of Foundry shop and shifting of the usable materials to scrap yard and disposal of debris.
- 2.2.4 Dismantling of Toilet Block of size 14.0 m x 6.0 m in between Foundry and Extrusion section and shifting of the usable materials to scrap yard and disposal of debris.
- 2.2.5 Demolition of Induction furnace RCC platform size 6.50 m x 15.50 m available in existing Foundry shop to clear the floor area disposal of debris.
- 2.2.6 Dismantling of elevated LDO tanks 2 Nos (10 Thousand Liter Capacity each) with structure located at South side of Foundry shop for shifting and erecting at new location including all necessary civil works, piping works for erection of tanks.
- 2.2.7 Demolition of MS LDO tanks 2 Nos with foundation (2.32 lakh liter capacity each) with panel room size 3m x 3m, Pump House 10mx 6m, MS shed 15m x 12 m and shifting of the usable materials to scrap yard and disposal of debris.
- 2.2.8 Demolition of Fire Brigade station building 20m x 11.5m, Pipe shed of size 20m x 7.50m and Static Tank at South side of Extrusion shop for proposed extension and shifting of the usable materials to scrap yard and disposal of debris.
- 2.2.9 Dismantling of Cooling tower 2.0m x 2.0m at South side of Extrusion shop and shifting of the usable materials to scrap yard and disposal of debris.
- 2.2.10 Demolition of existing RCC Elevated Service Reservoir (ESR) 2.0 Lakh Litre capacity and 20 Meter height near Extrusion shop without damaging the shop building and shifting of the usable materials to scrap yard and disposal of debris.
- 2.2.11 Site clearance and site development of proposed extension area for Foundry shop by removing bushes/trees, levelling, scraping, filling approximate area 9600 Sqm.
- 2.2.12 Site clearance and site development of proposed extension area for Extrusion shop by removing bushes/trees levelling, scraping, filling approximate area 10000 Sqm.
- 2.2.13 All debris arising from demolition of structures or site clearance shall be disposed within 3.0 KM area of OFAj premises as directed by Authorities with proper spreading and levelling. Any metal scrap and serviceable materials shall be shifted to scrap yard under due intimation to OFAj for creation of scrap note.
- 2.2.14 Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.2) shall be applicable for any cost reference in this Project/Work.

2.3 Construction of Buildings and connected units with internal electrification and other services like roads, drainage, water supply, street lights, area/landscape development as mentioned in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02;

2.3.1 Scope for Construction work for EXTENSION OF FOUNDRY SHOP of Area 5900 sqm based on approved structural design and drawings as mentioned in Clause No.2.1.5(a):

- i) Extension of Foundry Shop building at South side of existing plant of build-up area 5900 sqm as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02. The internal details of building are shown in Drg No:GA of Foundry Extension/OFAJ/03. Considering the utility of extension of shop shall match with the existing shop size and orientation with sufficient natural light & ventilation facility.
- ii) Foundation of proposed extension shall be of RCC with suitable footing to match with width of existing Foundry Shop and spacing of column footing will be as per design to match with existing shop.
- iii) Up to plinth level all structure shall be of RCC structure and plinth level shall be matched with floor level of existing Foundry Shop for easy movement of production materials in between existing shop and extension.
- iv) The plinth of proposed building shall be surrounded with plinth protection 1.5 m wide with surrounding RCC drain for proper drainage of rain water. For locations/areas where the ground level is above the plinth level of extended building, necessary RCC retaining wall shall be provided along the plinth protection and surrounding drain.
- v) Superstructure of proposed extension shall be of Steel fabricated engineered columns, beams, Gantry beams and roof truss sections with sloping roof along the length of building as per design with clear workable height not less than 12.50 Meter above floor level.
- vi) The column and footing of the extension shall be designed and constructed in such a way that it will take additional load of Gantry beams and Gantry cranes of 40 MT capacity – 1 Nos (for furnace bay) and 20 MT Capacity 1 Nos (for other bay) with necessary safe load parameters of crane.
- vii) The super structure shall be provided with Gantry beams 4 Nos (2 Nos for each bay) at height of 10.0 Meter above floor level along the length of proposed extension to take a load of Gantry crane of 40 MT capacity – 1 Nos (for furnace bay) and 20 MT Capacity 1 Nos (for other bay) to take load of Gantry crane of capacity as mentioned at (vi)
- viii) The floor of extended shop shall match with existing shop in such a way that there will be easy movement of material handling equipment. For loading and unloading of materials from existing shop, the Gantry beam shall be extended to overlap it up to last bay of existing shop.
- ix) Roof covering of proposed extension shall be of Pre-painted Galvalume aluminum zinc coating GI based corrugated steel sheet not less than 0.50mm thick of Make: As per the approved make list in schedule D.
- x) Roof of extension shall be two side sloping along the length with Turbo ventilators and Skylight roofing systems for natural light and proper ventilation of building to match with the latest Green Building norms.
- xi) The end bay of existing Foundry Shop shall be modified to meet the requirement of to-and-fro connectivity in between old building and proposed extension by removing end wall with columns.

- xii) Outer wall of proposed extension shall be in Brick Work of 350 mm thickness and 5.50 Meter height with interior and exterior cement mortar plaster. Necessary openings shall be provided for windows/ventilators and entrance gates with RCC lintel beam with chajjas.
- xiii) Outer wall above 5.50 Meter height shall be of Pre-painted Galvalume aluminum zinc coating GI based corrugated steel sheet not less than 0.50mm thick with ventilation louvers wherever is necessary and fixed type glass ventilators in brick wall. Make of sheet : As per the approved make list in schedule D.
- xiv) The windows and ventilators shall be as per IS:3646 (Recommendation of Windows to Wall area ratio) of colour coated Pressed sheet type sections with glass panes & SS mosquito jali.
- xv) Entrance and exit doors shall be of GI coated steel rolling shutters geared operated.
- xvi) The floor of proposed extension shall be of Industrial concrete floor (Trimix floor) thickness not less than 200 mm with hardened surface. Floor shall be provided with RCC cable trenches network covered with MS anti-skid surface plate as shown in GA drawings.
- xvii) All external surface of building shall be painted with superior quality exterior emulsion paint and internal wall shall be painted with Oil Emulsion paint. All structural members shall be painted in anti-corrosive paint of shade as per the colour code decided by OFAj authority.
- xviii) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.3) shall be applicable for any cost reference in this Project/Work.

NOTE: As per Bar Chart **Schedule-A**, the Civil Construction work of Foundry Shop extension to be completed within 18 Months period from the date of commencement of work including all finishing work. Out of 18 Months total period for this, the Foundation/Plinth work, Column & Gantry work, Roof truss & roof covering shall be completed within first 15 Months period as unloading of the Plant and Machinery in the building will start after that. Remaining construction activity in this building shall be completed parallelly with Plant and Machinery installation.

2.3.2 Scope for Construction work for EXTENSION OF EXTRUSION SHOP of Area 5600 sqm based on approved structural design and drawings as mentioned in Clause No.2.1.5(b):

- i) Extension of Extrusion Shop building at South side of existing plant of build-up area 5600 Sqm. as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02. The internal details of building are shown in Drg No:GA of Extrusion Extension/OFAJ/04 considering the utility of shop to match with the existing shop size and orientation.
- ii) Foundation of proposed extension shall be of RCC with suitable footing to match with width of existing Extrusion Shop and spacing of column footing will be as per design to match with existing shop.
- iii) Up to plinth level all structure shall be of RCC structure and plinth level shall be matched with floor level of existing Extrusion Shop for easy movement production materials in between existing shop and extension.
- iv) The plinth of proposed building shall be surrounded with plinth protection 1.5 M wide with surrounding RCC drain for proper drainage of rain water. For locations/areas where the ground level is above the plinth level of extended building, necessary RCC retaining wall shall be provided along the plinth protection and surrounding drain.
- v) Superstructure of proposed extension shall be of Steel fabricated engineered columns, beams, Gantry beams and roof truss sections with sloping roof along the length of building as per design with clear workable height not less than 11.50 Meter above floor level.
- vi) The column and footing of the extension shall be designed and constructed in such a way that it will take additional load of Gantry beams and Gantry cranes of 20 MT capacity 2 Nos (1 for each bay) with necessary safe load parameters of crane.
- vii) The super structure shall be provided with Gantry beams 4 Nos (2 Nos for each bay) at height of 8.50 Meter above floor level along the length of proposed extension to take load of Gantry crane of capacity as mentioned at (vi)
- viii) The floor of existing shop shall match with extension shop in such a way that there will be easy movement of material handling equipment. For loading and unloading of materials from existing shop, the Gantry beam shall be extended to overlap it up to last bay of existing shop.
- ix) Roof covering of proposed extension shall be of Pre-painted Galvalume aluminum zinc coating GI based corrugated steel sheet not less than 0.50mm thick of make: As per the approved make list in schedule D
- x) Roof of extension shall be two side sloping along the length with Turbo ventilators and Skylight roofing systems for natural light and proper ventilation of building to match with the latest Green Building norms.
- xi) The end bay of existing Extrusion Shop shall be modified to meet the requirement of to-and-fro connectivity in between old building and proposed extension by removing end wall with columns.
- xii) Outer wall of proposed extension shall be in Brick Work of 350 mm thickness and 5.50 Meter height with interior and exterior cement mortar plaster. Necessary openings shall be provided for windows/ventilators and entrance gates with RCC lintel beam with chajjas.

- xiii) Outer wall above 5.50 Meter height shall be of Pre-painted Galvalume aluminum zinc coating GI based corrugated steel sheet not less than 0.50mm thick with ventilation louvers wherever necessary and fixed type glass ventilators in brick wall. Make of sheet: As per approved make list mentioned in schedule D.
- xiv) The windows and ventilators shall be as per IS:3646 (Recommendation of Windows to Wall area ratio) of colour coated Pressed sheet type sections with glass panes & SS mosquito jali.
- xv) Entrance and exit doors shall be of GI coated steel rolling shutters geared operated.
- xvi) The floor of proposed extension shall be of Industrial concrete floor (Trimix floor) thickness not less than 200 mm with hardened surface. Floor shall be provided with RCC cable trenches network covered with MS anti-skid surface plate as shown in GA drawings.
- xvii) All external surface of building shall be painted with superior quality exterior emulsion paint and internal wall shall be painted with oil emulsion. All structural members shall be painted in anti-corrosive paint of shade as per the colour code decided by OFAj authority.
- xviii) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.4) shall be applicable for any cost reference in this Project/Work.

NOTE: As per Bar Chart **Schedule-A**, the Civil Construction work of Extrusion Shop extension to be completed within 18 Months period from the date of commencement of work including all finishing work. Out of 18 Months total period for this, the Foundation/Plinth work, Column & Gantry work, Roof truss & roof covering shall be completed within first 15 Months period as unloading of the Plant and Machinery in the building will start after that. Remaining construction activity in this building shall be completed parallelly with Plant and Machinery installation.

2.3.3 Scope for Construction work for FOUNDRY OFFICE BUILDING of Area 672 sqm and EXTRUSION OFFICE BUILDING of Area 672 sqm (two separate buildings) based on approved structural design and drawings as mentioned in Clause No.2.1.5 (c) & (d):

- i) The Civil construction work for Foundry Office building of build-up area 672 Sqm and Extrusion Office building of build-up area 672 Sqm (two separate buildings) as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02. Each building will be double storied RCC building with build-up area of each floor 336 Sqm.
- ii) The proposed Office buildings will be double storied RCC framed structure building of building area 336 Sqm. for each floor comprising of Office rooms, store rooms, laboratory, meeting hall and toilet block as per GA Drg No: GA of Office Bldg/OFAJ/05.
- iii) Up to plinth level Office building shall match with floor level of production shop and height of each floor will be 3.5 Meter. The overall height of Office building shall 7.0 Meter above plinth level.
- iv) The plinth of proposed building shall be surrounded with plinth protection 1.5 M wide with surrounding RCC drain for proper drainage of rain water. For locations/areas where the ground level is above the plinth level of extended building, necessary RCC retaining wall shall be provided along the plinth protection and surrounding drain.
- v) Roof of proposed office building shall be RCC roof with water proofing treatment over it and roof should be accessible for cleaning and maintenance point of view.
- vi) Outer wall of proposed Office building shall be in Brick Work of 230 mm thickness with interior and exterior cement mortar plaster. Necessary openings shall be provided for windows/ventilators and entrance gates with RCC lintel beam with chajjas.
- vii) The windows/ventilators shall be of Aluminium sliding windows with MS grill and Doors shall be laminated flush doors as per size and numbers mentioned in GA drawing schedule of openings.
- viii) The floor of Office rooms, Laboratory rooms, meeting hall, and store room shall be non-skid vitrified heavy duty tiles flooring. The toilets shall be non-skid ceramic tiles flooring and full height dado wall tiling with all required sanitary & plumbing fittings.
- ix) All external surface of building shall be painted with superior quality exterior emulsion paint and internal wall shall apply with wall putty and painted with superior quality acrylic emulsion.
- x) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.5 & 6) shall be applicable for any cost reference in this Project/Work.

2.3.4 Scope for Construction work for FOUNDRY ELECTRICAL SUB STATION of Area 315 sqm and EXTRUSION ELECTRICAL SUB STATION of Area 540 sqm (two Sub Stations) based on approved structural design and drawings as mentioned in Clause No.2.1.5 (e) & (f):

- i) The Civil construction work of Foundry Electrical Sub Station building as per GA Drg No: GA of Foundry E-Sub.st/OFAJ/06-A for build-up area 315 Sqm and Extrusion Electrical Sub Station building as per GA Drg No: GA of Extrusion E-Sub.st/OFAJ/06-B for build-up area 540 Sqm to be constructed at location as shown in GA Drg No: GA of Foundry E-Sub.st/OFAJ/06-A.
- ii) The proposed substation buildings shall be RCC framed structure building with finish floor height 1.5 Meter above GL and slab height 5.0 Meter above floor level incorporating transformer room and panel room as per GA Drg No: GA of Foundry E-Sub.st/OFAJ/06-A (for Foundry) and GA Drg No: GA of Extrusion E-Sub.st/OFAJ/06-B (for Extrusion).
- iii) The proposed Foundry substation building shall be provided with RCC foundation block for installation of 1800 KvA transformers **2 Nos** and Extrusion substation building shall be provided with RCC foundation block for installation of 1800 KvA transformers **4 Nos** along with cable trenches arrangement as shown in GA drawing.
- iv) The proposed substation buildings shall be surrounded with 3.0 Meter wide RCC finish floor level platform at front side, 1.5 Meter wide RCC finish floor level platform at left right side of building and 1.5 Meter wide plinth protection at back side of building.
- v) Roof of proposed substation buildings shall be RCC roof with water proofing treatment over it and roof should be accessible for cleaning and maintenance point of view.
- vi) Outer wall of proposed substation building shall be in Brick Work of 230 mm thickness with interior and exterior cement mortar plaster. Necessary openings shall be provided for windows/ventilators and entrance gates with RCC lintel beam with chajjas.
- vii) The windows/ventilators shall be of Aluminium sliding windows with MS grill and Doors shall be laminated flush doors as per size and numbers mentioned in GA drawing schedule of openings.
- viii) The floor of transformer room shall be of concrete floor and panel room shall be of Kota stone flooring with cable trenches covered with MS plate as shown in GA drawings.
- ix) All external surface of building shall be painted with superior quality exterior emulsion paint and internal wall shall be painted with superior quality oil emulsion applied over wall putty.
- x) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.7 & 8) shall be applicable for any cost reference in this Project/Work.

2.3.5 Scope for Construction work for IEs CHANGE ROOM FOR FOUNDRY SECTION of Area 220 sqm and IEs CHANGE ROOM FOR EXTRUSION SECTION of Area 220 sqm (two Buildings) as per approved structural design and drawings as mentioned in Clause No.2.1.5 (g) & (h):

- i) The civil construction work of IEs Change room building for Foundry section build up area 220 Sqm. and IEs Change room building for Extrusion section build up area 220 Sqm. (two buildings) as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02.
- ii) The proposed IEs Change building will be single storied RCC framed structure building comprising of Change room with toilet block and other internal details as per GA Drg No: GA of IE's Room Bldg/OFAJ/07.
- iii) Plinth level of each IEs Change room building shall be matched with floor level of production shop and height of building shall be 3.5 Meter above finish floor level.
- iv) The plinth of proposed building shall be surrounded with plinth protection 1.5 M wide with surrounding RCC drain for proper drainage of rain water. For locations/areas where the ground level is above the plinth level of extended building, necessary RCC retaining wall shall be provided along the plinth protection and surrounding drain.
- v) Roof of proposed building shall be RCC roof with water proofing treatment over it and roof should be accessible for cleaning and maintenance point of view.
- vi) Outer wall of proposed building shall be in Brick Work of 230 mm thickness with interior and exterior cement mortar plaster. Necessary openings shall be provided for windows/ventilators and entrance gates with RCC lintel beam with chajjas.
- vii) The windows/ventilators shall be of Aluminium sliding windows with MS grill and Doors shall be laminated flush doors as per size and numbers mentioned in GA drawing schedule of openings.
- viii) The floor of Change room shall be in non-skid vitrified tiles flooring and the toilets shall be non-skid ceramic tiles flooring and full height dado wall tiling with all required sanitary & plumbing fittings as shown in GA drawing
- ix) All external surface of building shall be painted with superior quality exterior emulsion paint and internal wall shall be painted with superior quality acrylic emulsion applied over wall putty.
- x) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.9 & 10) shall be applicable for any cost reference in this Project/Work

2.3.6 Scope for Construction work for NEW FIRE STATION BUILDING of Area 230 Sqm. and STRUCTURAL SHED FOR PIPE STORAGE of Area 150 Sqm. as per approved structural design and drawings as mentioned in Clause No.2.1.5 (i):

- i) The Civil construction work of New Fire Station building of Area 230 Sqm. and structural shed for pipe storage shed with stand with electrical wiring as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02. The new Fire station and shed shall be constructed as per plan of existing building including toilet facility.
- ii) The proposed Fire station building shall be RCC framed structure building of building area 230 Sqm. and height 3.5 Meter comprising of Office rooms, fireman room, toilet block. The height of Fire tender parking shall be 5.0 Meter.
- iii) The proposed structural shed shall be MS shed of area 150 Sqm. With Galvalume sheet over it and concrete flooring. The shed shall be proper arrangement of MS rack for draining of hose pipes and storage of hose pipes and other fire fighting equipment.
- iv) The plinth of proposed building shall be surrounded with plinth protection 1.5 M wide with surrounding RCC drain for proper drainage of rain water. For locations/areas where the ground level is above the plinth level of extended building, necessary RCC retaining wall shall be provided along the plinth protection and surrounding drain.
- v) Roof of proposed Fire station building shall be RCC roof with water proofing treatment over it and roof should be accessible for cleaning and maintenance point of view. Pipe shed shall be Galvalume sheet roof over the fabricated roof truss structure.
- vi) Outer wall of proposed Fire station building shall be in Brick Work of 230 mm thickness with interior and exterior cement mortar plaster. Necessary openings shall be provided for windows/ventilators and entrance gates with RCC lintel beam with chajjas.
- vii) The windows/ventilators shall be of Aluminium sliding windows with MS grill and Doors shall be laminated flush doors as per size and numbers mentioned in GA drawing schedule of openings.
- viii) The floor of Office room, fire man room shall be in vitrified tiles flooring and the toilets shall be non-skid ceramic tiles flooring and full height dado wall tiling with all required sanitary & plumbing fittings as shown in GA drawing. The fire tender parking garage area shall be of concrete hardstanding 150 MM thick with RCC approach road 200 MM thick.
- ix) The open front space of new fire station shall be provided with RCC hard standing 200 MM thick for easy movement of fire tender.
- x) All external surface of building shall be painted with superior quality exterior emulsion paint and internal wall shall be painted with superior quality acrylic emulsion applied over wall putty.
- xi) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.11) shall be applicable for any cost reference in this Project/Work.

2.3.7 Scope for work of SHIFTING OF ELEVATED LDO STORAGE TANKS 2 NOS (10 THOUSAND LTR CAPACITY EACH) AND INSTALLATION OF NEW GROUND LEVEL LDO TANKS 2 NOS (1.16 LAKH LITER CAPACITY EACH) as per approved structural design and drawings as mentioned in Clause No.2.1.5 (j):

- i) Shifting of existing Foundry section's elevated LDO tanks 2 Nos (10 Thousand liter capacity each) along with supporting structures and pipe lines at new location by constructing the new foundation.
- ii) New installation of ground level LDO tanks 2 Nos (1.16 Lakh Liter capacity each) against 2 Nos (2.35 Lakh liter capacity each) existing LDO tank by constructing foundations, surround hard standing, pumping facility, all pipeline connection & fence as per existing system including all tanks repair work.
- iii) Construction of pump house, pannel room & tanker shed to new location as per design.
- iv) Fencing protection with steel poles and chain link fence of 2.0 Meter height all around the LDO tank.
- v) Concrete hard standing 150 MM thick of area around 750 sqm in surrounding area of LDO tank and pump house for wild growth restriction from wild fire safety point of view.
- vi) Concrete hard 150 MM thick standing of area 425 sqm for parking of Oil tanker during unloading of oil in LDO tanks.
- vii) All Electrical wiring and pipe line inter connection work in between LDO tank, pump house & furnace tank of Foundry section.
- viii) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.12) shall be applicable for any cost reference in this Project/Work

SPECIAL NOTE: The requirement for installation of LDO tank with connected facility at other location will be reviewed at the time of construction since the OFAJ plan for switching over of LDO to PNG is under process. If this activity for installation of LDO facility at other location is dropped from scope of work then 3.5% allocated for this work in total project cost will be reduced proportionately from contract amount.

2.3.8 Scope for Construction work for VEHICLE PARKING SHEDS 2 NOS of Area 125 Sq.M. Each as per approved structural design and drawings as mentioned in Clause No.2.1.5 (k):

- i) The work vehicle parking sheds 2 Nos of area 125 Sqm. Each in between Foundry and Extrusion shops with electrical wiring as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02.
- ii) The proposed Parking shed shall be in MS tubular structure area 125 Sqm. Each and height 2.5 Meter with concrete flooring & approach ways.
- iii) The proposed Parking shed roof shall be of Pre-painted Galvalume aluminum zinc coating GI based corrugated steel sheet not less than 0.50mm thick of make: As per approved make list in schedule D.
- iv) The floor of sheds shall be of concrete flooring and concrete paver blocks (coloured) approach ways.
- v) All external surface of MS structure shall be painted with superior quality exterior synthetic enamel paint of approved colour.
- vi) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.13) shall be applicable for any cost reference in this Project/Work

2.3.9 Scope for construction work for RCC ELEVATED SERVICE RESERVOIR (ESR) 3.00 Lakh Liter capacity and staging height 20.0 Meter as per approved structural design and drawings as mentioned in Clause No.2.1.5 (I) and repairing of two underground reservoir:

- i) The work : construction of 3.0 Lakh liter capacity RCC elevated Service Reservoir (ESR) with electrical wiring as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02 including approach ways.
- ii) The ESR shall be provided with RCC accessible roof and RCC staircase arrangement for easy access to reservoir top. Roof top and staircase shall be provided with safety railing to ensure the proper safety while accessing the roof top.
- iii) The proposed Elevated Service Reservoir of 3.00 Lakh liter capacity with staging height of 20 Meter above ground level. All construction of tank and supporting structure shall in water proof concrete as per the structural design.
- iv) The proposed ESR shall be provided with all inlet, outlet, overflow & wash out pipe fittings and control valves including pipelines connection to plant & machinery of Foundry/Extrusion shops.
- v) The proposed ESR shall be provided with Pump House constructed at ground level below the tank structure in brick wall of 230 mm thick with door and windows for proper ventilation.
- vi) Repair of existing Underground Reservoir tanks of capacity 4.0 Lakh Liter and 9.0 Lakh Liter is to be carried out by pressure grouting, internal damage area plastering and re-connection of its pipe lines to new ESR.
- vii) External surface of ESR shall be sand faced finish plaster and internal surface shall be smooth cement finished plaster with waterproof cement coating to ensure the water tightness of tank.
- viii) All external surface of ESR shall be painted with superior quality exterior emulsion paint and internal wall of pump house shall be painted with Oil emulsion applied over wall putty.
- ix) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.14) shall be applicable for any cost reference in this Project/Work

2.3.10 Construction work for RCC STATIC WATER TANK 3.00 Lakh Liter capacity and depth 2.0 Meter as per approved structural design and drawings as mentioned in Clause No.2.1.5(m):

- i) The work: construction of 3.0 Lakh liter capacity RCC Static water tank as shown in Layout Drg No: Proposed layout Fdy & Ext/OFAJ/02.
- ii) The static water tank shall be provided sloping bottom slab for easy drainage of wash out water and proper ladder arrangement for cleaning of tank.
- iii) The static tank shall be provided with MS fabricated grill cover to ensure the safety of the surrounding area.
- iv) The tank shall be provided with all inlet, outlet, overflow & wash out pipe fittings and control valves including pipelines connection to pump house.
- v) External surface of Static water tank shall be sand faced finish plaster and internal surface shall be smooth cement finished plaster with waterproof cement coating to ensure the water tightness of tank.
- vi) All external surface of Static water tank shall be painted with superior quality exterior emulsion paint.
- vii) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.15) shall be applicable for any cost reference in this Project/Work

2.3.11 Construction work for FOUNDRY DROSS COLLECTION SHED 2 NOS of total area 340 sqm. (Each shed of 170 sqm area) as per approved structural design and drawings as mentioned in Clause No.2.1.5 (n):

- i) Construction of Aluminium dross collection shed 2 Nos at South side of Foundry extension shall be RCC framed structure with slab of build-up area 340 Sqm (each shed of 170 Sqm.) as shown in Drg No: GA of Scrap & Dross Shed/OFAJ/08.
- ii) Finish floor level of Aluminium dross shed building shall be 0.45 Meter above road level with RCC ramp for easy access for collection and dumping of materials to be handled mechanically and height of building shall be 5.0 Meter above plinth level. The floor and ramp of proposed building shall be in RCC with thickness not less than 200 mm to sustain the load of mechanical loader during dumping and collection operation.
- iii) The plinth of proposed building shall be surrounded with plinth protection 1.5 M wide with surrounding RCC drain for proper drainage of rain water. For locations/areas where the ground level is above the plinth level of extended building, necessary RCC retaining wall shall be provided along the plinth protection and surrounding drain.
- iv) Roof of proposed building shall be RCC roof with water proofing treatment over it and roof should be accessible for cleaning and maintenance point of view.
- v) Outer three side wall of proposed building shall be in RCC of 200 mm thickness with interior and exterior cement mortar plaster on three sides and rolling shutter door opening of full height on one side.
- vi) The front area of building shall be provided with 200 MM thick RCC hard standing for movement of truck during loading and unloading of materials.
- vii) All external surface of building shall be painted with superior quality exterior emulsion paint and internal wall shall be painted with superior quality Oil bound emulsion.
- viii) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.16) shall be applicable for any cost reference in this Project/Work

2.3.12 Construction work for FOUNDRY SCRAP GODOWN SHED 2 NOS of total area 280 sqm. (Each shed of 140 sqm. area) as per approved structural design and drawings as mentioned in Clause No.2.1.5(o):

- i) Construction of Scrap godown shed 2 Nos at South side of Foundry extension shall be RCC framed structure with slab of build-up area 280 Sqm. (each shed of 140 Sqm. as shown in Drg No: GA of Scrap & Dross Shed/OFAJ/08.
- ii) Finish floor level of Scrap godown shed building shall be 0.45 Meter above road level with RCC ramp for easy access for collection and dumping of materials to be handled mechanically and height of building shall be 5.0 Meter above plinth level. The floor and ramp of proposed building shall be in RCC with thickness not less than 200 mm to sustain the load of mechanical loader during dumping and collection operation.
- iii) The plinth of proposed building shall be surrounded with plinth protection 1.5 M wide with surrounding RCC drain for proper drainage of rain water. For locations/areas where the ground level is above the plinth level of extended building, necessary RCC retaining wall shall be provided along the plinth protection and surrounding drain.
- iv) Roof of proposed building shall be RCC roof with water proofing treatment over it and roof should be accessible for cleaning and maintenance point of view.
- v) Outer three side wall of proposed building shall be in brick work of 230 mm thickness with interior and exterior cement mortar plaster on three sides and rolling shutter door opening of full height on one side.
- vi) The front area of building shall be provided with 200 MM thick RCC hard standing for movement of truck during loading and unloading of materials.
- vii) All external surface of building shall be painted with superior quality exterior emulsion paint and internal wall shall be painted with superior quality Oil bond emulsion.
- viii) Percentage (%) cost breakup of this item/activity as mentioned in **Schedule -B** (Sl. No.17) shall be applicable for any cost reference in this Project/Work

2.3.13 Internal Electrification work for FOUNDRY EXTENSION, EXTRUSION EXTENSION, ELECTRICAL SUBSTATIONS BUILDINGS, OFFICE BUILDINGS, IEs CHANGE ROOM BUILDING, FIRE STATION BUILDING etc. as mentioned in Clause No.2.1.5(p):

i) Foundry Extension Shop & Extrusion Extension Shop Internal Electrifications:

- a) Lux Level at Ground Level to be : 250 Lux.
- b) Internal shop lighting with Industrial High Bay LED fittings IP66 -120 Nos (approx.) (Qty is tentative only however actual nos to be maintained as per point no (i-a) and Lux design sheet for 250 Lux to be submitted during execution of work).
- c) Internal shop lighting with LED fittings IP66 Specification : 160 Watt +/-15%, High bay industrial Shop Light LED Fittings IP66, 100-260Volts Supply 50Hz, P.F. Above 0.95, Surge protection 10KV, 5700 Deg K +/-300 Deg K, of more than 15000 lumens, Powder Coated High Pressure Die Cast Aluminium Housing and LED Driver compartment, Eye Bolt for mounting, heat sinks, constant current, constant voltage SMPS, make as Approved make list for electrical items in schedule D.
- d) Wiring for High Bay LED Fittings with 16 Sq mm, 4 core LT PVC Al. Armoured Cable to be laid on roof structures with MS accessories welded for fixing and MS Junction Boxes with Heavy Duty Connectors 4 way for connection to light fittings. (Eight fittings per Cable core maximum is permitted).
- e) Electrical lighting DB's , 3 phase and Neutral with Copper Busbars 415+/- 10% volt 50 Hz, AC supply double door rain shed in CRCA Sheet of 2.00mm thick, Incomer 800Amps, 4 pole MCCB, 25kA, with all protection circuits for over current, earth fault, short circuit microprocessor based, twelve (12) outgoing of 125Amps, 3 pole MCCBs, 25kA, Metering with multifunction energy of make as per Approved list of make for electrical items in schedule D.
- f) Sheet Metal Enclosures double door 8way MCB VTPN 125amp MCCB Incomer and outgoing MCBs 10A. Make as per Approved list of make for electrical items in schedule D.
- g) Cable 185sqmm x 3.5 Core Al. and 95sqmm x 3.5 Core Al. armoured PVC insulated 1.1KV laid openly on wall, structures, trenches and in underground in DWC pipes for connections from S/S and O/G feeders to Lighting DBs. Make as per Approved list of make for electrical items in schedule D.
- h) Industrial Power Points of single and three phase at each shop column for multipurpose use, wired through Al. Armoured 25sqmm x 4 core Cable laid in trenches or on walls/iron structures of shops with proper fixing arrangements.
- i) Air Circulators 24 inch 250Volts single phase 1400rpm to be installed at each Shop columns with necessary Electrical Starters and Switching arrangement/Industrial MCB DBs duly wired with Al. Armoured cables . Make as per Approved list of make for electrical items in schedule D.
- j) Industrial heavy duty exhaust fan, duly wired with Al. Armoured Cables, Single Phase 240 Volts, 50Hz, 36 inch sweep along with motor copper wound with M.S. Frame, arm, shoe clamp, blade/leaf, packing rubber etc. complete with acid proof paint in grey colour, Make as per

Approved list of make for electrical items in schedule D.

