



Ministry of Culture
Government of India



Clarification in Public Interest

National Council of Science Museum's (NCSM's) : Tender Process

It has been brought to our attention that certain unscrupulous elements are sending out false SMS/WhatsApp purporting to be from "NCSM"/"Executive Administrator, NCSM". The SMS/WhatsApp ask to deposit a certain amount as Mandatory Bid Fees/ charges etc. towards Procurement of various materials/services for different project of NCSM/CRTL. The SMS/WhatsApp are falsely stated to be from "NCSM"/" Executive Administrator, NCSM".

NCSM has not sent out any such SMS/WhatsApp. Please note that NCSM, as a policy, does not ask for any money other than Bid security deposit (EMD). The application fees to be deposited through payment gateway while submitting the tender online or through Demand Draft while submitting Tender fees on offline mode.

These communications carry the tender ID or domain name of NCSM. National Council of Science Museums (NCSM) to make it look authentic. NCSM is taking appropriate steps to tackle the issue.

As a vigilant supplier/ tenderer/ firm, please look out for the following pointers to identify the fraudulent SMS/WhatsApp:

- NCSM does not ask for any money from the Supplier /tenderer/ firm at any stage of the procurement process other than applicable Bid Security Deposit (EMD) to be paid through NCSM's payment gateway online or through Demand Draft while submitting the bid security on offline mode.
- A fraudulent SMS/WhatsApp may mention the Bank account number of an individual. The account details would be given upon calling up on the number mentioned in the fraudulent SMS/WhatsApp. In any case the Bank account would not be in the name of "NCSM".

We advise Seller /tenderer/ firm not to respond to any fraudulent SMS/WhatsApp /telephone calls and not to make any payments to any person.

In case of any doubt, please contact on NCSM's Tel. No.033-2357-9347.

Any correspondence with reference to this bid, bidder will only take cognizance to communication/information made in official e-mail/ CPPP portal/NCSM website. **No repeat No cognizance** may be taken to other means of communication/ SMS messages from any other sources.

जनहित में स्पष्टीकरण

राष्ट्रीय विज्ञान संग्रहालय परिषद (एन.सी.एस.एम. की) : निविदा प्रक्रिया

यह हमारे ध्यान में लाया गया है कि कुछ अनैतिक (बेईमान) तत्व “एनसीएसएम” / “कार्यकारी प्रशासक, एनसीएसएम” के होने का दावा करते हुए झूठे एसएमएस/व्हाट्सएप भेज रहे हैं। एसएमएस/ व्हाट्सएप पर एनएससीएम/सीआरटीएल की विभिन्न परियोजनाओं के लिए विभिन्न सामग्रियों/सेवाओं की खरीद के लिए अनिवार्य बोली शुल्क/प्रभार आदि के रूप में एक निश्चित राशि जमा करने के लिए कहा जाता है। एसएमएस/व्हाट्सएप को गलत तरीके से “एनसीएसएम”/“कार्यकारी प्रशासक, एनसीएसएम” का बताया जाता है।

एनसीएसएम ने ऐसा कोई एसएमएस/व्हाट्सएप नहीं भेजा है। कृपया ध्यान दें कि एनसीएसएम, अपनी नीति के अनुसार, बोली सुरक्षा जमा (ईएमडी) के अलावा कोई अन्य धनराशि नहीं मांगता है। ऑनलाइन निविदा जमा करते समय आवेदन शुल्क भुगतान गेटवे के माध्यम से या ऑफलाइन मोड पर निविदा शुल्क जमा करते समय डिमांड ड्राफ्ट के माध्यम से जमा किया जाना चाहिए।

इन संचारों में एनसीएसएम का निविदा आईडी या डोमेन नाम होता है। राष्ट्रीय विज्ञान संग्रहालय परिषद (एनसीएसएम) को प्रामाणिक बनाने के लिए एनसीएसएम इस मुद्दे से निपटने के लिए उचित कदम उठा रहा है।

एक जागरूक आपूर्तिकर्ता/निविदादाता/फर्म के रूप में, कृपया धोखाधड़ी वाले एसएमएस/व्हाट्सएप की पहचान करने के लिए निम्नलिखित बिंदुओं पर ध्यान दें :

- एनसीएसएम खरीद प्रक्रिया के किसी भी चरण में आपूर्तिकर्ता/निविदादाता/फर्म से लागू बोली सुरक्षा जमा (ईएमडी) के अलावा कोई धनराशि नहीं मांगता है, जिसका भुगतान एनसीएसएम के भुगतान गेटवे के माध्यम से ऑनलाइन या ऑफलाइन मोड पर बोली सुरक्षा जमा करते समय डिमांड ड्राफ्ट के माध्यम से किया जाना है।
- धोखाधड़ी वाले एसएमएस/व्हाट्सएप में किसी व्यक्ति का बैंक खाता नंबर का उल्लेख हो सकता है। धोखाधड़ी वाले एसएमएस/व्हाट्सएप में दिए गए नंबर पर कॉल करने पर खाते का विवरण दिया जाएगा। किसी भी स्थिति में बैंक खाता "एनसीएसएम" के नाम पर नहीं होगा।
- हम विक्रेता/निविदादाता /फर्म को सलाह देते हैं कि वे किसी भी धोखाधड़ी वाले एसएमएस/व्हाट्सएप/टेलीफोन कॉल का जवाब न दें और किसी भी व्यक्ति को कोई भुगतान न करें।

किसी भी संदेह की स्थिति में कृपया एनसीएसएम के दूरभाष सं. 033-2357-9347 पर संपर्क करें।

इस बोली के संदर्भ में कोई भी पत्राचार, बोलीदाता केवल आधिकारिक ई-मेल / सीपीपीपी पोर्टल/ एनसीएसएम वेबसाइट पर किए गए संचार / सूचना का ही संज्ञान लेगा। किसी अन्य स्रोत से प्राप्त संचार के अन्य साधनों/एसएमएस संदेशों पर कोई पुनरावृत्ति नहीं, कोई संज्ञान नहीं लिया जाएगा।



Ministry of Culture
Government of India



NATIONAL COUNCIL OF SCIENCE MUSEUMS
SECTOR-V, BLOCK-GN, BIDHANNAGAR,
KOLKATA : 700 091.

TENDER NO. I-18012/7/26(26)

NOTICE INVITING E-TENDER

for

**Supply, Installation, Integration, Testing and
Commissioning and Operation of 18-m.
Diameter Full-Dome Digital Active 3D
Immersive Projection System.**

At

Science City, Dehradun (Uttarakhand)



Ministry of Culture
Government of India



NATIONAL COUNCIL OF SCIENCE MUSEUMS
SECTOR-V, BLOCK-GN, BIDHANNAGAR,
KOLKATA : 700 091.

NOTICE INVITING E-TENDER

TENDER NO. I-18012/7/26(26)

Name of the work: Supply, Installation, Integration, Testing and Commissioning and Operation of Full-Dome Digital Active 3D Immersive Projection System at Science City, Dehradun, PIN - 248007, Uttarakhand.

On-line Digitally signed open e-tenders are invited in Two-Bid System from the manufacturers, their authorized registered Indian agents or system integrators for Supply, Installation, Integration, Testing and Commissioning and Operation of Full-Dome Digital Active 3D/ Immersive Projection System for an 18-meter diameter (18 degree tilted) perforated aluminum dome screen with necessary geometrical correction, image stitching and blending etc. for seamless projection of **6K (or higher)** resolution Active 3D digital Full-Dome film shows and digital planetarium video shows as per the laid-out specifications at Science City, Dehradun, Uttarakhand. Interested bidders may download the tender documents from the Central Public Procurement Portal www.eprocure.gov.in or from the Council's website www.nscm.gov.in.

Important dates and information are as given below:

1	Bid Document Published Date	07/05/2026
2	Bid Document Download Start Date	07/05/2026
3	Pre-Bid Clarification Start Date	08/05/2026
5	Pre-Bid meeting Details To be held on hybrid mode.	Date & time : 20.05.2026, 3.00 p.m. onwards. Place : National Council of Science Museums (NCSM), 33, Block GN, Sector V, Slat Lake, Bidhan Nagar, Kolkata - 700091 (Link for Pre-Bid meeting is mentioned below.)
6	Last date of submission of Pre-Bid Queries or clarifications	<u>18.05.2026</u> , 16:00 hrs IST only at the following email id: spo@ncsm.gov.in .
7	Bid Submission Start Date	22/05/2026
8	Bid Submission End Date	28/05/2026

9	Technical (Techno-Commercial) Bid Opening Date	29/05/2026
10	Date Place of Technical Presentation	To be notified later
11	Financial Bid Opening Date	To be notified later
12	Estimated Cost of Project	Rs. 20.00 Cr
13	EMD	Rs. 45.00 Lakh
14	Security Deposit (SD) /Performance Guarantee (PG)	5% of the Quoted Value

Link for Pre-Bid meeting: -

Topic: Supply, Installation, Integration, Testing and Commissioning and Operation of Full-Dome Digital Active 3D Immersive Projection System at Science City, Dehradun, Uttarakhand.

Time: May 20, 2026 03:00 PM India

Join Zoom Meeting

<https://us06web.zoom.us/j/83768831284?pwd=a1UjTjsPbKjorDsXcyy6ZDeBdo5isJ.1>

Meeting chat link

<https://us06web.zoom.us/jc/83768831284>

Meeting ID: 837 6883 1284

Passcode: 974487

The Tender Inviting Authority (TIA) will open the tenders at the specified date & time and at the specified place as indicated in the NIT or as per the corrigenda issued in this regard. However, in case the specified date of tender opening falls on / is subsequently declared a holiday or closed day for the TIA, the tenders will be opened at the appointed time and place on the next working day.

Tender document can be downloaded from the Central Public Procurement Portal (CPPP) website "http:// eprocure.gov.in" and also from NCSM website: www.ncsm.gov.in.

1. **The Science City, Dehradun, Uttarakhand**, where the system is to be installed, is under construction. Necessary drawings are provided to ascertain and fully understand the nature and quantum of work before tendering. Representative of the bidder required to attend the Pre-Bid meeting in their own interest to understand the project details and can also submit their queries through email to the TIA. However, lack of knowledge of site conditions or deliverables cannot be considered as an excuse for mistake/misrepresentation/omissions in the bid.

2. Submission of the Bid: This Tender is an e-Tender and **bids are to be submitted through CPP Portal (<http://eprocure.gov.in>) only**. Bids submitted in physical forms will not be considered.
3. Bid submission: Both the Technical (Techno-Commercial) Bid and Financial bid, duly furnished in Cover-I and Cover-II respectively, should be uploaded within the due date and time as per the submission schedule. The responsibility to ensure the same lies with the bidders.
4. Authorized Registered Indian Agents of foreign manufacturers who are capable to render after Sales Service, shall submit copy of Bidder Agreement with the foreign manufacturer along with the tender.
5. NCSM reserves the right to amend/withdraw any of the terms and conditions in the Tender Documents or to reject any or all tenders without assigning any reason. NCSM also reserves the right to accept or reject any or all tenders in full or part without assigning any reason whatsoever. Selection of the Best Value Bid will be based on the lowest bid of technically qualified bidders.

Director
Central Research & Training Laboratory (CRTL), NCSM

Place : Kolkata

Date : 07/05/2026

General Information and Instructions

1. The instructions given herein will be strictly binding on the bidders and deviation, if any will make the tender or tenders liable to be considered invalid. Tenders incorporating additional conditions by the bidder are liable for rejection.
2. Bids shall be submitted online only in <https://eprocure.gov.in/eprocure/app>
3. The instructions given in “Instruction for Online Bid Submission” should be strictly followed during submission of the Bid.
4. Bid documents may be scanned at 100 dpi with black and white option which helps in reducing size of the scanned document.
5. For submitting the offer on behalf of overseas OEMs, the bidder would be required to produce a copy of their legal bidder agreement with their principal and a copy of registration / enlistment as an Indian agent failing which their bid would be disqualified.
6. **Earnest Money:**
 - a. The Earnest Money of **₹45,00,000/- (Rupees Forty-Five Lakhs Only)** shall be submitted in the form of Pay Order / Demand Draft / Banker’s Cheque / NEFT*/RTGS*/Bank Guarantee from any Nationalized Bank / Scheduled Commercial Bank. For NEFT, the details of our Banker are furnished below:

Bank Name	Indian Overseas Bank
Beneficiary Name	National Council of Science Museums
Branch Name	Sector V, Salt Lake, Kolkata Branch
Bank Address	GN-34/2, Sector V, Salt Lake, Kolkata - 700091
A/c No.	SB 164201000000491
IFSC Code	IOBA0001642

Pay Order / Demand Draft / Banker’s Cheque to be drawn in favour of **National Council of Science Museums** and **payable at Kolkata**. In case of submission of EMD through physical document, the same must be submitted to the TIA before the due date and time of submission of the bid. A copy of the receipt so obtained on submission of physical EMD/transaction details (in case of digital transfer) must be uploaded along with the technical documents in the Part - I of tender. Tenders received without Earnest Money Deposit (EMD) will be summarily rejected.

- b. EMD of the unsuccessful bidders will be returned within 01 (one) month after the award of the contract to the successful bidder on submission of request for refunding the EMD on the official letter-head of the bidder.

- c. Bank Guarantee submitted against EMD must be valid for 06 months from date of opening of technical bid and claim period must be 06 months after end of validity period.
- d. The EMD submitted by the successful bidder will be returned after receiving total **5%** of contract value as Security Deposit/Performance Guarantee in the form of Demand Draft/ Online payment/Bank Guarantee/hypothecated Fixed Deposits.
7. Validity of Bids: The Bids should remain valid for 180 days from the date of opening of financial bid.
 8. Rejection of Bids: Canvassing by the Bidder(s) in any form, unsolicited letter and post-tender correction shall invoke summary rejection. Conditional tenders will be rejected. Non-compliance of applicable General Information and Instructions will disqualify the Bid.
 9. The Bidders shall fill up the prescribed format for submission of details about the bidder as per "**Annexure-A**"
 10. Details of the equipment along with brochures that are considered for bidding by the agency for this project is to be provided in the Technical (Techno-commercial) Bid as per "**Annexure-B**" format duly signed by the authorized signatory.
 11. The person signing the tender document should be authorized for submitting the online e-tender.
 12. **Please ensure to submit the technical specification documents/brochures etc. of all equipment considered.**
 13. The Financial Bid shall be filled-in and signed by the authorized signatory online as per Proforma available at Central Public Procurement Portal e-tender system website <http://eprocure.gov.in/eprocure/app>. **Off-line Financial Bid shall not be accepted.**
 14. Tender must be uploaded in two separate covers marked Cover-1 (Technical Bid) and Cover-2 (Financial Bid/BOQ). The contents of Cover-1 and Cover-2 shall be as follows:-

Cover-1

- i. Details of the Bidder (as per **Annexure-A**) duly filled in and digitally signed with official stamp along with supporting documents such as copies of registration certificate, PAN, GST, authorizations, dealership etc.
- ii. All Technical details & brochures of the equipment etc. proposed to be used in the project execution as per "**Annexure-B**"
- iii. The scanned copy of "**General Terms & Conditions**" duly signed by the Authorized Signatory with official stamp as a token of acceptance of the bidders.
- iv. The scanned copy of "**Technical specifications and Scope of Work**" (**Annexure –**

- C) duly signed by the Authorized Signatory with official stamp as a token of acceptance of the bidders along with all documents referred in **Annexure-C**
- v. **“Technical Compliance Table”** (as per **Annexure-D**) duly filled in and digitally signed and stamped.
 - vi. Past Experience of executing similar works as per **Annexure – E**
 - vii. CA certified certificate establishing the average annual turnover as per **Annexure - F**
 - viii. Prescribed Undertaking by the “Original System Integrator/OEMs for the products” as per **“Annexure-G”** format, if applicable, duly signed by the Authorized Signatory with office stamp.
 - ix. Name, Address, contact details of contact person (mobile number, email etc.) of Indian Agent of overseas OEM.
 - x. Copy of proof of EMD submitted in the form of receipt / bank transaction slip etc. or Bid Securing Declaration if exemption is claimed by organizations registered under MSME / Start-up as per provisions of Govt. of India.
 - xi. Certificates of performance, maintenance & operation as per **Annexure – M**, **Annexure – N** and **Annexure – O**.
 - xii. All declarations
 - xiii. Declaration regarding non-blacklisting in the form of affidavit.
 - xiv. All essential documents in support of Eligibility Criteria as given in Clause-4 of General Terms and Conditions (viz., details of similar projects executed, financial turnover, registration certificate of the company/agency, PAN, GST, etc.) and schematic design, schematic drawings of proposed control room/console, mechanisms with complete technical specifications, procurement strategy, flow chart of the work, fabrication strategy on how the work shall be completed within the stipulated time.

Cover-2

- i. The “Financial Bid (BOQ)” i.e., Schedule of Price Bid duly filled in and digitally signed to be submitted online
- ii. “Cost Break-up” (as per **Annexure-H** format in **Part-A & Part-B**) duly filled in and digitally signed with an official stamp.
- iii. Duly filled-in **Annexure-I** with rates for operation of the facility and comprehensive annual maintenance contract for a period of 5 years post warranty.

Note: It should be ensured that all the columns of Cost break-up sheet are filled up failing which the bid could be rejected.

The Cover-1, i.e. Technical (Techno-commercial) Bid shall be opened by the Council at the first instance and evaluated by the competent authority of the Council. Those agencies who fulfil minimum eligibility criteria shall be called to make a presentation before the duly constituted expert committee. Marks are awarded for both documentation and presentation in the ratio of 50% & 50% respectively. Agencies scoring 70% and above in technical evaluation shall be considered for opening their financial bids. At the second stage, the Cover-2 containing Financial Bid of only techno-commercially acceptable offers shall be opened for further evaluation. Final evaluation of best value bid will be arrived based on Least Cost (Lowest Bid).

National Council of Science Museums
33, GN Block, Sector V, Bidhannagar, Kolkata
West Bengal - 700091

TENDER NO. I-18012/7/26(26)

Instructions for Online Bid Submission

1. The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submit their bids online on the CPP Portal.
2. More information useful for submitting online bids on the CPP Portal may be obtained at <https://eprocure.gov.in/eprocure/app>

A. REGISTRATION

- i. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link "Online Bidders Enrolment" on the CPP Portal which is free of charge.
- ii. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- iii. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- iv. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.) with their profile.
- v. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- vi. Bidders may then log-in to the site through the secured log-in by entering their user ID/password and the password of the DSC / e-Token.

B. SEARCHING FOR TENDER DOCUMENTS

- i. There are various search options built-in the CPP Portal to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters

such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.

- ii. Once the bidders have selected the tenders they are interested in, they may download the required documents/tender schedules. These tenders can be moved to the respective 'MyTenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- iii. The bidders should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification/help from the Helpdesk.

C. PREPARATION OF BIDS

- i. Bidders should take into account the original e-NIT/RFP and any subsequent corrigendum published on the tender document before submitting their bids.
- ii. Please go through the tender advertisement and 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 documents that need to be submitted. Any deviations from these may lead to rejection of the bid.
- iii. Bidders, in advance, should get ready the bid documents to be submitted as indicated in the tender document/schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with a black and white option which helps in reducing the size of the scanned document.
- iv. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use the "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for the bid submission process.

D. SUBMISSION OF BIDS

- i. Bidders should log-into the site well in advance for bid submission so that they can upload the bid in time i.e., on or before the bid submission time. Bidders will be responsible for any delay due to other issues.
- ii. The bidders have to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- iii. A standard Price Schedule format (BOQ) has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should

necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the blue coloured (unprotected) cells with their respective financial quotes and other details (such as the name of the bidders). No other cells should be changed. In case no rate value is required to be quoted in any particular cell, that cell may be kept blank, figure '0' (zero) shall not be entered in such cell(s). Once the details have been completed, the bidders should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidders, the bid will be rejected. In addition to the above, the Cost Break-up shall be submitted in tabular format duly digitally signed with an official stamp.

- iv. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- v. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of the bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system-generated symmetric key. Further, this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- vi. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- vii. Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message and a bid summary will be displayed with the bid number and the date & time of submission of the bid with all other relevant details.
- viii. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

E. ASSISTANCE TO BIDDERS

- i. Any enquiries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority.
- ii. Any queries relating to the process of online bid submission or queries relating to CPP Portal, in general, may be directed to the 24x7 CPP Portal helpdesk. The contact number for the helpdesk is 1800 233 7315.

- iii. All communications related to tender including the submission of Proposal should be **addressed to:**

To,
The Director
Central Research & Training Laboratory
33, GN Block, Sector V, Bidhannagar, Kolkata,
West Bengal 700091
email id: spo@ncsm.gov.in

**National Council of Science Museums
33, GN Block, Sector V, Bidhannagar, Kolkata,
West Bengal 700091**

TENDER NO. I-18012/7/26(26)

GENERAL TERMS AND CONDITIONS

1. DEFINITIONS:

1.1 In this Contract, the following terms will be interpreted as indicated:

- i. **“The Contract”** means the agreement entered into between the TIA and the Bidder, as recorded in the contract Form signed by the Parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- ii. **“The Contract Price”** means the price payable to the Bidder under the Contract for the full and proper performance of its contractual obligations.
- iii. **“The Materials/Equipment”** means all of the equipment, machinery, and/or other materials which the Bidder is required to supply to the TIA under the Contract.
- iv. **“The Services”** means those services ancillary to the supply of the Materials/equipment, such as transportation, insurance, all tools and tackles, all consumables and non-consumables required for carrying out the awarded work, and any other incidental Services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Bidder covered under the Contract.
- v. **“The TIA”** means the organization which issued this RFP for purchasing the specified system.
- vi. **“Bidder”** is a Bidder who has submitted their proposal/bid in response to this RFP issued by the TIA for supply of materials/equipment.
- vii. **“Day”** means calendar day.

2. APPLICABILITY:

These General Conditions of contract will apply to the extent that they are not superseded by provisions of salient features of the Bid.

3. STANDARDS:

The Materials/equipment supplied under this Contract will conform to the Standards mentioned in the Technical specifications, and, when no applicable standard is mentioned,

the authoritative standards appropriate to the Materials / equipment' i.e., BIS, such standards will be the latest. All material will be of the best class and will be capable of satisfactory operation under tropical conditions without distortion or deterioration.

4. ELIGIBILITY CRITERIA FOR BIDDERS:

The following are the Qualifying Eligibility Criteria for bidder.

- i. Limited Company/Corporation/Agency/Consortium/JV etc. are allowed to bid for the work. **(Annexure – A).**
- ii. The Bidder/agency could be the original manufacturer of the Digital Dome Projection systems, or authorized agent of the manufacturer or system integrators (SI) with authorization from various OEMs for their support & association with the project. In case the bidder is an authorized agent of the manufacturer, then the authority letters should be furnished with all the details. **If the SI is bidding, then SI must have experience with the present tie-up OEM, along with prior experience with other OEMs and SIs. At least one project must be with the current OEM.**
- iii. The Bidder shall have the experience of implementing Active 3D Full-Dome immersive projections systems. The Bidder must submit support/undertaking letter/s from OEMs/manufacturers etc. for (a) supply of the perforated domes manufactured, (b) supply, installation, configuration and support of software packages, driver required for this purpose developed by the agencies/companies, (c) AV equipment such as projectors, audio systems, etc. In case the bidder is an authorized agent of the manufacturer then the authority letters should be furnished with all the details.
- iv. The Bidder must have experience of having supplied and installed Active 3D Digital Full-Dome theatres /planetariums works worldwide within the last 10 (ten) years. The bidder must have installed at least 1 nos. of 15 m. dia or above sized dome projection theatres / planetariums having 4K and above worldwide which is operational. Operation and maintenance of the dome projection systems is a desirable qualification. (Annexure – E).

Notes:

- a) Here the similar works shall mean concept, design, supply, installation, testing & commissioning of multi-channel Digital Full-Dome (Active 3D) immersive projection system along with Aluminium Dome Screen, Multi-channel audio system, cove Lighting system, Theatre Acoustics.
- b) In the case of Consortium/JV participating in this E-TENDER, the collective works of all the individual members of the Consortium/JV done independently will be considered as valid work experience.
- c) Works done by one partner of the current JV/Consortium in with any other agency (other than the current partner) shall NOT be counted unless the role of contributions of all partners are specified in that JV deed.