- k) Suitable LED 70Watts, Street Light security lights with wiring for complete shop entrance and on outside walls/structures of shop, as well as inside shop for disaster management purpose to be provided with separate circuit.
- l) Suitable wiring and DBs for all above work.
- m) Suitable Earthing Pits with GI Strip to be provided for complete shop Power system two strips running in cable trenches.
- n) Suitable Lightning arrestor system for complete shop including Air Terminals, Test point terminal block, Copper strip, Earthing Pits etc.
- o) Internal communication for Internet, PPC network and Telephone lines and instruments of reputed make, using required cables and hardware at Offices, Godowns, working areas and at designated machine area of shops.
- p) Necessary design and plan to be submitted for approval of the Engineer-In-Charge at the time of Execution.
- q) Bidder may also work out the requirement which may or may not have been included in the above scope but is needed. However during execution, the Engineer-in-Charge may decide upon the requirement and bidder will have to provide the same as above.
- r) All works to be carried out as per IS & IEC specs, IE rules 1956 and its amendments. The Contractor has to follow the OFB Standing Instructions for Electrical Safety in Ordnance Factories Manual 2019.

ii) Foundry and Extrusion Extension Electrical Substation Internal Electrifications:

- a) Lux Level at Ground Level to be : 250 Lux.
- b) One light/ fan point controlled by one switch with suitable single core multi stranded sheathed Copper conductor PVC cables in PVC conduit (concealed type wiring) with single core Earth wire (Green Colour).
- b) Suitable Power Point to be provided.
- c) Suitable Exhaust Fans , 230 Volts with complete wiring.
- d) Suitable LED Lights to maintain lux level as specified in point no (ii-a).
- e) Suitable BLDC Fans for sub-stations.
- f) Suitable LED security lights with wiring for substation entrance as well as inside substation for disaster management purpose to be provided with separate circuit.
- g) Suitable DBs for Substation Lighting system.
- h) Suitable Earthing Pits with GI Strip to be provided for substation Power system two strips running in cable trenches.
- i) Suitable Lightning arrestor system for substation including Air Terminals, Test point terminal block, Copper strip , Earthing Pits etc.
- j) Telephone Instruments of reputed make with 2Pair, 5Pair & 10Pair telephone cables along with Telephone DBs duly wired and Internet Cables along with outlet sockets
- k) All other points not covered in the above scope will be as per para i) of this sheet.

iii) Foundry and Extrusion Extension Office Buildings Internal Electrifications:

- a) Lux Level at Ground Level to be : 250 Lux.
- b) One light/ fan point controlled by one switch with suitable single core multi stranded sheathed copper conductor PVC cables in PVC conduit (concealed type wiring) with single core Earth wire (Green Color).
- c) Suitable Power Point to be provided in each office.
- d) Suitable stair case and corridor lighting for each office building to be provided.
- e) Suitable Power points for Computer and Printers in each office.
- f) Power point for Air conditioner to be provided in each office.

- g) Suitable Exhaust Fans and LED lighting for WC, 230 Volts with complete wiring.
- h) Suitable LED Lights to maintain lux level as specified in point no (v-a) for each office.
- i) Suitable BLDC Fans at each office.
- s) Suitable Energy efficient Air Conditioners to be provided in each office. Make as per Approved list of make for electrical items in schedule D.
- j) Suitable DBs for Office Lighting system.
- k) Telephone Instruments of reputed make with 2Pair, 5Pair & 10Pair telephone cables along with Telephone DBs duly wired and Internet Cables along with outlet sockets
- l) All other points not covered in the above scope will be as per para i) of this sheet.

iv) Foundry and Extrusion IEs Change room Buildings Internal Electrifications:

- a) Lux Level at Ground Level to be : 250 Lux.
- b) One light/ fan point controlled by one switch with suitable single core multi stranded sheathed copper conductor PVC cables in PVC conduit (concealed type wiring) with single core Earth wire (Green Colour).
- c) Suitable Power Point to be provided in each room.
- d) Power point for Air cooler to be provided in each room.
- e) Suitable Exhaust Fans and LED lighting for WC, 230 Volts with complete wiring.
- f) Suitable LED Lights to maintain lux level as specified in point no (VI-a) for each room
- g) Suitable BLDC Fans at each room.
- h) Suitable Air Coolers (Desert & Room) and Drinking Water Coolers to be provided
- l) Suitable DBs for IE's Change Room Lighting system.
- j) All other points not covered in the above scope will be as per para i) of this sheet

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v) New Fire Station Building Internal Electrifications:

- a) Lux Level at Ground Level to be : 250 Lux.
- b) One light/ fan point controlled by one switch with suitable single core multi stranded sheathed copper conductor PVC cables in PVC conduit (concealed type wiring) with single core Earth wire (Green Colour).
- c) Suitable Power Point to be provided in each room.
- d) Power point for Air cooler to be provided in each room.
- e) Suitable Exhaust Fans and LED lighting for WC, 230 Volts with complete wiring.
- f) Suitable LED Lights to maintain lux level as specified in point no (vii-a) for each room
- g) Suitable BLDC Fans at each room.
- h) Suitable Air Coolers (Desert & Room) and Drinking Water Coolers to be provided
- i) Suitable DBs for Fire Station Building Lighting system.
- j) Suitable Earth Pits for Building along with Earth Strips.
- k) Telephone Instruments of reputed make with 2Pair, 5Pair & 10Pair telephone cables along with Telephone DBs duly wired and Internet Cables along with outlet sockets.
- l) All other points not covered in the above scope will be as per para i) of this sheet
- m) Payment Reference clause 18 of Schedule -B

2.3.14 Installation of LAN system/Telephone network for FOUNDRY EXTENSION, EXTRUSION EXTENSION, ELECTRICAL SUBSTATIONS BUILDINGS, OFFICE BUILDINGS, IEs CHANGE ROOM BUILDING, FIRE STATION BUILDING etc. as mentioned in Clause No.2.1.5(p):

- i) Installation of LAN system/Telephone network with equipment for Foundry & Extrusion shop, Offices, Change room, Electrical substation, Fire station, pump house etc.
- ii) All working standards and Technical Specification shall be as Schedule-D.
- iii) Payment Reference clause 19 of Schedule -B

2.3.15 Installation of Fire Alarm and Fire fighting system network for FOUNDRY AND EXTRUSION AREA COMPLETE as mentioned in Clause No.2.1.5(q):

- i) Installation of fire fighting equipment in all new construction with suitable fire alarm system.
- ii) Installation of fire hydrant to cover Foundry & Extrusion extension area with pipe line network connected to new ESR.
- iii) All working standards and Technical Specification shall be as Schedule-D
- iv) Payment Reference clause 20 of Schedule -B

2.3.16 Installation of Internal Water supply lines for FOUNDRY AND EXTRUSION AREA COMPLETE with controlling valves and RCC underground collection sump 2.0 Lakh Litre Capacity as mentioned in Clause No.2.1.5(q):

- i) Supply and installation of internal water lines from sump & pump house to Foundry & Extrusion extension including controlling valves.
- ii) Providing RCC underground Sump of 2.0 Lakh Litre capacity for Foundry melting and casting plant with water supply lines & pumping system network.
- iii) All working standards and Technical Specification shall be as Schedule-D
- iv) Payment Reference clause 21 of Schedule -B

2.3.17 External services Roads with Rain water drains, External Water supply main lines, Electrical main lines, Sewage disposal, surrounding area drainage of existing Foundry and Extrusion shop, face lift and landscaping of surrounding areas as mentioned in Clause No.2.1.5(r):

i) Concrete Roads & Rain water drains:

- a) Providing Reinforced Cement Concrete (RCC) roads of 200 mm thick in M40 grade of total area 5840 Sq.M. after preparing sub base by demolition of existing roads and laying mass concrete etc.
- b) The location of proposed roads has shown in Layout Drg No. Proposed layout Fdy & Ext/OFAJ/02.
- c) Providing RCC covered drains of minimum cross section area 0.80 Sq. M. and length 985 Rmt along the road sides for safe drainage of rain water including chambers at required locations.
- d) Providing RCC drain cover 100 mm thick over existing RCC drains in between Foundry and Extrusion section of 150 Sq. M. area.

ii) External Water supply main lines:

- a) Providing water supply main lines for new ESR to proposed extension for supply of water to shops.
- b) Modification of external water supply lines from new ESR to existing Foundry and Extrusion shop.

v) Sewage disposal system:

- a) Providing of sewage line for disposal of waste water from new toilets to existing main sewage lines.
- b) Re-laying of sewage lines of existing toilets disturbed during extension of Foundry and Extrusion shops.

vi) Surrounding area drainage of existing shops:

- a) Providing rain water drainage system to existing shop with RCC drains including precast covers.
- b) Repairing of damaged plinth protection all-around of existing Foundry and Extrusion shops.

vii) Face lift and surrounding beautification:

- a) Face lift of North side portion of existing Foundry & Extrusion shop by concreting and Coloured paver block of Total Area 2500 sqm. including landscaping and drain reconstruction.
- b) Beautification of space in between existing Foundry & Extrusion and along both side of existing RCC roads area by providing Coloured paver blocks of Total Area 2600 sqm.

- c) Beautification of space along both side of new RCC roads of proposed extension area by providing paver blocks of Total Area 3200 sqm.
- d) Modification of North side entrance gate of existing Foundry shop (2 Nos gate) by enlarging one gate of with opening of size 7.50 Mtr x 7.0 Mtr and providing fabricated MS tubular structure porch canopies decorative type on both gates.
- e) Modification of North side entrance gate of existing Extrusion shop (2 Nos gates) by enlarging one gate with opening of size 7.50 Mtr x 7.0 Mtr entrance and providing fabricated MS tubular structure porch canopies decorative type on both gates.
- f) Providing of Road side concrete kerb stones 33 cubic meter along with painting.
- g) Land scape area development in front of Foundry and Extrusion shop of Total area 700 sqm by providing wall construction, drain repair, drain covering, soil filling and plantation and painting work complete.

viii) **External Electrical Supply lines & Street lights:**

- a) Supply and installation of 240 Nos LED 70 Watts street lights with 7 Mtr high GI single arm octagonal poles including foundation and wiring complete.
- b) Supply and installation of 100 Nos LED 70 Watts perimeter lights with 7 Mtr high GI double arm octagonal pole including foundation and wiring complete.
- c) Supply and laying passing through DWC/HDPE pipe underground heavy duty armoured electric cable 1500 Mtr 1100 volt rating 3.5 core aluminium conductor 185 Sq.MM.
- d) Supply and laying passing through DWC/HDPE pipe underground heavy duty armoured electric cable 5500 Mtr 1100 volt rating 3.5 core aluminium conductor 95 Sq.MM.
- e) Supply and installation of 10 Nos out door type low tension power distribution panel IP66 rated, suitable for 3 phase, 430 volts, 50 Hz AC supply having incoming 250 Amps MCCB and outgoing MCCB 100 Amps 4 Pole x 4 Nos with foundation complete
- f) Supply and installation of 10 Nos galvanized 15 Mtr high mast light suitable for 6 to 9 lantern 300 LED flood light fittings fitted with control gear and two point suspension system with suitable stainless steel wire rope including RCC foundation and lightning arrester system.
- g) Supply and laying passing through DWC/HDPE pipe communication cable 1000 Mtr length each of size 100 pair, 50 pair & 20 pair jelly filled armoured cables, 20, 100 & 200 pair Telephone DBs with Krone Module and Connectors etc.
- h) Necessary design and plan to be submitted for approval of the Engineer-In-Charge at the time of Execution.

- i) Bidder may also work out the requirement which may or may not have been included in the above scope but is needed. However during execution, the Engineer-in-Charge may decide upon the requirement and bidder will have to provide the same as above.
- j) All works to be carried out as per IS & IEC specs, IE rules 1956 and its amendments. The Contractor has to follow the OFB Standing Instructions for Electrical Safety in Ordnance Factories Manual 2019

Note: Percentage (%) cost breakup of all activities of external services as mentioned in **Schedule -B** (Sl. No.22) shall be applicable for any cost reference in this Project/Work.

ARTICLE - 3

DESIGN BASIS REPORT

3.1 Design Basis Report Civil Structures:

3.1.1 Materials

i) Cement

Ordinary Portland cement of 43 Grade or 53 Grade confirming to IS 8112 and IS 12269, respectively shall be used (fly ash component shall be as per specifications). Portland Pozzolana Cement (PPC) conforming to IS 1489 may also be used (Fly ash shall not be used in case of PPC).

ii) Reinforcement

High yield strength deformed bars with $F_y = 550 \text{ N/mm}^2$ confirming to IS: 1786 – 2008 with a 14.5% minimum elongation shall be used in the project. Reinforcement Bars of 8, 10, 12, 16, 20, 25, 28, 32 mm shall be used. No lapping allowed in columns and walls, when diameter of bars is 25 mm or higher; mechanical couplers as per IS 16172 should be used to extend bars. For lapping of bars relevant clauses of IS 13920 shall apply.

iii) Structural Steel

Structural Steel Conforming to IS 2062, IS 8500, IS 6639 and IS 3757 shall be used.

iv) Concrete

Minimum Grade of Concrete shall be M25 for moderate condition as per IS 456-2000, Table-5 and as per clause 5.2 of IS 13920: 2016 for other than tall structures (Height more than 50m). Hence, minimum Grade of Concrete for various structural elements considered is as follows:

- a) Foundations – M30
- b) R.C.C. Retaining Walls – M30
- c) Beam & Slabs – M35
- d) Columns and shear wall – M40
- e) Overhead Water Tank – M30

3.1.2 Fire Resistance

Fire resistance is the time in hours that a material or assembly of materials will withstand the passage of flame and transmission of heat when exposed to fire. Type of construction and Minimum Dimensions of Reinforced Concrete Members for Fire Resistance for specified period shall be as per NBC 2016 and clause 21 of IS: 456:2000.

3.1.3 Design Standards

The relevant Indian Standard Codes, as given below shall be followed for structural design.

- i) IS: 875(Part 1)-1987: Code of practice for Design Loads (Other than Earthquake) for Building and Structures-Unit weights of Buildings Materials and Stored Materials.
- ii) IS: 875(Part 2) -1987 Code or Practice for Design Load (Other than Earthquake) for Buildings and Structures Imposed Loads.
- iii) IS: 875(Part 3) – 1987 Code of Practice for Design Loads (Other than Earthquake) for Buildings and Structures – Wind Load.
- iv) IS: 875 (Part Code of Practice for Design Loads (other than Earthquake) for 5) -1987 Buildings and Structures-Special Loads and Load combinations.

- v) IS: 456 – 2000 Code of Practice for Plain and Reinforced Concrete with Amendments
- vi) IS: 1786 – 2008 Specification for High Strength Deformed steel bars and Wires for Concrete Reinforcement.
- vii) IS: 1904 -1986 Code of Practice for Design and construction foundation in soil; - General Requirements
- viii) IS: 2911 (Part-I/Sec- 2)- 2010 Code of Practice for Design and construction of Pile Foundation- Bored cast-in-situ Concrete Piles
- ix) IS: 2911 (Part-III)-1980 Code of Practice for Design and construction of Pile Foundation- Underreamed Piles
- x) IS: 2950 (Part-1) – 1981 Code of Practice for Design and construction Raft Foundation (Part1)
- xi) IS: 3370 (Part1) – 2009 Code or practice for Concrete Structures for the storage of Liquids – General Requirements.
- xii) IS: 3370 (Part2) – 2009 Code of Practice for Concrete Structures for the Storage of Liquids – Reinforced Concrete Structures.
- xiii) IS: 3370 (Part4) – 1967 Code of practice for Concrete Structures for the Storage of Liquids – Design Tables.
- xiv) IS: 1893 (Part1) – 2016 Criteria for Earthquake Resistance Design of Structures.
- xv) IS: 4326- 2013 Earthquake Resistance Design and Construction of Building – Code of Practice.
- xvi) IS: 1642- 1989 Fire safety of buildings (general):details of construction code of Practice
- xvii) IS: 13920- 2016 Ductile detailing of reinforced Concrete structures subjected to Seismic forces — code of practice
- xviii) SP:24-1983 Explanatory handbook on Indian standard code of practice for Plain and reinforced concrete (IS:456-1978)
- xix) SP:16-1980 Design aids for Reinforced concrete to IS : 456-1978
- xx) SP:34-1987 Handbook on Concrete Reinforcement and Detailing
- xxi) IS: 800-2007 Code of Practice for General Construction in Steel.
- xxii) NBC - 2016 National Building Code of India 2016 (Vol- 1 &2)
- xxiii) Dimensions of sections (IS 808 or IS Handbook no1, IS 1161, IS 12778, IS 4923 & IS 811)
- xxiv) Bolts (IS 1364 and IS 4000)
- xxv) Welding (IS 816)

3.1.4 Design Standards Loads, Classification and Material Properties

A. LOADS

The structural members are loaded with various loads combinations during its services conditions. The loads on the structure are taken for analysis and design as per the relevant IS codes of practise.

- Dead load as per IS: 875 -1987 Part-1
- Imposed live load as per IS: 875 -1987 Part-2
- Wind loads as per IS: 875– 2015 Part 3
- Seismic Loads as per IS: 1893-2025

Dead loads comprise of the self-weight of all permanent construction including walls, Slabs/roof, beams, columns, water proofing treatment, water tanks, stair case, floor finish etc. Other super imposed loads shall be considered. The structure would be designed for earthquake resistance as per IS 1893:2016, with consideration for the structural detailing as per provisions of IS 13920-2016 and SP 34-1987

B. LOAD COMBINATION

i) The following are the proposed Load combinations for designing RCC structures with partial safety factors as per IS 456:2000, Cl 36.4.1 (Table 18)

Load combination	Limit State of Collapse			Limit State of Serviceability		
	DL	LL	WL/EL	DL	LL	WL/EL
DL+LL	1.5	1.5	-	1.0	1.0	-
DL+WL	1.5 or 0.9	-	1.5	1.0	-	1.0
DL+LL+WL	1.2	1.2	1.2	1.0	0.8	0.8
DL+EL	1.5 or 0.9(1)	-	1.5	1.0	-	1.0
DL+LL+EL	1.2	1.2	1.2	1.0	0.8	0.8

DL: Dead Load, LL: Live Load, WL: Wind Load, EL: Earthquake Load

ii) The following are the proposed Load combinations for designing Steel structures with partial safety factors as mentioned below:

- $1.5 (DL+LL) + 1.05 (CL \text{ or } SL)$
- $1.2 (DL+LL) + 1.05 (CL \text{ or } SL) +/- (WL \text{ or } EL)$
- $1.2 (DL+LL+/-WL \text{ or } EL) + 0.53(CL \text{ or } SL)$
- $1.5 (DL+/-WL \text{ or } EL)$
- $0.9DL+/-1.5(WL \text{ or } EL)$
- $1.2 (DL+ER)$
- $0.9 DL+1.2 ER$
- $DL+0.35 (LL+CL \text{ or } SL) +AL$

DL: Dead Load, LL: Live Load, WL: Wind Load, EL: Earthquake Load, SL+ Snow Load, CL= Crane Load (vertical/horizontal), AL = Accidental Load, ER = Erection Load

In case if crane load, snow load and accidental load are not considered for any particular structure then load combination shall be as per below:

- $1.5 (DL+LL)$
- $1.2 (DL+LL+EL_x)$
- $1.2 (DL+LL-EL_x)$
- $1.2 (DL+LL+EL_y)$
- $1.2 (DL+LL-EL_y)$
- $1.5 (DL+EL_x)$
- $1.5 (DL-EL_x)$
- $1.5 (DL+EL_y)$
- $1.5 (DL-EL_y)$
- $0.9DL+ 1.5EL_x$
- $0.9DL-1.5 EL_x$
- $0.9DL+1.5EL_y$
- $0.9DL-1.5EL_y$

EL_x= Design Earthquake load in X direction, EL_y= Design earthquake Load in Y direction.

3.1.5 Specifications:

Except for the items, for which particular specifications are given or where it is specifically mentioned otherwise in the description of the items, the work shall generally be carried out in accordance with the following:

- (a) CPWD Specifications 2019 Volume- I
- (b) CPWD Specifications 2019 Volume- II
- (c) MORTH specifications (5th Edition) published by IRC with up to date amendments

3.1.6 Anti-termite treatment:

Anti-termite treatment of all proposed building being constructed under the scope in the campus shall be got done through approved specialized agencies only with Chloropyriphos 20EC,/ Imidacloprid 30.50 SC as specified in IS-6313 (Part-2) 2013.

3.1.7 Damp-proof course:

The damp-proof course (DPC) shall be laid at plinth level/ or as per requirement in the brick work walls as per approved drawings and as directed of 50mm thickness with cement concrete 1:1.5:3 (1 cement: 1.5 coarse sand: 3 graded stone aggregate 20mm nominal size) mixed with water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.

3.1.8 Plinth Protection:

Plinth protection with 75 mm thick of cement concrete 1:1.5:3 (1 cement :1.5 coarse sand : 3 graded stone aggregate 20mm nominal size) over 100 mm bed by dry brick ballast/ stone aggregates 40mm nominal size well rammed and consolidated and grouted with fine sand including finishing all around the buildings, as per tender drawings and approval of Engineer-in-charge. Width of plinth protection shall be as per scope of work.

3.1.9 Plain Cement Concrete and Reinforced Cement Concrete Work:

The work shall be done in accordance with CPWD Specifications - 2019 - Vol. I & Vol. II.

- a) Plain Cement Concrete/Lean Concrete:-Plain Cement Concrete / Lean concrete of specified grade in required thickness as per design shall be laid below pile caps, rafts and all type foundation works, below kerb stone, under floors or wherever required as per CPWD Specifications Volume - I & II with correction slips up to the last date of submission of tender documents.
- b) RCC Work (Concrete Mix Design):- The RCC work shall be done with Ready Mix Concrete /Design Mix Concrete, unless otherwise specified. The concrete to be used for RCC structure shall be either Design Mix Concrete or Ready Mix Concrete (RMC). Nothing extra shall be payable on account of using either of above. In case, Ready Mix Concrete (RMC), the EPC contractor shall be permitted to procure the same from the source approved by the Engineer-in-charge. In such a situation, all technical requirements such as cement type and minimum cement quantity, w/c ratio, slump, admixture etc. shall be conveyed to RMC supplier by the contractor and contractor shall be wholly responsible for ensuring the property of concrete as required at site. In case of Design Mix Concrete, the EPC Contractor shall install the Batching plant (Digital) of adequate capacity with approval of the Engineer in charge. The concrete shall be produced through fully computerized weigh-batching plant of suitable capacity conforming to IS: 4925 with the arrangements for

automatic dispensing admixture and having facility of giving print out indicating weight / details of all ingredient of concrete in each lot/ batch and variations from the approved design mix if any. The contractor shall carry out the concrete mix design with and without admixture through one of the following laboratories/Test houses to be approved by Engineer-in-charge:

- i) IITs, NITs or any Govt. Engineering Colleges.
- ii) In the event of all the above laboratories being unable to carry out the requisite design/testing; the Contractor shall have to get the same done from any other reputed laboratory with prior approval of the Engineer-in-Charge.
- iii) Samples of materials (i.e. Cement, Coarse, fine aggregates & admixtures) shall be jointly sealed by Engineer-in-charge and contractor before sending the same for Mix design. The design mix shall be with or without admixtures as per specifications /requirements at site. All concrete work will be strictly done by automatic computerized batching plant of suitable capacity installed at site or from approved RMC Plant.

3.1.10 Brick Work:

- i) The bricks used in the brick work shall be either 7.5 class designation, common burnt clay bricks conforming to IS: 1077 or 10 class designation, Fly Ash Cement Bricks of approved quality, as follows:
 - a) Common burnt clay bricks shall be used for all substructure works up to plinth level, all wet areas viz toilets, kitchens, pantries, manholes, sewers etc
 - b) Fly Ash Cement Bricks shall be used for superstructure and all other works.
- ii) Bricks used in the work shall be obtained from approved kilns and shall be best quality bricks. Their characteristic compressive strength shall be in conformity to the provision in Latest CPWD Specifications for works.
- iii) For mortar, use of PP Cement shall be preferred. The mortar shall be as under:
 - a) For brick work cement mortar 1:6 (1 cement: 6 coarse sand)
 - b) For half brick masonry cement mortar 1:4 (1 cement: 4 coarse sand)
- iv) The half brick masonry (with F.P.S. bricks)/ Fly Ash Bricks shall be provided with 2 Nos. 6mm dia. M.S. bars at every third course of masonry.
- v) RCC Coping of specified thickness and shape to be carried out over Brick Parapet walls etc. of required Concrete Grade.
- vi) PVC sleeves of required dia. shall be provided in all floors as required for drawing service lines. The work shall be done in accordance with CPWD Specifications - 2019 - Vol. I & Vol. II with up to date correction slips

3.1.11 Finishing:

The surfaces of brick work, RCC, CC etc. shall be treated and finished with Cement Plaster. The use of PP Cement shall be preferred. The cement plaster shall be provided as under:

- a) Plane wall faces: 12mm thickness (minimum) cement plaster 1:6 (1 cement: 6 fine sand).
- b) Rough wall faces: 15mm thickness (minimum) cement plaster 1:6 (1 cement: 6 fine sand).

c) Ceiling and RCC works: 6mm thickness (minimum) cement plaster 1:3 (1 cement: 3 fine sand). In respect of RCC works, in continuation with the brick work, plastering as per brick work shall be continued over RCC works.

d) All External faces including wall faces behind dry cladding and structural glazing: 18mm thickness (minimum) cement plaster in two coats, under layer 12mm thick cement plaster 1:5 (1 cement: 5 coarse sand) finish with a top layer of 6mm thickness (minimum) cement plaster 1:6 (1 cement: 6 fine sand).

e) The junction of RCC work and brick walls shall be covered with 24 gauge chicken wire mesh fixed with screws/washers to avoid cracks in plaster work.

f) The trenches / open drains: 15mm plaster finished with cement plaster 1:4 (1 cement: 4 fine sand) with floating coat of neat cement & adding of Water proof compound.

g) Provide drip course/ groove in plastered surface or moulding to R.C.C. projections. The work shall be done in accordance with CPWD Specifications - 2019 - Vol. I & Vol. II with up to date correction slips.

3.1.12 Wall Painting:

a) Internal Wall Painting: All the internal plastered wall surfaces of the building shall be finished as per CPWD Specifications, 2019 Volume-1 and Volume-II with up to date correction.

i) All cement plastered wall surfaces shall be applied with white cement based putty as base preparation to prepare the surface even and smooth complete, application of primer in compatibility with the respective type of paint and painting with 2 or more coats of paint as per technical specifications.

ii) Wall painting with Premium Acrylic Emulsion Paint of Interior Grade in two or more coats, having VOC (Volatile Organic Compound) content less than 50grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.

iii) Wall painting with Premium Acrylic Emulsion Paint of Interior Grade in two or more coats having anti-bacterial and anti-fungal properties with VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.

iv) Distempering with 1st quality Acrylic Distemper (ready mixed) in two or more coats with VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats where ever required to achieve even shade and colour complete as per manufacturer's specifications.

b) External Wall Painting: All Cement plastered external wall surfaces for the Building and Ancillary structures shall be carried out as per CPWD Specifications, 2019 Volume-1 and Volume-II.

i) Exterior Grade Texture Paint: Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm in three coats of finishing paint, approved texture pattern, with one primer. Shade and colour of paint and texture pattern shall be as per material palette.

- ii) Acrylic Emulsion Paint: 100% Premium Acrylic Emulsion Paint having VOC less than 50 gm/litre and UV resistance as per IS 15489:2004, Alkali & fungal resistance, dirt resistance exterior paint of required shade (Company Depot Tinted) with silicon additives of 2 or more coats applied @ 1.43 litre/ 10 sqm. over and including priming coat of exterior primer applied @ 0.90 litre/10 sqm.
- iii) Synthetic Enamel Paint: All Steel works shall be painted with Satin Synthetic Enamel Paint of approved brand and manufacture of required colour to give an even shade with in two or more coats over an under coat of suitable shade with ordinary paint of approved brand and manufacture. The Synthetic Enamel Paint shall be applied over Primer Coat with ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanized iron/ steel work. The surface of steel work shall be applied with steel putty before application of primer coat to give a smooth and even surface.
- iv) The wood work shall be painted / polished (melamine/ spirit polish) as per finishing schedules / requirements. The work shall be carried out as per CPWD Specifications, 2019 Volume-1 and Volume-II.
- v) Road Painting: Thermoplastic paint for indicating parking spaces & road marking as per IRC guidelines.

3.1.12 Aluminum Works:

- i) Doors, windows, ventilators and partitions with Powder coated aluminium extruded built up standard tubular sections/ appropriate Z sections/built up sections and/or other sections with minimum thickness of powder coating 50 micron of approved make conforming to IS: 733 and IS: 1285 as per CPWD specification.
- ii) All Aluminum frames shall be installed through Aluminum Sub-Frames of 50x25mm of 2mm thickness to be provided in Door & Windows before fixing the main frame. The Sub-Frames shall be fixed into position true to line and level using adequate number of expansion bolts or other appropriate fastenings.
- iii) Hardware: All hardware for doors and windows shall be of Powder coated Aluminum or as specified.
- iv) Provision of Fly proof SS wire-mesh in doors/ windows as per finishing schedules/ tender drawings or as specified. Stainless steel wire mesh shall be of Grade-304 with aperture 1.4 mm and 0.50mm dia. wire and shall be provided as per specification. 14. Stainless Steel Railing The Stainless Steel railing shall be provided in staircase / ramps of all buildings and other locations etc. as specified in the tender drawings/ finishing schedule and as per CPWD Specifications.

3.1.13 Ladder

MS Ladder: Provision of suitable size MS Ladders finished with Epoxy paint as per CPWD Specification shall be provided for approach to terraces.

3.1.14 Flooring:

Various types of flooring, skirting, dado and window sill work shall be carried out by the EPC Contractor as per the finishing schedule, tender drawings and in accordance with CPWD specifications CPWD Specifications, 2019 Volume-1 and Volume-II with up to date correction slips as on last date of submission of Bid.

a) In order to keep the floor finish as per Architectural drawings and to provide required thickness of the flooring as per specification, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting. Alternatively, for maintaining the floor finish, grading with cement concrete with nominal mix 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 10mm nominal size) shall be provided.

b) Protective layer to be provided for all types of flooring, during construction.

c) The edges of steps in the staircases, counters, window sills, facias and similar location shall be edge moulded as required. Staircase Tread should have Anti-Skid Grooves as specified in the tender drawing or as directed by Engineer-in charge.

d) Minimum Bed mortars for various types of floorings

i) Chequered tiles/stone flooring/kota stone flooring/granite flooring/tile flooring/vitrified flooring - 20mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).

ii) For dado, skirting and risers of steps in Chequered tiles/stone /kota stone/granite /vitrified tiles- 12mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand).

iii) The vertical facia and drops shall be finished with epoxy resin based adhesive.