- d) The details of qualifying works/projects shall be furnished as per the proforma in **Annexure – E.**
- e) NCSM may inspect any of those works at its discretion to verify the credentials of the bidder for the qualifying works/ projects indicated above for which the Bidder shall provide references (including Referee names and contact details) in respect of the projects implemented.
- v. In case of Foreign OEM being the bidder, they must have an authorized agent in India who will bid on their behalf. The authorized agent must have experience of installation and integration of multi-channel full dome digital projection system in India during the last seven years (The experience of authorized agent with other OEMs in the past supported with certificates issued by OEM shall also be considered). The documentary proof in this regard duly issued by the respective OEM, clearly indicating the kind of support/scope of work that the Indian partner provided during the installation to substantiate the relevance of the experience, must be submitted as per **Annexure - P.**
- vi. Proof regarding the experience of the Bidder in providing the maintenance support for multi-channel digital projection systems must be submitted supported with the proof from the client. Proof regarding the same must be submitted by the OEM as per **Annexure - N.**
- vii. The OEM of the major equipment like projectors, Audio Systems, UPS etc. proposed to be used by the bidder should have a base in India, preferably in Dehradun, and have their service centre set-up with sufficient spares etc. to undertake service / maintenance/ repair within a maximum of 48 hrs. in normal case and not exceeding 7 days in extra-ordinary situation. **Certificate/s to this effect issued by the OEM are required to be submitted by the Bidder.**
- viii. The Bidder should have a positive **net worth**. Balance sheet and profit and loss account of the bidder duly certified by the Chartered Accountant for the immediately 3 (three) preceding years should be enclosed to assess the financial soundness. **The bidder/OEM must demonstrate bank solvency certificate issued by commercial bank amounting to at least 50% of the project value.**
- ix. **Certificate of incorporation** / Business License issued by Government authority of the respective state.
- x. The **Average Annual Turnover** of the Bidder (of the lead partner in case of consortium/JV) for the last three financial years (2022-23, 2023-24 and 2024-25) should be minimum INR 20 Crore duly certified by CA. Ref: **Annexure - F**

Documents Required: Turnover of the bidder (of the lead partner in case of consortium/JV) and the duly certified document from CA clearly indicating the Turnover of the last three financial years (2022-23, 2023-24 and 2024-25).

Xi. Past Experience Value Criteria

The bidder's experience in similar works/projects must meet **any one** of the following:

1. **One completed similar work**, costing not less than 80% of the estimated cost.

OR

2. **Two completed similar works**, each costing not less than 50% of the estimated cost;

OR

3. **Three completed similar works**, each costing not less than 40% of the estimated cost;

**

The bidder should provide documentary proof to clearly substantiate each eligibility criteria, failing which the bid will be summarily rejected.

Note:

- a) Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have made misleading or false representation in the forms, statements and attachments submitted in proof of the qualification requirements; and/or record for poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.
- b) Notwithstanding anything stated above the TIA reserves the right to assess bidder's capability and capacity to perform the contract should circumstances warrant such an assessment in the overall interest of the TIA.

5. JOINT VENTURES/CONSORTIUM

- i. The lead partner of the JV/Consortium shall be fully and solely responsible for the performance of the contract and all works to be designed and executed under the contract.
- ii. Bids submitted by a consortium or joint venture shall have a maximum of three partners/ firms including lead partner and all partners shall comply with the following requirements:
 - a) The JV/consortium as a whole must be a sound entity technically and the lead partner must be a sound entity financially.

- b) The JV/Consortium must satisfy the qualification criteria set forth herein. The turnover of the lead partner must satisfy the eligibility criteria of the tender. The bid shall contain a statement of the members of the consortium and shall provide all information necessary to satisfy Client/Employer that the Consortium fulfils the qualifying criteria.
- c) The Bids shall contain original copy of the Memorandum of Agreement (MOA) on Rs.100/- Non-Judicial Stamp paper (or as applicable) among the JV/consortium members clearly identifying the lead partner, scope and responsibility and financial part of each member in the performance of the contract.
- d) The JV/consortium members will obtain approval of the Client for any change in the shareholding structure and scope of work or any other terms of MOU.
- e) The lead partner of the JV/consortium shall be nominated as being in-charge to represent the JV/Consortium in all dealings with the Client/Employer and for providing any information or clarification sought from the JV/Consortium.
- f) The Bid shall be signed by all the consortium firms by their authorized person. The lead partner shall be authorized to incur liabilities and receive instructions for and on behalf of any and all member(s) of the JV/Consortium and all dealings including billing and payments, shall be done exclusively with the lead partner of the JV/consortium.
- g) All members of the JV/Consortium shall be liable for the execution of the project in accordance with the terms of the MOA and Contract agreement.
- h) Any individual bidder or member of a consortium cannot be a member in another consortium that participates in this tender or cannot participate as an individual entity.
- i) All correspondence or communications will be done by the Lead partner (or authorized representative of Lead partner) of the consortium.
- j) Bidders submitting their bid shall not be under liquidation, court receivership or similar proceeding.

6. EVALUATION / SELECTION CRITERIA

Following a two-stage Evaluation viz. Technical Evaluation and Financial Evaluation will be adopted in evaluating the proposals, best value bid would be decided on Least Cost Method.

- i. Eligibility Criteria Evaluation: Any shortcoming of the documents may lead to rejection of the bid and other envelopes will not be opened.
- ii. Technical Presentation Evaluation: The agencies qualifying on the basis of their credentials /evaluation will only be called for Technical Presentations which can be at a very short notice of **7 (seven)** days.
- iii. Financial Bid Opening: Only the bidders/firms securing the minimum qualifying marks based on Eligibility Criteria Evaluation and Technical/Presentation Evaluation as described in details below will be eligible for their Financial Bid Opening & Financial Evaluation.

A. Technical Evaluation

- i. The Technical Evaluation Committee (TEC) appointed by the competent authority shall carry out its evaluation applying the evaluation criteria specified in the bid document. Evaluation of the application would be done based on the documents submitted. Bidders/agencies who are in the trade and are fulfilling the eligibility criteria as per the documents required would only be called for presentation, with notice time varying between seven - ten days. The right to call for missing historic documents is reserved by the TIA/TEC.
- ii. Further, during the technical presentation the evaluation would be carried out where the technical evaluation would be given up to 100 marks.
- iii. Each responsive proposal shall be awarded a technical score. On the basis of the technical assessment, agencies securing minimum 70 marks out of 100 will be shortlisted and the financial bids of only the shortlisted agencies will be opened. The date and time of opening of the financial bids will be intimated to the selected / shortlisted agencies through CPP portal.

Technical Evaluation Marking Scheme

The Technical Bids will be evaluated on the basis of the indicated parameters in the table below:

Evaluation of bids found eligible as per eligibility criteria would be undertaken by the Technical Evaluation Committee Constituted by the competent authority as per parameters cited below.

Sl. No.	Parameter	Criteria	Max. Marks 100	Marks Allotted
1.	Experience of applicant/agency in the tendered work Scoring 7 Marks under this category is mandatory to qualify.	5 Years - 7 Marks	10	
		More than 7 years up to 10 years - Bonus 8 Marks		
		More than 10 years - 10 marks		
2.	Financial Turnover Scoring 7 Marks under this category is mandatory to qualify.	i. For average annual turnover above Rs. 20.00 Crore -7 marks	10	
		ii. For additional average turnover in excess of Rs. 20.00 Crore @ 1 mark per Rs. 2.00 Crore each. Maximum Marks - 10 marks		
3.	Similar Work Experience Scoring 15 Marks under this category is mandatory to qualify.	Minimum Compliance – 15 marks Additional projects of Full-dome Active 3D projection theatres of dome sizes of 12 m. & above – 2 marks for each project subject to a maximum of 10 marks.	25	
4.	Operation and Maintenance experience	Minimum 1 project - 3 Marks 1 mark for each additional project Maximum Marks - 05 Marks	05	
5.	Technical presentation before the Technical Evaluation Committee	a. Design and execution of Full-Dome Active 3D theatre as per scope of work and technical specifications given in the tender document - 20 Marks	50	
		b. Technology adopted / quality of proposed equipment - 15 Marks		

		c. Experience in execution of ancillary works such as supply and fixing of chairs, acoustic insulation, civil works etc. Max. 05 Marks		
		d. Quality and quantity of shows offered in package (free of cost) for the recorded planetarium shows – Max. 10 marks		
Total Marks			100	

Note: Scoring 70% in Technical Evaluation is mandatory to be eligible to open financial bid.

The bidder will have to make a presentation on the proposed solution along with the technical features, specifications, installation methodology, authorization by OEMs of domes, projectors, software etc. along with a bar-chart showing the timelines to be followed for the project to NCSM. The presentation shall cover in detail the comprehensive details, approach & methodology, Organization structure, Work program, Implementation strategy, offered equipment list, technical brochures and specification sheet, timeline etc.

B. Financial Evaluation

- a. The Financial Bids of the technically qualified bidders (who score 70% and above) will be opened online through CPP Portal.
- b. Best Value Bid will be decided based on Least Cost Principle
- c. Only fixed price financial bids indicating total price for all the work/services specified in this bid document will be considered.
- d. Details of the taxes and duties leviable on the basic cost to be indicated clearly in the financial bid.
- e. Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail".
- f. In the event the financial bids are "tied", the bidder securing the highest score in technical presentation will be declared as the Best Value Bidder for the award of the work.

Note:

1. **Please note that the cost of the complete system with 3-year onsite warranty and 3 years of operation will only be considered for evaluation /comparison of quotes of the bids. The rates quoted for AMC charges and Operation Costs for the period beyond warranty period of 3-years will not be part for comparison of financial bids.**
2. Technical Bids will be evaluated on the basis of documents as detailed above & presentations to be made by the eligible agencies before the Constituted Committee. The date and time of the presentations will be conveyed to the eligible agencies.

7. PRICE:

The Bidders are required to put their quotes in the BoQ online ONLY and submit the break-up sheet as given in **Annexure – H (Part – A & Part – B)**.

The prices quoted will remain firm and valid and no escalation whatsoever shall be considered. The price quoted shall include:

- a) all incidental charges like packing, forwarding, freight up to installation site, insurance of equipment & installation manpower, delivery at premises and unloading of the consignment etc. as may be applicable to this tender for supply installation, commissioning, testing and training to the satisfaction of the TIA
- b) onsite comprehensive warranty (3 Years) for the complete and integrated functional Full-Dome Active 3D digital immersive projection system including the dome, projectors, Audio system, sound-proofing, all equipment, and all accessories etc. at Science City, Dehradun, Uttarakhand,
- c) The price should include the cost of all civil work inside the dome (excluding the dome supporting ring frame and levelling requirements), electrical work, cove lighting, reclining chairs etc., and providing training for the operation of the system to the staff of Dehradun Science City, Dehradun & representatives of National Council of Science Museums/Science City, Dehradun, Uttarakhand.
- d) The bidder should study the civil drawings of the site of installation before submitting their bids. All necessary components of work (including men and materials etc.) required to accomplish the project based on the drawings provided shall be included in the costs quoted by the bidder. Only minor modifications in the designs could be considered, if feasible.
- e) Inclusive of all supports, strengthening tie-rods / stay-cables, anchors, scaffoldings, supporting structures etc. required for the sturdiness of the dome to prevent it from any kind of sagging, access stairs / ladders etc. for upkeep/maintenance of systems

behind the dome screen etc.

Note:

- 1) Bidders may submit the rates in INR. only.
- 2) Science City, Dehradun, Uttarakhand will have the final ownership of this project.
- 3) Invoice shall be made in the name of NCSM, Kolkata for making the payment. However, warranty certificates, brochures etc. shall be in the name of Science City, UCOST, Dehradun.
- 4) Please note that NCSM shall accept offers on Delivered at place of installation (DAP) basis only.
- 5) In case of overseas consignment on Delivery on-site basis, transport cost from the nearest Airport / Seaport to the site shall be borne by the bidder. Also unloading of the consignment should be borne by the bidder.
- 6) No GST exemption (Form C/E/D) will be issued. Prices and rates quoted shall be firm and fixed for the entire period of execution of the order and no escalation of rates on any ground whatsoever shall be accepted.

8. TIME OF COMPLETION:

Time is the essence of the work. The entire work comprising supply, installation, commissioning, testing and training for the complete integrated functional full dome Active 3Ddigital immersive projection system for a 18-meter diameter perforated aluminium dome screen with geometrical correction, image stitching and blending etc. for seamless projection of high resolution Active 3Ddigital full dome film shows and digital planetarium video shows at Science City, Dehradun, Uttarakhand shall be completed within **9 (nine)** months from the date of placement of confirmed order. **No extension of time will be granted under normal circumstances.**

9. PROGRESS

The selected bidder shall be responsible for proper co-ordination with NCSM and the Site Authorities at Dehradun and continuous supervision of these works at site to ensure the desired quality of workmanship and use of specified and approved materials and the end result.

Every effort should be made to complete the entire work by the successful bidder within the specified time. In case the successful bidder fails to comply with the specified time schedule as per the approved bar chart and accepted terms and conditions, and where the progress of work is not found satisfactory, and commensurate with the expected progress as per the bar chart, NCSM reserves the right to cancel the order. The decision of NCSM in this regard shall be final and binding on the successful bidder. The successful bidder cannot claim any compensation for such cancellation or determination of contract.

10. INSPECTION:

The successful bidder shall also mandatorily arrange for inspection of the equipment including its accessories at the site on completion of supply, whenever desired by the authorized officials of NCSM. Any /all defect(s) pointed out to the successful bidder by the competent representative of NCSM during such inspection shall be promptly rectified at the cost (including material cost) of the successful bidder to meet the desired quality, and specification as per requirement of NCSM specified in the RFP/as communicated failing which penal action shall be taken as deemed fit by NCSM. The decision of NCSM in this regard shall be final and binding on the successful bidder.

11. GENERAL TERMS OF PAYMENT

No payment will be made in advance. However, interim payments will be made as per the details mentioned below:

- a) For materials / equipment brought to site: 60% of the invoiced material cost will be considered for release after the materials / equipment are brought to site are received in safe and proper condition.
- b) In case of imported items by the bidder, 30% of the invoiced amount of the equipment will be released after submission of shipment details and insurance documents for transit insurance of the equipment.
- c) Regarding fabrication of the supporting structure for the dome and the interiors, part payment will be considered depending upon the progress of work at the discretion of the competent authority of NCSM.
- d) Stage-wise completion will be considered for the items of work completed such as dome installation etc. for payment after adjusting the advances paid, if any, for such component of work/equipment etc.
- e) The Security Deposit/Performance Guarantee (SD/PG), as applicable, will be deducted from each bill in case exemption is provided for submission of the same upfront at the time of placing work order.
- f) All necessary statutory deductions /recoveries viz. TDS, TDS GST, Labour Cess, etc. shall be made as per the relevant provisions from the payment due to the bidder from time to time.

- g) On 100% completion of the work, 90% of the total project cost will be released within 2 months from the date of successful completion of setting up of the system duly certified by the Authority's authorized representative team/person/committee.
- h) Balance money (other than the SD/PG) payable shall be released within 30 days after satisfactory completion of 3 months of successful operation of the system without glitches.

All payments, as above, shall become payable within thirty days of submission of the respective invoices (unless and otherwise where it is specifically mentioned) duly supported by documents such as completion certificate/ performance certificate etc. The payment shall be transferred to the bank account of the successful bidder through electronic transfer only, for which the bank details of the bidder have to be provided with each invoice.

12. WARRANTY, ANNUAL OPERATION & MAINTENANCE:

- 12.1 The entire system (including dome, projectors, UPS, software, AV system etc. under this RFP) shall have an on-site comprehensive warranty of 3 years from the date of successful completion of set-up.
- 12.2 The operation of the system shall be done by the bidder **initially for a period of 3 years on payment basis** – payment will be released on a half-yearly basis based on satisfactory operation of the system. The organization might continue the operation contract for any further period at its discretion.
- 12.3 Regular upkeep and maintenance shall be the responsibility of the agency during its operation contract duration.
- 12.4 Upon completion of the warranty period / operation & maintenance contract period, whichever is later, the agency shall hand over the system in perfect and proper working condition.
- 12.5 **The money retained towards the operation and maintenance security shall be released on handing-over the system in proper condition back to the organization.**
- 12.6 Annual operation contract will be awarded to the Indian associate of the foreign bidder.

13. PENALTY CLAUSE

In case of non-completion of the entire work within the stipulated time and/or when the delay is not attributable to site requirements, **Liquidated Damage (L.D.) @ 1% of the tendered value per week** shall be recovered from the bill of the successful bidder subject to a maximum of 10% of the tendered value. Regarding the operation of the system, in case of deficiency of services by the agency to operate the system as per instructions of authorities of Dehradun Science City, proportionate deductions shall be affected at the discretion of the authorities.

14. DEFECT LIABILITY PERIOD / ONSITE COMPREHENSIVE WARRANTY PERIOD:

The Defect Liability /Warranty period shall **be Three Years from** the date of certification of the completion of satisfactory installation and commissioning of the system. The successful bidder shall be responsible for all defects of the installed equipment, manufacturing or other defects of components, playback and associated software etc. for a period of Three Years from the date of satisfactory completion of the installation and commissioning of the system. The successful bidder, shall at their own cost, rectify the defects and or replace the defective parts/equipment, up to the complete satisfaction of the competent authority of the NCSM/ Science City, Dehradun, Uttarakhand within reasonable time. The successful bidder shall maintain an inventory of all necessary components to reduce downtime.

In case of deficiency of services during the DLP or during the operation of the system, the authorities of Dehradun Science City, Dehradun reserves the right to deduct necessary penalties for such deficiencies which shall be final and binding on the bidder.

15. PLACEMENT OF ORDER AND SUBSEQUENT PROCESS:

Upon finalization of the agency based on the process of evaluation as detailed above, a letter of intent (LoI) shall be issued by the NCSM to the successful bidder. The successful bidder shall, upon receipt of LoI, must submit:

- a) Order will be placed for SITC of the system only at the first instance.
- b) Duplicate copy of the work order duly signed alongwith official stamp on all the pages as a token of acceptance of the order.
- c) Non-judicial stamp paper of appropriate value for entering into an agreement.
- d) Submit the Security Deposit / Performance Guarantee amount in the manner as detailed in acceptable format within specified time.
- e) Order for the Operation of the system will be placed on Year-to-Year basis by either NCSM or Science City Dehradun.

After compliance of the above aspects, a formal Work Order shall be issued to the successful bidder to enable them to execute the work. The date of issue of the Work Order shall be reckoned as the start date of work.

16. Specifications of the items under tender are enclosed for guidance. However, if any ambiguity in the specification is detected, it shall be promptly brought to the notice of the TIA for clarification. The successful bidder should obtain written approval of TIA for any deviation

from the approved specifications, if required due to site conditions or for betterment and safety of visitors and installations.

17. The authorities of NCSM reserve the right to amend, alter or modify the terms and conditions, specifications of the items if necessary for betterment and safety of visitors. No additional cost shall be borne by NCSM for such amendments.

18. In case the successful bidder refuses to accept the offer after finalization or does not comply with clause 15 of General Terms & Conditions within 07 (seven) working days from the date of placement of the order as per the finalized and accepted terms & conditions, earnest money deposit would be automatically forfeited and the order shall be cancelled forthwith.

19. The authorities of NCSM do not bind themselves to accept the lowest tender and reserves the right to accept or reject any or all tenders wholly or partially without assigning any reason whatsoever.

20. The successful bidder shall obtain necessary trade and other licenses/permissions as may be required to carry out the tendered job at Science City, Dehradun, Uttarakhand and shall also be responsible for Compliance of all statutory rules and regulations which may be in force time to time from the appropriate authorities at their own cost.

21. NCSM/Science City, Dehradun, Uttarakhand shall not be liable for any injury or death of an employee who is deployed by the successful bidder within/outside the work site during the time of execution of the work order.

22. The successful bidder shall not transfer wholly or partially the order of supply, installation, testing and commissioning of the equipment to any other person(s) / firm / company for any reason whatsoever and in which case the order shall automatically stand cancelled.

23. The successful bidder may engage suitable and competent agencies to take up the necessary civil, electrical requirement etc. related works inside the dome as per **Annexure-L**.

24. All disputes and differences between the successful bidder and National Council of Science Museums of any kind whatever arising out of or in connection with the order on carrying out supply, installation, testing and satisfactory commissioning of the system and during the period of Three Years (onsite warranty and operation) and further during the subsequent period of five years of operation and maintenance beyond the warranty period (whether during the progress of the work or after the completion of work and whether before or after the determination, abandonment or breach of the terms and conditions of the order) shall be referred to the sole arbitration of a person nominated by the National Council of Science Museums, whose decision in this regard will be final and binding on both the

successful bidder and the National Council of Science Museums. The provisions of the Arbitration and Conciliation Act 1996 or any statutory modification or re-enactment thereof and of the rules made there under for the time being in force shall apply to arbitration's proceedings under this Clause. Jurisdiction for any legal disputes, other than arbitration, shall be Kolkata, West Bengal, India.

25. Errors & Rectification: Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail".

26. Make in India products would be preferred as far as practicable.

27. All other conditions given in the tender document under various sections shall stand valid and the successful bidder shall abide by them.

28. SECURITY DEPOSIT:

- i. The Security Deposit/ Performance Guarantee shall be 5% of the gross value of work order and shall be submitted by the successful tenderer in the form of demand draft/electronic fund transfer/Bank Guarantee/pledge FDs in the name of NCSM within 10 days from the date of issue of work order. In case, the gross value of the work executed is more than the ordered value, the successful tenderer shall submit additional Bank Guarantee for the differential amount before the release of final payment. For NEFT the details are as mentioned below:

Bank Name	Indian Overseas Bank
Beneficiary Name	National Council of Science Museums
Branch Name	Sector V, Salt Lake, Kolkata Branch
Bank Address	GN-34/2, Sector V, Salt Lake, Kolkata - 700091
A/c No.	SB 164201000000491
IFSC Code	IOBA0001642

- ii. The security deposit shall be released after expiry of the defect liability period of six years (including one year of claim period) from the date of satisfactory completion of the installation and commissioning of the system.
- iii. Bank Guarantee submitted against Security Deposit must be valid for 5 years from date of submission and claim period must be 12 months after end of validity period.

- iv. In case of cancellation of the contract, the Security Deposit submitted by the tenderer in the form of demand draft/electronic fund transfer/Bank Guarantee shall be revoked and the amount necessary to make up this amount shall be recovered from any money due to the successful bidder under this or any other contract with NCSM.

- v. In case of death of a successful bidder, Security Deposit shall be returned/refunded to the legal heir of the successful bidder after adjustment of dues, if any, post the actual completion of the work & upon expiry of the specified guarantee/defects liability period.

29. FORCE MAJEURE

In the event of either party being rendered unable by Force Majeure to perform any obligation required to be performed by them under the contract, the relative obligation of the party affected by such Force Majeure shall be suspended for the period during which such cause lasts. The term "Force Majeure" as employed herein shall mean acts of God, War, Civil Riots, Fire directly affecting the performance of the contract, Flood and Acts and Regulations of respective governments. Upon the occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid thereby, shall notify the other party in writing, the beginning of the causes amounting to Force Majeure as also the ending of the said clause by giving notice to the other party within 72 (Seventy-two) hours of the alleged beginning and ending of the cause respectively. If performance under this agreement is suspended by Force Majeure conditions lasting for more than two months, either party shall have the option of cancelling this agreement in whole or part at its discretion without any liability on its part. Time for performance of the relative obligation suspended by Force Majeure shall stand extended by the period for which such cause lasts.

As soon as the cause of Force Majeure has been removed, the party whose liability to perform its obligation has been affected shall notify the other party the actual delay occurred in such affected activity and resume the performance immediately.