3.1.15 Water Proofing Treatment:

i) All items for water proofing treatment with integral cement based water proofing treatment for Roof Slab, sunken portion, Water Tanks shall be guaranteed for TEN YEARS, to be reckoned from the date of expiring of the Defect Liability period prescribed in the contract.

ii) The Water proofing treatment of terrace shall be done as per specification detailed below:

a) Surface Preparation: Cleaning of the surface, treating of construction joints, filling of honeycombs etc. of slab to be carried out before executing water proofing treatment.

b) Applying over the cleaned surface instant setting spray polyurethane waterproofing system of 10 mm thickness with a density of minimum 55 kg /m³, having fire resistance property confirming to class B2 as per DIN 4102; having min 96% closed cell content of approved make and as per the manufacturer's recommendations.

c) Over above layer, providing and applying, water proof membrane of liquid of pure polyurethane based, single component, low VOC, elastomeric, seamless & having solid content 90% (as per ASTM C836), elongation at break of 400%. The membrane to be applied with a brush/roller in 2 coats to achieve a DFT of 0.70mm (consumption @ 1.0 kg/Sqm).

d) Over the above membrane Geotextile 150 gsm (non-woven polyester) to be spread.

e) A layer of 60mm avg. thick M20 grade screed to be laid with required slope all around on the roof/terrace. At the parapet wall junction, an angular fillet of 50 mm X 50 mm to be provided of cement-sand mortar in 1:3 proportion including applying a coat of SRI Coating reinforced with glass cloth reinforcement at the joint of angle fillet and screed.

f) The concrete shall be exposed by cutting grooves of size 6mm(W) x35mm(D) by saw cutting into panels of size 2.5m x 4m, the grooves formed by exposing the concrete shall be filled with Bituminous sealant.

g) Over above the screed concrete applying fiber reinforced water based acrylic waterproofing cum high SRI value Of 99, in two coats with a roller/brush at a consumption of 1 litre/sqm. The Water

proofing treatment shall be of approved make and guaranteed for TEN YEARS, to be reckoned from the date of expiring of the Defect Liability period prescribed in the contract

- iii) Integral Cement Based Water Proofing Treatment for Roof /Sunken Floors of W.C`S/Bathrooms etc. by applying cement slurry mixed with water proofing cement compound consisting of applying :
 - a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement Compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours.
 - b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry complete as per CPWD Specifications.
- iii) The water proofing of all tanks shall be done by Chemical Injection System (Pre Construction) as per CPWD Specification or as specified.

3.1.16 Interlocking Pavers:

Interlocking paver blocks required size and thickness 80 mm thick, factory made of cement concrete mix of M-30 manufactured in joint less moulds on vibrator table finished smooth as per required shape size and pattern, colour and to be laid over subgrade etc. as per CPWD specification.

3.1.17 Roadwork:

All the roads are to be constructed as per IRC code and layout drawings if required. If any specification not available in IRC code, CPWD specification (up to date correction slip) shall be applicable. The roads shall meet the fire fighting norms. The roads shall be RCC Roads with minimum M-40 VDC Concrete and minimum 200mm thickness and required reinforcement as per designs to be provided as per drawings of required width as specified.

3.2 Design Basis Report Plumbing (Water Supply and Sanitary Installation):

- 3.2.1 List of Codes and Manuals: The following codes of practice and design manuals are being referred for designing the
 - a. Sanitary Plumbing and Fire Fighting Systems:
 - b. National Building Code 2016
 - c. Hand Book on Water Supply & Drainage (with Special Emphasis on Plumbing), Bureau Of Indian Standards SP-35
 - d. Manual on Water Supply & Treatment (Ministry of Urban Development)
 - e. Manual on Sewerage & Sewage Treatment (Ministry of Urban Development)
 - f. CPWD Specifications
 - g. National Building Code 2016 (Part-IV — Fire Protection)

3.2.2 Design for Water Supply/Waste Water Distribution System:

For continuous water supply at adequate pressure, complete water supply system is designed with following type of pipe-lines from existing network line. Water supply pipe from buildings to overhead tanks, inside shaft and concealed by c-PVC pipes of required grade/class, conforming to the requirements of IS 15778 Codes. To regulate the water supply, valves and fittings, at required places, shall be fixed as per specification. At Terrace, ring main will be with GI pipe, medium class. Laying of these pipe lines up to building shafts shall be underground and in shafts, supported with standard clamps up to the overheads tanks complete as per specification. Flushing water pipe shall be of c-PVC of required grade/class, 10 kg/sqcm pressure rating, inside shaft & concealed areas. At Terrace, ring main will be with GI pipe, medium class. Flushing water tank and overhead water tank shall be connected with existing water supply line.

3.3 Design Basis Report-Fire Fighting System:

3.3.1 Fire fighting system shall comprise of down comer System, Fire Extinguishers, Fire Exits, Fire Brigade Inlet Connections etc. proposed for Building. Suitable size shafts, cutouts, Niche, openings etc shall be provided to facilitate installation of Pipelines etc. The following standards, bye-law, manual shall be followed in designing the fire fighting system:

- a) Relevant IS codes published by Bureau of Indian Standards National Building code Part IV for fire Protection System 2016.
- b) CPWD General Specifications for Electrical Works-part V (Wet Riser & Sprinkler System-2006)
- c) NFPA/UL/FM certifications & TAC for guidance

3.2.2 Portable Fire Extinguishers:

a) The sufficient qty. of portable/trolley mounted type fire extinguishers (Gas Based stored pressure type CO2 type /Ammonium Phosphate Type/ Mechanical Foam etc.) shall be provided at all levels of the building, plant room, substation etc. at strategic locations as per requirements, generally to follow NBC-2016 and IS – 2190: 1992 to extinguish fire of class A, B ,C.

b) Location of the Fire Extinguishers shall be considered near all the Internal Hydrants, LT Panel Room, Car Parking etc.

c) Gas based Fire Suppression System:

i) For Electrical panels: Tube based Fire protection system is used in the Electrical Panel rooms to be installed in substations. The detection Tube shall be installed throughout the compartment of panels. The location and spacing of tube shall be above the hazard to be protected. Cylinder equipped with brass valve, pressure Gauge isolation valve will be fitted on the wall of the panel with suitable brackets and will be connected to the detection tube. In case of fire the tube shall rupture at a point. The rupture Tube shall result in formation of discharge point and release Gas Agent in Uniform pattern

3.4 Design Basis Report for Electrical works:

3.4.1 External and Internal Electrical Installation Specifications:

All Electrical & LV works shall be designed and executed as per latest codes of practice for Electrical installations and meeting the requirements of Indian Electricity Rules/Act, applicable I.S. Codes/ Rules and relevant I.S. Specifications as under;

- a) Specification for Miniature circuit breakers.- IEC 60898
- b) Degree of protection provided for enclosures for low voltage switchgear and control gear.- IS 2147
- c) Specification for current transformers.- IS 2705
- d) Method of high voltage testing.- IS 2071
- e) Code of practice for climate proofing of electrical equipment.- IS 3202
- f) Specification for marking and arrangement for switchgear, busbar main connection & auxiliary wirings.- IS 375
- g) Specification for rectifier equipment in general.- IS 3895, IS 4540
- h) Specification for HRC fuses.- IS 13703
- i) Specification for indicating instruments.- IS 1248/IS 2419
- j) Specification for AC contactors for voltage not exceeding 1000V.- IS 2959, IS 13947
- k) Specification for colour for ready mix paints.- IS 5
- l) Safety code for semi-conductor rectifier equipment.- IS 6619
- m) General requirement for switchgear and control gear for voltage not exceeding 1000V.- IS 4237, IEC 60947
- n) Specification for Electrical relays for power system protection.- IS 3231/IS225/BS142
- o) Specification for static protective relays.- IS 8686
- p) Specification for Energy meters, control switches.- IS 722
- q) Specification for PVC insulated cables upto and including 1000 Volts.- IS 1554
- r) Specification for Earthing- IEC 60364 & IS 3043
- s) Specifications for LED Lighting – IS 16103, IEC 60598
- t) Specification for DWC Pipe – IS 16098-2
- u) Octagonal Poles to Specifications- IS 875, BS:5649, IS 2629, IS 2633, IS 4759
- v) Specifications for BLDC Fans- IS 374:2019
- w) Specifications for Exhaust Fans- IS 2312
- x) Specification for Modular Switches/Socket – IS 3854, IS 1293

3.4.2 Energy Metering:

The EPC Contractor shall provide sub-metering as per latest GRIHA and ECBC Norms.

3.4.3 Electrical Power Distribution:

The Electrical Power Distribution for electric supply shall be as detailed below:

- a) Adequate size and runs of XLPE insulated armoured Aluminium conductor cables shall be laid from Exiting nearest Substation to LT Panel of the building. Voltage drop in LT cable shall not exceed 6% or 8 Volt whichever is less between both ends. The LT panel of required capacity to be provided by EPC contractor and shall be of indoor type.
- b) Building shall have suitable Nos. of panels for catering to loads of Lighting, Power, etc. connected to Main LT Panel, as applicable.

c) Power distribution from Floor Panels to DBs shall be done with armored cables on cable tray or through Sub- Main wiring in conduits. Earthing system capacity shall be as per norms.

d) Hot Dip Galvanized Perforated Type Cable trays of suitable size and thickness minimum 2mm with perforation not more than 17% shall be provided as required in all the buildings.

e) All power cables, up to & including 16 sq. mm. size, shall be 1.1 KV, Copper conductor, Armored, XLPE cables conforming to IS-7098 code. All power cables above 16 sq. mm. sizes shall be 1.1 KV, Aluminum conductor, Armored, XLPE cables conforming to IS-7098 code.

f) The power cabling shall be sized so that the distribution losses do not exceed 3% of the total power usage in buildings. Voltage drop for feeders shall not exceed 2% at design load and for branch circuit; it shall not exceed 3% at design load as per ECBC norms.

g) Surge Protection Devices (SPD) of Type-2 shall be provided with suitable back-up protection for Building LT Panels, UPS Panels, Floor Panels, etc.

3.4.4 Main LT Panel LT Panel Rooms/Floor panel Rooms shall be provided with safety equipment/items like suitable elastomeric mat (as per relevant IS codes), fire buckets, fire extinguishers, hand gloves, danger plates (LT rating), framed Schematic/SLD etc. for all substation shall be provided as per design load of respective equipment.

3.4.5 Earthing Network:

Maintenance free Chemical Earthing as required, shall be provided by EPC Contractor for earthing of Electrical Panel Boards, UPS, and other installations in building. Earthing shall be in conformity with provisions of Indian Electricity Rules 1956 & as per IS-3043 & IEEE 80 as amended up to date. Copper/GI earth strips shall be used for connecting the Electrical equipment's and medical equipment's with Earth pits as per prevalent norms and equipment requirement. RCCB shall be provided in the DBs for individual units. Copper Earth strips with sleeve and Copper Electrode Earth Pits shall be provided for Body & Neutral Earthing of all electrical equipment in the Substation area as per CPWD Specifications. Separate and distinct earth stations with insulated electrode shall be provided for the following:

i) Main LT Panels & LT Distribution Panels

ii) UPS system – Body & Neutral

iii) EPABX & LAN Server

Surge protection devices shall also be provided throughout the electrical and low voltage distribution network including LT Panel, MDBs & final distribution boards. All three phase electrical installations shall be provided with double Earth connection and single phase electrical installations with one Earth connection as per CPWD specifications & NBC 2016.

3.4.6 Lightning Protection System:

Lighting protection of shall be provided as per IS/ IEC-62305-1:2010 (latest as amended), CPWD Specifications and NBC 2016 norms. The main and most effective measure for protection of structures against physical damage is considered to be the lightning protection system (LPS). An external LPS which consists of air-termination system, down conductor system and earthing system is intended to:

a) Intercept a lightning flash to the structure (with an air-termination system),

b) Conduct the lightning current safely towards earth (using a down-conductor system),

c) Disperse the lightning current into the earth (using an earth-termination system).

3.4.7 Internal Electrification & allied Works:

The electrical Installation work shall be carried out in accordance with Indian Standard Code of Practice. It shall also be in conformity with the current Indian Electricity rules and regulations and requirements of the Local Electricity Supply Authority and Fire Insurance regulations so far as these become applicable to the installation. Electrical work in general shall be carried out as per following CPWD Specifications. General Specifications for Electrical Works. (Part -I) Internal Work - 2023. General Specifications for Electrical Works Part II External – 2023.

- a) Wiring & Conduiting (MS Conduits) for internal electrification.
- b) LV works shall be done in Heavy duty PVC conduits
- c) LED Light fixtures, Fan (Ceiling & Wall) & Exhaust Fans.
- d) 6A Light Point /UPS Modular Switch & Socket Outlets.
- e) L.T. Cables and Sub main wiring, circuit wiring.
- f) Cable Tray & Raceways.
- g) MCCB, MCBs etc.
- h) Floor Panels, Distribution Boards & VTPN DBs.
- i) Earthing System.
- j) Extra Low Voltage system like Telephone/IPBAX, LAN, Fire Detection & Alarm System, Public Address system, Access control system etc.
- k) Chemical/GI/Copper Earthing shall be designed as per soil resistivity to achieve earth resistance as per CPWD specifications.
- l) Internal areas like rooms, corridors, lobbies, staircases, terraces, washrooms etc. shall be adequately illuminated conforming to provisions stipulated in NBC 2016, ECBC and CPWD technical specifications maintaining the indicated Lux levels and Light Power Density.
- m) The Internal Electrification work shall be carried out in recessed/surface mounted MS conduits in accordance with CPWD General Specifications for Electrical Works Part-I (Internal)-2013 and Part-II (External)-1994 with up to date amendments.
- n) MS/ PVC FRLS Conduits shall be surface mounted or laid on MS angle/channels with suitable hanging supports in areas wherever there is false ceiling provision. In case there is no provision for false ceiling, Wiring for lighting/power shall be done in MS Conduits whereas wiring for LV works shall be done in heavy duty PVC FRLS conduits unless stated otherwise.
- o) HFFR/FRLSZH PVC insulated Copper conductor wires will be used for points, circuit & submain wiring conforming to relevant IS-Codes. Minimum wire size for light points shall be 1.5 sq. mm and 4 sq. mm for power accordance with CPWD General Specifications for Electrical Works Part-I (Internal)-2013 and Part-II (External)-1994 with up to date Amendments
- p) Anti-bacterial Modular type switches, sockets and stepped type electronic fan regulators, bell push button along with matching mounting boxes of same make shall be used.
- q) Colour coding of the conduits, switches, sockets shall be provided for Normal & UPS power supply as per NBC 2016.
- r) Separate shafts shall be provided for laying of pipes for Electrical, ELV and Fire Services
- s) After completing the work, necessary test results as envisaged in CPWD General Specifications Part-I (Internal)-2005 & Indian Electricity Rules 2005, shall be recorded and submitted. The results shall be within the permissible limits.
- t) GI/Aluminum/PVC Raceways, with accessories, shall be provided on floors of various buildings as per requirements. The cover plate of raceways' junction boxes shall be stainless steel (SS 304 or SS 316).
- u) Agency shall execute the work after obtaining necessary approval of the layout for internal electrification of building, common areas and staircases. The staircase lighting shall be in-group control system.

- v) Modular type switches, sockets and stepped type electronic fan regulators, bell push button along with matching mounting boxes of same make shall be used.

3.4.7 External / Street Lighting:

High efficiency LED lighting fixtures shall be provided for external road lighting, compound/landscape lighting including. The lighting control /operation for external Lighting shall be automatically controlled with digital timer control switch. External Lighting proposed shall be of conventional wired external lighting shall be as per NBC & ECBC Codes. Road / compound lighting shall be provided with outdoor type light fittings (IP-65).

3.4.8 Fire Detection And Alarm System:

Automatic addressable fire detection and Alarm system of latest technology with Fire alarm panels, multi criteria detectors, heat detectors, response indicators, manual call point, hooters and light strobe etc. shall be provided. It shall meet the requirement of NBC 2016/CPWD Specifications/ State By-laws.

ARTICLE - 4

OBLIGATIONS OF THE CONTRACTOR

4.1 Obligations of the Contractor

- 4.1.1 Subject to and on the terms and conditions of this Agreement, the Contractor shall undertake the survey, investigation, design, engineering, procurement, and construction of the Project and observe, fulfil, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 4.1.2 The Contractor shall comply with all Applicable Laws and Applicable Permits in the performance of its obligations under this Agreement.
- 4.1.3 Save and except as otherwise provided in this Agreement or Applicable Laws, as the case may be, the Contractor shall, in discharge of all its obligations under this Agreement, conform with and adhere to Good Industry Practice at all times.
- 4.1.4 The contractor will be wholly responsible for any observations and/or comments and, if any, defects pointed out by C.T.E and/or C.V.C and/or C.A.G in the planning & procedures of execution of the Project.
- 4.1.5 The Contractor shall remedy any and all loss or damage to the Project, occurring on or after the Appointed Date and until the date of the Works completed prior to the issuance of the Completion Certificate, at its own cost and except to the extent that any such loss or damage shall have arisen from any default of the Authority or on account of a Force Majeure.
- 4.1.6 The Contractor shall remedy any and all loss or damage to the Project during the Defects Liability Period at its own cost. In the event that the Contractor fails to repair or rectify such Defect or deficiency within the 30 days period from the date of notification, Authority shall be entitled to get the same repaired, rectified or remedied at the Contractor's cost from available dues with OFAj
- 4.1.7 The Contractor shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:
 - (a) make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details as may be required for obtaining Applicable Permits and obtain and keep in force and effect such Applicable Permits in conformity with Applicable Laws;
 - (b) procure, as required, the appropriate proprietary rights, licences, agreements and permissions for Materials, methods, processes, know-how and systems used or incorporated into the Project;
 - (c) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Sub-contractors in connection with the performance of its obligations under this Agreement;
 - (d) ensure that its Sub-contractors comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Contractor's obligations under this Agreement;
 - (e) always act in a manner consistent with the provisions of this Agreement and not cause or fail to do any act, deed or thing, whether intentionally or otherwise, which may in any manner be in violation of any of the provisions of this Agreement;
 - (f) support, cooperate with and facilitate the Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement;

- (g) ensure that the Contractor and its Sub-contractors comply with the safety and welfare measures for labour in accordance with Applicable Laws and Good Industry Practice;
- (h) keep, on the Site, a copy of this Agreement, publications named in this Agreement, the Drawings, Documents relating to the Project, Change of Scope Orders and other communications sent under this Agreement, and provide access to all these documents at all reasonable times to the Authority Engineer and its authorised personnel;
- (i) cooperate with other contractors employed by the Authority and with personnel of any other public authority; and
- (j) to provide reasoned comments on any information relating to the contractor's activities under or pursuant to the agreement, which the Authority may publish.

4.1.8 The Contractor shall undertake all necessary superintendence to plan, arrange, direct, manage, inspect and test the Works.

4.2 Obligations relating to sub-contracts and any other agreements

4.2.1 The Contractor shall not sub-contract the Works comprising more than 40% (fourty per cent) of the Contract Price and shall carry out Works for at least 60% (sixty per cent) of the total Contract Price directly under its own supervision and through its own personnel. The Parties agree that all obligations and liabilities under this Agreement for the entire Project shall at all-time remain with the Contractor.

4.2.2 In the event any sub-contract for Works, or the aggregate of such sub-contracts with any Sub-contractor, exceeds 5% (five percent) of the Contract Price, the Contractor shall communicate the name and particulars, including the relevant experience of the sub-contractor, to the Authority prior to entering into any such sub-contract. Provided, however, that in any event the Contractor shall communicate the name and particulars to the Authority for any sub-contract including the relevant experience prior to entering into any such sub-contract. The Authority shall examine the particulars of the sub-contractor from the national security and public interest perspective and may require the Contractor, no later than 15 (fifteen) business days from the date of receiving the communication from the Contractor, not to proceed with the sub-contract, and the Contractor shall comply therewith and shall have no claim whatsoever on this account.

4.2.3 It is expressly agreed that the Contractor shall, at all times, be responsible and liable for all its obligations under this Agreement notwithstanding anything contained in the agreements with its Sub-contractors or any other agreement that may be entered into by the Contractor, and no default under any such agreement shall excuse the Contractor from its obligations or liability hereunder.

4.2.4 Notwithstanding anything to the contrary contained in this Agreement, the Contractor agrees and acknowledges that it will not assign any work to any contractor/sub- contractor from a country which shares a land border with India unless such contractor/sub-contractor is registered with the competent Authority. Contractor will ensure that such Contractor/sub-contractor fulfils all requirements in this regard and is eligible to be considered (evidence of valid registration by the competent authority to be enclosed).

4.3 Contractor's personnel

4.3.1 The Contractor shall ensure and procure that the personnel engaged by it or by its Sub-contractors for performance of its obligations under this Agreement are at all times appropriately qualified, skilled and experienced in their respective functions including in conformity with Applicable Laws and Good Industry Practice.

- 4.3.2 The Authority Engineer may, for reasons to be specified in writing, direct the Contractor to remove any member of the Contractor's or Sub-contractor's personnel from the Project. Provided, any such direction issued by the Authority Engineer shall specify the reasons for the removal of such person.
- 4.3.3 The Contractor shall, on receiving a direction from the Authority Engineer under the provisions of Clause 4.3.2, ensure and procure the removal of such person or persons from the this Project with immediate effect. The Contractor shall further ensure that such persons have no further connection with the Project.
- 4.3.4 The Contractor shall be responsible for the Security of the Work Site and for keeping the unauthorized persons off the Site.

4.4 Contractor's care of the Works

The Contractor shall bear full risk in and take full responsibility for the care of Works, and of Materials, goods and equipment for incorporation therein, on and from the Appointed Date and until the date of Completion Certificate.

4.5 Unforeseeable difficulties

Except as otherwise specified in the Agreement:

- (a) the Contractor accepts complete responsibility for having foreseen all difficulties and costs of successfully completing the Works;
- (b) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs; and
- (c) the Scheduled Completion Date shall not be adjusted to take account of any unforeseen difficulties or costs.

For the purposes of this Clause, unforeseeable difficulties include physical conditions like man-made or natural physical conditions including sub-surface and hydrological conditions which the Contractor encounters at the Site during execution of the Works.

4.6 Safety at work site

The Contractor and its sub-contractors shall follow the safety instructions and take all safety measures for workmen and vehicles plying in the work area in accordance with Applicable Laws, Good Industry Practice and the provisions of this Agreement.

ARTICLE - 5

OBLIGATIONS OF THE AUTHORITY

5.1 Obligations of the Authority

- 5.1.1 The Authority shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 5.1.2 The Authority shall provide all General Arrangement drawings in time and will ensure to communicate any changes required in it time to time. The Authority shall be responsible for the correctness of the Scope of the Project, Project Facilities, Specifications and Standards and the criteria for Testing of the completed Works.
- 5.1.3 The Authority shall, upon receiving the Performance Security provide the contractor entire Project related documents/detailed scope of work for planning/designing pertaining to the Project.
- 5.1.4 The Authority will demarcate and hand over the site to the contractor within 7 (Seven) days from the date of execution of the agreement by the bidder.
- 5.1.5 The Authority will provide open land within factory premises for stacking of construction materials only. For labour camp, open land will be provided outside factory premises within estate area.
- 5.1.6 The Authority will sign the drawings required for Statutory Authorities and will also give necessary authorisation to contractor, if required, to secure approvals from local bodies of statutory authorities for the planning, construction as contemplated in the contract agreement from time to time. OFAJ will provide help to Bidder to the extent of writing letters to local bodies regarding getting such approvals.
- 5.1.7 The Authority will release the funds/payments comprised in the Project Funds as per the terms and conditions of the contract agreement.
- 5.1.8 The Authority may nominate a committee of officers to inspect and check the construction work from time to time to see that the construction works are being carried out as per drawings & specifications as provided.

5.2 Water supply & Electricity for Construction.

- 5.2.1 The Authority will provide Water for construction activity on **Chargeable Basis** at Single Point source within factory premises from which contractor have to arrange necessary temporary pipeline network and storage system as per utility. **Water Charges @ Rs. 5/- per Thousands of value of Work done** will be deducted from RAR/Final Bill.
- 5.2.2 The Authority will provide Electricity for construction activity on **Chargeable Basis** at Single Point source within factory premises from which contractor have to arrange Electric Meter and necessary temporary distribution network system as per utility. **Electricity Charges @ Rs. 10/- per Unit** with revised rate if any, will be deducted from RAR/Final Bill.

5.3 Changes in Scope of Work

- 5.3.1 The Authority will ensure to communicate any changes required in Scope of work, Extra items to be incorporated in the awarded work, well in time.
 - (a) Any Extra item which is not included in scope of work but it is essential for completion of this Project will be executed on payment basis.

- (b) The prorata rates for extra items will be worked out as per MES SSR-2020 items rate with MV with applicable \pm Percentage with reference to quoted amount against estimated cost of this project.
- (c) Approval for deviations in contract amount for execution of extra Items up to 10% of the Contract amount of the awarded work to the Contractor shall be obtained by Bidder from Authority.
- (d) Bill for Extra Items will be paid separately.

5.4 Supports for Applicable permits

- 5.4.1 The Authority agrees to provide support to the Contractor and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and Applicable Laws, the following:
 - (a) upon written request from the Contractor, and subject to the Contractor complying with Applicable Laws, provide reasonable support to the Contractor in procuring Applicable Permits required from any Government Instrumentality for implementation of the Project;
 - (b) upon written request from the Contractor, provide reasonable assistance to the Contractor in obtaining access to all necessary infrastructure facilities and utilities on terms no less favourable than those generally available to commercial customers receiving substantially equivalent services;
 - (c) procure that no barriers that would have a material adverse effect on Works are erected or placed on or about the Project by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, national security or law and order;
 - (d) not do or omit to do any act, deed or thing which may in any manner is in violation of any of the provisions of this Agreement;
 - (e) support, cooperate with and facilitate the Contractor in the implementation of the Project in accordance with the provisions of this Agreement; and

5.5 Environmental and Forest Clearances

The Authority represents and warrants that the environmental and forest clearances of Land mentioned in clause 5.1.4 shall be obtained before commencement of the work. In the event of any delay, the Contractor shall be entitled to Time Extension for the period of such delay in accordance with the provisions of this Agreement.

ARTICLE - 6

REPRESENTATIONS AND WARRANTIES

6.1 Representations and warranties of the Contractor

The Contractor represents and warrants to the Authority that:

- (a) it is duly organised and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (b) it has taken all necessary corporate and other actions under Applicable Laws to authorise the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- (c) this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- (d) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising there under including any obligation, liability or responsibility hereunder;
- (e) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;
- (f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum and articles of association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (g) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;
- (h) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;
- (i) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a material adverse effect on its ability to perform its obligations under this Agreement;
- (j) no representation or warranty by it contained herein or in any other document furnished by it to the Authority or to any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue or misleading statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;
- (k) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the contract or entering into this Agreement or for

influencing or attempting to influence any officer or employee of the Authority in connection therewith;

- (l) all information provided by the Contractor in response to the RFP or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects; and
- (m) nothing contained in this Agreement shall create any contractual relationship or obligation between the Authority and any Sub-contractors, designers, consultants or agents of the Contractor.

6.2 Representations and warranties of the Authority

The Authority represents and warrants to the Contractor that:

- (a) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement;
- (b) it has taken all necessary actions under Applicable Laws to authorise the execution, delivery and performance of this Agreement;
- (c) it has the financial standing and capacity to perform its obligations under this Agreement;
- (d) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (e) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Authority's ability to perform its obligations under this Agreement;
- (f) it has complied with Applicable Laws in all material respects;

6.3 Disclosure

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement

ARTICLE - 7

DISCLAIMER

7.1 Disclaimer

- 7.1.1 The Contractor acknowledges that prior to the execution of this Agreement, the Contractor has, after a complete and careful examination, made an independent evaluation of the Request for Proposal (RFP), Scope of the Project, Specifications and Standards, Site, local conditions, physical qualities of ground, subsoil and geology, suitability and availability of access routes to the Site and all information provided by the Authority or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. The Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Contractor confirms that it shall have no claim whatsoever against the Authority in this regard.
- 7.1.2 The Contractor acknowledges and hereby accepts to have satisfied itself as to the correctness and sufficiency of the Contract Price.
- 7.1.3 The Contractor acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 7.1.1 above and hereby acknowledges and agrees that the Authority shall not be liable for the same in any manner whatsoever to the Contractor, or any person claiming through or under any of them, and shall not lead to any adjustment of Contract Price or Scheduled Completion Date.
- 7.1.4 The Parties agree that any mistake or error in or relating to any of the matters set forth in Clause 7.1.1 above shall not vitiate this Agreement, or render it voidable.
- 7.1.5 In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Clause 7.1.1 above, that Party shall immediately notify the other Party, specifying the mistake or error.
- 7.1.6 Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Contractor; and the Authority shall not be liable in any manner for such risks or the consequences thereof

7.2 Site Inspection

- 7.2.1 The Bidder shall be deemed to have inspected the Site and its surroundings and taken into account all relevant factors pertaining to the Site, while preparing and submitting the Bid.
- 7.2.2 Any Site information and drawings given in this Bid Document is for guidance only. The Bidders are instructed to visit and examine the Site of works and its surroundings, understand the scope of work at his/their cost and obtain at his/their own responsibility, any information that may consider necessary for preparing the Bid and entering into a Contract with OFAj, including availability of electricity, water and other resources
- 7.2.3 The Bidder may obtain all necessary information as to risks, contingencies & other circumstances (insurgencies etc.) which may influence or affect their tender. Bidder shall be deemed to have considered site conditions and he shall inspect it in all respect before quoting his rates and no claim or extra charges whatsoever in this regard shall be entertained / payable by the Authority at a later date.

- 7.2.4 Before submitting a Bid, the Bidder shall be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates entered in the Price Bid document are adequate and all-inclusive for the completion of work to the entire satisfaction of the Employer/Owner.

PART-III

Construction

ARTICLE - 8

SECURITY DEPOSIT & PERFORMANCE GUARANTEE

8.1 Security Deposit

- 8.1.1 The Contractor shall, for the performance of its obligations hereunder, provide to the Authority, within 10 (Ten) days of issue of LOI, an irrevocable and unconditional Bank Guarantee as **“Security Deposit” (SD)**, for an amount equal to **3% (Three per cent)**, of the **Contract Price** from a Nationalized bank or Scheduled Commercial Bank in the form set forth in **Annexure-VII**. Only after submission of the “Security Deposit” by contractor, the EMD submitted with bid will be released within 7 Days after verification of Security Deposit documents.
- 8.1.2 Initially the validity of Security Deposit shall be at least 2 Months more than the Date of Completion period mentioned in the Contract Order. On event of extension of Contract period, the contractor shall procure the extension of the validity of the “Security Deposit”, as necessary, at least 2 (two) months prior to the date of expiry thereof.
- 8.1.3 In the event the Contractor fails to provide the “Security Deposit” within 10 (Ten) days of the issue of LOI as provided in Clause 8.1.1 above, the Contractor may seek extension of time for a period not exceeding a further 30 (Thirty) days on payment of damages for such extended period equivalent to a sum calculated at the rate of 0.002% (zero point zero zero two percent) of the Contract Price for each day of delay until the Performance Security is provided.
- 8.1.4 Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the Contractor to provide the Security Deposit in accordance with the provisions of Clause 8.1.1 and within the time specified therein or such extended period as may be provided by the Authority, in accordance with the provisions of Clause 8.1.3, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash EMD available with OFAJ and to terminate Contract Agreement with debarring the firm for participation in any future bid.