* * * * *

Annexure -A

TENDER NO. I-18012/7/26(26)

DETAILS OF THE BIDDER

1	Name of the Bidder	
2	Details of the Bidder viz. Limited Company / Corporation / Agency / Consortium / JV	
3	In case of Consortium or JV, Name and Address of the Lead Partner (maximum permitted members is three)	
4	Mailing address of the Bidder/Lead Partner with PIN/ZIP Code	
5	Contact details	
	Name of contact person Authorized to Bid and Correspond	
	Telephone numbers(s)	
	Mobile	
	E-mail address	
	Website	
6	Details of registration in India (Registration Details) (Submit Registration Copy)	
7	PAN Details (submit a copy)	
8	GST Details (submit a copy)	
9	Single point contact details for all post- installations service-related issues with hierarchy levels (if any)	
10	a. Background details of the Bidder (State whether original manufacturer / authorized Registered Indian Agent of the manufacturer).	
	b. In case of authorized Registered Indian Agent, submit notary certified copy of the Bidder Agreement with the manufacturer.	

	c. Name and Address of the Vendor to whom the order will be placed (NCSM would like to procure the entire system from a single source)	
11	Whether capable to supply and install the Full-Dome System as per minimum requirement/and Technical Specification given in Technical Specifications and Scope of work <u>Annexure – C</u> (Please mention “YES” or “NO”)	
	a) If it is mentioned “NO” above, submit detailed deviation to be made from enclosed Technical Specification. (Attach extra sheet, if required)	
	b) Submit the detailed specifications of the offered product including copies of Product brochure	

Dated:

**Official Seal & Signature of the
Bidder/ Constituted Attorney**

Annexure – B

Technical details & brochures indicating the detailed technical specifications of the system as given in the table below: -

1	Provide a schematic / drawing showing the recommended seating arrangement for the theatre & location where the equipment(s) offered shall be housed (Submit detailed design and drawing of sitting layout)	
2	Shelf-life time of the Digital immersive full dome 2D/ Active 3D projection system (i.e., up to which period technical support as well as spare parts including consumables shall be available with the firm).	

Sl. No	Details of Information Required	Qty	Yes/ No
i.	Provide Details of Civil and electrical work (if any) including air-conditioning for the projectors and servers' enclosures required by the bidder.	1 Set	
ii.	Details of Projector Array with special mountings. This set should contain number of projectors proposed, its make, complete specifications, its weight, dimensions, details about lenses, heat load, noise generated etc.	1 Set	
iii.	Edge blending and geometric correction details	1 Set	
iv.	Image Generator Server, playback system details including specifications and product catalogues. Software for conversion of large format shows into Full-Dome and digital library and software for playback.	1 set	
v.	Display management, calibration and alignment system details	1 Set	
vi.	Show control System details	1 Set	
vii.	Networking and data cabling schematic layout	1 Set	

viii.	7.1 surround sound system details including product catalogues, location of speakers etc.	1 Set	
ix.	IR emitters, active 3D spectacles and storage, sterilization & charging details.	1 Set	
x.	LED cove lighting, exit and emergency exit signage and LED step lighting with all associated electrical wiring works	1 Set	
xi.	Complete details of Online U.P.S with 30 minutes back-up (with parallel redundant system) including technical catalogues/ brochures	1 Set	
xii.	Details design of the Seating platform (in steps) with rectangular or square tube (having wall thickness 3.25 to 4 mm or higher) with 2 nos. of 19 mm Ply wood) with Seating layout and design details of reclining chairs along with line-of-sight diagrams. (Locally available materials may be considered).	1 Set	
xiii.	Details of sound proofing and acoustic treatment required to be executed at site to be submitted along with specifications of materials (locally available materials may be considered), schematic drawings with expected outcome.	1 Set	
xiv.	Indicative list of documents/manuals/drawings that shall be provided to NCSM while handing over. Suggested training scheme, topics may also be included in this set	1 Set	
xv.	Bar chart / Timeline for execution of the entire work from the date of placement of order indicating therein parallel activities and critical path to establish completion of the entire work within the stipulated time schedule	1 Set	
xvi.	List and quantity of all spares that shall be provided by the bidder initially to fulfill onsite comprehensive warranty of Three years. (All the tools, tackles, gadgets, devices that shall be required for measuring, operation, maintenance, testing etc. shall be included in this list and shall form part of the initial supply.)	1 Set	
xvii.	Information/Details regarding any other items not included above may be submitted in this set.	1 Set	

Note: Bidders shall provide detailed Bill of Quantities of each item as mentioned in the above table and proposed for this offer along with schematic system architecture and product catalogues for all equipment and major hardware items.

I / We hereby declare that the above statements are true. I / We also declare that I / we shall abide by the decision of NCSM, Kolkata regarding selection of eligible firm(s) / type of equipment or system / hardware / software/ film/ multimedia show contents scheme for opening of Financial Bid (Part-II).

Dated:

**Official Seal & Signature of the
Bidder/ Constituted Attorney**

ANNEXURE - D

TECHNICAL COMPLIANCE TABLES

SCREEN

Specifications	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Screen type and dimensions	The 18-meter diameter 18-degree tilted dome made of good quality aluminum perforated sheets with necessary ribs, support structures and industrial grade supporting mechanism /system. The perforation should have a pitch of about 1.8 mm and having 0.8 – 1.00 mm diameter holes. The panels should be painted/powder coated to enable scope for future repainting of the screen if required and shall have seamless joints, with single line of rivets/crimps with seamless overlaps.		
Insulation for Dome Screen	Blackout insulation jacket with ASTM E84 standard with minimum 1 inch thickness and NRC 0.6 to be installed on the top of the Dome screen and to be supplied and installed by the Dome manufacturer.		

PROJECTOR ARRAY

Specifications	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Number of Projectors	Please specify the total number of projectors and their make proposed to be used in the projector array. NB: All Projectors must be of same specifications and from OEM and shall directly project contents on the dome screen.		
Projector array	To cover 18-meter dome screen tilted at 18 degrees		
Total Resolution before and after blending	53MP or higher (before blending) and 26 MP or higher (after blending)		

Mounting	Projectors are to be mounted on the specially designed structure around the dome periphery. Each mount/cradle shall provide full optical alignment and calibration support along each of the X, Y and Z axes as well as rotation about the horizontal axis.		
-----------------	---	--	--

PROJECTORS Makes: Christie, Barco, Sony, Panasonic or equivalent (duly approved in advance on production of technical details establishing the equality)

Specifications	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Display Technology	Three chip DLP		
	Source : Pure RGB Laser or Laser Phosphor Technology		
Minimum native Resolution, Brightness & contrast	4096-pixel x 2160, 120 Hz, at minimum 5000:1 contrast ratio and 32000 ANSI Lumens. <u>Wobulation is not allowed</u>		
Internal Input/ Output Ports	HDMI/Display Port / QSFP+		
Input /Output Control & networking	RS232, TCP/IP.		
Lens Options	Standard Zoom to Wide Angle Zoom to cover the entire screen area as specified (please specify further technical details along with type and OEM of lenses to be used).		
Calibration	Support for controlling individual colour and intensity on each colour channel.		
Source Life	Minimum 25000 hrs.		
Operating Hours	The System shall be capable of being used for twelve hours per day 364 days in a year.		
Monitoring Parameters	Source life, Fan status, Temperature status, etc. Self-contained liquid cooled		

Noise	<45 db at 25°C per projector		
Accessories	All standard accessories including IR remote, Line cord etc.		
Active 3D	The offered projector has to offer Active 3D technology (120Hz) and support 3D@120 Hz per eye.		
Color gamut	98% of the Rec. 2020 color space		
Warranty	Manufacturer's onsite standard warranty of not less than five years on projectors.		

BLENDING AND GEOMETRY CORRECTION (BG) UNIT:

Specifications	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Spec. of Software proposed			
Image	Geometry Correction		
Operations	Hardware Edge Blending for Laser Light Source, Colour Correction and Matching		
	Uniformity, Correction, and Matching		
	Software for geometric correction shall be incorporated in the system.		
Software Presets	Software Presets should be available for Switching Brightness of Projectors for 2D &3D Projection Modes.		
	The system must have software and hardware to adjust and caliber the geometric auto alignment and auto edge blending of the digital projection system automatically and must be integrated into the show manager software.		
	Masks (blends) of top-quality glass with a light transmission of minimum 97% with lifetime of 20,000 hrs. should be physically connected to the projector base to ensure permanent position relative to the projector and lens. The masks should be double-sided with		

	antireflection coatings. Mask cleaning technology & instruction should be provided.		
Auto alignment and calibration	Software, hardware and camera-based mechanisms to be included in order to ensure error free edge blending / geometric correction on screen as well as to maintain uniform colour, And contrast on projectors and dome screen.		
	Auto alignment, auto edge blending, and correction system shall be available in the system through GUI.		
	Software Preset to manage optimum brightness levels of Projectors in 2D and 3D modes.		
Tools for Verification of calibration and alignment	Set of Instruments and software for verification of calibration and alignment parameters at site as per table 1.5.1.		

IMAGE GENERATOR SERVER AND PLAYBACK SYSTEM WITH FULL DOME SOFTWARE (MINIMUM 12+2+2 STANDBY. (LESSER NOS. ARE PREFERRED DUE TO EASE OF INSTALLATION AND MAINTENANCE)

Specifications	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Image Generator	<p>CPU, with a minimum of 8 cores, 16 threads, minimum 22 MB Cache and with the Pass Mark CPU Mark test result of min. 26000 points. The offer must be accompanied by a printout from the website: http://www.cpubenchmark.net confirming the fulfilment of the above condition.</p> <p>RAM 64 GB DDR5 ECC with a frequency of at least 4800MHz.</p> <p>Graphics card with at least 7680 CUDA Core; min 60 3rd generation RT cores; min 240 - 4th generation Tensor Cores; single precision performance min 39 TFLOPS; RT Core Performance min 91 TFLPOS; Tensor Performance min 630 TFLOPS, 24Go GDDR6</p>		

	<p>ECC, Ada architecture. Genlock Sync Card SSD drives with enough space to store system, simulation software data and 15 hours of video at native resolution. Integrated backup SSD allowing backup of data & system</p>		
Media Server Architecture	<p>Fully Genlocked hardware & software Choice of video codecs from lossless Full control of distortion correction-warp & blend & channel management. 10-bit per RGB channel colour depth capability.</p> <p>Full control of distortion correction-warp & blend & channel management.</p> <p><u>No cutting, slicing or re-rendering of dome-master media.</u></p>		
Preprocess Data transfer Rate*	<p>-jerks, flicker or image tearing should appear on screen. Frame rates up to 120 fps per eye for ACTIVE stereo.</p>		
Central Data Storage & Remote Service Server (NAS)	<p>least 30TB fully redundant RAID 5 adaptive NAS for Media storage.</p> <p>dedicated Remote service server for online maintenance</p>		
Image Source	<p>they must be able to display images from various sources:</p> <p>From previously prepared shows, encoded in popular formats such as XVID-H.263, AVC-H.264, HEVC-H.265 etc. Obtained from an external source via streaming.</p>		

Ports and Connections	e Contractor will place two HDMI or Display Port inputs, allowing to connect external HDMI or Display Port signals and capture them into the digital projection system. These inputs must be able to capture the image in a resolution of 3840x2160@120Hz. In this way, the digital projection system will enable real-time display of any content from an external source connected by the presenter in flat mode with a resolution of 3840x2160@120Hz or a 3840x3840@120Hz Full-Dome content. Network Device Interface low latency video streaming technology must be used between those inputs and the image generators.		
------------------------------	---	--	--

SHOW MANAGER

Specification	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Provision of multiple usages of show	<p>The show manager should be capable of using full dome 2D / 3D digital shows by different developers around the world in 4K/8K.</p> <ul style="list-style-type: none"> The system should be compatible (video & audio) for the full dome shows either converted from large format films into digital or the digitally created with live shoots (not animation). All details in this regard are to be provided. 		
Show Elements	<p>The following minimum elements need to be provided for creating in house shows.</p> <ol style="list-style-type: none"> Full dome videos Full dome Clips Audio clips Text Labels and Text Boxes which can be added in live shows in English. Self-defined lines, grids, scales Software compatible to the supplied system to create shows should be licensed. There should be provision for on line updating. The text editor to create show elements should be capable of handling English. 		

	9. Still images (regular images, panoramas)		
Show Player	<p>The tool for reproduction and control of shows, image distribution to the various channels, distortion correction, brightness and gamma adaptation as well as diaphragm calculations should be effective in real time, without prior slicing of raw images/customized ones in the software.</p> <ul style="list-style-type: none"> ● Interference with a running show through the familiar control commands (Play, Pause, stop etc.) should be available in the User Interface, ● Player must support general commands, such as controlling the dome illumination cove lights and configuring the projector. ● All the Player functions should be loaded onto a PDA/IPAD or other new technology devices, which can then be used to wireless remote control pre compiled shows as an alternative to the computer control. And MPEG/HVEC encoder must be supplied with the system to enable the user to recode raw images or customised ones in the software to be converted in to full dome videos compatible to the system. Capable of projecting shows of 4K and 6.5 K both in 2D /3D. 		
Compatibility for content made in different software.	The system should be capable of playing all types of shows – full dome video shows including large format film digitally converted shows and 2D or 3D movies in the dome.		
Library of Images/ Full dome Clips.	A library of Full dome Clips and images in 4K and 6.5 K both in Active 3D along with their resolution, future upgradation option should be provided. Details of the Library have to be provided with offer for evaluation.		
Hardware	The required PDA/IPAD to be supplied by the bidder		

SHOW CONTROL SYSTEM

Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
<p>Table top control panel with Communication protocols: RS 232, TCP/IP.</p> <p>On/Off Control: Projectors, Illumination, Audio and Dimmer control for COVE lighting</p>		
<p>Console Desk for ergonomic operation of the system with all integrated controls for Audio, Cove Lighting & Full-Dome operation</p>		
<p>The screen should have Display size of 32 inch (diagonal), Display Resolution: Up to 1920X1080 or better</p>		
<p>This system should be remotely controllable/operable through internet to support and/or diagnose the system remotely. Internet connection is not in the scope of bidder.</p>		
<p>It must be possible to conduct a full live presentation from the control station. As well as wirelessly from a mobile tablet or iPad. The range of the connection should allow you to move around the dome without losing control on the mobile device.</p>		
<p>The software installed in the tablet should have same interface used in the desktop computer system. The software installed on the tablet must have the following functionalities:</p> <ol style="list-style-type: none"> a. The Graphical User Interface. b. Control all features via the touch screen of the mobile device. c. Provide access to any data installed or created on the main computer to change the shows. d. Support the drag & drop function to start displaying images / videos and other multimedia. <p>The software running on the tablet and the main computer must be synchronized, which means that a change made on one device is immediately visible on the other.</p>		

INTEGRATED AUDIO SYSTEM

Specification	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
7.1 channel surround audio system	The audio system shall be fully integrated with the show control system. Audio system shall consist of 3speakers for the main front channels, 2 speakers for the surround channels and dual subwoofer system mounted suitably above the viewing platform or else at suitable locations as may be required. Amplifiers are to be solid state and network controlled		
3 speakers Left/Centre Right	<ul style="list-style-type: none"> a. Type: 3-way speaker b. Frequency response (± 3 dB): 50 Hz - 18 kHz c. Dispersion: 90° x 50°(-30/+20° up/down) d. Power: 460W passive e. Max SPL pressure: 134 dB, @ 1 m f. Crossover: Bi-amp (LF+MF/HF) or passive g. Sensitivity @ 1 m: 98 dB h. Nominal impedance: 4 ohms passive 		
4 speakers for the surround channels.	<ul style="list-style-type: none"> a. Type: 2-way speaker b. Frequency response: (± 3 dB): 55Hz - 18 kHz c. Dispersion: 90° x 110° d. Power: 260W e. Max SPL pressure: 125 dB, @ 1 m f. Sensitivity @ 1 m: 92 dB g. Nominal impedance: 8 ohms 		
Subwoofer:	<ul style="list-style-type: none"> a. Type: 1x18" subwoofer b. Frequency response (± 3 dB): 30 Hz - 500 kHz c. Power: 650W d. Max SPL pressure: 132 dB, @ 1 m e. Sensitivity @ 1 m: 95 dB f. Nominal impedance: 4 ohms 		
Power Amplifiers	<ul style="list-style-type: none"> a. The audio amplifiers shall allow to control and amplify each audio channel independently. Each channel shall deliver an output power at least equal with the power of the speaker connector to corresponding channel at given impedance b. Signal-to-noise ratio: > 103 dB (8 ohms, 1 kHz) c. Damping Factor: >200 (8 ohms, 10 Hz to 400 Hz) d. THD: <0.5% 		

<p>Audio Processor</p>	<ul style="list-style-type: none"> a. DSP, EQ b. Built-in crossover, can convert up to 7.1 audio channels into passive, bi- or tri-amp. c. Speaker management d. Interactive graphical interface that provides the processor with a 1/3 octave graphic equalizer, LCD screen and volume button accessible on the front panel e. System fault detection f. Analog input connector to accept 8 channels of signals from external sources. g. 8-channel analog output h. Redundant output to directly distribute audio signals during a power outage. i. Microphone input with gain level adjustment j. LAN connection via RJ45 connector k. Frequency response 20 Hz -20K Hz, ref 1KHz +/-1dB l. THD + N <0.01%, 20 Hz - 20 kHz m. Dynamic range >102 dB 		
<p>Audio Mixer</p>	<ul style="list-style-type: none"> a. Minimum 20-input channel and 10 output b. 25-bus digital mixing c. Minimum 8 XLR outputs plus 6 additional line in/outputs d. 16 x 16 channel USB 2.0 audio interface Motorised Faders e. The adjustment of the parameters may be done by a min 5" touch screen display. It can also be operated from a distance through remote control application. f. Allow to adjust the sound level of each sound input separately (microphone or other). g. Patch panel with a minimum of 20 inputs and 10 outputs to be connected to the digital mixer through a single cable. h. Equipment connected to patch panel should be allowed to be patched in the digital mixer as audio input / outputs. 		

Wireless Lapel microphones as well as the associated rack mountable receivers	a. Quantity of supply is 2 Nos. b. Sound Pressure Level 120 dB SPL c. Cardioid d. Signal-to-noise-to-noise ratio ≥ 110 dBA e. Total harmonic distortion (THD) $\leq 0.9\%$		
wireless handheld microphones as well as the associated rack mountable receivers	a. Quantity of supply is 2 Nos. b. Sensitivity 2.1 mV/Pa c. Sound Pressure Level 154 dB SPL d. Cardioid e. Signal-to-noise ratio ≥ 110 dBA f. Total harmonic distortion (THD) $\leq 0.9\%$		
Acoustic Treatment	Complete sound proofing and acoustic treatment to be done for the dome.		

ONLINE U.P.S SYSTEM WITH PARALLEL REDUNDANCY

Specification	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
40 KVA or higher Online U.P.S system (True IGBT with parallel redundancy) with Built-in Isolation transformer and TVSS with 30 minutes backup time of reputed brand: APC, Emersion or Numeric	Please provide specifications of the U.P.S system including make and model. Please include suitable surge protection unit at UPS input.		
Battery bank with suitable rack	Please specify number of SMF batteries with detailed specifications. All batteries supplied must be from same batch of production.		

SEATING ARRANGEMENT (200 CHAIRS)

Specification	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Reclining chair	<p>Tip-up and back push reclined chair with recline angle 20 to 45 degrees Center to center - 20". ABS molded housing for seat & back cushions All sheet metal parts duly powder coated Arm rest in Polyurethane injection moulded Seat numbering on both inner sides of the chair Stands with silicon fluorescent thin stickers Row number for seat along the aisles. Provision for LED lights on sides along with aisles with the row and the seat numbers display. For Noise Reduction Nylon-66 components on moving parts</p>		
Frames	<p>15 mm thick high-pressure steam pressed hard ply wood for seat and the back out of which the back is of 12mm the bent ply.</p>		
Fabric	<p>Colour to be approved by NCSM authorities. All fabric that shall be used shall be fire retardant. Test certificates shall be submitted</p>		
Spring	<p>Spring for tip-up and back push mechanism torsion spring/spring steel IS:44541981 grade III</p>		
Sheet-metal components	<p>HRCA/CRCA Sheet metal of 3mm thick conforming to IS:1079 1994 to be used for making the structure of the chair. Flat for base of the stands should have 5 mm (+/- 0.2mm) thickness. <u>Note: A sample chair must be shown and got approved after incorporating all suggestions made on the quality, thickness, mechanism, sizes etc. by the TIA</u></p>		
Seat and Back cushion housing	<p>ABS moulded vacuum forming out of 2mm sheet</p>		

LED COVE LIGHT

Specification	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Cove Light	<ul style="list-style-type: none"> -RGBW lighting -White temperature 4000K - Light output of 2,550 lumens per meter (850 lumens per fixture) - 120° diffusion - RGB control resolution less than 4 cm (group of 3 LEDs) - 16-bit control - Brightness curve specially designed for extremely gradual dimming on the first intensity levels <p>Mixing Distance 2 in (51 mm) to uniform light</p> <p>Lumen Maintenance 50,000 hours L50 @ 50° C (full output)</p> <p>Beam Angle 120° x 120°</p> <p>Tablet or Smartphone operation with WIFI connectivity and DMX or ArtNet control</p>		
Design	<p>360° Layout in Aluminium Cove Trough in aesthetical indirect lighting arrangement. Ample amount of LED Modules to be provided to avoid dark zones.</p> <p>Provision for software programmability of different modes and colour effects along with programmable hardware presets.</p>		
Foot lighting, Exit signage and Emergency Exit signage	<ul style="list-style-type: none"> a. Foot Lighting: The lighting effect should be created using a fiberoptic rod that is end-illuminated with high intensity LEDs with 50,000-hour life expectancy. b. The unit should flush with 6mm Carpet c. Entry & Exit Ramps Lighting: LED wall light should provide 2.2 lux at 1.9m distance when mounted 300mm above floor. d. Seat Row Indicators: Seat row 		

	indicators should be installed to identify the location of seating rows, to provide illumination for guidance (e.g., by emergency exits) or to illuminate the floor for safe movement in full dome theatre when the main lighting is dimmed.		
Maintenance Lightning	Separate additional white LED light is required to be installed inside the dome for theatre maintenance purpose, controllable from single switch.		
Screen illumination	<ul style="list-style-type: none"> ● LED lights for illuminating the screen must be installed at the base of the screen (cove though) to allow for uniform illumination of the screen surface around the perimeter. ● LED lights illuminating the screen must have three primary colors (green, red, blue) as well as white LED with the possibility of adjusting their intensity so as to enable the production of any color (within the range of colors typical for LED devices with three primary colors - RGB) and white and the possibility of total adjustment brightness ranging from 0 to 100% with a extremely gradual dimming on the first levels of intensity. ● Light output of min 1700 lumens per meter (580 lumens per fixture) ● RGB control resolution less than 10 cm ● 16-bit control ● Brightness curve specially designed for extremely gradual dimming on the first intensity levels ● Beam Angle 120°x 120° ● LED channels Red / Green / Blue / White 		

FREE FULL DOME AS WELL AS ASTRONOMY SHOWS

Specification	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Language	English & Hindi		
Number of shows to be provided	<p>a. At least 5 x 4K (or higher) 2D and 3 x 4K (or higher) 3D shows are to be supplied to the TIA with a minimum license term of 10 years.</p> <p>b. The TIA will select the shows from a list of show provided by the Vendor. Each show should be of between 20-25 minutes duration.</p> <p>Note: Those shows cannot be from free shows available in the Full-Dôme market.</p>		
Additional films	Bidders are required to offer rates of at least 10 x 4K 2D or 3D full-dome and planetarium shows.		
Sound Format	All full-dome shows must be with 7.1 surround sound formats.		

Training

Specification	Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Duration	The Contractor will provide at least 12 days training to be held at the Science City Dehradun premises. The duration of the training session shall not be less than 72 hours spread over 12 consecutive or non-consecutive days.		
Content	<p>The training will consist of getting to know both the software and hardware installed in the facility and the operation of all equipment.</p> <p>The number of people on the training on the part of the Ordering Party will be minimum 6 people.</p>		

BROCHURES & COMPLETE SPECIFICATIONS

Detailed description	Compliance (Yes/No)	Deviation, if any, with complete justification
Brochures and specifications of Projectors, Lenses, Mounts, Blending and Geometric Correction Units, Display Management System etc.		
Brochures and specifications for Image generator servers interactive Planetarium software, Full-Dome configuration & playback system and projection systems.		
Brochures and specifications for Show Control System.		
Brochures and specifications for Calibration and related instruments and software.		
Brochures and specifications for Software Elements along with licensing details.		
Brochures and specifications for Audio systems.		
Brochures and specifications for UPS system with 30 minutes backup.		
Engineering drawing (plan, elevation and sectional views wherever necessary for viewer's gallery and image servers' room in pdf and AutoCAD file format), complete solution diagram, connectivity diagram, system deployment and footprint detail, electrical power requirement and location marked diagram/drawings, system cooling requirement (in BTU) with proper layout drawings.		
Detailed write-up and specific system solution document explaining the integrated working of offered solution with the hardware and software describing various technical, interface and performance aspects, wiring/network diagram of the proposed solution. This has to explain how the proposed design or solution meets the specifications and overall requirements as mentioned in the tender document.		
Schematic diagram and broad material specifications of the structure for mounting the projector array showing suggested location of the projectors including arrangement for accessibility to the projectors for maintenance.		