8.2 Performance Security Deposit

- 8.2.1 After completion of the work in all respect, Contractor shall guarantee the work by submit **“Performance Security Deposit”** within 30 (Thirty) days, for the performance guarantee of its obligations hereunder, an irrevocable and unconditional Bank Guarantee (the “Performance Security Deposit”), for an amount equal to **5% (Five per cent)**, of the Completion Cost of Work from a Nationalized bank or Scheduled Commercial Bank in the form set forth in **Annexure-VII**.
- 8.2.2 The validity of “Performance Security Deposit” shall be 2 Months more than the Defect Liability Period of 24 Months from the date mentioned in the Completion Report. Contractor on providing “Performance Security Deposit” the “Security Deposit” submitted initially at the time of Contract signing shall be deemed to be released and the Authority shall return the same to the Contractor within a period of 7 (seven) business days.
- 8.2.3 Upon occurrence of a Contractor Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate from the “Performance Security Deposit” the amounts due to it as Damages for the Contractor Default.

- 8.2.4 The Authority shall release the “Performance Security Deposit” within 60 (sixty) days of the expiry of the Defects Liability Period or Completion of extended Defects Liability Period, as the case may be, under this Agreement. Notwithstanding the aforesaid, the Parties agree that the Authority shall not be obliged to release the “Performance Security Deposit” until all Defects identified during the Defects Liability Period or the extended Defects Liability Period, as the case may be, have been rectified.

8.3 Retention Money

- 8.3.1 From every running payment/ RAR Bill for Works due to the Contractor in accordance with the provisions of Clause 18.4, the Authority shall deduct “**Retention Money**” @ **5% (Five per cent)** thereof as guarantee money for performance of the obligations of the Contractor during the Construction Period subject to the condition that the maximum amount of Retention Money shall not exceed 5% (five per cent) of the Contract Price.
- 8.3.2 Upon occurrence of a Contractor’s Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to appropriate the relevant amounts from the Retention Money as Damages for such Contractor’s Default.
- 8.3.3 Upon successful completion of project in all respect, the Retention Money deducted in RAR payment will be released in Final payment subject to clearance of all pending dues.

ARTICLE - 9

UTILITIES AND TREES

9.1 Shifting of obstructing utilities

- 9.1.1 The Contractor shall, cause shifting of any utility (including water pipes and telephone cables etc.) to an appropriate location or alignment, if such utility or obstruction adversely affects/ infringes the execution of Works in accordance with this Agreement.
- 9.1.2 For the existing utilities attached with Production activity, where the shifting thereof can take place only after certain works for enabling its shifting have been completed by the Contractor, the Authority shall complete procedure for demolition by preparing demolition statement before start of the Project.

9.2 New utilities

- 9.2.1 In the event the construction of any Works is affected by a new utility, the Contractor shall be entitled to a reasonable Time Extension and in respect of the part(s) of the Works affected by such delay.

9.3 Felling of trees

The Authority shall obtain the Applicable Permits for felling of trees to be identified by the Authority for this purpose if and only if such trees cause a Material Adverse Effect on the construction of the Project. The cost of such felling and of the compensatory plantation of trees, if any, shall be born by the contractor. The Parties hereto agree that the felled trees shall be deemed to be owned by the Authority and shall be disposed in such manner and subject to such conditions as the Authority may in its sole discretion deem appropriate.

ARTICLE - 10

DESIGN AND CONSTRUCTION OF THE PROJECT

10.1 Obligations prior to commencement of Works

10.1.1 Within 10 (Ten) days of the Appointed Date, the Contractor shall:

- (a) appoint its representative, duly authorised to deal with the Authority in respect of all matters under or arising out of or relating to this Agreement;
- (b) appoint a design director (the "Design Director") who will head the Contractor's design unit and shall be responsible for surveys, investigations, collection of data, and preparation of preliminary and detailed designs;
- (c) undertake and perform all such acts, deeds and things as may be necessary or required before commencement of Works under and in accordance with this Agreement, Applicable Laws and Applicable Permits; and
- (d) make its own arrangements for quarrying and procurement of materials needed for the Project under and in accordance with Applicable Laws and Applicable Permits.

10.1.2 The Authority Engineer shall discharge the functions and duties specified in this Agreement, and shall notify to the Contractor the name, address and the date of appointment of the Authority Engineer forthwith.

10.1.3 Within 30 (thirty) days of the Appointed Date, the Contractor shall submit to the Authority and the Authority Engineer a programme/CPM Charts & Bar Charts (the "Programme") for construction of Works, developed using networking techniques and giving the following details:

Part-I : Contractor's organisation for the Project, the project execution plan indicating arrangements for design and construction i.e. engagement of design consultants, project phasing and sub-contracting etc., environmental management plan, Quality Assurance Plan including design quality plan and safety plan covering safety of users and workers during construction, Contractor's key personnel, and equipment.

Part-II : Programme for completion of all stages of construction is given in Project Milestones of the Works as specified in Project Completion Schedule set forth in Schedule-C. The Programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of design and stages of Works;
- (b) the periods for reviews under Clause 10.2; and
- (c) the sequence and timing of inspections and tests specified in this Agreement.

The Contractor shall submit a revised programme whenever the previous programme is inconsistent with the actual progress or with the Contractor's obligations.

Part-III : Monthly cash flow forecast for the Project

Provided, however, that the Authority may, within a period of 15 (fifteen) days of receipt of the Programme, convey its comments to the Contractor stating the modifications, if any, required for

compliance with the provisions of this Agreement, and the Contractor shall carry out such modifications, to the extent required for conforming with the provisions of this Agreement.

10.1.4 The Contractor shall plan the project work by keeping Schedule-B and Schedule C into consideration in order to maximise the cash flow and progress. However the Authority Engineer may modify/break up any of the stage payment schedule (payment milestones) during execution if the same is considered essential to speed up the progress or if the contractor is not able to achieve a particular payment milestone due to the reasons/delays attributable to the Authority or due to the factors beyond the control of Contractor or to any unforeseen circumstances.

10.1.5 Procurement of items should be planned by the Contractor in consultation with the Authority Engineer. Procurement plan should be prepared in such a manner that those materials which have limited shelf life may be procured in a staggered manner so that materials are utilised/consumed well before its expiry. If the material/product does not remain of required specifications at the time of its actual use, the same will be replaced by the Contractor with materials conforming to Specifications at his own cost.

10.2 Design and Drawings

10.2.1 Along with design and drawings, contractor shall submit the complete Bill Of Quantities of material to be used for complete project. The bill of quantity shall be submitted unit wise as defined in scope of work. Contractor shall revise BOQ as per the amendment directed by Authority Engineer.

10.2.2 Design and Drawings shall be developed in conformity with the Specifications as per Design Basis Report and schedule D and GA drawings provided with this bid. In the event, the Contractor requires any relaxation in design standards due to unforeseen issues, the alternative design criteria for such section shall be provided for review/approval of the Authority Engineer.

10.2.3 The Contractor shall get a proof checking of Structural Design and Drawings from **IIT/NIT** only at its own cost. Authority shall get informed the details of College/Institute with details of concerned person engaged for proof checking work.

10.2.4 The Proof Consultant shall:

- (a) evolve a systems approach with the Authority Engineer so as to minimise the time required for approval of final designs and construction drawings; and
- (b) examine the designs expeditiously and wherever necessary raise observations/ seek clarifications etc. as deemed appropriate

10.2.5 In regard to Contractor's obligations with respect to the design and Drawings of the Project, the following shall apply:

- (a) The Contractor shall prepare and submit 3 (three) copies each of the design and necessary Drawings to Authority Engineers for review in accordance with the utility.
- (b) within 7 (seven) days of the receipt of the Drawings, the Authority Engineer shall review the same and convey its observations to the Contractor with particular reference to their conformity or otherwise with the Scope of the Project and the Specifications and Standards.
- (c) if the aforesaid observations of the Authority Engineer indicate that the Drawings are not in conformity with the Scope of the Project or the Specifications and Standards, such Drawings shall be revised by the Contractor in conformity with the provisions of this Agreement and resubmitted to the Authority Engineer for review. The Authority Engineer shall give its observations, if any, within 7 (seven) days of receipt of the revised Drawings. In the event the Contractor fails to revise and resubmit such Drawings to the Authority Engineer for review as aforesaid, the Authority Engineer may cause

the payment for the affected works to be withheld. If the Contractor disputes any decision, direction or determination of the Authority Engineer hereunder, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure;

- (d) Beyond the said period of 7 (seven) days, the Contractor shall not be obliged to await the observations of the Authority Engineer on the Drawings submitted pursuant hereto and may begin or continue Works at its own discretion and risk.
 - (e) no review and/or observation of the Authority Engineer and/or its failure to review and/or convey its observations on any Drawings shall relieve the Contractor of its obligations and liabilities under this Agreement in any manner nor shall the Authority Engineer or the Authority be liable for the same in any manner; and if errors, omissions, ambiguities, inconsistencies, inadequacies or other Defects are found in the Drawings, they shall, along with the affected Works, be corrected at the Contractor's cost.
 - (f) the Contractor shall be responsible for delays in submitting the Drawings, caused by reason of delays in surveys and field investigations, and shall not be entitled to seek any relief in respect thereof from the Authority; and
 - (g) the Contractor warrants that its designers, including any third parties engaged by it, shall have the required experience and capability in accordance with Good Industry Practice and it shall indemnify the Authority against any damage, expense, liability, loss or claim, which the Authority might incur, sustain or be subject to arising from any breach of the Contractor's design responsibility and/or warranty as set out in this Clause.
- 10.2.6 Works shall be executed in accordance with the Drawings provided by the Contractor in accordance with the provisions of this Clause 10.2 and the observations of the Authority Engineer thereon as communicated pursuant to the provisions of Clause
- 10.2.7 Such Drawings shall not be amended or altered without prior written notice to the Authority Engineer. If a Party becomes aware of an error or defect of a technical nature in the design or Drawings, that Party shall promptly give notice to the other Party of such error or defect.
- 10.2.8 Within 90 (ninety) days of the Project Completion Date, the Contractor shall furnish to the Authority and the Authority Engineer a complete set of as-built Drawings, in 3 (Three) hard copies and in its editable digital format or in such other medium or manner as may be acceptable to the Authority, including an as-built survey illustrating the layout of the Project buildings and structures forming part of Project Facilities, and shall hand them over to the Authority against receipt thereof.
- 10.2.9 The Contractor shall also appoint a safety consultant (the "Safety Consultant") after proposing to the Authority a panel of 3 (three) names of qualified and experienced consultants having minimum 10 years of experience in ensuring safety at work site from whom the Authority may choose 1 (one) to be the Safety Consultant. Provided, however, that if the panel is not acceptable to the Authority and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Authority a revised panel of 3 (three) names for obtaining the consent of the Authority. The Contractor shall also obtain the consent of the Authority for additional one key personnel of the Safety Consultant who shall have at least 5 years of experience in ensuring safety at work site. The Authority shall, within 15 (fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Safety Consultant. The Safety Consultant shall:
- (a) evolve a system approach for undertaking a safety audit of the Project during construction phase ; and
 - (b) proof check the detailed safety plan covering all aspects of including safety of Users, workers and equipment

10.3 Extension of time for completion

10.3.1 Without prejudice to any other provision of this Agreement for and in respect of extension of time, the Contractor shall be entitled to extension of time in the Project Completion Schedule (the “Time Extension”) to the extent that completion of any Project Milestone is or will be delayed by any of the following, namely:

- (a) delay in handing over of site with the provisions of this Agreement;
- (b) Change of Scope, unless an adjustment to the Scheduled Completion Date has been agreed;
- (c) occurrence of a Force Majeure Event;
- (d) any delay, impediment or prevention caused by or attributable to the Authority, the Authority’s personnel or the Authority’s other contractors on the Site; and
- (d) any other cause or delay which entitles the Contractor to Time Extension in accordance with the provisions of this Agreement.

10.3.2 The Contractor shall, no later than 30 (thirty) business days from the occurrence of an event or circumstance specified in Clause 10.3.1, inform the Authority Engineer by notice in writing, with a copy to the Authority, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of this Agreement.

10.3.3 In the event of the failure of the Contractor to issue to the Authority Engineer a notice in accordance with the provisions of Clause 10.3.2, within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right for any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice and the Authority shall be discharged from all liability in connection with the claim.

10.4 Incomplete Works

In the event the Contractor fails to complete the Works in accordance with the Project Completion Schedule, including any Time Extension granted under this Agreement, the Contractor shall endeavour to complete the balance work expeditiously and shall pay Damages to the Authority for delay of each day until the Works are completed in accordance with the provisions of this Agreement. Recovery of Damages under this Clause shall be without prejudice to the rights of the Authority under this Agreement including the right to termination.

ARTICLE - 11

SAFETY INSTRUCTIONS FOR WORKING AT HEIGHT

11.1 General:

Normally, work at height jobs are being initiated through factory personnel or through contractor. These jobs are carried out through work permits generated online through ORDANCE FACTORY AMBAJHARI COMNET. Working at height is a potential source of serious accident through fall.

11.2 Statutory Requirement:

As per The Factories Act, 1948, as amended, Section 32 (c) states that “when a person has to work at a height from where he is likely to fall, provision shall be made, so far as is reasonably practicable, by fencing or otherwise to ensure the safety of person so working.”

The following State Govt. Factories Rules, will be applicable.

Fragile Roofs, Provision of Crawling Boards etc. - In factory, no person shall be required to stand or pass over or work on or near any roof or ceiling covered with fragile material like A.C. sheets or similar material through which he is liable to fall, in case it breaks or gives way, a distance of more than three metres unless- suitable and sufficient ladders, duck ladders or crawling boards, which shall be securely supported, are provided and used; and a permit to work on the fragile roof is issued to him each time he is required to work thereon by a responsible person of the factory concerned.

Explanation - Fragile material means sheets made of asbestos cement or made from similar materials such as Perspex, polyester or other types of plastic fibres.

11.2.1 Following jobs are to be carried out through work permit (working at height more than 3m) only.

- (a) Replacement/repair of fragile roof.
- (b) Repair to exhaust fan/sky jet fans.
- (c) Repair/replacement of cranes and alignment of their gantries.
- (d) Painting of walls, roof trusses and chimneys etc.
- (e) Plastering of roof walls, roof, stairs etc.
- (f) Cleaning of valley gutters and roofs.
- (g) Cutting of trees and their branches fouling with electrical overhead cranes.
- (h) Repair/replacement of electrical fittings.

11.3 Procedure to be followed while carrying out the jobs at height:

- (a) Contractor should submit copies of work order along with Group insurance of workers, medical examination certificate of workers working at height by MBBS/MD doctor to S&EMS section before commencement of work.
- (b) The persons who are deployed for working at height should be medically examined by MBBS/MD doctor once in six months. Fitness should include freedom from a) epilepsy b) High BP c) Obesity d)

Vertigo along with general fitness and fairly good eye sight & hearing capability. Only medically fit persons having experience/trained for working at height should be deployed for the job.

- (c) Safety equipment (duly examined by contractor/site in charge) like full body harness with double life line protection, safety shoes, safety helmet, safety net, crawling ladder, fall arrestor should be made available for the people working at height, by the contractor. Safety section will verify their availability at the time of issue of work permit.
- (d) Safety talk should be delivered by the site in-charge/safety personnel and instruct them to use all safety equipment before undertaking any job at height.
- (e) The nominated Engineer In charge and site in charge has to ensure that all safety precautions have been adopted before commencement as well as during the execution of work.
- (f) The section in which the job is being executed should preferably nominate a responsible and trained JWM who will ensure that contractor/factory personnel are wearing safety equipment/ gadgets. Also ensure that all safe working practices are being followed. The work at height should be strictly supervised jointly by contractor, factory supervisor and section representative.
- (g) When the work at height is undertaken, the underneath area is to be barricaded and caution boards should be displayed, so that movement of personnel shall be restricted in that area.
- (h) Before start of the job, contractor supervisor/factory personnel should apprise the concerned section HOS where the work is being carried out, on daily basis. The site should be cleared and no personnel should be permitted to work below.
- (i) Contractor supervisor/factory personnel should ensure to take electrical shut down from EM section before start of the job.
- (j) When any job of welding/gas cutting is required while working at height contractor supervisor/factory personnel should intimate to Fire Brigade section for posting of fireman along with first aid, fire fighting equipment.
- (k) During thundering/lightning and rain, work at height should be immediately stopped.
- (l) While executing the job, contractor workers/factory personnel should keep one life line intact and use preferably two life lines to avoid any risk to life due to failure of one. Each life line should be strong enough to bear the shock load due to fall. Use of anchor plates to fix the life line should be done wherever necessary/feasible.
- (m) Job at height should be preferably carried out during day light hours only.

11.3.1 For carrying out any civil/painting/repair work of high rise building, contractor should provide scaffolding. The scaffolding should be sound, rigid and capable of carrying the maximum intended load without settling or displacement.

11.3.2 The poles, legs or uprights of scaffolds should be securely and rigidly braced to permanent structures to prevent swaying and displacement. The planks or working platform of scaffolding should be rigidly tied to the poles.

11.3.2 The ladder used for climbing on height should have a nylon rope for tying on the top and bottom with suitable self-locking hooks, karabiner screws, ring etc. The following maximum lengths of ladders are permitted :

For a single ladder	:	30ft
For a step ladder	:	18ft
For a trestle ladder	:	16ft
For lengths of fixed ladders between	:	20ft

11.4 Safety precautions to be followed during replacement/repair of Roof sheets and cleaning of valley gutters;

- 11.4.1 During climbing on roof using ladder or otherwise, precautions should be taken to use two self-locking hooks with lifelines and when climbing these hooks should be alternately attached and detached with the cross bars/foot bars.
- 11.4.2 A safety net of suitable strength be spread and fixed below the working area wherever considered necessary and feasible. Precautions should be taken to have minimum distance of fall and that likely sag of safety net will not cause collision.
- 11.4.3 Crawling/duck ladders should be placed over the AC sheets for movement of personnel on AC sheets.
- 11.4.4 The broken sheets and new sheets should be lowered or taken up in properly tied condition. To the extent possible bunches of sheets should be avoided while lowering or taking up.
- 11.4.5 Ensure that no loose items like broken sheets, tools etc are left over the roof after completion of the work.
- 11.4.6 If welding/ gas cutting is required to be done over the roof, Fire Brigade Section of ORDNANCE FACTORY AMBAJHARI should be intimated and all precautions should be taken for fire prevention. The machines and cable trenches below the work area should be suitably covered with non-flammable materials.
- 11.4.6 The LPG and oxygen cylinders used for gas cutting should be kept in shade or should be properly covered and after completion of the work valves of the cylinders should be closed
- 11.4.7 Ensure use of retractable fall arrestors wherever feasible.

11.5 Special Safety precaution to be undertaken while repair of exhaust fan/sky jet fans:

- 11.5.1 Contractor & section representative should ensure that electrical shutdown is taken from EM section. Main switch board/panel is locked/ work in progress sticker should be placed over the panel board.
- 11.5.2 While lowering the fan to ground floor, fan should be dismantled from motor and it should be lowered with nylon rope of sufficient strength.
- 11.5.3 Crawling/duck ladders should be placed over the AC sheets for movement of personnel on AC sheets.
- 11.5.4 If gas cutting is required for removing the sky jet/exhaust fans, Fire Brigade Section of ORDNANCE FACTORY AMBAJHARI should be intimated and all precautions should be taken for fire prevention.

11.6 Safety for Repair/replacement of cranes & alignment of gantries:

- 11.6.1 Electrical power to the crane should be disconnected before undertaking any repair.

- 11.6.2 After repair it should be ensured that all tools, oil, grease etc have been removed from the work place/site and also guards have been placed in place.
- 11.6.3 Ensure that all limit switches are working to avoid overrun of the cranes.
- 11.6.4 Stoppers should be provided at crane wheels to avoid undesirable movement of crane.
- 11.6.5 Parallelism of the gantry should be checked at specific periodicity.
- 11.6.6 During repair caution board should be displayed both at the electrical panel board of crane and work site.
- 11.6.7 After major repair crane should be subjected and checked for load test by competent person.

11.7 Safety Precaution during Painting of walls/ roof/ trusses and chimneys etc:

- 11.7.1 Ladder to be inspected before taken into use. It should be sound and strong, rungs are properly fixed. It should have non-slide base. Whenever ladder is used it should be tied at the top with firm support and personnel should hold at the bottom.
- 11.7.2 Horizontal distance from the wall to the foot of the ladder should be about quarter of the ladder length.
- 11.7.3 Do not put the ladder on uneven flooring or on loose objects. Wherever possible, fix it so that the top and bottom ends cannot move.
- 11.7.4 If rope ladder is used for painting it is to be inspected by site in charge and safety section should verify for the same. Ropes are to be strong to hold the load. It is to be tied to the firm support at the top.
- 11.7.5 Wherever electrical cables are present, electrical shutdown to be taken before carrying out the job.

11.8 Cutting of trees/trimming of tree branches:

- 11.8.1 Only experienced and trained personnel should be deployed for cutting of trees.
- 11.8.2 If the height of the tree is more than 20 feet crane should be used for safe lowering of cut logs.
- 11.8.3 Whole tree should be cut in a phased manner, first trimming of tree branches then cutting of main trunk of the trees into pieces. Main trunk of the tree shall be cut by saw and not with simple axe.
- 11.8.4 Proper derrick/support system to be provided so that cut branches/logs will not fall in haphazard manner, but in the desired direction.
- 11.8.5 The personnel should wear PPEs like safety helmet, safety belt, safety goggle and gumboot etc while cutting trees.
- 11.8.6 Care should be taken while passing by electrical conductors while trimming/cutting the trees. The electrical supply should be isolated.

11.9 Safety precaution while repair/replacement of electrical fittings

- 11.9.1 Electrical shut down to be taken before start of the job.
- 11.9.2 Ensure that metal ladders are not used around energized electrical circuits/equipments.
- 11.9.3 Area under the work place should be barricaded and caution board to be displayed.
- 11.9.4 Job should be carried out by experienced/trained personnel.
- 11.9.5 The persons should use electrical safety shoes and rubber hand gloves for electrical installations.
- 11.9.6 The electrical installations should be discharged of current after isolation of supply.
- 11.9.7 All the three phases should be disconnected in case of three phase supply should be short, to avoid any untoward incidence at the time of maintenance.
- 11.9.8 The person should be well conversant with the circuit of the lighting while working in live supply condition.
- 11.9.9 The tower wagon/aerated boom truck should be used wherever feasible.

11.10 DO'S AND DONT'S WHILE WORKING AT HEIGHT, (more than 3m height),

11.10.1 Do's

- (a) While going to work at height for more than 3 meters, wear safety helmet & anti skid shoes.
- (b) Use crawling boards or roof ladders while working on the roof of the building.
- (c) Safety belt should be worn by the individual. Lifelines should be tightened to a fixed structure.
- (d) Safety net should be placed below the place of work at height.
- (e) Safety items like safety belt, safety net, safety helmet and lifeline should be inspected periodically by the staff or site in charge.
- (f) Ladders should be tightened to a fixed structure and have antiskid shoes. For raising the height ladders should not be tied to each other.
- (g) Responsible staff preferably JWM/Chargeman should supervise continuously the work spot
- (h) Scaffolds should be of good construction, sound material and adequate strength.
- (i) Only trained and experienced workmen should be allowed to work at height.
- (j) Ladder should always be held by helper.
- (k) Ensure medical examination of workmen by MBBS/MD doctor once in six months especially for a) Epilepsy b) High BP c) Obesity d) Vertigo along with general fitness and fairly good eye sight.

11.10.2 Don't's

- (a) Do not work without work permit. Do not deviate / bypass the safety instructions enumerated therein.
- (b) Do not leave the tools on the roof top and other places where they are liable to fall and cause injuries.
- (c) Do not use loose clothing while working at work.
- (d) Do not smoke while working at height.

- (e) Do not forget the position of first aid box & fire fighting equipment in the work place.
- (f) Do not allow individuals having heart problems, giddiness, vertigo, epilepsy, high BP to work at height.
- (g) Work on the roof of the building shall not be carried out in rainy season, windy condition and hot summer.
- (h) Do not allow anyone to work in the shop floor area below the roof where repair work is in progress so that accidents can be avoided due to hit by fallen material from height.
- (i) Do not bend/stretch the body outside the ladder/platform.
- (j) Do not place the ladder where they can be struck by doors, vehicles.
- (k) Ladder should not have slope of more than 4 vertical and 1 horizontal.

11.11 Work Permit for working at height:

Before commencement of any work at height (more than 3m), the Safety Work permit permission **Part -I , II, III** to be generated online through OFAj Comnet by entering the details of working personal. After clearance of work permit from Safety Section, contractor shall start the work and the above safety work instructions should be strictly followed .

ARTICLE - 12

QUALITY ASSURANCE, MONITORING AND SUPERVISION

12.1 Quality of Materials and workmanship

- 12.1.1 The Contractor shall ensure that the Construction, Materials and workmanship are in accordance with the requirements specified in this Agreement, Specifications and Standards and Good Industry Practice.
- 12.1.2 The Contractor warrants that all Materials shall be new, unused, not reconditioned and in conformity with Specification and Standards, Applicable Laws and Good Industry Practice, and that the Contractor shall not use any materials which are generally recognised as being deleterious under Good Industry Practice.

12.2 Quality control system

- 12.2.1 The Contractor shall establish a Quality Control Mechanism, Quality Assurance Plan (the "Quality Assurance Plan" or "QAP"), Material Testing Plan (the "Material Testing Plan" or "MTP") and Method Statements for execution of works (the "Method Statements" or "MS") in consultation with Authority Engineer.
- 12.2.2 The Contractor shall, within 30 (thirty) days of the Appointed Date or handing over site, submit to the Authority Engineer its Quality Control Mechanism, QAP, MTP and MS which shall include the following:
- (a) organisation, duties and responsibilities, procedures, inspections and documentation;
 - (b) quality control mechanism including sampling and testing of Materials, tests required during the execution of works and frequencies by Contractor and Authority Engineer, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, check list for site activities, and Proforma for testing and calibration in accordance with the Specifications and Standards and Good Industry Practice; and
 - (c) internal quality audit system. The Contractor shall carry out internal audits of the Quality management System regularly, and at least once every 6 months. The Contractor shall submit to the Authority Engineer a report listing the results of each internal audit within 7 days of completion. Each report shall include, where appropriate, the proposed measures to improve and/or rectify the Quality Management System and/or its implementation.

The Authority Engineer shall convey its comments to the Contractor within a period of 21 (twenty-one) days of receipt of the QAP stating the modifications, if any, required, and the Contractor shall incorporate those in the QAP to the extent required for conforming with the provisions of this Clause 12.2.

- 12.2.3 The Contractor shall procure all documents, apparatus and instruments, fuel, consumables, water, electricity, labour, Materials, samples, and qualified personnel as are necessary for examining and testing the Project Assets, Materials and workmanship in accordance with the Quality Assurance Plan.
- 12.2.4 The cost of testing of Construction, Materials and workmanship under this Article 12 shall be borne by the Contractor.

12.3 Methodology

The Contractor shall, at least 15 (fifteen) days prior to the commencement of any construction activity, submit to the Authority Engineer for review the Method Statement proposed to be adopted for executing the Work, giving details of inspection checklist, quality parameters, equipment to be

deployed and measures for ensuring safety. The Authority Engineer shall complete the review and convey its comments, if any, to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed method statement from the Contractor. The Contractor shall revise the method statements by incorporating these comments or else will advise the Authority Engineer reasons for not/partially including the same.

12.4 Inspection and technical audit by the Authority

The Authority or any representative authorised by the Authority in this behalf may inspect and review the progress and quality of the construction of Works and issue appropriate directions to the Authority Engineer and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.

12.5 External technical audit

At any time during construction, the Authority may appoint an external technical auditor to conduct an audit of the quality of the Works. The findings of the audit, to the extent accepted by the Authority, shall be notified to the Contractor and the Authority Engineer for taking remedial action in accordance with this Agreement. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder.

The external technical audit shall not affect any obligations of the Contractor or the Authority Engineer under this Agreement.

12.6 Inspection of construction records

The Authority shall have the right to inspect the records of the Contractor relating to the Works.

12.7 Monthly progress reports

During the Construction Period, the Contractor shall, no later than 10 (ten) days after the close of each month, furnish to the Authority and the Authority Engineer a monthly report on the progress of Works and shall promptly give such other relevant information as may be required by the Authority Engineer along with all resources deployed and all problems faced during work.

12.8 Inspection

12.8.1 The Authority Engineer and its authorised representative shall at all times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained for use in the Works; and
- (b) during production, manufacture and construction at the Site and at the place of production, be entitled to examine, inspect, measure and test the Materials and workmanship, and to check the progress of manufacture of Materials.

12.8.2 The Contractor shall give the Authority Engineer and its authorised agents access, facilities and safety equipment for carrying out their obligations under this Agreement.

12.8.3 The Authority Engineer shall submit a monthly inspection report (the "Inspection Report") to the Authority and the Contractor bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. For the avoidance of doubt, such inspection or submission of Inspection Report by the Authority Engineer shall not relieve or absolve the Contractor of its obligations and liabilities under this Agreement in any manner whatsoever.

12.9 Samples

The Contractor shall submit the following samples of Materials and relevant information to the Authority Engineer for review:

- (a) manufacturer's test reports and standard samples of manufactured Materials; and
- (b) samples of such other Materials as the Authority Engineer may require.

12.10 Tests

- 12.10.1 For determining that the Works conform to the Specifications and Standards, the Authority Engineer shall require the Contractor to carry out or cause to be carried out tests, at such time and frequency and in such manner as specified in this Agreement, and in accordance with Good Industry Practice for quality assurance. The Contractor shall submit the schedule for performing such tests to the Authority Engineer well in advance and not less than 7 days prior to conducting such tests. The Contractor shall, with due diligence, carry out all the tests in accordance with the Agreement and furnish the results thereof to the Authority Engineer. Of the total tests for each category or type to be undertaken by the Contractor under the provisions of this Agreement and Good Industry Practice, the Authority Engineer or his authorised representative may witness or participate in such tests conducted or cause to be conducted by the Contractor. Documentation of test records to be maintained by Contractor and Authority Engineer or his authorised representative shall scrutinize 100% Testing records of all tests conducted as per existing guidelines of Indian Standard codes for building construction. A copy of such tests records shall be provided to the Authority Engineer.
- 12.10.2 In the event that results of any tests conducted under this Clause 12.10 establish any Defects or deficiencies in the Works, the Contractor shall carry out remedial measures and furnish a report to the Authority Engineer in this behalf. The Authority Engineer shall require the Contractor to carry out or cause to be carried out tests to determine that such remedial measures have brought the Works into compliance with the Specifications and Standards, and the procedure shall be repeated until such Works conform to the Specifications and Standards. For the avoidance of doubt, the cost of such tests and the remedial measures in pursuance thereof shall be solely borne by the Contractor.

12.11 Examination of work before covering up

In respect of the work which the Authority Engineer is entitled to examine, inspect, measure or test before it is covered up or put out of view or any part of the work is placed thereon, the Contractor shall give notice to the Authority Engineer whenever any such work is ready and before it is covered up. The Authority Engineer shall then either carry out the examination, inspection or testing without unreasonable delay, or promptly give notice to the Contractor that the Authority Engineer does not require to do so. Provided, however, that if any work is of a continuous nature where it is not possible or prudent to keep it uncovered or incomplete, the Contractor shall notify the schedule of carrying out such work to give sufficient opportunity, not being less than 3 (three) business days' notice, to the Authority Engineer to conduct its inspection, measurement or test while the work is continuing. Provided further that in the event the Contractor receives no response from the Authority Engineer within a period of 3 (three) business days from the date on which the Contractor's notice hereunder is delivered to the Authority Engineer, the Contractor shall be entitled to assume that the Authority Engineer would not undertake the said inspection.

12.12 Rejection

- 12.12.1 If, as a result of an examination, inspection, measurement or testing, any Material, design or workmanship is found to be defective or otherwise not in accordance with the provisions of this Agreement, the Authority Engineer may reject such Material, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the Defect and ensure that the rejected item complies with the requirements of this Agreement.

- 12.12.2 If the Authority Engineer requires the Material, design or workmanship to be retested, the tests shall be repeated on the same terms and conditions, as applicable in each case. If the rejection and retesting cause the Authority to incur any additional costs, such costs shall be recoverable by the Authority from the Contractor and may be deducted by the Authority from any due to be paid to the Contractor.
- 12.12.3 The Contractor shall not be entitled to any extension of time on account of rectifying any Defect or retesting as specified in this Clause 12.12.

12.13 Remedial work

- 12.13.1 Notwithstanding any previous test or certification, the Authority Engineer may instruct the Contractor to:
- (a) remove from the Site and replace any Plant or Materials which are not in accordance with the provisions of this Agreement;
 - (b) remove and re-execute any work which is not in accordance with the provisions of this Agreement and the Specification and Standards; and
 - (c) execute any work which is urgently required for the safety of the Project, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work which is required on account of a Force Majeure Event.
- 12.13.2 If the Contractor fails to comply with the instructions issued by the Authority Engineer under Clause 12.13.1, within the time specified in the Authority Engineer's notice or as mutually agreed, the Authority Engineer may advise the Authority to have the work executed by another agency. The cost so incurred by the Authority for undertaking such work shall, without prejudice to the rights of the Authority to recover Damages in accordance with the provisions of this Agreement, be recoverable from the Contractor and may be deducted by the Authority from any monies due to be paid to the Contractor.

12.14 Delays during construction

Without prejudice to the provisions of Clause 12.13.2, in the event the Contractor does not achieve any of the Project Milestones within the time period stipulated **in Schedule - C (Milestone Chart)** or the Authority Engineer shall have reasonably determined that the rate of progress of Works is such that Completion of the Project is not likely to be achieved by the end of the Scheduled Completion Date, it may notify the same to the Contractor, and the Contractor shall, within 15 (fifteen) days of such notice, by a communication inform the Authority Engineer in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.

12.15 Quality control records and Documents

The Contractor shall hand over to the Authority Engineer a copy of all its quality control records and documents before the Completion Certificate is issued.

12.16 Suspension of unsafe Construction Works

- 11.16.1 Upon recommendation of the Authority Engineer to this effect, or on its own volition in cases of emergency or urgency, the Authority may by notice require the Contractor to suspend forthwith the whole or any part of the Works if, in the reasonable opinion of the Authority Engineer or the Authority,

as the case may be, such work threatens the safety of the Users and or other persons on or about the Project.

- 12.16.2 The Contractor shall, pursuant to the notice under Clause 12.16.1, suspend the Works or any part thereof for such time and in such manner as may be specified by the Authority and thereupon carry out remedial measures to secure the safety of suspended works. The Contractor may by notice require the Authority Engineer to inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked. Upon receiving the recommendations of the Authority Engineer, the Authority shall either revoke such suspension or instruct the Contractor to carry out such other and further remedial measures as may be necessary in the reasonable opinion of the Authority, and the procedure set forth in this Clause 12.16 shall be repeated until the suspension hereunder is revoked.
- 12.16.3 All reasonable costs incurred for maintaining and protecting the Works or part thereof during the period of suspension (the "Preservation Costs"), shall be borne by the Contractor; provided that if the suspension has occurred as a result of any breach of this Agreement by the Authority, the Preservation Costs shall be borne by the Authority.
- 12.16.4 If suspension of Works is for reasons not attributable to the Contractor, the Authority Engineer shall determine any Time Extension to which the Contractor is reasonably entitled.

ARTICLE - 13

COMPLETION OF WORK

13.1 Start & Completion date.

- 13.1.1 The date of start of the work will be reckoned from the Appointed Date. Appointed Date shall be as per the Definitions in article 28.
- 13.1.2 The work shall be completed in all respect within a period of 21 (Twenty One) months decided upon from the date specified as per Clause 13.1.1 above.

13.2 Completion report submission

After successful completion of work and final inspection by Authority, contractor will submit the completion report with drawings and other related documents as under;

- a. Inventory of internal electrical fittings of buildings.
- b. Inventory of internal water supply/ sanitary fittings of buildings.
- c. Inventory of other B/R fittings such as Iron/ Sanitary fittings of buildings.
- d. Inventory of wall fixtures, etc. of buildings.
- e. Completed drawings and register of newly constructed building/ buildings.
- f. Diagrams of internal electrification and its distribution.
- g. Diagrams of internal water supply and sewage disposal.
- h. Completed water supply plan pertaining to the works showing the position of the pipe lines, control valves, location of the pump house, capacity of the reservoir etc. Rising mains and delivery mains should be clearly shown in the same drawing.
- i. Completed Electrical distribution plan – showing the size and number of conductors and feeders and distribution of connected loads to the various buildings. The route of overhead/ underground mains is to be clearly shown in the same drawing.
- j. Completed layout of sewage disposal showing positions of Septic Tanks, distribution of pipe lines (various sizes) and manholes etc.
- k. Completed layout of fencing, if any.
- l. Road chart relating to the road works.
- m. A drawing showing the location of earth pits of the power supply system, Sub – Stations (S/S) and power earth, L.P. system Static earthing system (if any) with their inter connection.
- n. A set of schematic diagrams of external electrification system including the different S/S arrangements showing location of the switch gears and equipment, feeders cables etc. and their sizes.
- o. PSMB/RPMB duly audited by the U.A. of concerned Engineering authority.

13.3 Stability Certificate

Contractor will hand over Stability certificate in respect of buildings/ structures.

13.4 Test results of building

Contractor will submit the following test results/ certificates at the time of handing over the building/ installations:

- a. Insulation resistance (IR) Test results of each bldg. taken in accordance with the Indian standards (IS) code of practice and relevant I.S. / Indian Electricity (I.E.) Rules.
- b. Earth test results of each earth electrode (Power, Lighting Protection (L.P), Static earthing system) of the building overhead lines taken independently without inter linking connection in accordance with IE rules.
- c. 'Manufacturers' test certificates of all power supply machineries, cables etc. and results of any tests carried out by the constructing agency before final commissioning.
- d. Test results of relays after calibration before commissioning.
- e. A certificate from the executing agency that all electrical works have been done in accordance with the IE Rules, Relevant IS Code of Practice and regulations of Storage and Transportation of Explosive Committee (STEC) Centre for Environment & Explosive Safety (CEES) is to be obtained.
- f. All the material test result carried out during execution of work, cube test result and other test results.
- g. Manufacturer's test certificate for reinforcement Bars and structural members.

13.5 The Defects Liability Period.

Defect Liability Period for the Project is **24 Months** which shall commence from the date of handing over of complete project with all related drawings and documents as mentioned above.

ARTICLE - 14

CHANGE OF SCOPE

14.1 Change of Scope

14.1.1 The Authority may, notwithstanding anything to the contrary contained in this Agreement, require the Contractor to make modifications or alterations to the Works ("Change of Scope") before the issue of the Completion Certificate either by giving an instruction or by requesting the Contractor to submit a proposal for Change of Scope involving additional cost or reduction in cost. Any such Change of Scope shall be made and valued in accordance with the provisions of this Article.

14.1.2 Change of Scope shall mean:

- (a) change in specifications of any item of Works;
- (c) omission of any work from the Scope of the Project which is not essential for completion of project, the Authority shall not omit any work under this Clause in order to get it executed by any other entity.
- (d) for deletion of any scope during execution of Project the proportionate percentage cost indicated in cost breakup shall be reduced from disbursement of RAR/FINAL Bill.
- (e) any additional work, Materials or services which are not included in the Scope of the Project, but now it is essential for completion of project shall be taken up within 10% applicable deviation limits over contract amount of this Project.
- (d) The costing of additional work will be based on MES SSR-2020 items. Rate will be arrived by multiplying the MES SSR 2020 rates with applicable MV with the factor R, where $R = \text{quoted rate/estimated cost}$. For items which are not available in MES SSR 2020, rate shall be decided by Board of Officers nominated by the authority considering the good industry practice or as per CPWD guidelines.
- (e) Time period for completion of additional work shall be mutually decided in between Authority and Contractor before start of the work. Time granted for execution of additional work has no relation with the original completion time given for the Project.

14.2 Procedure for Change of Scope

14.2.1 In the event of the Authority determining that a Change of Scope is necessary, it may direct the Authority Engineer to issue to the Contractor a notice specifying in reasonable detail the works and services contemplated thereunder (the "Change of Scope Notice").

14.2.2 Upon receipt of a Change of Scope Notice from Authority Engineer, the Contractor shall, with due diligence, provide to the Authority Engineer such information as is necessary, together with preliminary documentation in support of:

- (a) the impact of the Change of Scope on the Project Completion Schedule, if the works or services are required to be carried out during the Construction Period; and
- (b) the options for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time thereof; including the following details:
- (c) breakup of the quantities, unit rates and cost for different items of work;
- (d) proposed design for the Change of Scope; and

- (e) proposed modifications, if any, to the Project Completion Schedule of this Project.

For the avoidance of doubt, the Parties expressly agree that, the Contract Price shall be increased or decreased within 10% (Ten Per cent) deviation limit, as the case may be, on account of Change of Scope.

14.2.3 The costing for the Change of Scope shall be determined on the following principles:

- (A) The estimate for the Project is based on the MES SSR-2020 rates with applicable market variation at that time. The percentage above/below the accepted contract price with reference to estimated price shall be considered for deciding the costing for Change of Scope.
- (f) The estimate for change of scope order shall be prepared on the basis of MES SSR-2020 for building works. Rate will be arrived by multiplying the MES SSR 2020 rates with applicable MV with the factor R, where $R = \text{quoted rate} / \text{estimated cost}$. Same shall be communicated to contractor or mutually agreed between Authority and Contractor.
- (B) In case of any item which is not available in MES SSR-2020 then such rates shall be determined by the Authority Engineer as per prevailing market rates in accordance with Good Industry Practice or as per CPWD guidelines.

14.2.4 Upon reaching an agreement, the Authority shall issue an order (the "Change of Scope Order") requiring the Contractor to proceed with the performance thereof. In the event that the Parties are unable to agree, the Authority may:

- (a) issue a Change of Scope Order requiring the Contractor to proceed with the performance thereof at the rates and conditions approved by the Authority till the matter is resolved in accordance with article 25; or
- (b) proceed in accordance with Clause 14.5.

14.3 Payment for Change of Scope

After completion of the work, the Bill shall be raised separately for payment against additional work to be adjusted within 10% applicable deviation limits over contract amount of this Project.

14.4 Restrictions on Change of Scope

14.4.1 No Change of Scope shall be executed unless the Authority has issued the Change of Scope Order and except any Works necessary for meeting any Emergency.

14.4.2 Unless the Parties mutually agree to the contrary, the total value of all Change of Scope Orders shall not exceed 10% (Ten per cent) of the Contract Price.

14.4.3 Notwithstanding anything to the contrary in this Article 14, no change arising from any default of the Contractor in the performance of its obligations under this Agreement shall be deemed to be Change of Scope, and shall not result in any adjustment of the Contract Price or the Project Completion Schedule.

14.5 Power of the Authority to undertake works

- 14.5.1 In the event the Parties are unable to agree to the proposed Change of Scope Orders in accordance with Clause 14.2, the Authority may, after giving notice to the Contractor and considering its reply thereto, award such works or services to any person on the basis of open competitive bidding from amongst bidders who are prequalified for undertaking the additional work; provided that the Contractor shall have the option of matching the first ranked bid in terms of the selection criteria, subject to payment of 2% (two per cent) of the bid amount to the Authority, and thereupon securing the award of such works or services. For the avoidance of doubt, it is agreed that the Contractor shall be entitled to exercise such option only if it has participated in the bidding process and its bid does not exceed the first ranked bid by more than 10% (ten percent) thereof. It is also agreed that the Contractor shall provide assistance and cooperation to the person who undertakes the works or services hereunder, but shall not be responsible for rectification of any Defects and/or maintenance of works carried out by other agencies.
- 14.5.2 The works undertaken in accordance with this Clause 14.5 shall conform to the Specifications and Standards and shall be carried out in a manner that it should not cause any disruption to the Project and also minimise adverse effect to main contractor. The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply mutatis mutandis to the works carried out under this Clause 14.5.

ARTICLE - 15

DEFECTS LIABILITY

15.1 Defects Liability Period

- 15.1.1 The Contractor shall be responsible for all the Defects and deficiencies, except usual wear and tear in the Project or any part thereof, till the expiry of a period of 24 (Twenty Four) Months from the date of Actual Completion of Project or Issue of Completion Certificate by Authority, whichever is later.
- 15.1.2 To cover defect liability period, an irrevocable and unconditional Bank Guarantee as **“Performance Security Deposit” (PSD)**, for an amount equal to **5% (Five per cent)**, of the work completion cost from a Nationalized bank or Scheduled Commercial Bank in the form set forth in **Annexure-VII**. Only after submission of the “Performance Security Deposit” by contractor, the “Security Deposit” submitted will be released within 7 Days after verification of documents.
- 15.1.3 Without prejudice to the provisions of Clause 15.1.1, the Defects Liability Period for and in respect of any Structure, or Electrical installation covered in the Project shall be deemed to be extended by a further period of 2 (Two) year after the expiry of the Defects Liability Period specified in Clause 15.6.

15.2 Remedy and rectification of Defects and deficiencies

- 15.2.1 Without prejudice to the provisions of Clause 15.2.2, the Contractor shall repair or rectify all Defects and deficiencies observed by the Authority Engineer during the Defects Liability Period within a period of 15 (fifteen) days from the date of notice issued by the Authority Engineer, or within such reasonable period as may be determined by the Authority Engineer at the request of the Contractor, in accordance with Good Industry Practice. If the Contractor is not able to rectify any fault as decided by the Authority Engineer, the Authority will be at full liberty to make its own efforts to get such defects rectified at Contractor's cost.
- 15.2.2 During a period of 2 (two) months from the date of issuance of Completion Certificate, the Contractor shall retain sufficient staff and materials at Project for prompt rectifications of defect arisen.

15.3 Cost of remedying Defects

For the avoidance of doubt, any repair or rectification undertaken in accordance with the provisions of Clause 15.2, including any additional tests, 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) Works, Plant, Materials or workmanship not being in accordance with this Agreement and the Specifications and Standards;
- (c) improper maintenance during construction of the Project by the Contractor; or
- (d) the design of the Project;
- (e) Works, Plant, Materials or workmanship not being in accordance with this Agreement and the Specifications and Standards;
- (f) improper maintenance during construction of the Project by the Contractor; or

- (d) failure by the Contractor to comply with any other obligation under this Agreement.

15.4 Contractor's failure to rectify Defects

In the event that the Contractor fails to repair or rectify such Defect or deficiency within the period specified in Clause 15.2, the Authority shall be entitled to get the same repaired, rectified or remedied at the Contractor's cost so as to make the Project conform to the Specifications and Standards and the provisions of this Agreement. All costs consequent thereon shall be determined by the Authority Engineer. The cost so determined shall be recoverable by the Authority from the contractor or deduction of Performance guarantee available with Authority.

15.5 Contractor to search cause

- 15.5.1 The Authority Engineer may instruct the Contractor to examine the cause of any Defect in the Works or part thereof before the expiry of the Defects Liability Period.
- 15.5.2 In the event any Defect identified under Clause 15.5.1 is attributable to the Contractor, the Contractor shall rectify such Defect within the period specified by the Authority Engineer, and shall bear the cost of the examination and rectification of such Defect.
- 15.5.3 In the event such Defect is not attributable to the Contractor, the Authority Engineer shall, after due consultation with the Authority and the Contractor, determine the costs incurred by the Contractor on such examination and notify the same to the Contractor, with a copy to the Authority, and the Contractor shall be entitled to payment of such costs by the Authority.

15.6. Extension of Defects Liability Period

- 15.6.1 The Defects Liability Period shall be deemed to be extended till the identified Defects under Clause 15.2 have been remedied.
- 15.6.2 Any Materials or Works with Defects identified under Clause 15.2 and replaced or repaired during the Defects Liability Period or the extended Defects Liability Period, as the case may be, would be further warranted for a period of twelve (12) months from the date of completion of such repair or replacement.
- 15.6.3 The Contractor shall upon termination or expiry of this Agreement or upon expiry of the Defects Liability Period, assign any outstanding benefit in respect of any subcontract or any warranty, to the Authority or to such other person as the Authority may direct.

ARTICLE - 16

AUTHORITY ENGINEER

16.1 Appointment of the Authority Engineer

- 16.1.1 The Authority shall appoint an OFAj Engineer under this Agreement (the "Authority Engineer"). Authority Engineer or Engineer-in Charge shall be considered same.
- 16.1.2 The appointment of the Authority Engineer shall be made at the signing of this Agreement. The Authority shall notify the appointment or replacement of the Authority Engineer to the Contractor.

16.2 Duties and functions of the Authority Engineer

- 16.2.1 The Authority Engineer shall perform its duties and discharge its functions in accordance with the provisions of this Agreement, and substantially in accordance with the duties and responsibilities, but subject to obtaining prior written approval of the Authority before determining:
- (a) any Time Extension;
 - (b) any additional cost to be paid by the Authority to the Contractor;
 - (c) the Termination Payment;
- 16.2.2 The Authority Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions assigned to him for the project. Such reports shall be submitted by the Authority Engineer within 10 (ten) days of the beginning of every month.

16.3 Instructions of the Authority Engineer

- 16.3.1 The Authority Engineer may issue to the Contractor instructions for remedying any Defect. The Contractor shall take such instructions from the Authority Engineer only.
- 16.3.2 The instructions issued by the Authority Engineer shall be in writing. However, if the Authority Engineer issues any oral instructions to the Contractor, it shall confirm in writing the oral instructions within 2 (two) working days of issuing them.

ARTICLE - 17

ENVIRONMENTAL MANAGEMENT SYSTEM

17.1 OFAJ Environmental Management Systems:

Ordnance Factory Ambajhari is ISO 14001: 2004 (Environmental Management System) and IS 18001: 2007 (Occupational Health and Safety Management System) certified factory. The firms should comply with the provisions of applicable environmental, health and safety laws while execution of the work.

17.2 Disposal of Solid Waste

- 17.2.1 No person of the firm shall throw any hazardous chemical/substance or any resultant waste product from his job on open land in ORDNANCE FACTORY AMBAJHARI.
- 17.2.2 All the waste products/debris generated during or after execution of work should be accumulated, segregated, stored and disposed as per Ordnance Factory Ambajhari established procedure.
- 17.2.3 Material Safety Data Sheet of hazardous chemicals/substances to be used by the firm should be submitted to concerned ORDNANCE FACTORY AMBAJHARI personnel and same should be displayed at the work place.

17.3 Air Pollution Prevention:

All precautions should be taken to prevent generation of dust and fumes and emission to atmosphere to prevent air pollution.

17.4 High Noise Area display:

In case of high noise during execution of work "HIGH NOISE AREA" caution board should be prominently displayed near the work place and workers should use required ear muff/ear plug.

- 17.4.1 Any abnormal high noise exceeding the permissible limits as per The Factories Act, 1948 (as amended) is not permitted. Use of polythene bags in ORDNANCE FACTORY AMBAJHARI is prohibited.

17.5 Firm personnel should ensure optimum use of natural resources:

Any natural resources like water and power should not be wasted and checks shall be applied wherever necessary.

Part- IV

Financial Covenants

ARTICLE - 17

PAYMENTS

18.1 Contract Price

- 18.1.1 The Authority shall make payments to the Contractor for the Works on the basis of the lump sum price accepted by the Authority in consideration of the obligations specified in this Agreement for an amount of Rs. ***** (Rs. *****) (the "Contract Price"), which shall be subject to adjustments in accordance with the provisions of this Agreement. The Parties further agree that save and except as provided in this Agreement, the Contract Price shall be valid and effective until issue of Completion Certificate.
- 18.1.2 The Contract Price includes all duties, taxes, royalty, and fees that may be levied in accordance with the laws and regulations in force as on the Base Date on the Contractor's equipment, Plant, Materials and supplies acquired for the purpose of this Agreement and on the on the Works undertaken under this Agreement. Nothing in this Agreement shall relieve the Contractor from its responsibility to pay any tax including any tax that may be levied in India on profits made by it in respect of this Agreement.
- 18.1.3 The Contract Price shall not be adjusted for any change in duties, taxes etc. specified in Clause 18.1.2 above, save and except as specified in Clauses 18.9.
- 18.1.4 The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs, unless otherwise provided for in this Agreement.
- 18.1.5 Unless otherwise specified in this Agreement, the Contract Price covers all the Contractor's obligations for the Works under this Agreement and all things necessary for the Construction thereof and for the rectification of any Defects in the Project.
- 18.1.6 All payments under this Agreement shall be made in Indian Rupees.

18.2 Advance Payment as Mobilisation Advance

- 18.2.1 Upon receiving request from Contractor, the Authority shall make an advance payment (the "Advance Payment") as mobilisation advance, up to 10% (Ten percent) of the Contract Price, for mobilisation expenses and for acquisition of equipment, which shall carry simple interest at the rate of Bank Rate plus 4% per annum and shall be made in two instalments of up to maximum 5% (five per cent) of the contract price each on the provision by the contractor of an unconditional BG.
- 18.2.2 The Contractor may apply to the Authority for the first instalment of the Advance Payment at any time after the commencement of work, along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred and ten per cent) of such instalment, to remain effective till the complete and full repayment thereof.
- 18.2.3 The second instalment of Advance payment may be paid on certification by the Authority engineer after having achieved a financial progress of 10 (Ten) per cent of the contract price, the Contractor may apply to the Authority for the second instalment of the Advance Payment along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred and ten per cent) of such instalment, to remain effective till the complete and full repayment thereof along with proof of utilization of 1st instalment.

18.2.4 The instalments of Advance Payment shall generally be paid by the Authority to the Contractor within 15 (Fifteen) days of the receipt of its respective requests in accordance with the provisions of this Clause 18.2.

18.2.5 The Advance Payment shall be recovered through proportionate deductions to be made from interim payment (from RAR Bill) in accordance with the provisions of Clause 18.5.2. Deductions of Advance Payment shall commence from the Interim Payment Certificate in which the cumulative interim payments certified shall have reached 50% (fifty percent) of the Contract Price. The total amount recovered in each Interim Payment Certificate shall be equal to 30% (thirty per cent) of the amount of interim payment due and payable under such Interim Payment Certificate, and interest on the amount being recovered to be calculated from the date of disbursement of the Advance Payment to the date of recovery until the entire Advance Payment together with interest is recovered. For the avoidance of doubt, the Parties agree that in the event the total payment specified in any Interim Payment Certificate exceeds the limit of 50% (fifty per cent) of the Contract Price, the proportionate of recovery hereunder shall be restricted to the amount exceeding 50% (fifty per cent) of the Contract Price. By way of illustration, the Parties agree that if the first recovery of say, Rupees 'x' is made after 10 (Ten) months from the date of 1st (first) instalment of the Advance Payment, the interest will be recovered on Rupees 'x' for a period of 10 (Ten) months; and when the next recovery is made in the following month for say, Rupees 'y', interest on Rupees 'y' will be computed for a period of 11 (Eleven) months. The Parties further agree that no payments in excess of 90% (ninety per cent) of the Contract Price shall be released until the Advance Payment, including interest thereon, has been fully recovered.

18.2.6 If the Advance Payment has not been fully repaid prior to Termination under contract Termination Clause, as the case may be, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Authority. In the event of Termination due to Contractor's Default, the Advance Payment shall be deemed to carry interest at an annual rate of 4% (four per cent) above the Bank Rate from the date of Advance Payment to the date of recovery by encashment of bank guarantee for the Advance Payment. For the avoidance of doubt, the aforesaid interest shall be payable on each instalment of the Advance Payment, regardless of whether the instalment or any part thereof has been repaid to the Authority prior to Termination.

18.3 Procedure for estimating the interim (RAR) payment for the Works

18.3.1 The Authority shall make interim payments (RAR Bill Payment) to the Contractor, as certified by the Authority Engineer on completion of a Stage, and valued in accordance with the proportion of the Contract Price assigned to each item and its stage as indicated in **Schedule-B** (on the basis of percentage cost breakup shown for each activity). The interval of demanding RAR payment shall not be less than 30 Days from submission of previous payment.

18.3.2 The Contractor shall base its claim for RAR interim payment for the stages completed till the end of the month for which the payment is claimed, valued in accordance with Clause 18.3.1, supported with necessary particulars and documents in accordance with this Agreement.

18.3.3 Any reduction in the Contract Price arising out of Change of Scope or the Works withdrawn, as the case may be, shall not affect the amounts payable for the items or stage payments thereof which are not affected by such Change of Scope or withdrawal. For the avoidance of doubt and by way of illustration, the Parties agree that if the amount assigned from Rs.55 crore to Rs. 50 crore owing to Change of Scope or withdrawal of any unit Work, as the case may be, the reduction in payment shall be restricted

to the relevant payments and the payment due in respect of all other stage payments shall not be affected in any manner. The Parties further agree that the adjustments arising out of the aforesaid modifications shall be carried out in a manner that the impact of such modifications is restricted to the said Change of Scope or withdrawal, as the case may be, and does not alter the payments due for and in respect of items or stage payments which do not form part of such Change of Scope or withdrawal.

18.4 Stage Payment Statement for Works

The Contractor shall submit a statement (the "Stage Payment Statement"), in 3 copies, by the 7th (seventh) day of a month to the Authority Engineer, showing the amount calculated in accordance with Clause 18.3 to which the Contractor considers itself entitled for the completed stage(s) of Works. The Stage Payment Statement shall be accompanied with the progress reports and any other supporting documents. The Contractor shall not submit any claim for payment of incomplete stages of work.

18.5 Stage Payment for Works

- 18.5.1 Within 15 (Fifteen) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 18.4, the Authority Engineer shall record RAR Bill and recommend the release of payment amount due to the Contractor. The Authority shall make electronic payment directly to the Contractor's bank account through OFAj Accounts department.
- 18.5.2 After the receipt of the Stage Payment Statement referred to in Clause 18.4, the Authority Engineer shall determine and shall deliver RAR Bill to the Authority certifying the amount due and payable to the Contractor, after adjusting the payments already released to the Contractor against the said statement. For the avoidance of doubt, the Parties agree that the Interim Payment challan shall specify all the amounts that have been deducted from the Stage Payment Statement and the reasons therefor.
- 18.5.3 In cases where there is a difference of opinion as to the value of any stage, the opinion of the Authority Engineer shall prevail and interim payments shall be made to the Contractor on this basis; provided that the foregoing shall be without prejudice to the Contractor's right to raise a Dispute.
- 18.5.4 The Authority Engineer may, for reasons to be recorded, withhold from payment:
- (a) the estimated value of work or obligation that the Contractor has failed to perform in accordance with this Agreement and in respect of which the Authority Engineer had notified the Contractor; and
 - (b) the estimated cost of rectification of any Works which have not been constructed in accordance with this Agreement.
- 18.5.5 Payment by the Authority shall not be deemed to indicate the Authority acceptance, approval, consent or satisfaction with the work done.
- 18.5.6 In the event the amounts released by the Authority under Clause 18.5.1 exceed the amount finally determined by the Authority Engineer pursuant to Clauses 18.5.2 and 18.5.4 the difference thereof shall be accounted for in the next RAR Bill.

18.5.7 No Running Account Bill/Final Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC whatever applicable is submitted by the contractor to the Engineer-in-Charge. The following documents shall also be part of the bill submitted by the contractor (these documents shall be owned by the contractor) before making payment:

1. Details of person employed with date of their employment up to previous month.
2. Undertaking of deposition of EPF and ESI deductions up to previous month.
3. Any penalty imposed on the agency for delay in disbursing payment and deposition of EPF and ESI deductions in the employee's accounts up to previous month.
4. Any other document(s) required as per statutory requirements and/or as directed by Engineer-in-Charge.
5. In case, any of the documents submitted by the contractor is found false/forged at a later date, action for debarment of contractor will be taken by the Engineer-in-charge/Competent Authority of OFAJ.

18.6 Price Variation for Works

18.6.1 The Price Variation clause due to increase or decrease of material/ labour basic **prices is NOT applicable** for this contract. All dues against this Project shall be in accordance with the "Contract price" as per provisions of this Agreement.

18.7 Final Payment Statement

18.7.1 Within 60 (sixty) days of receiving the Completion Certificate, the Contractor shall submit to the Authority Engineer three copies of a final payment statement (the "FINAL Payment Statement"), with supporting documents, in the form prescribed by the Authority Engineer:

- (a) the summary of Contractor's Stage Payment Statements for Works as submitted in accordance with Clause 18.4;
- (b) the amounts received from the Authority against each claim; and
- (c) any further sums which the Contractor considers due to it from the Authority.

18.8 Discharge

Upon submission of the Final Payment Statement under Clause 18.7, the Contractor shall give to the Authority, with a copy to the Authority Engineer, a written discharge confirming that the total of the Final Payment Statement represents full and final settlement of all monies due to the Contractor in respect of this Agreement for all the Works arising out of this Agreement, except for any monies due to either Party on account of any Defect.

18.9 Change in law

18.9.1 If as a result of Change in Law, the Contractor suffers any additional costs in the execution of the Works or in relation to the performance of its other obligations under this Agreement, the Contractor shall, within 15 (fifteen) days from the date it becomes reasonably aware of such addition in costs, notify the Authority with a copy to the Authority Engineer of such additional costs due to Change in Law.

18.9.2 If as a result of Change in Law, the Contractor benefits from any reduction in costs for the execution of this Agreement or in accordance with the provisions of this Agreement, either Party shall, within 15 (fifteen) days from the date it becomes reasonably aware of such reduction in costs, notify the other Party with a copy to the Authority Engineer of such reduction in costs due to Change in Law.

18.9.3 The Authority Engineer shall, within 15 (fifteen) days from the date of receipt of notice from the Contractor or the Authority, as the case may be, determine any addition or reduction to the Contract Price, as the case may be, due to the Change in Law.

ARTICLE - 19

INSURANCE

19.1 Insurance for Works

19.1.1 The Contractor shall effect and maintain at its own cost the insurances as per the requirements of Applicable Laws.

19.1.2 Subject to the provisions of Clause 19.6, the Contractor shall, in accordance with the provisions of this Agreement, be liable to bear the cost of any loss or damage that does not fall within the scope of this Article 19 or cannot be recovered from the insurers.

19.1.3 Subject to the exceptions specified in Clause 19.1.4 below, the Contractor shall fully indemnify, hold harmless and defend the Authority from and against any and all losses, damages, costs, charges and/or claims with respect to:

(a) the death of or injury to any person; or

(b) the loss of or damage to any property;

that may arise out of or in consequence of any breach by the Contractor of this Agreement during the execution of the Works or the remedying of any Defects therein.

19.1.4 Notwithstanding anything stated above in Clause 19.1.3, the Authority shall fully indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims arising out of or with respect to

(a) the use or occupation of land or any part thereof by the Authority;

(b) the damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any Defects therein, in accordance with this Agreement; and

(c) the death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Authority, its agents, servants or other contractors, not being employed by the Contractor.

Provided, that in the event of any injury or damage as a result of the contributory negligence of the Contractor, the Authority shall be liable to indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims to the extent proportionate to the liability of the Authority, its servants or agents or other contractors not associated with the Contractor in such injury or damage.

19.1.5 Without prejudice to the obligations of the parties as specified under Clauses 19.1.3 and 19.1.4, the Contractor shall maintain or effect such third party insurances as may be required under Applicable Laws.

19.1.6 The Contractor shall provide to the Authority, within 30 days of the Appointed Date, evidence of professional liability insurance maintained by Contractor's Designing agency and/or consultants to cover the risk of professional negligence in the design of Works. The professional liability cover shall be for a sum of not less than [3% (three per cent)] of the Contract Price and shall be maintained until the end of the Defects Liability Period.

19.2 Notice to the Authority

No later than 15 (fifteen) days after the date of this Agreement, the Contractor shall by notice furnish to the Authority, in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Article 19. Within 15 (fifteen) days of receipt of such notice, the Authority may require the Contractor to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.

19.3 Evidence of Insurance Cover

19.3.1 All insurances obtained by the Contractor in accordance with this Article 19 shall be maintained with insurers on terms consistent with Good Industry Practice. Within 10 (Ten) days of obtaining any insurance cover, the Contractor shall furnish to the Authority notarised true copies of the certificate(s) of insurance, copies of insurance policies and premium payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty-five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Contractor to the Authority. The Contractor shall act in accordance with the directions of the Authority.

19.3.2 The Contractor shall procure and ensure the adequacy of the insurances at all times in accordance with the provisions of this Agreement.

19.4 Remedy for failure to insure

If the Contractor shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the Authority shall have the option to either keep in force any such insurances, and pay such premium and recover the costs thereof from the Contractor, or in the event of computation of a Termination Payment, treat an amount equal to the Insurance Cover as deemed to have been received by the Contractor. If either the Contractor or the Authority fails to comply with any condition of the insurances effected under the contract, the Party so failing to comply shall indemnify the other Party against all direct losses and claims (including legal fees and expenses) arising from such failure.

19.5 Waiver of subrogation

All insurance policies in respect of the insurance obtained by the Contractor pursuant to this Article 19 shall include a waiver of any and all rights of subrogation or recovery of the insurers thereunder against, inter alia, the Authority, and its assigns, successors, undertakings and their subsidiaries, Affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

19.6 Contractor's waiver

The Contractor hereby further releases, assigns and waives any and all rights of subrogation or recovery against, inter alia, the Authority and its assigns, undertakings and their subsidiaries, Affiliates, employees, successors, insurers and underwriters, which the Contractor may otherwise

have or acquire in or from or in any way connected with any loss, liability or obligation covered by policies of insurance maintained or required to be maintained by the Contractor pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.

19.7 Cross liabilities

Any such insurance maintained or effected in pursuance of this Article 18 shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Authority as separately insured.

19.8 Accident or injury to workmen

Notwithstanding anything contained in this Agreement, it is hereby expressly agreed between the Parties that the Authority shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or Sub-contractor, save and except as for death or injury resulting from any act, omission or default of the Authority, its agents or servants. The Contractor shall indemnify and keep indemnified the Authority from and against all such claims, proceedings, damages, costs, charges, and expenses whatsoever in respect of the above save and except for those acts, omissions or defaults for which the Authority shall be liable.

19.9 Insurance against accident to workmen

The Contractor shall effect and maintain during the Agreement such insurances as may be required to insure the Contractor's personnel and any other persons employed by it on the Project from and against any liability incurred in pursuance of this Article 19 Provided that for the purposes of this Clause 19.9, the Contractor's personnel/any person employed by the Contractor shall include the Sub-contractor and its personnel. Provided further that in respect of any persons employed by any Sub-contractor, the Contractor's obligations to insure as aforesaid under this Clause 19.9 shall be discharged if the Sub-contractor shall have insured against any liability in respect of such persons in such manner that the Authority is indemnified under the policy. The Contractor shall require such Sub-contractor to produce before the Authority, when required, such policy of insurance and the receipt for payment of the current premium within 10 (ten) days of such demand being made by the Authority.

19.10 Application of insurance proceeds

The proceeds from all insurance claims, except for life and injury, shall be applied for any necessary repair, reconstruction, reinstatement, replacement, improvement of the Project and the provisions of this Agreement in respect of construction of Works shall apply mutatis mutandis to the Works undertaken out of the proceeds of insurance.

19.11 Compliance with policy conditions

The Contractor expressly acknowledges and undertakes to fully indemnify the Authority from and against all losses and claims arising from the Contractor's failure to comply with conditions imposed by the insurance policies affected in accordance with this Agreement

Part V

Force Majeure and Termination

ARTICLE - 20

FORCE MAJEURE

20.1 Force Majeure

As used in this Agreement, the expression "Force Majeure" or "Force Majeure Event" shall mean occurrence in India of any or all of Non-Political Event, Indirect Political Event and Political Event, as defined in Clauses 20.2, 20.3 and 20.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the "Affected Party") of its obligations under this Agreement and which act or event (a) is beyond the reasonable control of the Affected Party, and (b) the Affected Party could not have prevented or overcome by exercise of due diligence and following Good Industry Practice, and (c) has Material Adverse Effect on the Affected Party.

20.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

- (a) act of God, epidemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionising radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);
- (b) strikes or boycotts (other than those involving the Contractor, Sub- contractors or their respective employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Project for a continuous period of 24 (twenty-four) hours and an aggregate period exceeding 10 (ten) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 20.3;
- (c) any failure or delay of a Sub-contractor but only to the extent caused by another Non-Political Event;
- (d) any judgement or order of any court of competent jurisdiction or statutory authority made against the Contractor in any proceedings for reasons other than (i) failure of the Contractor to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Authority; or (v) breach of its obligations by the Contractor under its sub-contracts;
- (e) the discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a site inspection; or
- (f) any event or circumstances of a nature analogous to any of the foregoing.

20.3 Indirect Political Event

An Indirect Political Event shall mean one or more of the following acts or events:

- (a) an act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage;

- (b) industry-wide or State-wide strikes or industrial action for a continuous period of 24 (twenty-four) hours and exceeding an aggregate period of 10 (ten) days in an Accounting Year;
- (c) any civil commotion, boycott or political agitation which prevents construction of the Project by the Contractor for an aggregate period exceeding 10 (ten) days in an Accounting Year;
- (d) failure of the Authority to permit the Contractor to continue with its Construction Works, with or without modifications, in the event of stoppage of such work after discovery of any geological or archaeological finds;
- (e) any failure or delay of a Sub-contractor to the extent caused by any Indirect Political Event;
- (f) any Indirect Political Event that causes a Non-Political Event; or
- (g) any event or circumstances of a nature analogous to any of the foregoing.

20.4 Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any Government Instrumentality:

- (a) Change in Law, only if consequences thereof cannot be dealt with under and in accordance with the provisions of Clause 20.3;
- (b) compulsory acquisition in national interest or expropriation of any Project Assets of the Contractor or of the Sub-Contractors;
- (c) unlawful or unauthorised or without jurisdiction revocation of, or refusal to renew or grant without valid cause, any clearance, licence, permit, authorisation, no objection certificate, consent, approval or exemption required by the Contractor or any of the Sub-contractors to perform their respective obligations under this Agreement; provided that such delay, modification, denial, refusal or revocation did not result from the Contractor's or any Sub-contractor's inability or failure to comply with any condition relating to grant, maintenance or renewal of such clearance, licence, authorisation, no objection certificate, exemption, consent, approval or permit;
- (d) any failure or delay of a Sub-contractor but only to the extent caused by another Political Event; or
- (e) any event or circumstances of a nature analogous to any of the foregoing.

20.5 Duty to report Force Majeure Event

20.5.1 Upon occurrence of a Force Majeure Event, the Affected Party shall by notice report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:

- (a) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article 20 with evidence in support thereof;

- (b) the estimated duration and the effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;
- (c) the measures which the Affected Party is taking or proposes to take for alleviating the impact of such Force Majeure Event; and
- (d) any other information relevant to the Affected Party's claim.

20.5.2 The Affected Party shall not be entitled to any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event no later than 10 (ten) days after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.

20.5.3 For so long as the Affected Party continues to claim to be affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) reports containing information as required by Clause 20.5.1, and such other information as the other Party may reasonably request the Affected Party to provide.

20.6 Effect of Force Majeure Event on the Agreement

20.6.1 Upon the occurrence of any Force Majeure

- (a) prior to the Appointed Date, both Parties shall bear their respective Force Majeure costs.
- (b) after the Appointed Date, the costs incurred and attributable to such event and directly relating to this Agreement (the "Force Majeure costs") shall be allocated and paid as follows:
 - (i) upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure costs and neither Party shall be required to pay to the other Party any costs thereof;
 - (ii) upon occurrence of an Indirect Political Event, all Force Majeure costs attributable to such Indirect Political Event, and not exceeding the Insurance Cover for such Indirect Political Event, shall be borne by the Contractor, and to the extent Force Majeure costs exceed such Insurance Cover, one half of such excess amount shall be reimbursed by the Authority to the Contractor for the Force Majeure events; and
 - (iii) upon occurrence of a Political Event, all Force Majeure costs attributable to such Political Event shall be reimbursed by the Authority to the Contractor.

For the avoidance of doubt, Force Majeure costs may include costs directly attributable to the Force Majeure Event, but shall not include debt repayment obligations, if any, of the Contractor.

20.6.2 Save and except as expressly provided in this Article 20, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereto.

20.6.3 Upon the occurrence of any Force Majeure Event during the Construction Period, the Project Completion

Schedule for and in respect of the affected Works shall be extended on a day for day basis for such period as performance of the Contractor's obligations is affected on account of the Force Majeure Event or its subsisting effects, as may be determined by the Authority Engineer.

20.6.4 Force Majeure costs for any event which results in any offsetting compensation being payable to the Contractor by or on behalf of its sub- contractors shall be reduced by such amounts that are payable to the Contractor by its Sub-contractors.

20.7 Termination Notice for Force Majeure Event

If a Force Majeure Event subsists for a period of 60 (sixty) days or more within a continuous period of 120 (one hundred and twenty) days, either Party may in its discretion terminate this Agreement by issuing a Termination Notice to the other Party without being liable in any manner whatsoever, save as provided in this Article 20, and upon issue of such Termination Notice, this Agreement shall, notwithstanding anything to the contrary contained herein, stand terminated forthwith; provided that before issuing such Termination Notice, the Party intending to issue the Termination Notice shall inform the other Party of such intention and grant 15 (fifteen) days time to make a representation, and may after the expiry of such 15 (fifteen) days period, whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

20.8 Termination Payment for Force Majeure Event

20.8.1 In the event of this Agreement being terminated on account of a Non- Political Event, the Termination Payment shall be an amount equal to the sum payable under Clause 22.5.

20.8.2 If Termination is on account of an Indirect Political Event, the Termination Payment shall include:

- (a) any sums due and payable under Clause 22.5; and
- (b) the reasonable cost, as determined by the Authority Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for use in Construction, only if such Plant and Materials are in conformity with the Specifications and Standards;

20.8.3 If Termination is on account of a Political Event, the Authority shall make a Termination Payment to the Contractor in an amount that would be payable under Clause 22.6.2 as if it were an Authority Default.

20.9 Dispute resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure; provided that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

20.10 Excuse from performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this

Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event; provided that:

- (a) the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- (b) the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and
- (c) when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party notice to that effect and shall promptly resume performance of its obligations hereunder.

ARTICLE - 21

SUSPENSION OF CONTRACTOR'S RIGHTS

21.1 Suspension upon Contractor Default

Upon occurrence of a Contractor Default, the Authority shall be entitled, without prejudice to its other rights and remedies under this Agreement including its rights of Termination hereunder, to (a) suspend carrying out of the Works or any part thereof, and (b) carry out such Works itself or authorise any other person to exercise or perform the same on its behalf during such suspension (the "Suspension"). Suspension hereunder shall be effective forthwith upon issue of notice by the Authority to the Contractor and may extend up to a period not exceeding 90 (ninety) days from the date of issue of such notice.

21.2 Authority to act on behalf of Contractor

During the period of Suspension hereunder, all rights and liabilities vested in the Contractor in accordance with the provisions of this Agreement shall continue to vest in the Contractor and all things done or actions taken, including expenditure incurred by the Authority for discharging the obligations of the Contractor under and in accordance with this Agreement shall be deemed to have been done or taken for and on behalf of the Contractor and the Contractor undertakes to indemnify the Authority for all costs incurred during such period. The Contractor hereby licences and sub- licences respectively, the Authority or any other person authorised by it under Clause 21.1 to use during Suspension, all Intellectual Property belonging to or licenced to the Contractor with respect to the OFAj Project and its design, engineering, construction and maintenance, and which is used or created by the Contractor in performing its obligations under the Agreement.

21.3 Revocation of Suspension

20.3.1 In the event that the Authority shall have rectified or removed the cause of Suspension within a period not exceeding 60 (sixty) days from the date of Suspension, it shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement. For the avoidance of doubt, the Parties expressly agree that the Authority may, in its discretion, revoke the Suspension at any time, whether or not the cause of Suspension has been rectified or removed hereunder.

20.3.2 Upon the Contractor having cured the Contractor Default within a period not exceeding 60 (sixty) days from the date of Suspension, the Authority shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement.

21.4 Termination

21.4.1 At any time during the period of Suspension under this Article 21, the Contractor may by notice require the Authority to revoke the Suspension and issue a Termination Notice. The Authority shall, within 15 (fifteen) days of receipt of such notice, terminate this Agreement under and in accordance with Article 22 as if it is a Contractor Default under Clause 21.1.

21.4.2 Notwithstanding anything to the contrary contained in this Agreement, in the event that Suspension is not revoked within 90 (ninety) days from the date of Suspension hereunder, the Agreement shall, upon

expiry of the aforesaid period, be deemed to have been terminated by mutual agreement of the Parties and all the provisions of this Agreement shall apply, mutatis mutandis, to such Termination as if a Termination Notice had been issued by the Authority upon occurrence of a Contractor Default.

ARTICLE - 22

TERMINATION

22.1 Termination for Contractor Default

22.1.1 Save as otherwise provided in this Agreement, in the event that any of the defaults specified below shall have occurred, and the Contractor fails to cure the default within the Cure Period set forth below, or where no Cure Period is specified, then within a Cure Period of 60 (sixty) days, the Contractor shall be deemed to be in default of this Agreement (the "Contractor Default"), unless the default has occurred as a result of any breach of this Agreement by the Authority or due to Force Majeure. The defaults referred to herein shall include:

- (a) The Contractor fails to provide, extend or replenish, as the case may be, the Performance Security in accordance with this Agreement;
- (b) subsequent to the replenishment or furnishing of fresh Performance Security in accordance with Clause 8.2, the Contractor fails to cure, within a Cure Period of 30 (thirty) days, the Contractor Default for which the whole or part of the Performance Security was appropriated;
- (c) the Contractor does not achieve the latest outstanding Project Milestone due in accordance with the provisions of Schedule-C, subject to any Time Extension, and continues to be in default for 45 (forty five) days;
- (d) the Contractor abandons or manifests intention to abandon the construction of the this Project without the prior written consent of the Authority;
- (e) the Contractor fails to proceed with the Works in accordance with the Schedule-C (Milestone chart) or stops Works for 30 (thirty) days without reflecting the same in the current programme and such stoppage has not been authorised by the Authority Engineer;
- (f) the Project Completion Date does not occur within the period specified in Schedule-C for the Scheduled Completion Date, or any extension thereof;
- (g) the Contractor fails to rectify any Defect, the non rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Authority Engineer;
- (h) the Contractor subcontracts the Works or any part thereof in violation of this Agreement or assigns any part of the Works without the prior approval of the Authority;
- (i) the Contractor creates any encumbrance in breach of this Agreement;
- (j) an execution levied on any of the assets of the Contractor has caused a Material Adverse Effect ;
- (k) the Contractor is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Contractor or for the whole or material part of its assets that has a material bearing on the Project;
- (l) the Contractor has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Authority, a Material Adverse Effect;
- (m) a resolution for winding up of the Contractor is passed, or any petition for winding up of the Contractor is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof or the

Contractor is ordered to be wound up by a court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Contractor are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Contractor under this Agreement; and provided that:

- (i) the amalgamated or reconstructed entity has the capability and experience necessary for the performance of its obligations under this Agreement; and
- (ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and has a credit worthiness at least as good as that of the Contractor as at the Appointed Date;
- (o) any representation or warranty of the Contractor herein contained which is, as of the date hereof, found to be materially false or the Contractor is at any time hereafter found to be in breach thereof;
- (p) the Contractor submits to the Authority any statement, notice or other document, in written or electronic form, which has a material effect on the Authority's rights, obligations or interests and which is false in material particulars;
- (q) the Contractor has failed to fulfil any obligation, for which failure Termination has been specified in this Agreement;
- (r) the Contractor has failed to make any payment to the Authority within the period specified in this Agreement; or
- (s) the Contractor commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or on the Authority.

22.1.2 Without prejudice to any other rights or remedies which the Authority may have under this Agreement, upon occurrence of a Contractor Default, the Authority shall be entitled to terminate this Agreement by issuing a Termination Notice to the Contractor; provided that before issuing the Termination Notice, the Authority shall by a notice inform the Contractor of its intention to issue such Termination Notice and grant 15 (fifteen) days to the Contractor to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

22.1.3 After termination of this Agreement for Contractor Default, the Authority may complete the Works and/or procure its completion through any other entity. The Authority and such entity may, for this purpose, use any Materials, Plant and equipment, Contractor's documents and other design documents made by or on behalf of the Contractor.

22.2 Termination for Authority Default

22.2.1 In the event that any of the defaults specified below shall have occurred, and the Authority fails to cure such default within a Cure Period of 90 (ninety) days or such longer period as has been expressly provided in this Agreement, the Authority shall be deemed to be in default of this Agreement (the "Authority Default") unless the default has occurred as a result of any breach of this Agreement by the Contractor or due to Force Majeure. The defaults referred to herein shall include:

- (a) the Authority commits a material default in complying with any of the provisions of this Agreement and such default has a Material Adverse Effect on the Contractor;

- (b) the Authority repudiates this Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by this Agreement; or

22.2.2 Without prejudice to any other right or remedy which the Contractor may have under this Agreement, upon occurrence of an Authority Default, the Contractor shall be entitled to terminate this Agreement by issuing a Termination Notice to the Authority; provided that before issuing the Termination Notice, the Contractor shall by a notice inform the Authority of its intention to issue the Termination Notice and grant 15 (fifteen) days to the Authority to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

22.3 Right of Authority to Determine the Contract

Notwithstanding anything hereinabove, the Authority shall be entitled to determine and terminate the contract at any time should, in the Authority's opinion, the cessation of work becomes necessary owing to paucity of funds or from any other cause whatever, in which case it shall be treated as Authority Default and Termination Payment shall be made as per clause 22.6 below. Notice in writing from the Authority of such determination and the reasons therefor shall be conclusive evidence thereof. The termination shall take effect 30 (thirty) days from the date of notice hereunder.

22.4 Requirements after Termination

Upon Termination of this Agreement in accordance with the provisions of this Article 22, the Contractor shall comply with and conform to the following:

- (a) deliver to the Authority all Plant and Materials which shall have become the property of the Authority under this Article 22;
- (b) deliver all relevant records, reports, Intellectual Property and other licences pertaining to the Works, other design documents and in case of Termination occurring after the Provisional Certificate has been issued, the "as built" Drawings for the Works;
- (c) transfer and/or deliver all Applicable Permits to the Authority to the extent permissible under Applicable Laws; and
- (d) vacate the Site within 15 (fifteen) days.

22.5 Valuation of Unpaid Works

22.5.1 Within a period of 45 (forty-five) days after Termination under Clause 22.1, 22.2 or 22.3, as the case may be, has taken effect, the Authority Engineer shall proceed in accordance with Clause 22.6 to determine as follows the valuation of unpaid Works (the "Valuation of Unpaid Works"):

- (a) value of the completed stage of the Works, less payments already made; and
- (b) reasonable value of the partially completed stages of works as on the date of Termination, only if such works conform with the Specifications and Standards.

and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement; and (ii) all taxes due to be deducted at

source.

22.5.2 The Valuation of Unpaid Works shall be communicated to the Authority, with a copy to the Contractor, within a period of 45 (forty five) days from the date of Termination.

22.6 Termination Payment

22.6.1 Upon Termination on account of Contractor Default under Clause 22.1, the Authority shall:

- (a) encash and appropriate the Performance Security and Retention Money and in the event the Contractor has failed to replenish or extend the Performance Security, claim the amount stipulated in Clause 8.1.1, as agreed pre-determined compensation to the Authority for any losses, delays and cost of completing the Works, if any;
- (b) encash and appropriate the bank guarantee, if any, to the extent of the outstanding Advance Payment and interest thereon; and
- (c) pay to the Contractor, by way of Termination Payment, an amount equivalent to the Valuation of Unpaid Works after adjusting any other sums payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and all taxes due to be deducted at source.

22.6.2 Upon Termination on account of an Authority Default under Clause 22.2 or under Clause 22.3, the Authority shall:

- (a) return the Performance Security and Retention Money forthwith;
- (b) encash and appropriate the bank guarantee, if any, to the extent of the outstanding Advance Payment, including interest thereon; and
- (c) pay to the Contractor, by way of Termination Payment, an amount equal to:
 - (i) Valuation of Unpaid Works;
 - (ii) the reasonable cost, as determined by the Authority Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for its use, only if such Plant and Materials are in conformity with the Specifications and Standards;
 - (iii) the reasonable cost of temporary works, as determined by the Authority Engineer; and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and (ii) all taxes due to be deducted at source.

22.6.3 Termination Payment shall become due and payable to the Contractor within 30 (thirty) days of a demand being made by the Contractor to the Authority with the necessary particulars, after the Valuation of Unpaid Works has been communicated by the Authority Engineer, any delay shall not exceed 90 (ninety) days. For the avoidance of doubt, it is expressly agreed that Termination Payment shall constitute full discharge by the Authority of its payment obligations in respect thereof hereunder.

22.6.4 The Contractor expressly agrees that Termination Payment under this Article 22 shall constitute a full and final settlement of all claims of the Contractor on account of Termination of this Agreement and that it shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

22.7 Other rights and obligations of the Parties

Upon Termination for any reason whatsoever

- (a) property and ownership in all Materials, Plant and Works of this Project shall, as between the Contractor and the Authority, vest in the Authority in whole, free from any and all Encumbrances; provided that the foregoing shall be without prejudice to Clause 22.6;
- (b) risk of loss or damage to any Materials, Plant or Works and the care and custody thereof shall pass from the Contractor to the Authority; and
- (c) the Authority shall be entitled to restrain the Contractor and any person claiming through or under the Agreement from entering upon the Site or any part of the Project except for taking possession of materials, stores, implements, construction plants and equipment of the Contractor, which have not been vested in the Authority in accordance with the provisions of this Agreement.

22.8 Survival of rights

Notwithstanding anything to the contrary contained in this Agreement any Termination pursuant to the provisions of this Agreement shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, insurance proceeds, security deposits, and other rights and remedies, which it may have in law or Agreement. All rights and obligations of either Party under this Agreement, including Termination Payments, shall survive the Termination to the extent such survival is necessary for giving effect to such rights and obligations.

Part VI

Other Provisions

ARTICLE - 23

ASSIGNMENT AND CHARGES

23.1 Restrictions on assignment and charges

This Agreement shall not be assigned by the Contractor to any person, save and except with the prior consent in writing of the Authority, which consent the Authority shall be entitled to decline without assigning any reason.

23.2 Hypothecation of Materials or Plant

Notwithstanding the provisions of Clause 23.1, the Contractor may pledge or hypothecate to its lenders, any Materials or Plant prior to their incorporation in the Works. Further, the Contractor may, by written notice to the Authority, assign its right to receive payments under this Agreement either absolutely or by way of charge, to any person providing financing to the Contractor in connection with the performance of the Contractor's obligations under this Agreement. The Contractor acknowledges that any such assignment by the Contractor shall not relieve the Contractor from any obligations, duty or responsibility under this Agreement. For the avoidance of doubt, all Materials and Plants shall, upon their incorporation into Works, be free from any and all Encumbrances without the Authority being required to make any payment to any person on account of any costs, compensation, expenses and charges for such Materials, Plants and Works.

ARTICLE - 24

LIABILITY AND INDEMNITY

24.1 General indemnity

The Contractor will indemnify, defend, save and hold harmless the Authority and its officers, servants, agents, Government Instrumentalities and Government owned and/or controlled entities/enterprises, (the "Authority Indemnified Persons") against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by the Contractor of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of this Agreement on the part of the Authority Indemnified Persons.

24.2 Indemnity by the Contractor

24.2.1 Without limiting the generality of Clause 24.1, the Contractor shall fully indemnify, hold harmless and defend the Authority and the Authority Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:

- (a) failure of the Contractor to comply with Applicable Laws and Applicable Permits;
- (b) payment of taxes required to be made by the Contractor in respect of the income or other taxes of the Sub-contractors, suppliers and representatives; or
- (c) non-payment of amounts due as a result of Materials or services furnished to the Contractor or any of its Sub-contractors which are payable by the Contractor or any of its Sub-contractors.

24.2.2 Without limiting the generality of the provisions of this Article 24, the Contractor shall fully indemnify, hold harmless and defend the Authority Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the Authority Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other Intellectual Property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Contractor or by the Sub-contractors in performing the Contractor's obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Contractor shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the Contractor shall promptly make every reasonable effort to secure for the Authority a licence, at no cost to the Authority, authorising continued use of the infringing work. If the Contractor is unable to secure such licence within a reasonable time, the Contractor shall, at its own expense, and without impairing the Specifications and Standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

24.3 Notice and contest of claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Agreement (the “Indemnified Party”) it shall notify the other Party (the “Indemnifying Party”) within 15 (fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any costs involved, to its reasonable satisfaction.

24.4 Defence of claims

- 24.4.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Agreement, the Indemnifying Party shall be entitled, at its option, to assume and control the defence of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through the counsel of its choice; provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defence. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, action, suit or proceeding without the prior written consent of the Indemnified Party, unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.
- 24.4.2 If the Indemnifying Party has exercised its rights under Clause 24.3, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).
- 24.4.3 If the Indemnifying Party exercises its rights under Clause 24.3, the Indemnified Party shall nevertheless have the right to employ its own counsel, and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of the Indemnified Party, when and as incurred, unless:
- (a) the employment of counsel by such party has been authorised in writing by the Indemnifying Party; or
 - (b) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defence of such action; or
 - (c) the Indemnifying Party shall not, in fact, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defence of such action and shall have been so notified by the Indemnified Party; or

- (d) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
- (e) that there may be specific defences available to it which are different from or additional to those available to the Indemnifying Party; or
- (f) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement:

Provided that if Sub-clauses (b), (c) or (d) of this Clause 24.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defence of such claim, demand, action, suit or proceeding on behalf of the Indemnified Party, and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

24.5 No consequential claims

Notwithstanding anything to the contrary contained in this Article 24, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.

24.6 Survival on Termination

The provisions of this Article 24 shall survive Termination.

ARTICLE – 25

DISPUTE RESOLUTION

25.1 Disputes

- 25.1.1 Normally, there should not be any scope for dispute between the Authority and contractor after entering into a mutually agreed valid contract. However, due to various unforeseen reasons, problems may arise during the progress of the contract leading to a disagreement between the procuring entity and contractor. Therefore, the conditions governing the contract has provisions as mentioned in this article for settlement of such disputes or differences binding on both parties.
- 25.1.2 Avoidance and Minimisation of Disputes: Contractual disputes could be time consuming, expensive, and difficult. It is therefore in the interest of contracting parties to work in a coordinated manner and collaboratively to avoid disputes in the first place. To minimise contractual disputes and complication, all parties would need to effectively carry out their duties in accordance with the Contract and brainstorm together to manage perceived and actual bottlenecks to Contract implementation. When they do arise, every attempt should be made to find an efficient and cost-effective resolution, including through amicable settlement. The dispute should be managed actively and positively and at the right level/s. A quick resolution saves time, money, and effort at later stages if the dispute remains unresolved. On the other hand, delays in resolution can lead to rapid escalation of costs and further damage to relationships and ultimately termination of the Contract.
- 25.1.3 All disputes and differences between the parties, as to the construction or operation of the contract, or the respective rights and liabilities of the parties on any matter in question; dispute or difference or any other account whatsoever, but excluding the Excepted Matters (detailed below); arising out of or in connection with the contract, whether before or after the completion/ termination of the contract, that cannot be resolved amicably between the Procurement Officer and the contractor within thirty (30) days from aggrieved Party notifying the other Party of such matters, shall be hereinafter called the “Dispute”.
- 25.1.4 The aggrieved party shall give a ‘Notice of Dispute’ indicating the Dispute and claims citing relevant contractual clause to the designated authority and requesting for invoking the following dispute resolution mechanisms. The Dispute shall be attempted to be resolved before any recourse to courts, through dispute resolution mechanisms detailed subsequently, in the sequence as mentioned below, and the next mechanism shall not be invoked unless the earlier mechanism has been invoked or has failed to resolve it within the deadline mentioned therein. While processing a case for dispute resolution/litigation/arbitration, the Authority is to take legal advice, at appropriate stages.
- a) Adjudication
 - b) Mediation
 - c) Arbitration

25.2 Excepted Matters

- 25.2.1 Matters for which provision has been made in any clause of the contract shall be deemed as ‘excepted matters’ (matters not disputable/ arbitrable), and decisions of the Authority, thereon shall be final and binding on the contractor. The ‘excepted matters’ shall stand expressly excluded from the purview of the Dispute Resolution Mechanism, including Arbitration. However, where the Authority has raised the dispute, this sub-clause shall not apply. Unless otherwise stipulated in the contract, excepted matters shall include but not limited to:

- i) any controversies or claims brought by a third party for bodily injury, death, property damage or any indirect or consequential loss arising out of or in any way related to the performance of this Contract ("Third Party Claim"), including, but not limited to, a Party's right to seek contribution or indemnity from the other Party in respect of a Third-Party Claim.
- ii) Issues related to the pre-award tender process or conditions.
- v) Issues related to ambiguity in contract terms shall not be taken up after a contract has been signed. All such issues should be highlighted before the signing of the contract by the contractor.
- vi) Issues related to contractual action/ termination of contract etc., by the Procuring Entity on account of fraud, corruption, debarment of contractors, criminal or wilful negligence of the contractor etc.
- vii) Issues that are already under investigation by CBI, Vigilance, or any other investigating agency or government.
- viii) Provisions incorporated in the contract, which are beyond the purview of The Procurement Entity or are in pursuance of policies of Government, including but not limited to Provisions of restrictions regarding local content and Purchase Preference to Local suppliers in terms of Make in India policy of the Government.
- ix) Provisions regarding restrictions on Entities from Countries having land-borders with India in terms of the Government's policies in this regard.

25.3 Adjudication

- 25.3.1 After exhausting efforts to resolve the Dispute with the Controlling Officer Engineering Office (Civil), under Authority the contractor shall give a 'Notice of Adjudication' specifying the matters which are in question or subject of the dispute or difference indicating the relevant contractual clause, as also the amount of claim itemwise to authority mentioned in the contract (hereinafter called the "Adjudicator") for invoking resolution of the dispute through Adjudication.
- 25.3.2 Where necessary, e.g. matters of high value, Authority may proceed with adjudication by a high-level committee as Para 25.4.3--a) to e) below.
- 25.3.3 During his adjudication, the Adjudicator shall give the contractor an adequate opportunity to present his case. Within 60 days after receiving the representation, the Adjudicator shall make and notify decisions in writing on all matters referred to him. The parties shall not initiate, during the adjudication proceedings, any mediation, arbitral or judicial proceedings in respect of a dispute that is the subject matter of the adjudication proceedings.
- 25.3.4 If not satisfied by the decision in adjudication, or if the adjudicator fails to notify his decision within the above mentioned time-frame, the contractor may proceed to invoke the process of Mediation as follows.

25.4 Mediation

- 25.4.1 Any party may invoke Mediation by submitting “Notice of Mediation” to the CMD, Yantra India Limited, Ambajhari. A neutral third party, known as the Mediator, facilitates the mediation process. If the other party is not agreeable to Mediation, the aggrieved party may invoke Arbitration.
- 25.4.2 The Mediation Act: The Mediation shall be conducted as per The Mediation Act, 2023.
- 25.4.3 Guidelines for Mediation:
- a) A high level committee (HLC) may be constituted for dispute resolution which may include following:
 - i) A retired judge.
 - ii) A retired high-ranking officer and/ or technical expert.
 - b) In case a HLC is constituted then Authority may either
 - i) negotiate directly with the contractor and place a tentative proposed solution before the HLC or
 - ii) conduct mediation through a mediator and then place the tentative mediated agreement before the HLC or
 - iii) use the HLC itself as the mediator.
 - c) This will enable decisions taken for resolving disputes in appropriate matters to be scrutinized by a high-ranking body at arms-length from the regular decision-making structure, thereby promoting fair and sound decisions in the public interest, with probity.
 - d) Approval of the appropriate authority will need to be obtained for the final accepted solution. Section 49 of the Mediation Act 2023 is also relevant in this regard.
 - e) Disputes not covered in an arbitration clause and where the methods outlined above are unsuccessful should be adjudicated by the courts.

25.5 Appointment of Mediator(s):

- 25.5.1 Mediators can be of any nationality and must be registered with the Mediation Council of India (MCI) or empanelled by a court-annexed mediation centre or empanelled by an Authority constituted under the Legal Services Authorities Act, 1987 or empanelled by a mediation service provider (MSP) recognised by MCI.
- 25.5.2 Within 30 days of receipt of the “Notice of Mediation”, the CMD, Yantra India Limited, Ambajhari shall propose names of three likely mediators from its panel, asking the other party to choose one as Mediator. The mutually accepted mediator shall then be appointed to conduct mediation.
- 25.5.3 If parties do not agree on the mediator, they can approach a mediation service provider (“MSP”, recognised by MCI), who shall appoint a mediator based on the suitability and preferences of the parties within 7 days.
- 25.5.4 If contract has an Integrity Pact, then Independent External Monitors (IEMs) can be appointed as mediators, as per the Standard Operating Procedure (SOP) issued by the Central Vigilance Commission (CVC).
- 25.5.5 After a mediator is appointed, they must disclose any conflict of interest. Either party can seek a replacement of the Mediator after such disclosure.

25.5.6 **Venue:** Nagpur, unless both parties agree to do it online or at any other place.

25.6 The Process:

- 25.6.1 The Mediator independently and impartially encourages open communication and cooperation between disputing parties to reach an amicable settlement, but he does not have the authority to impose a settlement upon the parties to the dispute. The parties shall be informed expressly by the mediator that he only facilitates in arriving at a resolution of the dispute and that he shall not impose any settlement nor give any assurance that the mediation may result in a settlement.
- 25.6.2 Unlike court proceedings, Mediation is informal and flexible and allows for creative problem-solving and exploration of various solutions. The Code of Civil Procedure or the Bhartiya Sakshya Adhiniyam (BS), 2023 shall not be binding on the mediator. The language of mediation shall be English/Hindi.
- 25.6.3 Confidentiality: All the acknowledgements, opinions, suggestions, promises, proposals, apologies, and admissions made during the mediation; acceptance/willingness to accept proposals in the mediation; documents prepared solely for the conduct of mediation are strictly confidential. These can neither be relied upon as evidence in any subsequent court proceedings nor be asked to be disclosed by any court/ tribunal. No audio or video recording of the mediation proceedings shall be made or maintained by the parties or the participants, including the mediator and mediation service provider, whether conducted in person or online, to ensure the confidentiality of the mediation proceedings.
- 25.6.4 Online Mediation: The Act allows parties to opt for online/ virtual Mediation, which shall be deemed to occur within the jurisdiction of a competent court. The Act also requires online mediation communication mechanisms to ensure confidentiality.
- 25.6.5 The mediator initially meets the parties separately and communicates the view of each party to the other to the extent agreed upon by them. He assists them in identifying issues, advancing better understanding, clarifying priorities, exploring areas of the parties' responsibility, identifying common interests, and encouraging compromise. He then meets them jointly to encourage a mutually acceptable resolution. At any stage of the mediation proceedings, at the parties' request, the mediator may suggest a dispute settlement in writing.
- 25.6.6 Termination of Mediation: The process must be completed within 120 days, though parties can extend it by another 60 days through mutual consent. If Mediation is not completed within this timeline, the Mediator shall prepare a nonsettlement report without disclosing the cause of non-settlement or any other matter or thing referring to their conduct during mediation for the parties or the Mediation Service Provider (MSP). Mediation shall also stand terminated on a declaration of the mediator, after consultation with the parties or otherwise, that further efforts at mediation are no longer justified or on communication by a party(ies) in writing, addressed to the mediator and the other parties that they wish to opt out of mediation. On termination of Mediation, if the dispute is still alive, the aggrieved party shall be free to invoke Arbitration.
- 25.6.7 Mediated Settlement Agreement (MSA): If the parties resolve the dispute and execute a mediated settlement agreement ("MSA"), then the Mediation is successful. An MSA is a written agreement settling some or all disputes and may extend beyond the disputes referred to mediation. It must be valid under the Indian Contract Act, signed by both parties and duly authenticated by the Mediator for

the parties or the MSP. The Act provides options for MSA registration. During the pendency of proceedings, parties can also execute other agreements, settling some of the subject-matter disputes.

25.6.8 Challenge to MSA: MSA can be challenged within 90 days on limited grounds of (a) fraud, (b) corruption, (c) impersonation, and (d) subject matter being unfit for Mediation.

i) Execution of MSA: If there is no challenge or a challenge is unsuccessful, the Act ensures that the MSA is binding and enforceable, akin to a judgment or decree. This means that if one party fails to comply with the MSA, the non-defaulting party has a right to enforce it through the Court.

ii) Costs: The parties shall equally bear all costs of mediation, including the fees of the mediator and the charges of the mediation service provider.

iii) No claim of Interest during Mediation proceedings: Parties shall not claim any interest on claims/counter-claims from the date of notice invoking Mediation till the execution of the settlement agreement if so arrived. If parties cannot resolve the dispute, either party shall claim no interest from the date of notice invoking Mediation until the date of Termination of Mediation Proceedings.

iv) The parties shall not initiate, during the mediation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the mediation proceedings.

25.7 Arbitration

28.7.1 If both parties fail to resolve dispute through adjudication or mediation then it shall be resolved through arbitration as per the Indian Arbitration and Conciliation Act, 1996 [Amended 2015 and 2021].

25.7.2 The Agreement for dispute resolution through arbitration as mentioned above shall continue to survive termination, completion, or closure of the contract for 3 years after that. The venue shall be Nagpur, unless both parties agree to do it online or at any other place.

25.7.3 The Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 provides parties to a dispute (where one of the parties is a Micro or Small Enterprise) to be referred to Micro and Small Enterprises Facilitation Council if the dispute is regarding any amount due under Section 17 of the MSMED Act, 2006. If a Micro or Small Enterprise, being a party to dispute, refers to the provisions in MSMED Act 2006, these provisions shall prevail over this Agreement.

25.7.4 The dispute resolution through Arbitration will be applicable only if the amount of dispute is less than Rs. 10 crores.

25.8 Notices for Arbitration

25.8.1 'The Appointing Authority,' to appoint the arbitrator shall be CMD, Yantra India Limited, Ambajhari and includes if there be no such authority, the officer who is for the time being discharging the functions of that authority, whether in addition to other functions or otherwise.

25.8.2 In the event of any dispute as per para 25.7.1 above, if the Adjudicator fails to decide within 60 days (as referred in para 25.7.3 above), or the mediation is terminated (as referred in para 25.7.3-4 above)

then, parties to the contract, after 60 days but within 120 days of 'Notice of Dispute' shall request the CMD, Yantra India Limited, Ambajhari through a "Notice for Arbitration" in writing requesting that the dispute or difference be referred to arbitration.

- 25.8.3 The "Notice for arbitration" shall specify the matters in question or subject of the dispute or difference indicating the relevant contractual clause, as well as the amount of claim item-wise.

25.9 Reference to Arbitration

- 25.9.1 After appointing Arbitrator(s), the Appointing Authority shall refer the dispute to them. Only such dispute or difference shall be referred to arbitration regarding which the demand has been made, together with counter-claims or set off. Other matters shall be beyond the jurisdiction of Arbitrator(s)

22.10 Appointment of Arbitrator

- 25.10.1 Contractor can waive objections to bias or ineligibility under section 12(5) of the Act explicitly in writing only after dispute arises and then he can nominate his arbitrator from approved panel of Yantra India Limited.

- 25.10.2 Therefore, the appointing authority for arbitrators, may ask the contractor to recommend his nominee arbitrator either from names suggested from approved panel of the Procuring Organisation or from an approved panel of the Indian Council of Arbitration (ICA) within 30 days from the date of dispatch of the written and valid acceptance of the demand for arbitration by the appointing authority. Guidelines of ICA Rules for Domestic Commercial Arbitration are as under:-

a) The contractor may access the ICA's panel of arbitration through the ICA's official webpage: <https://icaindia.co.in/pdf/Engineers.pdf>.

b) A formal request for nomination shall be submitted to ICA, accompanied by:-

- i) A brief Statement of Claim outlining the nature and quantum of the disputes
- ii) A copy of the relevant contract and any supporting documents
- iii) A copy of the notice intimating the other party of the initiation of arbitration proceedings, with proof of delivery (if any).

c) Ad-hoc appointment fees for the nomination and appointment of arbitrators shall be as per the ICA Rules for Domestic Commercial Arbitration and revised from time to time. The fee shall be submitted along with the request.

d) The nomination and appointment of arbitrators from the ICA panel shall be as per the ICA Rules for Domestic Commercial Arbitration.

25.10.3 Qualification of Arbitrators:

- a) In the case of retired officers of The Procuring organisation, he shall have retired in the rank of Senior administrative grade (or equivalent) and shall have retired at least 1 years prior and must not be over 70 years of age on the date of Notice for arbitration.
- b) In the case of serving officers, they shall not be below JA Grade level.
- c) In case of serving or retired officer, he should not have been
 - i) involved in current vigilance/ CBI cases or against whom disciplinary or prosecution proceedings are not in process.
 - ii) imposed a major penalty or two or more minor penalties or undergone administrative action three times or more, or
 - iii) imposed a minor Penalty and undergone two administrative actions due to vigilance/CBI action while in service.
- d) Independence and Impartiality:
 - i) Retired or serving officers shall not have had an opportunity to deal with matters to which the contract relates or who, in the course of his/ their duties as officers of the Procuring Organisation, expressed views on any or all the matters under dispute or differences. Arbitrator shall make a declaration in this regard as per “**Annexure- XI**”. The proceedings of the Arbitral tribunal or the award made by such Tribunal shall, however, not be invalid merely because one or more arbitrators had in the course of his service, an opportunity to deal with the matters to which the contract relates or who in the course of his/ their duties expressed views on all or any of the matters under dispute.
 - ii) Arbitrators (including from panel of ICA) shall be independent and impartial (section 12(1) of the Arbitration Act) and disclose in writing any circumstances (past or present relationships with parties or counsel) that may give rise to justifiable doubts about their independence or impartiality. Disclose any direct or indirect interest in the dispute’s outcome.
 - iii) Disclosure by all arbitrators shall be in format of “**Annexure-XI**”.
- e) An Arbitrator may be appointed notwithstanding the total no. of arbitration cases in which he has been appointed in the past.
- f) Not be other than the person appointed by The Appointing Authority and that if for any reason that is not possible, the matter shall not be referred to arbitration at all.

25.10.4 Panel of Arbitrators:

The Authority may prepare, with the approval of the CMD, Yantra India Limited, Ambajhari, a panel of serving and retired officers who are willing and qualified (as per sub-para 3 above) to be empanelled as Arbitrators based on integrity, ethics, the experience of dealing in contracts/ tenders, temperament of taking fair decisions, feedback, general image, career profile etc. Such persons should have vigilance clearance and should not be working in the vigilance wing. The performance of empanelled arbitrators should be reviewed annually. The empanelment of a retired officer as arbitrator shall be limited to three procuring entities only, and at any given time, a maximum of two arbitration cases shall be assigned to any arbitrator in a Procuring entity.

24.10.4 Replacement of Arbitrators:

If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or in the event of the arbitrator dying, neglecting/ unable or unwilling or refusing to act for any reason, or his award being set aside by the court for any reason, or in the opinion of The Appointing Authority fails to act without undue delay, the Appointing Authority shall appoint new arbitrator/ arbitrators to act in his/ their place in the same manner in which the earlier arbitrator/ arbitrators had been appointed. Such a re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator (s).

24.10.5 Appointment of Arbitrator:

a) Appointment of Arbitrator where the applicability of section 12 (5) of the Arbitration and Conciliation Act has been waived off:

- i) In case where the total value of all claims in question added together does not exceed ₹ 1,00,00,000/- (Rupees One Crore), the Arbitral Tribunal shall consist of a Sole Arbitrator who shall be a serving officer of the procuring organisation, not below Junior Administrative Grade, nominated by the Appointing Authority. The sole arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitration is received by the designated Appointing Authority.
- ii) In cases not covered by sub-para i) above, the Arbitral Tribunal shall consist of a panel of three serving officers not below Junior Administrative Grade or two serving officers not below Junior Administrative Grade and a retired officer (retired not below the rank of Senior Administrative Grade Officer), as the arbitrators. For this purpose, the Appointing Authority shall send a panel of at least four (4) names of Officers, which may also include the name(s) of retired Officer(s) empanelled to work as Arbitrator, to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the Appointing Authority. The contractor will be asked to suggest at least 2 names out of the panel for appointment as the Contractor's nominee within 30 days from the date of dispatch of the request to him. The Appointing Authority shall appoint at least one out of them as the Contractor's nominee and shall also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the 'presiding arbitrator' from amongst the 3 arbitrators so appointed. The Appointing Authority shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of the Contractor's nominees. While nominating the arbitrators, it shall be necessary to ensure that one of them is from the Finance/ Accounts Department (officer of Selection Grade of the Finance/ Accounts Department shall be considered as of equal status to the officers in Senior Administrative Grade of other departments for appointment of an arbitrator).
- iii) The serving officer working in arbitral tribunal in the ongoing arbitration cases as per sub-para i) and ii) above can continue as arbitrator in the tribunal even after his retirement.

b) Appointment of Arbitrator where the applicability of Section 12 (5) of the Arbitration and Conciliation Act has not been waived off:

- i) In cases where the total value of all claims in question added together does not exceed ₹ 50,00,000/- (Rupees Fifty Lakh), the Arbitral Tribunal shall consist of a sole arbitrator. For this purpose, the Appointing Authority will send a panel of at least four (4) names of retired Officer(s) (retired not below the rank of Senior Administrative Grade Officer) empanelled to work as Appointing Authority Arbitrator duly indicating their retirement dates to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the Appointing Authority. The contractor will be asked to nominate to the Appointing Authority at least 2 names of arbitrators. These can be out of the panel suggested by the approving Authority or from an approved panel of the Indian Council of Arbitration (ICA – refer sub-para 2 above) within 30 days from the date of dispatch of the

request by the Appointing Authority. The Appointing Authority shall appoint at least one out of them as the arbitrator within 30 days from the receipt of the names of the Contractor's nominees.

ii) In cases where the total value of all claims in question added together exceeds ₹ 50,00,000/- (Rupees Fifty Lakh), the Arbitral Tribunal shall consist of a Panel of three (3) arbitrators. For this purpose, the Appointing Authority will send a panel of at least four (4) names of retired Officers (retired not below the rank of Senior Administrative Grade Officer) empanelled to work as Arbitrator duly indicating their retirement date to the Contractor within 60 days from the day when a written and valid demand for arbitration is received by the Appointing Authority. The contractor will be asked to nominate to the Appointing Authority at least 2 names of arbitrators. These can be out of the panel suggested by the approving authority or from an approved panel of the Indian Council of Arbitration (ICA – refer sub-para 2 above) within 30 days from the date of dispatch of the request by the Appointing Authority. The Appointing Authority shall appoint at least one out of them as the Contractor's nominee and shall also simultaneously appoint his nominee arbitrator either from the panel or from outside the panel. The Appointing Authority shall complete this exercise of appointing the Arbitral Tribunal within 30 days of the receipt of the names of the Contractor's nominees. Two selected arbitrators are free to select a presiding arbitrator (3rd arbitrator) within thirty (30) days from their appointment. The presiding arbitrator may be selected from an approved panel of the procuring organisation or from an approved panel of the Indian Council of Arbitration (as per mutual agreement), which will be approved by the appointing authority within 30 days of receipt of such name.

c) If the contractor does not suggest his nominees for the arbitral tribunal within the prescribed timeframe, or the two appointed arbitrators fail to nominate a presiding arbitrator, the Appointing Authority shall proceed with the appointment of the arbitral tribunal within 30 days of the expiry of such time provided to the contractor.

d) Failure to Appoint Arbitrators: If The Appointing Authority fails to appoint an arbitrator, or two appointed arbitrators fail to agree on the third arbitrator, within 60 (sixty) days, then subject to the survival of this Arbitration Agreement, in international commercial arbitration, the Supreme Court of India shall designate the arbitral institution for the appointment of arbitrators. In case of national arbitrations, the High Court shall designate arbitral institutions. The Arbitration Council of India must have graded these arbitration institutions. These arbitral institutions must complete the selection process within thirty days of accepting the request for the arbitrator's appointment.

25.11 The Arbitral Procedure:

25.11.1 Effective Date of Entering Reference: The arbitral tribunal shall be deemed to have entered the reference on the date on which the arbitrator(s) have received notice of their appointment. All subsequent time limits shall be counted from such date.

25.11.2 Seat and Venue of Arbitration: The seat of arbitration shall be Yantra India Limited, Ambajhari, Nagpur. The venue of arbitration shall be the same as the seat of arbitration. However, in terms of section 20 of The Arbitration Act, the arbitrator, at his discretion, may determine a venue other than the seat of the arbitration without in any way affecting the legal jurisdictional issues linked to the seat of the arbitration. The Arbitral Tribunal shall decide any matter related to Arbitration not covered under this Arbitration Agreement as per the provisions of The Arbitration Act.

- 25.11.3 If the Adjudication and/ or Mediation mechanisms had not been exhausted before such reference to Arbitration, the Arbitrator should ask the aggrieved party to approach designated authority for such mechanisms before the Arbitration proceedings are started.
- 25.11.4 The claimant shall submit to the Arbitrator(s) with copies to the respondent his claims stating the facts supporting the claims along with all the relevant documents and the relief or remedy sought against each claim within 30 days from the date of appointment of the Arbitral Tribunal unless it has granted an extension.
- 24.11.5 On receipt of such claims, the respondent shall submit its defence statement and counterclaim (s), if any, within 60 days of receipt of the copy of claims, unless the Arbitral Tribunal has granted an extension.
- 25.11.6 No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defence thereof during arbitration proceedings subject to acceptance by the Tribunal having due regard to the delay in making it.
- 25.11.7 Statement of claims, counterclaims and defence shall be completed within six months from the effective reference date.
- 25.11.8 Oral arguments to be held on a day-to-day basis: Oral arguments as far as possible shall be heard by the arbitral tribunal on a day-to-day basis, and no adjournments shall be granted without sufficient cause. The arbitrator (s) may impose an exemplary cost on the party seeking adjournment without sufficient cause.

25.12 Arbitration Award:

- 25.12.1 Award within 12 (twelve) months:
The arbitral tribunal is statutorily bound to deliver an award within 12 (twelve) months from the date when the arbitral tribunal enters reference. The award can be delayed by a maximum of six months only under exceptional circumstances where all parties consent to such extension of time. The court's approval shall be required for further extension if the award is not made out within such an extended period. During the period of an application for extension of time is awaiting before the court, the arbitrator's proceedings shall continue until the disposal of the application.
- 25.12.2 Cost of Arbitration and Fees of the Arbitrators:
The concerned parties shall bear the cost of arbitration in terms of section 31 (A) of The Arbitration Act. The cost shall interalia include fees of the Arbitrator. Further, the fees payable to the Arbitrator shall be governed by instructions issued on the subject by the Yantra India Limited and/ or the Government from time to time, in line with the Arbitration and Conciliation Act, irrespective of the fact whether the Arbitrator is appointed by the Procuring Entity or the Government under this clause or by any court of law unless directed explicitly by Hon'ble court otherwise on the matter. However, if any of the three arbitrators is selected from the Panel of Indian Council of Arbitration (ICA), the fee of the arbitrators shall be determined as per the rates fixed/revised by the Indian Council of Arbitration from time to time and the fee shall be borne equally by both the parties. A sole arbitrator shall be entitled to a 25% extra fee over such a prescribed fee. The arbitrator shall be entitled to a 50 percent extra fee if the award is made within 6 months in terms of provisions contained in section 29(A) (2) of The Arbitration Act. Besides the above, Arbitrator shall also be entitled to this extra fee in cases where Fast Track Procedure in terms of section 29 (B) of The Arbitration Act is followed.

25.12.3 Fast Track Procedure:

The parties to arbitration may choose to opt for a fast-track procedure either before or after the commencement of the arbitration. The award in fast track arbitration is to be made out within six months, and the arbitral tribunal shall be entitled to additional fees. The salient features of the fast-track arbitration are:

- a) The dispute is to be decided based on written pleadings only. Procuring Entities may encourage Fast Track Procedure based on written pleadings only.
- b) Arbitral Tribunal shall have the power to call for clarifications in addition to the written pleadings where it deems necessary.
- c) An oral hearing may be held only if all the parties request or the arbitral tribunal considers it necessary.
- d) The parties are free to decide the fees of the arbitrator(s) for fast-track procedure.

25.12.4 Powers of Arbitral Tribunal to grant Interim Relief:

The parties to arbitration may approach the arbitral tribunal for seeking interim relief on the grounds available under section 9 of the act. The tribunal has the powers of a court while making interim awards in the proceedings before it.

25.12.5 Confidentiality:

As provided in Section 42A of The Arbitration Act, all the details and particulars of the arbitration proceedings shall be kept confidential, except in certain situations like if the disclosure is necessary for the implementation or execution of the arbitral award.

25.12.6 Obligation During Pendency of Arbitration:

Performance of the contract shall, unless otherwise directed by the Procuring Entity, continue during the arbitration proceedings, and no payment due or payable by the Procuring Entity shall be withheld on account of such proceedings, provided; however, it shall be open for Arbitral Tribunal to consider and decide whether or not the performance of the contract or payment therein should continue during arbitration proceedings.

25.12.7 The Arbitral Award: In the case of the Tribunal, comprising of three members, any ruling on award shall be made by a majority of members of the Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail. The arbitral award shall state item-wise the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award can be inferred from it. It shall be further a term of this arbitration agreement that where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made in terms of Section 31 (7) (a) of The Arbitration Act. The award of the arbitrator shall be final and binding on the parties to this contract. A party may apply for corrections of any computational errors, typographical or clerical errors, or any other error of similar nature occurring in the award or interpretation of a specific point of the award to the Tribunal within 60 days of receipt of the award. A party may apply to the Tribunal within 60 days of receiving the award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

25.13 Challenging Arbitration/ Judicial Awards

- 25.13.1 In cases if Authority has challenged an arbitral award and, as a result, the amount of the arbitral award has not been paid, 75% of the arbitral award (which may include interest up to date of the award) shall be paid by the Authority to the contractor/ concessionaire against a Bank Guarantee (BG). The BG shall only be for the said 75% of the arbitral award as above and not for the interest which may become payable to the Authority should the subsequent court order require refund of the said amount.
- 25.13.2 The payment may be made into a designated Escrow Account with the stipulation that the proceeds will be used first, for payment of lenders' dues, second, for completion of the project and then for completion of other projects of the same Authority as mutually agreed/ decided. Any balance remaining in the escrow account after settlement of lenders' dues and completion of projects of the Authority may be allowed to be used by the contractor/ concessionaire with the prior approval of the lead banker and the Authority. If otherwise eligible and subject to contractual provisions, retention money and other amounts withheld may also be released against BG.
- 25.13.3 If the contractor declines or is unable to provide the requisite bank guarantee and/or fails to open an escrow account then payment as mentioned at Para 25.12.1, above need not be made.

ARTICLE – 26

COMPLIANCE OF LABOUR LAW

26.1 Contract Labour Regulation:

- 26.1.1 The contractor shall obtain a valid licence under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979. The contractor shall also abide by the provisions of the Child and Adolescent Labour (Prohibition and Regulation) Act, 1986, amended by Amendment Act No. 35 of 2016 and thereafter time to time.
- 26.1.2 The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.
- 26.1.3 The contractor shall also comply with provisions of the Inter-State migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.
- 26.1.4 The contractor shall also comply with provisions of Sexual Harassment of Women at workplace (Prevention Prohibition and Redressal) Act, 2013 and amendment thereafter time to time. Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work.

26.2 Payment of wages:

- 26.2.1 The contractor shall pay wages to labour employed by him either directly or through sub- contractors, wages not less than fair wages as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971 and Gazette Notification 19.01.2017, S.O. 188 (E) extra ordinary part-2-Sec.3 (ii) amended from time to time.
- 26.2.2 Thus, higher of the wages either notified by Govt. of India, Ministry of Labour and/or that notified by the local administration of the State Govt. both relevant to the place of work and the period of the reckoning shall be paid by the contractor to the labourer.
- 26.2.3 The minimum wage of an unskilled Mazdoor shall be the higher of the wage notified by Government of India, Ministry of Labour and that notified by the local administration both relevant to the place of work and the period of reckoning.
- 26.2.4 The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his subcontractors in connection with the said work, as if the labour had been immediately employed by him.

- 26.2.5 In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Central Public Works Department contractor's Labour Regulations made by Government from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorized made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.
- 26.2.6 The Engineer-in-Charge shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.
- 26.2.7 The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, and Gazette Notification 19.01.2017, S.O. 188 (E) extra ordinary part-2-sec.3 (ii) amended from time to time and the modifications thereof or any other laws relating thereto and the rules made there under from time to time.
- 26.2.8 The contractor shall indemnify and keep indemnified OFAJ against payments to be made under and for the observance of the laws aforesaid and the Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.
- 26.2.9 The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
- 26.2.10 Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.
- 26.2.11 The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

26.3 Labour Safety & hygiene:

- 26.3.1 In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per OFAJ Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith.
- 26.3.2 In the event of the contractor(s) committing a default or breach of any of the provisions Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and' Rules which is materially incorrect,

he/they shall, without prejudice to any other liability, may be penalised by the authority. The amount of penalty for each violation will be 0.0003% of the contract value. The decision of the Engineer-in-Charge shall be final and binding on the parties.

26.3.3 Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice.

26.3.4 The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodelled and/or reconstructed according to approved standards.

26.4 Sexual Harassment of Women at workplace:

26.4.1 The contractor shall comply with all provision(s) and guideline(s) of Sexual Harassment of Women at Workplace (Prevention Prohibition and Redressal) Act, 2013 and amendment thereafter time to time or any other rules framed under any labour law.

ARTICLE – 27

MISCELLANEOUS

27.1 Governing law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at Nagpur shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

27.2 Waiver of immunity

Each Party unconditionally and irrevocably:

- (a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
- (b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;
- (c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- (d) consents generally in respect of the enforcement of any judgement or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgement that may be made or given in connection therewith).

27.3 Delayed payments

The Parties hereto agree that payments due from one Party to the other Party under the provisions of this Agreement shall be made within the period set forth therein, and if no such period is specified, within 30 (thirty) days of receiving a demand along with the necessary particulars.

27.4 Waiver

27.4.1 Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:

- (a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;

(b) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and

(c) shall not affect the validity or enforceability of this Agreement in any manner.

27.4.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

27.5 Liability for review of Documents and Drawings

Except to the extent expressly provided in this Agreement:

(a) no review, comment or approval by the Authority or the Authority Engineer of any Document or Drawing submitted by the Contractor nor any observation or inspection of the construction of the Project nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Agreement, Applicable Laws and Applicable Permits; and

(b) the Authority shall not be liable to the Contractor by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

27.6 Exclusion of implied warranties etc.

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

27.7 Survival

27.7.1 Termination shall:

(a) not relieve the Contractor or the Authority, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and

(b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

27.7.2 All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

27.8 Entire Agreement

This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the Request for Proposal and bid submissions, as the case may be, shall be deemed to form part of this Agreement and treated as such.

27.9 Severability

If for any reason whatsoever, any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Agreement or otherwise.

27.10 No partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

27.11 Third parties

This Agreement is intended solely for the benefit of the Parties, and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

27.12 Successors and assigns

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns.

27.13 Notices

27.13.1 Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall:

- (a) in the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the

Contractor may from time to time designate by notice to the Authority; provided that notices or other communications to be given to an address may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the person as the Contractor may from time to time designate by notice to the Authority;

- (b) in the case of the Authority, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the Head of the Authority with a copy delivered to the Authority Representative or such other person as the Authority may from time to time designate by notice to the Contractor; provided that if the Contractor does not have an office in Nagpur, it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier; and
- (c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working day following the date of its delivery.

27.14 Language

All notices required to be given by one Party to the other Party and all other communications, Documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English or Hindi language.

27.15 Counterparts

This Agreement may be executed in two counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

27.16 Confidentiality

The Parties shall treat the details of this Agreement as private and confidential, except to the extent necessary to carry out obligations under it or to comply with Applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous consent of the Authority.

27.17 Copyright and Intellectual Property rights

27.17.1 As between the Parties, the Contractor shall retain the copyright and other Intellectual Property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor. The Contractor shall be deemed (by signing this Agreement) to give to the Authority a non-terminable transferable non-exclusive royalty-free licence to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and

- (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Contractor:

27.17.2 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Authority for purposes other than those permitted under this Clause 25.17.

27.17.3 As between the Parties, the Authority shall retain the copyright and other Intellectual Property rights in this Agreement and other documents made by (or on behalf of) the Authority. The Contractor may, at its cost, copy, use, and obtain communication of these documents for the purposes of this Agreement. They shall not, without the Authority's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the contract.

27.18 Limitation of Liability

27.18.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with this Agreement.

27.18.2 The total liability of one Party to the other Party under and in accordance with the provisions of this Agreement, save and except as provided in Articles 22 and 24, shall not exceed the Contract Price. For the avoidance of doubt, this Clause shall not limit the liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

ARTICLE – 28

DEFINITIONS

28.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

“Accounting Year” means the financial year commencing from the first day of April of any calendar year and ending on the thirty-first day of March of the next calendar year;

“Advance Payment” shall have the meaning as set forth in Clause 18.2.1;

“Affected Party” shall have the meaning as set forth in Clause 20.1;

“Affiliate” means, in relation to either Party (and/or Members), a person who controls, is controlled by, or is under the common control with such Party (or Member) (as used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise);

“Agreement” means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;

“Applicable Laws” means all laws, brought into force and effect by GOI or the State Government(s) including rules, regulations and notifications made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;

“Applicable Permits” means all clearances, licences, permits, authorisations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction of the Project during the subsistence of this Agreement;

“Appointed Date” shall mean 7 (Seven) days from the date of execution of agreement by the bidder **or** handing over of site whichever is earlier.

“Arbitration Act” means the Arbitration and Conciliation Act, 1996 and shall including modifications to or any re-enactment thereof, as in force from time to time;

“Authority” shall have the meaning attributed thereto in the array of Parties herein above as set forth in the Recitals;

“Authority Default” shall have the meaning as set forth in Clause 22.2; **“Authority Engineer”** shall have the meaning as set forth in Clause 16.1

“Authority Representative” means such person or persons as may be authorised in writing by the Authority to act on its behalf under this Agreement and shall include any person or persons having authority to exercise any rights or perform and fulfil any obligations of the Authority under this Agreement;

“Bank” means a Nationalised bank incorporated in India when a Bank Guarantee for Advance Payment (Clause 18.2) is to be submitted and a Scheduled Commercial Bank incorporated in India for all other purposes, or any other bank acceptable to the Authority;

“Bank Rate” means the rate of interest specified by the Reserve Bank of India from time to time in pursuance of section 49 of the Reserve Bank of India Act, 1934 or any replacement of such Bank Rate for the time being in effect;

“Base Month” means the month just prior to Bid Due Date month. The Quarter for applicability of price adjustment shall be commence from next month after Base Month;

“Bid” means the documents in their entirety comprised in the bid submitted by the selected bidder/Consortium in response to the Request for Proposal in accordance with the provisions thereof;

“Bid Security”/EMD: means the bid security/Earnst Money Deposit provided by the Contractor to the Authority in accordance with the Request for Proposal, and which is to remain in force until substituted by the Performance Security;

“Change in Law” means the occurrence of any of the following after the Base Month:

- the enactment of any new Indian law;
- the repeal, modification or re-enactment of any existing Indian law;
- the commencement of any Indian law which has not entered into effect until the Base Month;
- a change in the interpretation or application of any Indian law by a judgement of a court of record which has become final, conclusive and binding, as compared to such interpretation or application by a court of record prior to the Base Month; or
- any change in the rates of any of the Taxes or royalties that have a direct effect on the Project;

“Change of Scope” shall have the meaning as set forth in Article 14;

“Change of Scope Notice” shall have the meaning as set forth in Clause 14.2.1;

“Change of Scope Order” shall have the meaning as set forth in Clause 14.2.4;

“Completion Certificate” shall have the meaning as set forth in Clause 13.4;

“Construction” shall have the meaning as set forth in Clause 1.2.1 (f);

“Construction Period” means the period commencing from the Appointed Date and ending on the date of the Completion Certificate;

“Contract Price” means the amount as specified in Clause 18.1.1;

“Contractor” shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

“Contractor Default” shall have the meaning as set forth in Clause 21.1;

“Cure Period” means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and shall:

- commence from the date on which a notice is delivered by one Party to the other Party asking the latter to cure the breach or default specified in such notice;
- not relieve any Party from liability to pay Damages or compensation under the provisions of this Agreement; and
- not in any way be extended by any period of Suspension under this Agreement; provided that if the cure of any breach by the Contractor requires any reasonable action by the Contractor that must be approved by the Authority or the Authority Engineer hereunder, the applicable Cure Period shall be extended by the period taken by the Authority or the Authority Engineer to accord their approval;

“Damages” shall have the meaning as set forth in paragraph (w) of Clause 1.2.1;

“Defect” means any defect or deficiency in Construction of the Works or any part thereof, which does not conform with the Specifications and Standards;

“Defects Liability Period” shall have the meaning as set forth in Clause 15.1;

“Dispute” shall have the meaning as set forth in Clause 25.1.1;

“Dispute Resolution Procedure” means the procedure for resolution of Disputes as set forth in Article 25;

“Drawings” means all of the drawings, calculations and documents pertaining to the OFAJ Project as set forth, and shall include ‘as built’ drawings of the Project;

“Document” or “Documentation” means documentation in printed or written form, or in tapes, discs, drawings, computer programmes, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;

“Emergency” means a condition or situation that is likely to endanger the safety or security of the individuals on or about the OFAJ Project, including Users thereof, or which poses an immediate threat of material damage to the Works or any of the Project Assets;

“Encumbrances” means, in relation to the OFAJ Project, any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the this Project, where applicable herei;

“EPC” means Engineering, Procurement and Construction;

“Final Payment Certificate” shall have the meaning as set forth in Clause 18.6;

“Final Payment Statement” shall have the meaning as set forth in Clause 18.6;

“Force Majeure” or **“Force Majeure Event”** shall have the meaning ascribed to it in Clause 20.1;

“GAD” or **“General Arrangement Drawings”** shall have the meaning as drawings published in the tender;

“Good Industry Practice” means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and

experienced contractor engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Contractor in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;

“Government Instrumentality” means any department, division or sub-division of the Government or the State Government and includes any commission, board, authority, agency or municipal.

“IEEMA” means Indian Electrical and Electronics Manufacture’s Association.

“TE” means Technical Examiner.

“CVC” means Central Vigilance Commission, Government of India.

“CAG” means Comptroller and Auditor General, Government of India.

“Indemnified Party” means the Party entitled to the benefit of an indemnity pursuant to Article 24 ;

“Indemnifying Party” means the Party obligated to indemnify the other Party pursuant to Article 24;

“Indirect Political Event” shall have the meaning as set forth in Clause 20.3;

“Insurance Cover” means the aggregate of the maximum sums insured under the insurances taken out by the Contractor pursuant to Article 19, and includes all insurances required to be taken out by the Contractor under Clauses 19.1 and 19.9 but not actually taken, and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;

“Intellectual Property” means all patents, trademarks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semi-conductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;

“Interim Payment Certificate” or “IPC” or “Running Account Receipt” or “RAR” means the interim payment certificate issued by the Authority Engineer for payment to the Contractor in respect of Contractor’s claims for payment raised in accordance with the provisions of this Agreement;

“Lead Member” shall, in the case of a Consortium/Joint Venture, mean the member of such Consortium/Joint Venture who shall have the authority to bind the contractor and each member of the Consortium/Joint Venture; and shall be deemed to be the Contractor for the purposes of this Agreement;

“LOI” or “Letter of Intent” means the letter of acceptance referred to in Recital (D);

“Maintenance Manual” shall mean manual for maintenance;

“Manuals” shall mean the manuals specified in Schedule-D;

“Material Adverse Effect” means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;

“Materials” are all the supplies used by the Contractor for incorporation in the Works or for the maintenance of the Project;

“Non-Political Event” shall have the meaning as set forth in Clause 20.2;

"Parties" means the parties to this Agreement collectively and "Party" shall mean any of the parties to this Agreement individually;

"Performance Security" shall have the meaning as set forth in Clause 8.1;

"Plant" means the apparatus and machinery intended to form or forming part of the Works;

"Political Event" shall have the meaning as set forth in Clause 20.4;

"Project" means the construction and maintenance of the OFAJ Project in accordance with the provisions of this Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;

"Project Assets" means all physical and other assets relating to (a) tangible assets such as civil works and equipment including [foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road over-bridges, drainage works, traffic signals, sign boards, kilometre-stones, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices]; and (b) Project Facilities situated on the Site;

"Project Completion Date" means the date on which the last Completion Certificate is issued;

"Project Completion Schedule" means the progressive Project Milestones set forth in Schedule-"C" for completion of the OFAJ Project on or before the Scheduled Completion Date;

"Project Facilities" means all the amenities and facilities to be constructed on the Site.

"Project Milestone" means the project milestone set forth in Schedule-C and includes the Scheduled Completion Date;

"Proof Consultant" shall have the meaning as set forth in Clause 10.2.2;

"Provisional Certificate" shall have the meaning as set forth in Clause 13.2;

"Quality Assurance Plan" or "QAP" shall have the meaning as set forth in Clause 12.2.1;

"Rs." or "Rupees" or "Indian Rupees" means the lawful currency of the Republic of India;

"Request for Proposals" or "RFP" shall have the meaning as set forth in Recital 'C';

"Retention Money" shall have the meaning set forth in Clause 8.3.1;

"Safety Consultant" shall have the meaning as set forth in clause 10.2.9;

"Scheduled Completion Date" shall be the date as set forth in Clause 13.3.1;

"Scope of the Project" shall have the meaning as set forth in Clause 2.0;

"Site" shall have the meaning as set forth in Clause 7.1 and 7.2;

"Specifications and Standards" means the specifications and standards relating to the quality, quantity, capacity and other requirements for the OFAJ Project, as set forth in Schedule-D and Design Basis Report, and any modifications thereof, or additions thereto, as included in the design and engineering for the OFAJ Project submitted by the Contractor to, and expressly approved by, the Authority;

"Stage Payment Statement" shall have the meaning as set forth in Clause 18.4;

"Sub-contractor" means any person or persons to whom a part of the Works has been subcontracted by the Contractor and the permitted legal successors in title to such person, but not an assignee to such person;

“Suspension” shall have the meaning as set forth in Article 21;

“Taxes” means any Indian taxes including excise duties, customs duties, value added tax, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, Materials, equipment and services incorporated in and forming part of the OFAJ Project charged, levied or imposed by any Government Instrumentality, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

“Termination” means the expiry or termination of this Agreement;

“Termination Notice” means the communication issued in accordance with this Agreement by one Party to the other Party terminating this Agreement;

“Termination Payment” means the amount payable by either Party to the other upon Termination in accordance with Article 22;

“Terms of Reference” or “TOR” shall have the meaning as set forth in Clause 16.2.1;

“Tests” means the tests set forth in clause 12.10 and as mentioned in Technical Specification in schedule D to determine the completion of Works in accordance with the provisions of this Agreement;

“Time Extension” shall have the meaning as set forth in Clause 10.3;

“Valuation of Unpaid works” shall have the meaning as set forth in Clause 22.5.1;

“Works” means all works including survey and investigation, design, engineering, procurement, construction, Plant, Materials, temporary works and other things necessary to complete the Project in accordance with this Agreement; and

“TE” means Technical Examiner.

“CVC” means Central Vigilance Commission, Government of India.

“CAG” means Comptroller and Auditor General, Government of India.

“IIT” means Indian Institute of Technology

“NIT” means National Institute of Technology

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND ELIVERED
THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED SIGNED, SEALED AND DELIVERED

For and on behalf of

For and on behalf of

OFAJ by:

THE CONTRACTOR by:

(Signature)

(Signature)

(Name)

(Name)

(Designation)

(Designation)

In the presence of:

1.

2.

COUNTERSIGNED and accepted by:

Name and particulars of other members of the Consortium/Joint Venture

ARTICLE – 28

SCHEDULES

29.1 Activity Bar Chart:

Execution of Unit wise work shall be carried out as per Activity Bar **Schedule –A**

SCHEDULE - A ACTIVITY BAR CHART																						
Name of Work: Civil Works for Extension of Foundry and Extrusion section for new 10000 Ton Capacity Press along with UP & DOWN stream facilities project at Ordnance Factory Ambajhari, Nagpur.																						
S.No.	Structure/Unit/Activity	Activity period in Months																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Soil investigation & development of structural design, drawing & working drawing.																					
2	Site clearance, Area development and demolition of structure.																					
3	Cons. of Foundry extension																					
4	Const. Extrusion extension																					
5	Const. Office building for Foundry																					
6	Const. Office building for Extrusion																					
7	Const. of Elect. substation Foundry																					
8	Const.of Elect. substation Extrusion																					
9	Const. of IEs change room Foundry																					
10	Const. of IEs change room Extrusio																					
11	Const. New fire station & shed																					
12	Const. for Shifting of LDO storage facility																					
13	Const. of Vehicle parking sheds																					
14	Const. of 3.0 Lakh Ltr capacity ESR																					
15	Const. of 3.0 Lakh Ltr Static tank																					
16	Const. of Foundry Aluminium dross shed																					
17	Const. of Foundry Aluminium scrap shed																					
18	Internal wiring of Foundry, Extrusion, Sub stations, Office, IEs change room, Fire station.																					
19	Installation of Telephone wiring/LAN wiring																					
20	Installation of Fire alarm and fire fighting																					
21	Installation of Water pipelines & valves																					
22	External services Roads, Rain water drains, Water supply main lines, Electrical main lines, Sewage disposal, surrounding area drainage of existing Foundry and Extrusion shop, face lifts of surrounding areas																					
NOTE: Complete project activity to be completed in 21 Months including soil investigation, design, drawing, construction and handing over of all units. The Shop Buildings at Sl.No.3 & 4 shall be ready (by constructing foundation, plinth, columns, beams and roof) after 15 months from the date of handing over of site as unloading of the Plant and Machinery will start. Remaining construction activity in this buildings can be undertaken parallelly as per above schedule with Plant and Machinery installation.																						

Note: After acceptance of bid, bidder will submit the Bar Chart for each activity/unit/building in detailed indicating the sub activity before start of the work. The time period for any activity should be within time limit as shown in main Activity Bar Chart.

29.2 Activity/Unit wise Percentage cost breakup:

Unit wise activity percentage cost breakup and stage wise percentage cost breakup for each activity shown in **Schedule –B** shall be refer for RAR /Interim payments.

<u>SCHEDULE-B</u> <u>ACTIVITY/UNIT WISE PERCENTAGE COST BREAKUP</u>				
Sl No	Structure/Unit/Activity	Stages	Cost assigned to the stage (in %)	Total cost of the activity (in %)
1	Services for Sub soil investigation and submission of Architectural/ Structural design & drawings, working drawings for extension of Extrusion and Foundry shop with allied structures. (Activity as mentioned in Scope of Work Clause No.2.1 (2.1.1 to 2.1.7))	a) Soil investigation	0.25	1.00
		b) Submission of Design & Drawings	0.75	
2	Site clearance and Area development by Demolition/ Dismantling of existing structures obstructing the proposed extension. (Activity as mentioned in Scope of Work Clause No.2.2 (2.2.1 to 2.2.14))	a) Demolition of LDO tanks	0.1	0.50
		b) Demolition of RCC ESR	0.15	
		c) Demolition of Fire Brigade Bldg	0.05	
		d) Godowns/ Other buildings demolition and complete site clearance	0.20	
3	Construction work for <u>EXTENSION OF FOUNDRY SHOP</u> of Area 5900 Sq. M. based on approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.1 (i) to (xviii))	a) Foundation & plinth	8.00	25.50
		b) Superstructure Column	5.00	
		c) Truss, beam & Roof cover	7.00	
		d) Superstructure walls	3.00	
		e) Complete finishing	2.50	
4	Construction work for <u>EXTENSION OF EXTRUSION SHOP</u> of Area 5600 Sq. M. based on approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.2 (i) to (xviii))	a) Foundation & plinth	8.00	25.50
		b) Superstructure Column	5.00	
		c) Truss, beam & Roof cover	7.00	
		d) Superstructure walls	3.00	
		e) Complete finishing	2.50	
5	Construction work for <u>FOUNDRY OFFICE BUILDING</u> of Area 672 Sq. M. based on approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.3 (i) to (x))	a) Foundation & plinth	0.50	3.00
		b) Superstructure & Slab	2.00	
		c) Complete finishing	0.50	

Sl No	Structure/Unit/Activity	Stages	Cost assigned to the stage (in %)	Total cost of the activity (in %)
6	Construction work for <u>EXTRUSION OFFICE BUILDING</u> of Area 672 Sq. M. based on approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.3 (i) to (x))	a) Foundation & plinth	0.50	3.00
		b) Superstructure & Slab	2.00	
		c) Complete finishing	0.50	
7	Construction work for <u>FOUNDRY ELECTRICAL SUB STATION</u> of Area 315 Sq. M. based on approved structural design and drawings (Activity as mentioned in Scope of Work Clause No.2.3.4 (i) to (x))	a) Foundation & plinth	0.40	1.6
		b) Superstructure & Slab	0.80	
		c) Complete finishing	0.40	
8	Construction work for <u>EXTRUSION ELECTRICAL SUB STATION</u> of Area 540 Sq. M. based on approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.4 (i) to (x))	a) Foundation & plinth	0.60	2.40
		b) Superstructure & Slab	1.20	
		c) Complete finishing	0.60	
9	Construction work for <u>IEs CHANGE ROOM FOR EXTRUSION SECTION</u> of Area 220 Sq. M. (two Buildings) as per approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.5 (i) to (x))	a) Foundation & plinth	0.25	1.00
		b) Superstructure & Slab	0.50	
		c) Complete finishing	0.25	
10	Construction work for <u>IEs CHANGE ROOM FOR FOUNDRY SECTION</u> of Area 220 Sq. M. as per approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.5 (i) to (x))	a) Foundation & plinth	0.25	1.00
		b) Superstructure & Slab	0.50	
		c) Complete finishing	0.25	
11	Construction work for <u>NEW FIRE STATION BUILDING</u> of Area 230 Sqm. and <u>STRUCTURAL SHED FOR PIPE STORAGE</u> of Area 150 Sqm. as per approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.6 (i) to (x))	a) Foundation & plinth	1.00	2.50
		b) Superstructure & Slab	1.00	
		c) Complete finishing	0.50	

Sl No	Structure/Unit/Activity	Stages	Cost assigned to the stage (in %)	Total cost of the activity (in %)
12	Construction work for SHIFTING OF ELEVATED LDO STORAGE TANKS 2 NOS (10 THOUSAND LTR CAPACITY EACH) AND NEW INSTALLATION OF GROUND LEVEL LDO TANKS 2 NOS (1.16 LAKH LITER CAPACITY EACH) (Activity as mentioned in Scope of Work Clause No.2.3.7 (i) to (viii))	a) Foundation & plinth	1.00	3.50
		b) Tanks installation	1.50	
		c) Complete finishing	1.00	
13	Construction work for VEHICLE PARKING SHEDS 2 NOS of Area 125 Sq.M. Each as per approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.8 (i) to (vi))	a) Complete work	0.50	0.50
14	Civil construction work for RCC ELEVATED SERVICE RESERVOIR (ESR) 3.00 Lakh Liter capacity and staging height 20.0 Meter as per approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.9 (i) to (viii))	a) Foundation up to GL	0.50	2.00
		b) Column staging-	0.50	
		c) Tank with top slab	0.50	
		d) After complete finishing and commissioning	0.50	
15	Construction work for RCC STATIC WATER TANK 3.00 Lakh Liter capacity and depth 2.0 Meter as per approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.10 (i) to (viii))	a) Foundation up to GL	0.40	1.40
		b) Tank with top cover	1.00	
16	Construction work for FOUNDRY DROSS COLLECTION SHED 2 NOS of total area 340 Sq. M. (Each shed of 170 Sq.M. area) as per approved structural design and drawings (Activity as mentioned in Scope of Work Clause No.2.3.11 (i) to (viii))	a) Foundation & plinth	0.15	0.50
		b) Superstructure & Slab	0.25	
		c) Complete finishing	0.10	

Sl No	Structure/Unit/Activity	Stages	Cost assigned to the stage (in %)	Total cost of the activity (in %)
17	Construction work for FOUNDRY SCRAP GODOWN SHED 2 NOS of total area 280 Sq. M. (Each shed of 140 Sq.M. area) as per approved structural design and drawings. (Activity as mentioned in Scope of Work Clause No.2.3.12 (i) to (viii))	a) Foundation & plinth	0.15	0.50
		b) Superstructure & Slab	0.25	
		c) Complete finishing	0.10	
18	Internal Electrification work for FOUNDRY EXTENSION, EXTRUSION EXTENSION, ELECTRICAL SUBSTATIONS BUILDINGS, OFFICE BUILDINGS, IEs CHANGE ROOM BUILDING, FIRE STATION BUILDING. (Activity as mentioned in Scope of Work Clause No.2.3.13 (i) to (v))	a) Foundry electrification	1.50	4.00
		b) Extrusion electrification	1.50	
		c) Sub Station electrification	0.25	
		d) Office & IEs Room	0.50	
		e) Fire station and other remaining buildings	0.25	
19	Telephone network setup (Activity as mentioned in Scope of Work Clause No.2.3.14 (i))	a) Complete internal telephone network	0.10	0.10
20	Installation of Fire Alarm and Fire fighting system network for FOUNDRY AND EXTRUSION AREA COMPLETE (Activity as mentioned in Scope of Work Clause No.2.3.15 (i) to (ii))	a) Complete work	0.50	0.50
21	Installation of Internal Water supply lines for FOUNDRY AND EXTRUSION AREA COMPLETE with controlling valves and RCC underground collection sump 2.0 Lakh Litre Capacity. (Activity as mentioned in Scope of Work Clause No.2.3.16 (i) to (ii))	a) RCC Sump Construction	0.50	2.00
		b) Complete pipe network-	1.50	

Sl No	Structure/Unit/Activity	Stages	Cost assigned to the stage (in %)	Total cost of the activity (in %)
22	External services Roads with Rain water drains, External Water supply main lines, Electrical main lines, Sewage disposal, surrounding area drainage of existing Foundry and Extrusion shop, face lift and landscaping of surrounding areas. (Activity as mentioned in Scope of Work Clause No.2.3.17 (i) to (vi))	a) Complete RCC roads	5.00	18.00
		b) RCC Rain water drains	2.50	
		c) Paver block fixing	2.50	
		d) Water supply lines	2.00	
		e) Electrical main lines	4.50	
		f) Sewage lines & drainage	1.00	
		g) Face lift of Ext & Fdy with enterance area landscaping	0.50	
	Total		100.00	100.00

SPECIAL NOTE: Due to proposed switch over of LDO fuel to PNG fuel system, the existing LDO storage facility structure shifting work under Sl. No. 12 may be excluded from the project. In such situation the activity will be deleted from the project with deduction of proportionate percentage of cost from the contract amount.

29.3 MILESTONE Chart for monitoring Progress:

Unit sub activity wise percentage progress shall be monitored as indicated in Milestone stages in **Schedule –C** shall be refer for RAR /Interim payments.

<u>SCHEDULE-C</u> <u>MILE STONE CHART</u>						
Sl. No.	Milestone No.	Stage wise activities as per above table of Schedule B to be completed in the milestone	Due date of completion	Payment to be released (in %)	Cumulative payment to be released (in %)	%age amount of the agreement /contract to be withheld in case of failure to achieve the milestone
1	I	Completion of activities with stages as mentioned in 1(a), 1(b), 2(a), 2(b), 2(c) and 2(d)	Three months from the appointed date	1.50	-	0.07
2	II	Completion of activities with stages as mentioned in 3(a), 4(a), 5(a), 6(a), 7(a), 8(a), 9(a), 10(a), 11(a), 12(a), 12(b), 12(c), 14(a), 15(a), 16(a) and 17(a)	Seven months from the appointed date	24.20	25.70	1.21
3	III	Completion of activities with stages as mentioned in 3(b), 4(b) and 14(b)	Eleven months from the appointed date	10.5	36.20	0.52
4	IV	Completion of activities with stages as mentioned in 3(c), 4 (c), 7(b), 8(b), 9(b), 10(b), 11(b), 13(a), 14(c), 16(b), 17(b) and 21(a)	Fifteen months from the appointed date	20.00	56.20	1.00
5	V	Completion of activities with stages as mentioned in 3(d), 3(e), 4(d), 4(e), 5(b), 5(c), 6(b), 6(c), 7(c), 8(c), 9(c), 10(c), 11(c), 14(d), 15(b), 16(c), 17(c), 18(a), 18(b), 18(c), 18(d), 18 (e), 21(b), 22(b), 22(d), 22 (e) and 22(f)	Eighteen months from the appointed date	34.70	90.90	1.73

Sl. No.	Milestone No.	Stage wise activities as per above table of Schedule B to be completed in the milestone	Due date of completion	Payment to be released (in %)	Cumulative payment to be released (in %)	%age amount of the agreement /contract to be withheld in case of failure to achieve the milestone
6	VI	Completion of activities with stages as mentioned in 19 (a), 20(a), 22(a), 22(c) and 22(g)	Twenty one months from the appointed date	9.10	100	LD as per LD clause.

Note: In case, the contractor does not achieve a particular milestone mentioned in Schedule-C, or the re-scheduled milestone(s), the amount shown against that milestone shall be withheld, to be adjusted against the liquidated damages. With-holding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. The amount so withheld can be released against BG/ FDR from a commercial bank of equivalent amount. Further, no interest, whatsoever, shall be payable on such withheld amount.

29.4 TECHNICAL SPECIFICATION OF MATERIALS “SCHEDULE-D”:

Technical specification of construction materials is separately enclosed as “**SCHEDULE-D**” is comprises of section as under;

- 1) Technical specifications for civil works and materials (Chapter-A)
- 2) Technical specifications for Plumbing and sanitary works (Chapter-B)
- 3) Technical specifications for Electroical works (Chapter-C)
- 4) Technical specifications for Fire Fire Fighting System (Chapter-D)
- 5) Technical specifications for Fire Alarm System (Chapter-E)
- 6) List of materials with approved make.

NOTE: “**Schedule-D**” uploaded separately specify the procedure regarding execution of Civil works items and material specifications with make acceptable. It is mandatory to go through this and make endorsement in Annexure-XII to be submitted online for confirmation that all terms and condition of this tenders have been well understood.

29.5 List of Bid Enclosures And Other formats:

Sl No.	Bid Enclosures	Annexures
1	Details of Bidding Agency	Annexure – I
2	Work Experience of Similar nature work	Annexure – II
3	Performance of work executed	Annexure – III
4	Financial Information last Three years	Annexure – IV
5	Annual Turnover and Net worth	Annexure – V (A) & (B)
6	EMD Deposit Bank Guarantee format (BG)	Annexure – VI
7	Security Deposit and Performance Security Deposit Bank Guarantee format (BG)	Annexure – VII
8	Pre-Contract Integrity Pact	Annexure – VIII
9	Site visit confirmation	Annexure - IX
10	Undertaking for Non blacklisting/Non Debarment	Annexure - X
11	Undertaking for Arbitration	Annexure - XI
12	Undertaking Tender Condition Acceptance	Annexure - XII
13	Work permit format for Working at Height	Part-I, II, III
14	Schedule for Technical Specifications	Schedule - D

29.6 List of General Arrangement (GA) Drawings:

Sl No.	Drawing Title	Drawing NO.
1	Existing layout of Foundry and Extrusion shops area.	Drg No: Existing layout Fdy & Ext/OFAJ/01
2	Proposed layout of Foundry and Extrusion extension.	Drg No: Proposed layout Fdy & Ext/OFAJ/02
3	GA drawing for proposed Foundry shop extension.	Drg No: Foundry Extension/OFAJ/03
4	GA drawing for proposed Extrusion shop extension.	Drg No: Extrusion Extension/OFAJ/04
5	GA drawing for proposed Foundry & Extrusion Offices Buildings.	Drg No: Office Bldg/OFAJ/05
6	GA drawing for proposed Foundry Electrical Substation Building.	Drg No: Foundry E-Sub.st/OFAJ/06-A
7	GA drawing for proposed Extrusion Electrical Substation Building.	Drg No: Extrusion E-Sub st/OFAJ/06-B
8	GA drawing for proposed Foundry & Extrusion IE's Rest Room Buildings.	Drg No: IE's Room Bldg/OFAJ/07
9	GA drawing for proposed Scrap & Dross shed for Foundry.	Drg No: Scrap & Dross Shed/OFAJ/08

Note: The Annexures and Drawings are available for downloading from CPP portal.

29.7 Check List for Bid submission:

Check list of Documents to be submitted with the Bid Technical Package:

SI No.	Name of Documents	Submitted (Yes/No)	Mode of Submission
1	Details of Bidding Agency (Annexure – I)		Online & Hard copy
2	Similar Nature of Work executed (Annexure-II)		
3	Performance of work executed (Annexure-III)		
4	Financial Information Last Three years (Annexure-IV)		
5	Annual Turnover and Net worth (Annexure-V (A) & (B))		
6	Pre-Contract Integrity Pact Annexure – VIII		
7	Site Visit Confirmation Annexure - IX		
8	Undertaking for Non blacklisting/Non Debarment Annexure - X		
9	Undertaking for Arbitration Annexure - XI		
10	Undertaking Tender Condition Acceptance Annexure - XII		
11	EMD of prescribed amount as per Annexure VI (For BG) <u>Note:</u> Original copy of EMD in the form of FDR OR Bank Guarantee & valid for at least 06 (six) months is required to be submitted before the closing date of technical bid. The EMD shall be in favour of “Ordnance Factory Ambajhari, Yantra India Limited”. The original submitted EMD and scanned copy of EMD, uploaded online, should be similar; otherwise the submitted bid shall be treated as invalid.		A scanned copy of this EMD must be uploaded while submitting the bid. And Original Copy of the same EMD shall be submitted in physical mode.
12	Work Experience of Similar nature work (as defined in “Eligibility Criteria”) during last 7 years as Per Annexure-II		Online & Hard copy
13	Registration Certificate: Contractor shall be Registered for Civil/Electrical/Road works with any Central Govt./ State Govt. / Semi-Govt. Department / any Central or State Govt. Public Sector Unit.		
14	Wireman(s) valid Electrical Licence : For composite type of civil work with associated electrical work, the firm shall submit wireman(s) valid electrical licence while execution of the electrical part of work.		
15	Copy of PAN & GST No. Note: Original Copy of PAN & GSTIN to be uploaded online at the time of submitting the bid.		
16	Copy of EPF (Employees' Provident Fund) ; ESIC (Employees' State Insurance Corporation) & BOCW (Building and Other Construction Workers) Registration Note : Original Copy of EPF ; ESIC & BOCW Registration to be uploaded online at the time of submitting the bid.		
17	Profit & Loss Statements (not IT returns) duly Audited by CA or Turnover Certificate from CA on the basis of audited Balance Sheets for the last 03 (three) financial years, ending 31st March, is to be uploaded. UDIN No. must be mentioned on these certificates without which the certificates shall not be considered as valid.		
	Note: All the uploaded documents should be in readable, printable & legible form.		

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