Details and product catalogues of acoustic treatment of inner surface of concrete dome and acoustic paneling below the aluminum dome inside the theatre proposed and with relevant drawings, material specifications etc.		
Details and product catalogues of LED Cove light, exit signage and emergency exit signage.		
Details regarding source of content development for planetarium shows using data sets/library of 3D models/cloud assets.		
Details and product catalogues of 3D spectacles, storage, charging units and sterilization equipment.		

WARRANTY AND AMC

Specification	Description	Compliance (Yes/No)	Deviation, if any with complete justification
Warranty Period	The Onsite comprehensive Warranty period is for Three years from the date of issue of acceptance certificate by NCSM. During the warranty period, the Contractor will be obliged to remove and / or replace every and all defects in the system at its own expense.		
Extended Warranty	The comprehensive annual maintenance contract will be for a period of five years, after expiry of the warranty period.		
Types of support	<ul style="list-style-type: none"> • The contractor will provide training, telephonic and internet support, problem solving and repair service for all components. • In the event of a serious fault that prevents the system from functioning, the Contractor shall send experienced technician who will report at the site no later than one day from the date of reporting the fault (including week-ends). 		
Terms	<ul style="list-style-type: none"> i. The supplier shall undertake at least one Preventive Maintenance Visit every 6 months and attend to all break down maintenance calls or emails. ii. Bidder shall provide remote support regarding the operation and maintenance of the digital projection system and servers. It must include at the following 		

	<p>services:</p> <ul style="list-style-type: none"> a. Prompt service accessible by telephone, video call, e-mail or internet. b. Remote system checks (configuration problems). c. Remote system access via TeamViewer etc. d. Self-alignment assistance. e. Updating of databases. f. Troubleshooting and problem solving. g. Correction of all malfunctions that are possible to solve by remote maintenance. i. The bidder shall also provide software releases and updates free of charge at during the warranty period and during the AMC. The software updates must be installed during the preventive maintenance visits. v. The bidder should have a strong support and back up team in India for attending to breakdowns or maintenance calls at short notice. Documentary evidence of this should be provided by the bidder. 		
--	--	--	--

OPERATION OF 2D/3D FULL-DOME PLANETARIUM AND FILM SHOWS

Description	Compliance (Yes/No)	Deviation, if any with complete justification
<p>Operation of full dome shows from 11:00 a.m. to 7:00 p.m. for the visitors of Science City, Dehradun, Uttarakhand. This timing may vary during the peak season. The show shall remain operational for 364 days in a year (and 365 days in a leap year). Sterilization, cleaning and distribution of Active 3D spectacles to the visitors shall be under the scope of the successful bidder.</p>		

Annexure - E

Past Experience in supply, installation, testing and commissioning for an integrated functional full-dome digital 2D immersive projection system with planetarium.

Agency Experience (Limited Company/Corporation/Agency/Consortium/JV Projects)

S. No.	Name of the project	Cost of the Order awarded in INR (*)	Name of the Client	Phone of Contact Person of Client	Starting Date of Project	Completion Date of Project	Details/Scope of work

Note: The Bidder must submit copy of work order and completion certificate of each work. The completion certificate shall contain, the scope of work, value of the project, date of completion and the quality of work done.

**FORMAT FOR ANNUAL TURNOVER AS PER THE AUDITED ACCOUNTS
TOWARDS THE QUALIFYING EXPERIENCE**

(This certificate should be issued by a Certified Chartered Accountant on their letter head)

S. No.	Financial Year	Average Turnover (in Figures) INR	Turnover in (in words) INR
1.	2022-2023		
2.	2023-2024		
3.	2024-2025		

(In case of Consortium, the Turnover of only lead partner needs to be mentioned)

(Signature of Authorised Signatory)

This is to certify that the above information has been examined by us on the basis of relevant documents; books of accounts & other relevant information and the information submitted above is as per record and as per details annexed.

Signature, Address, Seal & Membership No of Chartered Accountant.

PROFORMA FOR ISSUING “UNDERTAKING BY ORIGINAL SYSTEM INTEGRATOR”

(To be submitted in OEM’s Letterhead)

Dated: _____

To

National Council of Science Museums

33, GN Block, Sector V, Bidhannagar, Kolkata,

West Bengal 700091

Dear Sir,

We, _____ here by state that the product _____ offered vide this tender by, M/s. _____ is our authorized agent and we undertake to supply this product/s, if found suitable and selected, and is to be deemed as if the supply has been made by us directly.

Accordingly, we stand by all the terms, conditions and stipulations as defined in tender no. _____ of National Council of Science Museums.

We also undertake to directly make good of any shortcomings either in product quality and/or in services which my/our authorized agent may fail to fulfill as a part of his obligations under the terms and conditions of this tender.

Thanking you,

Yours faithfully,

(Authorised Signatory with Seal)

Not to be Quoted Here.

To be quoted in separate cost break up sheet and uploaded as part of cover II

PART A:

S. No.	Description	Qty.	Unit	Quoted Currency/ NR	Rate	Amount	Applicable Taxes (with break-up)	Total Amount including Taxes
1.	Supply and installation of Projection Dome Screen including all associated structures.			INR				
2	Cost of scaffolding, labour etc. for installation of Dome Screen			INR				
3	Fabrication of stool columns, ring-beam to support the dome, creating enclosure for seating below the ring-beam etc.			INR				
4	Under-deck Insulation as per specifications.			INR				
5	Acoustic paneling below the dome screen.			INR				
6	Supply, installation, testing and commissioning (SITC) of Projector Array with geometric correction and image blending for seamless projection.			INR				

7	SITC of Image Generator Server net worked with Image generator workstations.			INR				
8	SITC of Full-Dome configurator and playback software etc.			INR				
9	SITC of Show control system			INR				
10	SITC of Automatic Calibration and alignment system			INR				
11	SITC of Integrated 7.1 surround sound system			INR				
12	SITC of U.P.S system with parallel redundancy with 30-minute backup complete			INR				
13	Seating Arrangement a) Supply, fabrication and installation of chairs as per specifications including carpet supply and laying. b) Supply and installation of around 200 chairs as per approved layout.			INR				
14	SITC of LED Cove light, staircase lighting, step lights, exit and emergency exit signage etc.			INR				
15	Supply of Active 3D spectacles (700 nos.) along with supply and installation of			INR				

	storage, contactless charging and UV Sterilization equipment.							
16	Training on FULL-DOME PROJECTION SYSTEM			INR				
17	Any other items of work/equipment etc. not covered above, but required as per scope of work provided. (Add rows as may be required)			INR				

PART B (To be quoted in INR only) PS: Refer Annexure-L for details.

S. No.	Description of the work	Quantity/Unit cost as may be applicable	Rate	Amount	Applicable Taxes (With break- up)	Total Amount
1	Setting out of grid lines, main arc lines etc. for gallery seating and dome installation mechanism					
2	Steel work for stepped Seating arrangements					
3	Gallery Wood work					
4	Dome Support Stud Wall Structure					
5	Carpeting					
6	Paneling, Wood work & False Ceiling					
7	Painting & Finishing work					
8	Image Generator Room & other work					
9	Electrical works complete					
10	Any other items of work/equipment etc. not covered above, under Sl.					

	No. 1 to 9 but required as per scope of work provided. (add additional rows as may be required)					
--	--	--	--	--	--	--

Note:

1. Total amount in the currency **INR** of all the items taken together (incl. all duties & taxes) **to be entered in Sl. No. 1.01 of price bid BoQ excel sheet.**

IMPORTANT NOTES:

- i. The bidders shall, along with Annexure H (PART A & PART B separately), submit a detailed list of deliverables along with cost break-up of each item, break-up of taxes considered while arriving at the gross value of each item as per the following format:

S. No.	Description of item	Base rate (INR/Other than INR)	Quantity	Total amount	Details of taxes and duties included with clear break-up of each tax considered	Any other cost with details	TOTAL
--------	---------------------	---------------------------------	----------	--------------	---	-----------------------------	-------

- ii. The bidders may note that while arriving at the total cost, NCSM shall consider the total **cost of initial installation** and subsequent cost of operations and maintenance for a period of **two years** to decide on the lowest bidder.
- iii. The bidders shall consider the prevailing tax rates while quoting the rates. However, in the event of any changes in the statutory taxes and duties, the rates applicable at the time of payment shall be made by NCSM against submission of supporting documentary evidence.
- iv. The total cost provided in the cost breakup sheet should exactly match with the total cost quoted in the financial bid.
- v. In case there is discrepancy in the cost breakup sheet and the cost quoted in the financial bid, the cost quoted in the financial bid will prevail and the break-up will accordingly be updated with the consent of the TIA.
- vi. Rate/ information of the following items may also be provided (This will not be considered for evaluating the Financial Bid)

S. No.	Item description	License fee for one year lease	License fee for five-year lease	License fee for perpetual lease
1.	List of available Active 3DFull-Dome shows with time duration of each on topics related to science, technology, environment etc. suitable for screening after completion of this facility with charges for yearly/5 yearly/perpetual lease.			
	a) Active 3D Full-Dome Planetarium shows			
	b) Active 3DFull-Dome shows			

2.	Shelf-life time of the Digital immersive Full-Dome Active 3Dprojection system (i.e., up to which period technical support as well as spare parts including consumables shall be available with the firm).	
3.	Hindi translation and voice over for the Full-Dome shows (per show)	

Not to be Quoted Here.

To be quoted in separate cost break up sheet and uploaded as part of cover II

Cost Break Up Sheet

PART A Total operation charges for seven years (To be quoted in INR Only)

Sl. No.	Particulars	Year	Rate	GST Percentage	GST Amount	Total Amount
01	Total Operation Charges after defect liability period (DLP) of 3 years (To be operated at the discretion of the Science City, Dehradun)	1 st Year				
		2 nd Year				
		3 rd Year				
		4 th Year				
		5 th Year				

PART B Five years Comprehensive Maintenance Charges after Defect Liability Period of 3 Years (Not part of Financial Evaluation)

Sl. No.	Particulars	Year	In INR	Rate	Tax Component (if any)	Total Amount including Amount of Tax Component
01	Comprehensive Maintenance Charges (after defect liability period of 3 years.) (To be operated at the discretion of the Science City, Dehradun)	1 st Year				
		2 nd Year				
		3 rd Year				
		4 th Year				
		5 th Year				

Dated.....

Official Seal

Signature of the Tenderer/Constituted Attorney

FORMAT FOR CONTRACT AGREEMENT

ARTICLES OF AGREEMENT made at this.....day
of

(Date) (Month & Year)

between the National Council of Science Museums, a Society registered under the Societies Registration Act of West Bengal, 1961, hereinafter referred to as NCSM which expression shall include its successors and assigns on the one part and

..... (Name of the successful e-tenderer)

trading in the name and style of

.....
(Name and complete address of the successful e-tenderer)

hereinafter referred to as the successful e-tenderer which expression shall include his/their respective heirs, executors, administrators and assigns on the other part.

WHEREAS the NCSM is desirous of getting the work of

.....therein done and has caused

(Name of the work)

Notice Inviting E-tender (Including appendix), drawings, schedule of quantities and specifications describing the work and conditions of contract.

AND WHEREAS the said NIT (including appendix), specifications and the priced schedule of quantities and conditions of contract have been signed by or on behalf of the parties hereto.

AND whereas the Successful e-tenderer has deposited in Bank Draft/Pay Order/ NEFT/RTGS

.....
(Exact amount in words) with the Museum /Centre as Security Deposit for the due performance of this Agreement as provided in the said conditions.

NOW IT IS HEREBY AGREED AND DECLARED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

1. In consideration of the payments to be made to the agency as hereinafter provided, the successful e-tenderer shall upon and subject to the conditions herein contained execute and complete the work within ____ months from the date of issue of letter of intent / Work Order (as defined in the scope of work of the NIT) and described in the said specifications and the said priced schedule of quantities along with the progress of the work.

2. The Museum/Centre shall pay to the successful e-tenderer such sum as shall become payable hereunder at the time and in the manner specified in the said conditions.

3. Time is the essence of this agreement and the successful e-tenderer shall proceed with the work, throughout the stipulated period of this contract, strictly according to the Terms & Conditions of NIT. At any stage during execution, if any work lags behind the for reasons directly attributable to the successful e-tenderer, he shall pay or allow the Museum/Centre to deduct the same from the Security Deposit or from any money due to him a liquidated damage as per Clause

4. This agreement comprises the work above and all subsidiary works connected therewith, even though such works may not be shown on the drawings, or described in the said specifications or the priced Schedule of Quantities.

5. The Museum/Centre through the Engineer reserves to itself the right of altering the specifications and of adding to or omitting any item of work or of having portions of the same carried out departmentally or otherwise and such alterations or variations shall not vitiate this agreement.

1. After successfully completion of works in all respect, successful e-tenderer will hand over all the materials including equipment and machineries, brochures, drawings etc. to the end-user Science City, Dehradun, Uttarakhand in presence of NCSM representative and shall also render all services such as operations & maintenance of the systems, provide warranty of the equipment, machineries etc. at the finalized rates, terms & conditions of the tender documents.

2. Subsequent to handing over of the Science City Dehradun project to UCOOST, Uttarakhand, the authorities of Uttarakhand shall assume the ownership of the facility and would be treated as the TIA and all the items of works to be executed, payments to be made etc. shall be done by the UCOST.

3. All disputes and differences of any kind whatever, arising out of or in connection with the contract on the carrying out of works (Whether during the progress of the work or after their completion and whether before or after the determination, abandonment or breach of the contract) shall be referred to arbitration. In case of any legal dispute, other than the arbitration, the court of jurisdiction shall be Kolkata, West Bengal, India.

The provisions of the Arbitration & Reconciliation Act 1996 or any statutory modification or re-enactment thereof and of the rules made there under for the time being in force shall apply to arbitration proceedings under this clause.

In witness whereof the parties have set their respective hands the day and the year and the place hereinabove written.

**SIGNED, STAMPED AND
DELIVERED for Contractor
WITH SEAL**

**SIGNED, STAMPED AND
DELIVERED for Council
WITH SEAL**

In presence of the following witnesses:
(M/s. _____)

In presence of the following witnesses:
(National Council of Science Museums)

Signature, Name & Address of Witnesses

Signature, Name & Address of Witnesses

1.

1.

2.

2.

DETAILS OF SITE-RELATED CIVIL, FABRICATION & ELECTRICAL WORKS

The details and the extent of work done at site before handing over the site for execution of the subject work by the agency are given in this document. Probable items of civil, electrical related works (for interior of RCC dome) for design, supply, installation and commissioning of an integrated functional full dome Active 3Ddigital immersive projection system at Science City, Dehradun, Uttarakhand.

Please refer to the attached drawings with this tender at **Annexure –K (Drawings)**. From the drawings it is to be noted that:

- A) the 18-m. dia 18-degree tilted dome is to be installed in the first-floor level.
- B) The floor level of first floor is at a GL of 5900 mm.
- C) At the location where the dome is to be installed, a raised RCC support of 200 mm (GL-6100 mm) will be provided with an 18 mm Mild Steel Circular Plate of 300 mm width on top.
- D) The bidder shall make all designs and fabrications (both civil, fabrication works, carpentry and electricity related works) to install the 18 m. dia fabricated perforated dome with the required inclination of 18-degrees at site with utmost stability without any lateral shifts, sagging etc. considering the Earthquake Category of Zone -5.
- E) The required number of stool columns, as per the designs of the agency to support their dome, are to be properly joined to the MS ring at the base firmly by welding. While deigning the location of the stool columns, the entry/exit doors provisioned on both sides at the first-floor and second-floor levels as well as the projector openings etc. to be kept in view.
- F) The space between the stool columns to be properly covered either through brick-work or through fabrication with necessary soundproofing and heat insulation to avoid echo.
- G) The drawings also show the details of RCC slabs in both first floor and second floor levels. As the seating arrangement will be in tilted manner (refer to the suggestive seating plan in the drawing), necessary covering of the gaps between the fabricated dome supporting structure and the RCC slabs properly and effectively.
- H) Locations of placement of projectors, control systems, UPS etc. are located in the drawings which may be followed. No major modifications shall be done in the structure and the agency should make all their designs, plans etc. to fit their system in the spaces provided. However, minor modifications, if any and possible to execute without additional costs, can be accommodated.
- I) As intimated, electrical load of required capacity will be made available at one location in the electrical room. Distribution of power to different locations for different functionalities such as projections, cove lighting, floor lighting, AV systems, control console, seat lighting, entry/exit illuminated signages etc. will be under the scope of work of the

bidder.

J) Fabrication of stepped seating gallery with strong and stable MS tubular fabrication, covering the same with two layers of 18 mm /19 mm marine ply, fabrication of cushioned reclining chairs along with lighting & numbering and carpeting the floor shall be under the scope of the bidder. The structural drawings and seating plans and layouts to be got approved before fabrication / execution. The row gap between each step should not be less than 1000mm to ensure comfortable seating. There should not be more than 3 steps per row to ensure low stress for visitors.

K) Proper acoustic treatment of the inner part of the RCC dome and the outer part of the 18 m. dome, walls, floor etc. as per the laid-down specifications shall be under the scope of bidder.

The finer details are as given below (which are not exhaustive):

1. Setting out:

- Setting out of grid lines, main arc lines etc. for gallery seating and dome installation mechanism

2. Steel Fabrication Work: Use Heavy Duty Rectangular Hollow Sections (RHS), Heavy Duty Square Hollow Sections (SHS), Heavy Duty Circular Hollow Sections (CHS, if required), Plates & High tensile fasteners etc. for all fabrication works. Drawings and specifications to be got approved before commencement of work:

- Special steel work, using standard Tubular Steel Sections (Heavy Duty) from Tata Structural or similar (to be got approved by the officer in charge before procurement and fabrication), RHS & SHS in Stepped Gallery Structure. All steel works to be welded as per instruction and design. The whole fabricated structure to be painted with two coats of red lead paint after due cleaning, grinding etc. The qualified vendor is responsible for the design and submit structural drawings before start of fabrication & installation.

- Use RHS 80x40x4 and SHS 40x40x4 for fabrication work

- Wherever the structures are to be grouted/fixed to the floor or RCC wall or Beam etc., it is required to use 8mm fastener anchor bolts (min. 75 mm long) with the application of Hilti or similar.

3. Gallery Wood work:

- Marine Grade BWP (confirming IS710) & Termite proof **Plywood** on platforms and risers (19mm in riser and 38 mm (two 19 mm Plywood to be pasted with wood adhesive, preferably with Fevicol or similar) on platform with all required fasteners and structural materials for complete finished floor, Malaysia Sal Wood/ or similar Hardwood nosing. Plywood to be made from Green/Century/ or similar (sample and make to be got approved from officer in charge)

4. Dome Support Stud Wall Structure:

- The dome will NOT be hanging. It MUST be resting on circular beam firmly fixed to the stool Columns.

5. Carpeting:

- Finishing: Hall and stepped galleries with to be finished with reputed make (to be got approved) Loop-Pile Carpet of at least 8mm thick (min 600gm Pile weight) and 1000 GSM over an undelay of 5-6mm soft, lightweight Expanded Polyethylene (EPE) foam.

6. Paneling, Wood work & False Ceiling:

- Projection Gallery (Back wall) Acoustical insulation, Projector Enclosures Acoustical treatment in Walls with 15mm MDF Wood slats (min 700Kg/Cum density and NRC 1.0) fixed to the fixtures as per manufacturers specification / recommendation of varied widths and gaps as per design with a backing of Polysynthetic wool of 40mm thickness with minimum 25kg/cum density. The Panels shall have resilient mountings. The Panels to be fixed with screw fasteners with elastic washers (rubber or neoprene), all complete. Gypsum board/ dry wall False ceiling in Projector & Server Enclosures and Theatre entries etc. must be considered within the scope.

7. Painting & Finishing work:

- Cement plaster of 20 mm thick, POP Putty work, painting of all exposed walls with 2 coats of Acrylic Emulsion paint over 2 coats of primer. Painting all steel structure surfaces with two coats of primer then two coats of Synthetic Enamel paint. Painting of MDF Boards with 2 Coats of Flat oil paints. Painting of rear wall of the inside gallery with rubberized paint, 2 coats over a coat of primer, for vapour/ moisture barrier etc.

8. Image Generator /Server Room & other work:

- Image Generator/Server Room walls and ceiling Acoustical insulation, Finishing of Image Generator Room with 6mm thick anti-static vinyl flooring, covering cable trench, & electrification work in Image Generator/Server Room etc. Total electrification work in Server Room with conductors, conduits, switches, receptacles DBs etc.

9. Electrical works

- Total electrification work related to proper functioning of Dome theatre such as Control Console & Projector locations with conductors, conduits, switches, receptacles, cables, cable trays, DBs etc. (all complete)
- General lighting & emergency lighting for technical corridor and main Planetarium theatre (all complete)
- Input & Output DBs for UPS system as per UPS manufacturers specification along with supply of necessary cables for UPS output to Mains DB. (customer to provide input cable to

UPS as per manufacturers specification).

Note:

The basic items of work as mentioned above are generic in nature and if any other items of work, not specifically mentioned, are required for satisfactory completion, the same has to be accounted in the quoted rate for successful installation of the equipment.

PERFORMANCE CERTIFICATE

(To be submitted by OEM/Organization on letterhead of Client)

This is certified that M/s ----- had successfully installed multi-channel Digital Full-Dome Projection 2D/ Active 3D projection system / large scale immersive projections using multiple projectors at Organization/Institute name in a museum / cultural spaces / dome having size of 15 m. or above.

The Theatre / facility / Museum was made open to the public on ----- and the system has consistently operated satisfactorily since -----.

Further, it is hereby certified that the above system has been operational for public use continuously for one year.

Signature of Authorised Signatory with seal

MAINTENANCE EXPERIENCE OF BIDDER

This is certified that M/s ----- (Name of OEM/Bidder) is providing/ had provided maintenance support to the multi-channel Digital full dome Full-Dome Active 3DProjection system / museum installed at (Organization name) having large immersive projections using multiple projectors / domes size of 15 m. or above since/from _____ (date) to _____ (date).

The performance of the M/s _____ (Name of OEM/Bidder) _____ during the contract period has been found to be _____.

Signature of Authorised Signatory with seal

OPERATION EXPERIENCE
(To be issued by client of OEM/Bidder)

This is certified that M/s _____(Name of Indian Agent)_____ is/had providing/provided operation support to the multi-channel Digital Full dome 2D & Full-Dome Active 3D / museum or cultural space having large scale Projection systems using multiple projectors etc. installed at _____(Organization/Planetarium name)_____ in a dome size of 15 m. or above since/from ---
------(date) to -----(date).

The performance of the M/s _____(Name of Indian Agent)_____ during the contract period has been found to be satisfactory.

Signature of Authorized Signatory with seal

Date:

CERTIFICATE TO BE ISSUED BY THE OEM
(to be issued on the official Letter Head of the OEM)

(In case of Foreign OEM being the bidder, they must have an authorized agent in India who will bid on their behalf.)

It is certified that M/s _____ having its office at _____ is the Authorized Agency of our company since _____ (date) _____. This agency has the required experience of installation and integration of multi-channel full dome digital projection system in India.

They have installed _____ system at _____ (venue) _____ in the year _____ (the referred project should have been executed during the last 7 years only).

The kind of support/scope of work that the M/s. _____ (name of authorized agency) _____ include _____, _____, _____ & _____.

Signature of Authorized Signatory with seal

Date: