

PHILIPPINE BIDDING DOCUMENTS

Development and Installation of Immersive Light and Sensurround Exhibition at the Philippine Science Heritage Center



**Government of the Republic of the Philippines
NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY**

Date of Issue: April 5, 2024

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Goods through Competitive Bidding have been prepared by the Government of the Philippines for use by any branch, constitutional commission or office, agency, department, bureau, office, or instrumentality of the Government of the Philippines, National Government Agencies, including Government-Owned and/or Controlled Corporations, Government Financing Institutions, State Universities and Colleges, and Local Government Unit. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract or Framework Agreement, as the case may be; (ii) the eligibility requirements of Bidders; (iii) the expected contract or Framework Agreement duration, the estimated quantity in the case of procurement of goods, delivery schedule and/or time frame; and (iv) the obligations, duties, and/or functions of the winning bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Goods to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

- a. All the documents listed in the Table of Contents are normally required for the procurement of Goods. However, they should be adapted as necessary to the circumstances of the particular Procurement Project.
- b. Specific details, such as the “*name of the Procuring Entity*” and “*address for bid submission*,” should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, Bid Data Sheet, General Conditions of Contract, Special Conditions of Contract, Schedule of Requirements, and Specifications are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.

- d. The cover should be modified as required to identify the Bidding Documents as to the Procurement Project, Project Identification Number, and Procuring Entity, in addition to the date of issue.
- e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.
- f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

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Glossary of Acronyms, Terms, and Abbreviations

ABC – Approved Budget for the Contract.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender*. (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

CDA - Cooperative Development Authority.

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

CIF – Cost Insurance and Freight.

CIP – Carriage and Insurance Paid.

CPI – Consumer Price Index.

DDP – Refers to the quoted price of the Goods, which means “delivered duty paid.”

DTI – Department of Trade and Industry.

EXW – Ex works.

FCA – “Free Carrier” shipping point.

FOB – “Free on Board” shipping point.

Foreign-funded Procurement or Foreign-Assisted Project– Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

Framework Agreement – Refers to a written agreement between a procuring entity and a supplier or service provider that identifies the terms and conditions, under which specific purchases, otherwise known as “Call-Offs,” are made for the duration of the agreement. It is in the nature of an option contract between the procuring entity and the bidder(s) granting the procuring entity the option to either place an order for any of the goods or services identified in the Framework Agreement List or not buy at all, within a minimum period of one (1) year to a maximum period of three (3) years. (GPPB Resolution No. 27-2019)

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term “related” or “analogous services” shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

GPPB – Government Procurement Policy Board.

INCOTERMS – International Commercial Terms.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national

buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

Supplier – refers to a citizen, or any corporate body or commercial company duly organized and registered under the laws where it is established, habitually established in business and engaged in the manufacture or sale of the merchandise or performance of the general services covered by his bid. (Item 3.8 of GPPB Resolution No. 13-2019, dated 23 May 2019). Supplier as used in these Bidding Documents may likewise refer to a distributor, manufacturer, contractor, or consultant.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

- a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;
- b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;
- c. The deadline for the submission and receipt of bids; and
- d. Any important bid evaluation criteria (*e.g.*, the application of a margin of preference in bid evaluation).

The IB should be incorporated in the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.



INVITATION TO BID FOR *the Development and Installation of Immersive Light and Sensurround Exhibition at the Philippine Science Heritage Center*

1. The *National Academy of Science and Technology*, through the *General Appropriations Act of 2023* intends to apply the sum of ***Eighteen Million One Hundred Ninety-Eight Thousand Five Hundred Thirty-Six Pesos Only (P18,198,536.00)*** being the ABC to payments under the contract for ***Contract No. 2024-15***. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The *National Academy of Science and Technology* now invites bids for the above Procurement Project. Delivery of the Goods is required by ***One Hundred Twenty (120) days from receipt of the Notice to Proceed***. Bidders should have completed, within ***five (5) year*** from the date of submission and receipt of bids, a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).
3. Bidding will be conducted through open competitive bidding procedures using a non-discretionary “*pass/fail*” criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.
 - a. Bidding is restricted to Filipino citizens/sole proprietorships, partnerships, or organizations with at least sixty percent (60%) interest or outstanding capital stock belonging to citizens of the Philippines, and to citizens or organizations of a country the laws or regulations of which grant similar rights or privileges to Filipino citizens, pursuant to RA No. 5183.
4. Prospective Bidders may obtain further information from *National Academy of Science and Technology* and inspect the Bidding Documents at the address given below during ***8:00 a.m. to 5:00 p.m.***, Monday to Friday
5. A complete set of Bidding Documents may be acquired by interested Bidders on ***April 5, 2024 to May 13, 2024*** from the given address and website(s) below *and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of Twenty-Five Thousand Pesos (P25,000.00)*. The Procuring Entity shall allow the bidder to present its proof of payment for the fees *in person*.

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the Procuring Entity,

provided that Bidders shall pay the applicable fee for the Bidding Documents not later than the submission of their bids.

6. The *National Academy of Science and Technology* will hold a Pre-Bid Conference¹ on **April 17, 2024; 9:00 am at the NAST Conference Hall**, which shall be open to prospective bidders.
7. Bids must be duly received by the BAC Secretariat through manual submission at the office address indicated below, on or before **May 13, 2024; 9:30 am**. Late bids shall not be accepted.
8. All Bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 14.
9. Bid opening shall be on **May 13, 2024; 10:00 am at the NAST Conference Hall**. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The *National Academy of Science and Technology* reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised IRR of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

Virginia Francia O. Gavica
BAC Secretariat
National Academy of Science and Technology
3rd Level, Science Heritage Bldg., DOST Compound,
Bicutan, Taguig City
Email address: bac@nast.dost.gov.ph
NAST website: www.nast.ph

12. You may visit the following websites:

For downloading of Bidding Documents: www.nast.ph

MARIA THERESA E. CAASI
Chair, Bids and Awards Committee

¹ May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a Pre-Bid Conference.

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, *National Academy of Science and Technology* wishes to receive Bids for the *Development and Installation of Immersive Light and Sensurround Exhibition at the Philippine Science Heritage Center*, with identification number *NAST-PSHC 2024-01*.

The Procurement Project (referred to herein as “Project”) is composed of One (1) Lot, the details of which are described in Section VII (Technical Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for *General Appropriations Act of 2023* in the amount of *P18,198,536.00*.

2.2. The source of funding is:

[If an early procurement activity, select one and delete others:]

- a. NGA, the National Expenditure Program.
- b. GOCC and GFIs, the proposed Corporate Operating Budget.
- c. LGUs, the proposed Local Expenditure Program.

[If not an early procurement activity, select one and delete others:]

- a. NGA, the General Appropriations Act or Special Appropriations.
- b. GOCC and GFIs, the Corporate Operating Budget.
- c. LGUs, the Annual or Supplemental Budget, as approved by the Sanggunian.

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manuals and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or **IB** by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have verified and accepted the general requirements of this Project, including other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and

examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, and Coercive Practices

The Procuring Entity, as well as the Bidders and Suppliers, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

5.2.

a. Foreign ownership limited to those allowed under the rules may participate in this Project.

5.3. Pursuant to Section 23.4.1.3 of the 2016 revised IRR of RA No.9184, the Bidder shall have an SLCC that is at least one (1) contract similar to the Project the value of which, adjusted to current prices using the PSA's CPI, must be at least equivalent to:

a. For the procurement of Non-expendable Supplies and Services: The Bidder must have completed a single contract that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC.

5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.1 of the 2016 IRR of RA No. 9184.

6. Origin of Goods

There is no restriction on the origin of goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN, subject to Domestic Preference requirements under **ITB** Clause 18.

7. Subcontracts

7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than twenty percent (20%) of the Project.

The Procuring Entity has prescribed that:

- a. xxx
- b. Subcontracting is not allowed.

- 7.2. *[If Procuring Entity has determined that subcontracting is allowed during the bidding, state:]* The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criteria stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.
- 7.3. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.
- 7.4. Subcontracting of any portion of the Project does not relieve the Supplier of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Supplier's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address *{[insert if applicable]}* and/or through videoconferencing/webcasting} as indicated in paragraph 6 of the **IB**.

9. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

10. Documents comprising the Bid: Eligibility and Technical Components

- 10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.
- 10.2. The Bidder's SLCC as indicated in **ITB** Clause 5.3 should have been completed within *[state relevant period as provided in paragraph 2 of the IB]* prior to the deadline for the submission and receipt of bids.
- 10.3. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. Similar to the required authentication above, for Contracting Parties to the

Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

11. Documents comprising the Bid: Financial Component

- 11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section VIII (Checklist of Technical and Financial Documents)**.
- 11.2. If the Bidder claims preference as a Domestic Bidder or Domestic Entity, a certification issued by DTI shall be provided by the Bidder in accordance with Section 43.1.3 of the 2016 revised IRR of RA No. 9184.
- 11.3. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.
- 11.4. For Foreign-funded Procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.
- 11.5. *[Include if Framework Agreement will be used:]* Financial proposals for single or multi-year Framework Agreement shall be submitted before the deadline of submission of bids as prescribed in the **IB**. For multi-year Framework Agreement, evaluation of the financial proposal during this stage is for purposes of determining eligibility and whether or not such financial proposal is within the ABC.

12. Bid Prices

- 12.1. Prices indicated on the Price Schedule shall be entered separately in the following manner:
 - a. For Goods offered from within the Procuring Entity's country:
 - i. The price of the Goods quoted EXW (ex-works, ex-factory, ex-warehouse, ex-showroom, or off-the-shelf, as applicable);
 - ii. The cost of all customs duties and sales and other taxes already paid or payable;
 - iii. The cost of transportation, insurance, and other costs incidental to delivery of the Goods to their final destination; and
 - iv. The price of other (incidental) services, if any, listed in the **BDS**.
 - b. For Goods offered from abroad:
 - i. Unless otherwise stated in the **BDS**, the price of the Goods shall be quoted delivered duty paid (DDP) with the place of destination in the Philippines as specified in the **BDS**. In quoting the price,

the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible source country.

ii. The price of other (incidental) services, if any, as listed in the **BDS**.

12.2. *[Include if Framework Agreement will be used:]* For Framework Agreement, the following should also apply in addition to Clause 12.1:

- a. For a single year Framework Agreement, the prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation or escalation on any account. Price schedules required under Clause 12.1 shall be submitted with the bidding documents.
- b. For a multi-year Framework Agreement, the prices quoted by the Bidder during submission of eligibility documents shall be the ceiling and the price quoted during mini-competition must not exceed the initial price offer. The price quoted during call for mini-competition shall be fixed during the Bidder's performance of that Call-off and not subject to variation or escalation on any account. Price schedules required under Clause 12.1 shall be submitted with the bidding documents.

13. Bid and Payment Currencies

13.1. For Goods that the Bidder will supply from outside the Philippines, the bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies, shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

13.2. Payment of the contract price shall be made in:

- a. Philippine Pesos.

14. Bid Security

14.1. The Bidder shall submit a Bid Securing Declaration² or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

14.2. The Bid and bid security shall be valid until ***one hundred twenty (120) calendar days from the bid opening***. Any Bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

14.3. *[Include if Framework Agreement will be used:]* In the case of Framework Agreement, other than the grounds for forfeiture under the 2016 revised IRR,

² In the case of Framework Agreement, the undertaking shall refer to entering into contract with the Procuring Entity and furnishing of the performance security or the performance securing declaration within ten (10) calendar days from receipt of Notice to Execute Framework Agreement.

the bid security may also be forfeited if the successful bidder fails to sign the Framework Agreement, or fails to furnish the performance security or performance securing declaration. Without prejudice on its forfeiture, bid securities shall be returned only after the posting of performance security or performance securing declaration, as the case may be, by the winning Bidder or compliant Bidders and the signing of the Framework Agreement.

15. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

16. Deadline for Submission of Bids

16.1. The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB**.

16.2. *[Include if Framework Agreement will be used:]* For multi-year Framework Agreement, the submission of bids shall be for the initial evaluation of their technical and financial eligibility. Thereafter, those declared eligible during the said initial eligibility evaluation and entered into a Framework Agreement with the Procuring Entity shall submit anew their best financial offer at the address and on or before the date and time indicated in the Call for each mini-competition.

17. Opening and Preliminary Examination of Bids

17.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

17.2. The preliminary examination of bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

18. Domestic Preference

- 18.1. The Procuring Entity will grant a margin of preference for the purpose of comparison of Bids in accordance with Section 43.1.2 of the 2016 revised IRR of RA No. 9184.
- 18.2. *[Include if Framework Agreement will be used:]* For multi-year Framework Agreement, determination of margin of preference shall be conducted every call for Mini-Competition.

19. Detailed Evaluation and Comparison of Bids

- 19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "passed," using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of the 2016 revised IRR of RA No. 9184.

[Include the following options if Framework Agreement will be used:]

- a. In the case of single-year Framework Agreement, the Lowest Calculated Bid shall be determined outright after the detailed evaluation;
 - b. For multi-year Framework Agreement, the determination of the eligibility and the compliance of bidders with the technical and financial aspects of the projects shall be initially made by the BAC, in accordance with Item 7.4.2 of the Guidelines on the Use of Framework Agreement.
- 19.2. If the Project allows partial bids, bidders may submit a proposal on any of the lots or items, and evaluation will be undertaken on a per lot or item basis, as the case maybe. In this case, the Bid Security as required by **ITB** Clause 14 shall be submitted for each lot or item separately.
 - 19.3. The descriptions of the lots or items shall be indicated in **Section VII (Technical Specifications)**, although the ABCs of these lots or items are indicated in the **BDS** for purposes of the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184. The NFCC must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder.
 - 19.4. The Project shall be awarded as follows:

[Select one, delete the other/s]

Option 1 – One Project having several items that shall be awarded as one contract.

Option 2 – One Project having several items grouped into several lots, which shall be awarded as separate contracts per lot.

Option 3 - One Project having several items, which shall be awarded as separate contracts per item.

[Delete Options 2 and 3 if Framework Agreement will be used.]

- 19.5. Except for bidders submitting a committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation, all Bids must include the NFCC computation pursuant to Section 23.4.1.4 of the 2016 revised IRR of RA No. 9184, which must be sufficient for the total of the ABCs for all the lots or items participated in by the prospective Bidder. For bidders submitting the committed Line of Credit, it must be at least equal to ten percent (10%) of the ABCs for all the lots or items participated in by the prospective Bidder.

20. Post-Qualification

- 20.1. *[Include if Framework Agreement will be used:]* For multi-year Framework Agreement, all bidders initially determined to be eligible and financially compliant shall be subject to initial post-qualification. The BAC shall then recommend the execution of a Framework Agreement among all eligible, technically and financially compliant bidders and the Procuring Entity and shall be issued by HoPE a Notice to Execute Framework Agreement. The determination of the Lowest Calculated Bid (LCB) shall not be performed by the BAC until a Mini-Competition is conducted among the bidders who executed a Framework Agreement. When a Call for Mini-Competition is made, the BAC shall allow the bidders to submit their best financial proposals on such pre-scheduled date, time and place to determine the bidder with the LCB.
- 20.2. Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, *{[Include if Framework Agreement will be used:]* or in the case of multi-year Framework Agreement, that it is one of the eligible bidders who have submitted bids that are found to be technically and financially compliant, *}* the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS) and other appropriate licenses and permits required by law and stated in the **BDS**. *{[Include if Framework Agreement will be used:]* For every mini-competition in Framework Agreement, the LCB shall likewise submit the required documents for final Post Qualification. *}*

21. Signing of the Contract

- 21.1. The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

[Include the following clauses if Framework Agreement will be used:]

- 21.2. At the same time as the Procuring Entity notifies the successful Bidder that its bid has been accepted, the Procuring Entity shall send the Framework Agreement Form to the Bidder, which contract has been provided in the Bidding Documents, incorporating therein all agreements between the parties.
- 21.3. Within ten (10) calendar days from receipt of the Notice to Execute Framework Agreement with the Procuring Entity, the successful Bidder or its duly authorized representative shall formally enter into a Framework Agreement with the procuring entity for an amount of One Peso to be paid to the procuring

entity as a consideration for the option granted by the procuring entity to procure the items in the Framework Agreement List when the need arises.

- 21.4. The Procuring Entity shall enter into a Framework Agreement with the successful Bidder within the same ten (10) calendar day period provided that all the documentary requirements are complied with.
- 21.5. The following documents shall form part of the Framework Agreement:
 - a. Framework Agreement Form;
 - b. Bidding Documents;
 - c. Call-offs;
 - d. Winning bidder's bid, including the Technical and Financial Proposals, and all other documents/statements submitted (*e.g.*, bidder's response to request for clarifications on the bid), including corrections to the bid, if any, resulting from the Procuring Entity's bid evaluation;
 - e. Performance Security or Performance Securing Declaration, as the case may be;
 - f. Notice to Execute Framework Agreement; and
 - g. Other contract documents that may be required by existing laws and/or specified in the **BDS**.

Section III. Bid Data Sheet

Notes on the Bid Data Sheet

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

- a. Information that specifies and complements provisions of the ITB must be incorporated.
- b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

Bid Data Sheet

ITB Clause	
5.3	<p>For this purpose, contracts similar to the Project shall be:</p> <ul style="list-style-type: none"> a. <i>Development and Installation of Immersive Lights and Sensurround exhibits.</i> b. completed within five (5) years prior to the deadline for the submission and receipt of bids.
7.1	<i>Subcontracting is not allowed</i>
12	The price of the Goods shall be quoted DDP <i>Taguig City, Metro Manila</i> or the applicable International Commercial Terms (INCOTERMS) for this Project.
14.1	<p>The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts:</p> <ul style="list-style-type: none"> a. The amount of not less than Three Hundred Sixty-Three Thousand Nine Hundred Seventy Pesos and 72/100 Only (P363,970.72) [(2%) of ABC], if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit; or b. The amount of not less than Nine Hundred Nine Thousand Nine Hundred Twenty-Six Pesos and 80/100 Only (P909,926.80.00) [(5%) of ABC] if bid security is in Surety Bond.
19.3	<i>One (1) Lot Development and Installation of Immersive Light and Sensurround Exhibition at the Philippine Science Heritage Center</i>
20.2	<p>Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the LCB, the Bidder shall submit the following documentary requirements or its equivalent:</p> <ul style="list-style-type: none"> a. Latest Income Business Tax Return file through the Electronic Filing and Payment System (EEPS) b. BIR Tax Registration Certificate (BIR Form 2303)
21.2	<i>n/a</i>

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Supplier, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special Conditions of Contract.

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

Additional requirements for the completion of this Contract shall be provided in the **Special Conditions of Contract (SCC)**.

2. Advance Payment and Terms of Payment

2.1. Advance payment of the contract amount is provided under Annex “D” of the revised 2016 IRR of RA No. 9184.

2.2. The Procuring Entity is allowed to determine the terms of payment on the partial or staggered delivery of the Goods procured, provided such partial payment shall correspond to the value of the goods delivered and accepted in accordance with prevailing accounting and auditing rules and regulations. The terms of payment are indicated in the **SCC**.

[Include the following clauses if Framework Agreement will be used:]

2.3. For a single-year Framework Agreement, prices charged by the Supplier for Goods delivered and/or services performed under a Call-Off shall not vary from the prices quoted by the Supplier in its bid.

2.4. For multi-year Framework Agreement, prices charged by the Supplier for Goods delivered and/or services performed under a Call-Off shall not vary from the prices quoted by the Supplier during conduct of Mini-Competition.

3. Performance Security

Within ten (10) calendar days from receipt of the Notice of Award by the Bidder from the Procuring Entity but in no case later than the signing of the Contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR of RA No. 9184. *{[Include if Framework Agreement will be used:] In the case of Framework Agreement, the Bidder may opt to furnish the performance security or a Performance Securing Declaration as defined under the Guidelines on the Use of Framework Agreement.}*

4. Inspection and Tests

The Procuring Entity or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Project *{[Include if Framework Agreement will be used:] or Framework Agreement}* specifications at no extra cost to the Procuring Entity in accordance with the Generic Procurement Manual. In addition to tests in the **SCC, Section VII (Technical Specifications)** shall specify what inspections and/or tests the Procuring Entity requires, and where they are to be conducted. The Procuring Entity shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

All reasonable facilities and assistance for the inspection and testing of Goods, including access to drawings and production data, shall be provided by the Supplier to the authorized inspectors at no charge to the Procuring Entity.

5. Warranty

5.1 In order to assure that manufacturing defects shall be corrected by the Supplier, a warranty shall be required from the Supplier as provided under Section 62.1 of the 2016 revised IRR of RA No. 9184.

5.2 The Procuring Entity shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall, repair or replace the defective Goods or parts thereof without cost to the Procuring Entity, pursuant to the Generic Procurement Manual.

6. Liability of the Supplier

The Supplier's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Supplier is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Goods purchased. In preparing this Section, the following aspects should be checked:

- a. Information that complements provisions of the GCC must be incorporated.
- b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
1	<p>Delivery and Documents –</p> <p>For purposes of the Contract, “EXW,” “FOB,” “FCA,” “CIF,” “CIP,” “DDP” and other trade terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of INCOTERMS published by the International Chamber of Commerce, Paris. The Delivery terms of this Contract shall be as follows:</p> <p>The delivery terms applicable to the Contract are DDP delivered to National Academy of Science and Technology. In accordance with INCOTERMS.”</p> <p>The delivery terms applicable to this Contract are delivered <i>National Academy of Science and Technology</i>. Risk and title will pass from the Supplier to the Procuring Entity upon receipt and final acceptance of the Goods at their final destination.”</p> <p>Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in Section VI (Schedule of Requirements).</p> <p>For purposes of this Clause the Procuring Entity’s Representative at the Project Site is <i>the end-user of the NAST</i>.</p> <p>Incidental Services –</p> <p>The Supplier is required to provide all of the following services, including additional services, if any, specified in Section VI. Schedule of Requirements:</p> <ol style="list-style-type: none"> a. performance or supervision of on-site assembly and/or start-up of the supplied Goods; b. furnishing of tools required for assembly and/or maintenance of the supplied Goods; c. furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods; d. performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and

- e. training of the Procuring Entity's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.

The Contract price for the Goods shall include the prices charged by the Supplier for incidental services and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

Spare Parts –

The Supplier is required to provide all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

1. such spare parts as the Procuring Entity may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under this Contract; and
2. in the event of termination of production of the spare parts:
 - i. advance notification to the Procuring Entity of the pending termination, in sufficient time to permit the Procuring Entity to procure needed requirements; and
 - ii. following such termination, furnishing at no cost to the Procuring Entity, the blueprints, drawings, and specifications of the spare parts, if requested.

The spare parts and other components required are listed in **Section VI (Schedule of Requirements)** and the costs thereof are included in the contract price.

The Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spare parts or components for the Goods for a period of **three (3) years**.

Spare parts or components shall be supplied as promptly as possible, but in any case, within **30 working days** months of placing the order.

	<p>Packaging –</p> <p>The Supplier shall provide such packaging of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in this Contract. The packaging shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packaging case size and weights shall take into consideration, where appropriate, the remoteness of the Goods’ final destination and the absence of heavy handling facilities at all points in transit.</p> <p>The packaging, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified below, and in any subsequent instructions ordered by the Procuring Entity.</p> <p>The outer packaging must be clearly marked on at least four (4) sides as follows:</p> <p>Name of the Procuring Entity Name of the Supplier Contract Description Final Destination Gross weight Any special lifting instructions Any special handling instructions Any relevant HAZCHEM classifications</p>
	<p>A packaging list identifying the contents and quantities of the package is to be placed on an accessible point of the outer packaging if practical. If not practical the packaging list is to be placed inside the outer packaging but outside the secondary packaging.</p> <p>Transportation –</p> <p>Where the Supplier is required under Contract to deliver the Goods CIF, CIP, or DDP, transport of the Goods to the port of destination or such other named place of destination in the Philippines, as shall be specified in this Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.</p> <p>Where the Supplier is required under this Contract to transport the Goods to a specified place of destination within the Philippines, defined as the Project Site, transport to such place of destination in the Philippines, including insurance and storage, as shall be specified in this Contract, shall be arranged by the Supplier, and related costs shall be included in the contract price.</p>

	<p>Where the Supplier is required under Contract to deliver the Goods CIF, CIP or DDP, Goods are to be transported on carriers of Philippine registry. In the event that no carrier of Philippine registry is available, Goods may be shipped by a carrier which is not of Philippine registry provided that the Supplier obtains and presents to the Procuring Entity certification to this effect from the nearest Philippine consulate to the port of dispatch. In the event that carriers of Philippine registry are available but their schedule delays the Supplier in its performance of this Contract the period from when the Goods were first ready for shipment and the actual date of shipment the period of delay will be considered force majeure.</p> <p>The Procuring Entity accepts no liability for the damage of Goods during transit other than those prescribed by INCOTERMS for DDP deliveries. In the case of Goods supplied from within the Philippines or supplied by domestic Suppliers risk and title will not be deemed to have passed to the Procuring Entity until their receipt and final acceptance at the final destination.</p> <p>Intellectual Property Rights –</p> <p>The Supplier shall indemnify the Procuring Entity against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof.</p>
	<p>Regular and Recurring Services –</p> <p><i>[In case of contracts for regular and recurring services, state:]</i> “The contract for regular and recurring services shall be subject to a renewal whereby the performance evaluation of the service provider shall be conducted in accordance with Section VII. Technical specifications.”</p>
2.2	<p>Payment shall be made based on the following:</p> <p>Upon signing of the Notice to Proceed - 15%</p> <p>Upon complete delivery and installation of equipment - 45%</p> <p>Upon Approval of the three (3) storyboard for content development - 20%</p> <p>Upon delivery and installation of the three (3) contents for projection mapping – 19%</p> <p>The remaining 1% will be for the retention</p>
4	No further instructions

Section VI. Schedule of Requirements

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery to the project site.

Item Number	Description	Quantity	Total	Delivered, Weeks/Months
1	Development and Installation of Immersive Light and Sensurround Exhibition at the Philippine Science Heritage Center	1	1	Within 120 days from receipt of the Notice to Proceed
	Installation of Display and Audio Units			
	Installation of Signal System Layout			
	Development of three (3) contents for the Projection Mapping			

Section VII. Technical Specifications

Notes for Preparing the Technical Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying their Bids. In the context of Competitive Bidding, the specifications (*e.g.* production/delivery schedule, manpower requirements, and after-sales service/parts, descriptions of the lots or items) must be prepared to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of transparency, equity, efficiency, fairness, and economy in procurement be realized, responsiveness of bids be ensured, and the subsequent task of bid evaluation and post-qualification facilitated. The specifications should require that all items, materials and accessories to be included or incorporated in the goods be new, unused, and of the most recent or current models, and that they include or incorporate all recent improvements in design and materials unless otherwise provided in the Contract.

Samples of specifications from previous similar procurements are useful in this respect. The use of metric units is encouraged. Depending on the complexity of the goods and the repetitiveness of the type of procurement, it may be advantageous to standardize the General Technical Specifications and incorporate them in a separate subsection. The General Technical Specifications should cover all classes of workmanship, materials, and equipment commonly involved in manufacturing similar goods. Deletions or addenda should then adapt the General Technical Specifications to the particular procurement.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for equipment, materials, and workmanship, recognized Philippine and international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that equipment, materials, and workmanship that meet other authoritative standards, and which ensure at least a substantially equal quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the Special Conditions of Contract or the Technical Specifications.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Technical Specifications to specific standards and codes to be met by the goods and materials to be furnished or tested, the provisions of the latest edition or revision of the relevant standards and codes shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or relate to a particular country or region, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

Reference to brand name and catalogue number should be avoided as far as possible; where unavoidable they should always be followed by the words “*or at least equivalent.*” References to brand names cannot be used when the funding source is the GOP.

Where appropriate, drawings, including site plans as required, may be furnished by the Procuring Entity with the Bidding Documents. Similarly, the Supplier may be requested to provide drawings or samples either with its Bid or for prior review by the Procuring Entity during contract execution.

Bidders are also required, as part of the technical specifications, to complete their statement of compliance demonstrating how the items comply with the specification.

In case of Renewal of Regular and Recurring Services, the Procuring Entity must indicate here the technical requirements for the service provider, which must include the set criteria in the conduct of its performance evaluation.

Technical Specifications

Item	Specification	Statement of Compliance
		<p><i>[Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to</i></p>

		<i>the applicable laws and issuances.]</i>
1.	<p>Display Unit Projection Technology: RGB liquid crystal shutter projection system (3LCD)</p> <p>Specifications of Main Parts LCD Size: 0.76" (C2 Fine) Resolution: WUXGA (Support 4K Enhancement) Aspect Ratio: 16:10 Projection Lens Type: Power Zoom, Power Focus F-Number: 1.7 – 2.3 Focal Length: 24 – 38.2 mm Zoom Ratio: 1.0 - 1.60 Throw Ratio: 1.44 – 2.32 (Wide – Tele) Lens Shift Vertical: ±67% (Powered) Horizontal: ±30% (Powered) Lightsource Type: Laser Diode Life: 20,000 hours (Normal) / 30,000 hours (Extended) Screen Size (Projected Distance) Zoom: Wide 50" – 1,000" [1.53 – 31.57 m] Zoom: Tele 50" – 1,000" [2.48 - 50.44 m] Brightness White Light Output: 8,500 lm Colour Light Output (Normal): 8,500 lm Light Output (Center): 9,200 lm Contrast Ratio: Over 2,500,000:1 Keystone Correction Projection Orientation: 360° Free Vertical / Horizontal: ±45° / ±30° Connectivity Analog RGB Input: D-Sub 15Pin x1 HDMI: x1 (HDCP 2.3) DVI-D: x1 (HDCP 1.4) HDBaseT: x1 (HDCP 2.3) USB Input: USB Type A 2 (Port1 for 5V/2A Power Supply, Grackle, SMF1, Firmware Update, Copy OSD Settings, Content Playback ; Port2 for 5V/900mA Power Supply, Wireless LAN, Firmware Update, Copy OSD Settings, Content Playback) USB Type B: x1 (For Firmware Update, Copy OSD Settings) Control I/O: RS-232C D-Sub 9pin x 1 Audio Output Stereo: Mini x1 Network Wired LAN: RJ45 x 1 (100Mbps) Operating Temperature Single Use:</p>	

	<p>Low Altitude (0 - 2,286m/7,500ft): 0 - 45 °C <32 - 113 °F> High Altitude (Over 2,286m/7,500ft): 0 - 40 °C <32 - 104 °F> 20% - 80% Humidity, No Condensation Operating Altitude: Over 1,500m/4,921ft with High Altitude Mode: 0 - 3,048m (0 -10,000ft) Start-Up Period: Less than 7 seconds (Epson Logo); Warm-up Period: 30 sec Quick Start-Up: Less than 7 seconds (Display) Cool Down: Period Instant Off Air Filter Type: Electrostatic Filter Maintenance Cycle: 20,000 hours (Normal) / 30,000 hours (Extended) Power Supply Voltage: 100 - 240 V AC ±10%, 50/60 Hz Power Consumption: (220 - 240V) Laser Diode On Normal: 535 W Extended: 452 W Standby (Normal / Eco): 2.0 W / 0.5 W</p>	
2.	<p>CONTROLLER Video Wall 4k Controller/Server; 8u chassis; can support up to 6 input cards and 5 output cards; can support 4K 60Hz processing at RGB 4:4:4 to deliver 4K experience without compromising.</p> <p>Input Board: HDMI 1.3 (4 HDMI 1920x1080 port) x 2 Output Board: HDMI 2.0 (4k up to 8K Resolution @60Hz) x 2 IP Board: 1* Monitoring interface. 3* AUX 1* RJ45</p>	
3.	<p>AUDIO AMPLIFIER</p> <p>Power Amplifier, Class D 2 Channel rated at 600W at 4-8Ω or 1 Channel with 1200W at 4-8Ω or 70/100Vat Bridge Mode. With Built in DSP configurable via Powerspace Configuration Utility and Input output expandability via Amp-Link.</p>	
4.	<p>SPEAKER</p> <p>In-Ceiling Loudspeaker, Two-way 6.5" woofer and 1.25" compression mounted tweeter rated 100W at 8Ω and selectable wattage of 80, 40, 20, 10, & 5W @ 70/100V. Slim bezel, magnetic grille, QuickHold Mounting System. Black</p>	

5.	<p>PC CONTROLLER</p> <p>Form Factor TOWER</p> <p>Highlight Feature/s 13th Generation Intel® Core™ i7 processor</p> <p>Processor Intel® Core™ i7-13700 processor (25MB Smart Cache, 2.1 GHz Base Frequency with Max Turbo up to 4.9 GHz, 12 Cores 20 Threads)</p> <p>Memory 32 GB (2x16GB) DDR5 4800 MHz UDIMM</p> <p>Hard Disk Drive 512 GB M.2 2280 PCI-E SSD + 2 TB 3.5-inch 7200 RPM</p> <p>Graphics NVIDIA® GeForce® RTX 4070Ti with 12GB of GDDR6X (supporting: 1x HDMI 2.1 / 3x DisplayPort 1.4a)"</p> <p>Optical Drive WITHOUT</p> <p>Card Reader WITHOUT</p> <p>Audio DTS:X® Ultra</p> <p>Networking WLAN</p> <p>802.11ax/ac/a/b/g/n, Wi-Fi 6E and Bluetooth® 5.0</p> <p>LAN Killer™ E2600 Gigabit Ethernet "</p> <p>Standard I/O Ports "Front/Side I/O connectors • Audio jack(s): 2 • USB 3.2 Gen2 Type A port(s): 3 • USB 3.2 Gen2x2 Type C port(s): 1 Rear I/O connectors • LAN port(s): 1 • Audio jack(s): 3 • USB 2.0 Type A port(s): 4 • USB 3.2 Gen1 Type A port(s): 2" Expansion Slot (s) "•</p> <p>Number of PCIe x16 slot(s): 2 • Number of PCIe x1 slot(s): 1 • M.2 slot (for SSD): 2 • M.2 slot (for WLAN): 1" Power Supply 800 W PFC, 80PLUS Gold, ATX</p> <p>Keyboard & Mouse Predator USB 4-zone RGB</p> <p>Keyboard & Mouse Speakers WITHOUT Accessory</p> <p>WITHOUT Monitor / Screen None Operating System</p> <p>Windows 11 Home 64-bit Dimensions 219 (W) x 504.8 (D) x 485 (H) mm (8.62 x 19.87 x 19.09 inches)</p> <p>Warranty 2 Years Warranty for Parts and Labor</p>	
6.	<p>HDMI OVER UTP EXTENDER</p> <p>TRANSMITER HDMI EXTENDER TX</p> <p>Video</p> <p>Maximum data rate 10.2 Gbps (3.4 Gbps per color)</p> <p>Maximum pixel clock 300 MHz</p> <p>Resolution range Up to 2560x1600* @ 60 Hz or 4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz, 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling (* reduced blanking)</p> <p>Color bit depth 8, 10, or 12 bits — subject to the maximum data rate limit</p> <p>Formats RGB and YCbCr digital video</p> <p>Standards DVI 1.0, HDMI 1.4, HDCP 2.3, CEA-861E</p>	

	<p>Video input — transmitter</p> <p>Number/signal type 1 single link Video input — transmitter</p> <p>Number/signal type 1 single link HDMI (or DVI-D*)</p> <p>Connectors 1 female HDMI type A</p> <p>Interconnection between transmitter and receiver</p> <p>Connectors 1 female RJ-45 per unit</p> <p>Termination standard TIA/EIA T568B</p> <p>Signal transmission distance</p> <p>1080p @ 60 Hz Up to 230' (70 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable</p> <p>2560x1600 @ 60 Hz Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable</p> <p>4K/UHD @ 30Hz and 60 Hz Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable</p> <p>Cable requirements Solid conductor, 24 AWG or better</p> <p>Cable recommendations 400 MHz bandwidth, STP (shielded twisted pair)</p> <p>Video output — receiver</p> <p>Number/signal type 1 single link HDMI (or DVI-D*)</p> <p>Connectors 1 female HDMI type A</p> <p>Audio</p> <p>Gain Unbalanced output: 0 dB; balanced output +6 dB</p> <p>Frequency response 20 Hz to 20 kHz, ±0.5 dB</p> <p>THD + Noise 0.03% @ 20 Hz to 20 kHz at maximum output</p> <p>S/N >90 dB, at maximum output (15 dBu), balanced (unweighted)</p> <p>Stereo channel separation >80 dB @ 1 kHz to 20 kHz</p> <p>TRANSMITTER HDMI EXTENDER RX</p> <p>Video</p> <p>Maximum data rate 10.2 Gbps (3.4 Gbps per color)</p> <p>Maximum pixel clock 300 MHz</p> <p>Resolution range Up to 2560x1600* @ 60 Hz or 4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz, 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling (* reduced blanking)</p> <p>Color bit depth 8, 10, or 12 bits — subject to the maximum data rate limit</p> <p>Formats RGB and YCbCr digital video</p>	
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	<p>Standards DVI 1.0, HDMI 1.4, HDCP 2.3, CEA-861E</p> <p>Video input — transmitter Number/signal type 1 single link HDMI (or DVI-D*) Connectors 1 female HDMI type A</p> <p>Interconnection between transmitter and receiver Connectors 1 female RJ-45 per unit Termination standard TIA/EIA T568B Signal transmission distance 1080p @ 60 Hz Up to 230' (70 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable 2560x1600 @ 60 Hz Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable 4K/UHD @ 30Hz and 60 Hz Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable Cable requirements Solid conductor, 24 AWG or better Cable recommendations 400 MHz bandwidth, STP (shielded twisted pair)</p> <p>Video output — receiver Number/signal type 1 single link HDMI (or DVI-D*) Connectors 1 female HDMI type A</p> <p>Audio Gain Unbalanced output: 0 dB; balanced output +6 dB Frequency response 20 Hz to 20 kHz, ±0.5 dB THD + Noise 0.03% @ 20 Hz to 20 kHz at maximum output S/N >90 dB, at maximum output (15 dBu), balanced (unweighted) Stereo channel separation >80 dB @ 1 kHz to 20 kHz</p>	
7.	<p>BRACKET</p> <ul style="list-style-type: none"> ● Max load: 25kg (55lbs) ● Tilt (pitch): +/-13° ● Roll: +/-6° ● Yaw: 360° ● Adjustable ceiling drop: 728mm (28.7") - 1128mm (44.4") ● Maximum distance between fixings: 493mm (19.4") 	

8.	STRUCTURED CABLING, 42U Data Rack	

Annexes:

- A. Terms of Reference (TOR) – including deliverables and qualification of Personnel
- B. Technical Specifications for the Equipment Requirements
- C. Bill of Quantities
- D. Floor Plan

ANNEX A

DEVELOPMENT AND INSTALLATION OF IMMERSIVE LIGHT AND SENSURROUND EXHIBITION AT THE PHILIPPINE SCIENCE HERITAGE CENTER

TERMS OF REFERENCE

1. BACKGROUND:

A new immersive exhibition area will be developed and installed on a selected area at the first floor of the Philippine Science Heritage Center (PSHC). Using state-of-the-art projection technology, the project will develop a “light and sensurround immersive exhibition.” The exhibition will focus on science in our everyday lives and how STI can achieve the aspiration “A Prosperous, Archipelagic Maritime Nation.” The exhibit will also feature contributions of Filipino scientists in the science community.

2. APPROVED BUDGET FOR THE CONTRACT: Eighteen million one hundred ninety- eight thousand five hundred thirty- six pesos (PhP 18,198,536.00) inclusive of Value Added Tax and other government taxes.

3. PLACE AND DELIVERY PERIOD - The winning contractor shall complete the project at the Philippine Science Heritage Bldg., DOST Compound, Bicutan, Taguig City, within **120 days** from the date of the approval of the contract.

4. TECHNICAL SUPPORT: 7:00 AM -5:00 PM, Mondays - Saturdays, either onsite, email, or phone

5. DESCRIPTION OF SERVICES:

- a. Develop three (3), 6-8 minutes digital contents, for the Light and Sensurround immersive exhibition (**Science in Everyday Life, Agricultural Science, Biological Science**) using projection mapping technology and as per scope of work
- b. Procure goods, equipment, and related services to develop the exhibits
- c. Produce display materials as required
- d. Manage the exhibits and logistics arrangements during the installation
- e. Provide training and documentation on operation and basic troubleshooting
- f. Consult and coordinate with NAST-PSHC to ascertain requirements of the project
- g. Turnover of all raw materials and source codes used in the production and enhancement of contents

6. SCOPE OF WORK

The selected contractor will be responsible for the following:

Development and Installation of the Light and Sensurround Exhibition Using projection mapping technology

1. Concept Development:
 - Propose a detailed concept for each of the three (3) contents for the Light and Sensurround Exhibition, aligning with the NAST-PSHC's objectives
 - Design and present the storyboards for the three (3) contents for the Light and Sensurround Exhibition
 - Inclusion of post editing as may deemed necessary, incorporating the comments and suggestions of NAST PHL. Maximum of three (3) revisions.
2. Technical Specification:
 - Provide detailed technical specifications for the Light and Sensurround Exhibition hardware and software requirements
 - Ensure compatibility with various surfaces and environments
3. Development and Testing:
 - Develop a working prototype of the exhibition
 - Conduct thorough testing to ensure reliability, quality, and optimal performance
4. Ownership Transfer:
 - Transfer full ownership rights of the Light and Sensurround Exhibition, including source codes, documentation, footage, raw files/materials (pictures and videos), and any related intellectual property to NAST PHL.

7. DELIVERABLES

- Submit a soft and hard copy of the operational, basic maintenance, and troubleshooting user's manual.
- Provide a list of Engineers or Technical personnel who shall perform corrective, preventive maintenance, and calibration of the hardware and software product.
- Provide Certification of Importation of the equipment, if applicable.
- Original brochure or manual that contains all technical specifications required by the bidding documents in English language.
- List of Location/s, contact number/s of the Service Center of the supplier (the bidder) in Metro Manila, Philippines.
- Certification that the bidder will provide training for at least five (5) end users and two (2) maintenance staff.
- Certification that the bidder shall be responsible for notification, transportation, delivery, installation, commissioning, and testing at no cost to the government.
- Proposed schedule and costing of quarterly corrective, preventive maintenance, and calibration program for hardware, software materials and consumables/accessories for one year.
- Signed and sealed as-built plans for layout and details of mounted projectors, cabling, and electrical (3 hard copies of Blueprint and A3 size, soft copy CAD/ PDF File).
- Provide the source codes, documentation, and raw files/materials, among others, for the content developed of projection mapping.

8. TECHNICAL SPECIFICATIONS: See attached Annex

9. QUALIFICATIONS OF PERSONNEL

Contractor/ Supplier must be at least ten (10) years in the industry to ensure company competence and stability for support.

EXPERT	MINIMUM REQUIREMENTS
SOFTWARE DEVELOPMENT - one (1) Full Stack Development Team with the following experts	
<ul style="list-style-type: none"> Graphics designer 	at least three (3) years professional experience in graphic design, mastery of graphic design tools.
<ul style="list-style-type: none"> Content developer 	With at least five (5) years related professional experience in developing and creating digital content, such for AV/AR experiences, projection mapping, among others,
one (1) Licensed Electronics and Communications Engineer	with at least three (3) years of professional experience dealing with exhibitions, events, and trade fairs.
one (1) Licensed Electrical Engineer	with at least three (3) years of professional experience dealing with exhibitions, events, and trade fairs.
one (1) Safety Officer	with COSH Certification, at least three (3) years professional experience in Occupational Safety and Health.

10.SCHEDULE OF PAYMENT

Upon signing of Notice to Proceed	15%
Upon complete delivery and installation of equipment	45%

Upon approval of the three (3) storyboards for content development	20%
Upon delivery and installation of the three (3) contents for projection mapping	20%
TOTAL	100%

11. WARRANTIES:

One (1) year warranty on all ICT devices and equipment.

One (1) year warranty and support for the content and software including software updates, if needed.

Availability of technical support on 8 hours x 6 days (Monday – Saturday) via email, phone, or SMS during the warranty period. For severe or critical issues, a Service Level Agreement (SLA) of 4 hours response time in a 1-year term should be available.

12. TRAINING OF PERSONNEL: At least five (5) end users and two (2) maintenance staff seven should be provided with two (2) days of training to operate all proposed software. They should also be able to perform first (1st) level troubleshooting and problem identification with documented guidebooks and references. Training sessions should be conducted in the best interest of the safety and health of the participants.

13. OWNERSHIP

Copyright Ownership:

- a. All creative works, designs, concepts, and materials created by the contractor are considered “Work” and shall be the exclusive property of NAST PHL
- b. The contractor acknowledges that they do not have any claim or rights to the copyright of the Work, and NAST PHL retains all intellectual property rights
- c. Any third party materials used in this project will be used with proper licensing or permissions, and copyright ownership shall be respected.

B. Non-Disclosure Agreement

- a. NAST PHL and the contractor recognize the sensitivity of the Project and agree to keep all information and details confidential
- b. Confidential information includes, but is not limited to, project plans, trade secrets, proprietary technology, and any data pertaining to the Project
- c. The confidentiality obligations under the agreement extend to all employees, contractors, or agents of NAST PHL and the contractor

c. Exclusivity of Design and Concept

- a. The design and concept developed by the contractor for the Project shall be exclusive to NAST PHL for three years and any agreed-upon additional period.
- b. During the exclusivity period, the contractor shall not provide similar designs or concepts to any other party without the prior written consent of NAST PHL.

TECHNICAL SPECIFICATIONS

DEVELOPMENT AND INSTALLATION OF LIGHT AND SENSURROUND EXHIBITION AT THE PHILIPPINE SCIENCE HERITAGE CENTER

MATERIAL/ EQUIPMENT	SPECIFICATION
DISPLAY UNIT	<p>Projection Technology: RGB liquid crystal shutter projection system (3LCD)</p> <p>Specifications of Main Parts</p> <p>LCD Size: 0.76" (C2 Fine)</p> <p>Resolution: WUXGA (Support 4K Enhancement)</p> <p>Aspect Ratio: 16:10</p> <p>Projection Lens Type: Power Zoom, Power Focus</p> <p>F-Number: 1.7 – 2.3</p> <p>Focal Length: 24 – 38.2 mm</p> <p>Zoom Ratio: 1.0 - 1.60</p> <p>Throw Ratio: 1.44 – 2.32 (Wide – Tele)</p> <p>Lens Shift Vertical: $\pm 67\%$ (Powered)</p> <p>Horizontal: $\pm 30\%$ (Powered)</p> <p>Lightsource Type: Laser Diode</p> <p>Life: 20,000 hours (Normal) / 30,000 hours (Extended)</p> <p>Screen Size (Projected Distance)</p> <p>Zoom: Wide 50" – 1,000" [1.53 – 31.57 m]</p> <p>Zoom: Tele 50" – 1,000" [2.48 - 50.44 m]</p> <p>Brightness</p> <p>White Light Output: 8,500 lm</p> <p>Colour Light Output (Normal): 8,500 lm</p> <p>Light Output (Center): 9,200 lm</p> <p>Contrast Ratio: Over 2,500,000:1</p> <p>Keystone Correction</p> <p>Projection Orientation: 360° Free</p> <p>Vertical / Horizontal: $\pm 45^\circ$ / $\pm 30^\circ$</p> <p>Connectivity</p> <p>Analog RGB Input: D-Sub 15Pin x1</p> <p>HDMI: x1 (HDCP 2.3)</p> <p>DVI-D: x1 (HDCP 1.4)</p> <p>HDBaseT: x1 (HDCP 2.3)</p> <p>USB Input: USB Type A 2 (Port1 for 5V/2A Power Supply, Grackle, SMF1, Firmware Update, Copy OSD Settings, Content Playback ; Port2 for 5V/900mA Power Supply, Wireless LAN, Firmware Update, Copy OSD Settings, Content Playback)</p> <p>USB Type B: x1 (For Firmware Update, Copy OSD Settings)</p> <p>Control I/O: RS-232C D-Sub 9pin x 1</p> <p>Audio Output Stereo: Mini x1</p> <p>Network Wired LAN: RJ45 x 1 (100Mbps)</p>

	<p>Operating Temperature Single Use: Low Altitude (0 - 2,286m/7,500ft): 0 - 45 °C <32 - 113 °F> High Altitude (Over 2,286m/7,500ft): 0 - 40 °C <32 - 104 °F> 20% - 80% Humidity, No Condensation Operating Altitude: Over 1,500m/4,921ft with High Altitude Mode: 0 - 3,048m (0 -10,000ft) Start-Up Period: Less than 7 seconds (Epson Logo); Warm-up Period: 30 sec Quick Start-Up: Less than 7 seconds (Display) Cool Down: Period Instant Off Air Filter Type: Electrostatic Filter Maintenance Cycle: 20,000 hours (Normal) / 30,000 hours (Extended) Power Supply Voltage: 100 - 240 V AC ±10%, 50/60 Hz Power Consumption: (220 - 240V) Laser Diode On Normal: 535 W Extended: 452 W Standby (Normal / Eco): 2.0 W / 0.5 W</p>
CONTROLLER	<p>Video Wall 4k Controller/Server; 8u chassis; can support up to 6 input cards and 5 output cards; can support 4K 60Hz processing at RGB 4:4:4 to deliver 4K experience without compromising.</p> <p>Input Board: HDMI 1.3 (4 HDMI 1920x1080 port) x 2 Output Board: HDMI 2.0 (4k up to 8K Resolution @60Hz) x 2 IP Board: 1* Monitoring interface. 3* AUX 1* RJ45</p>
AUDIO AMPLIFIER	<p>Power Amplifier, Class D 2 Channel rated at 600W at 4-8Ω or 1 Channel with 1200W at 4-8Ω or 70/100Vat Bridge Mode. With Built in DSP configurable via Powerspace Configuration Utility and Input output expandability via Amp-Link.</p>
SPEAKER	<p>In-Ceiling Loudspeaker, Two-way 6.5" woofer and 1.25" compression mounted tweeter rated 100W at 8Ω and selectable wattage of 80, 40, 20, 10, & 5W @ 70/100V. Slim bezel, magnetic grille, QuickHold Mounting System. Black</p>
PC CONTROLLER	<p>Form Factor TOWER Highlight Feature/s 13th Generation Intel® Core™ i7 processor Processor Intel® Core™ i7-13700 processor (25MB Smart Cache, 2.1 GHz Base Frequency with Max Turbo up to 4.9 GHz, 12 Cores 20 Threads) Memory 32 GB (2x16GB) DDR5 4800 MHz UDIMM Hard Disk Drive 512 GB M.2 2280 PCI-E SSD + 2 TB 3.5-inch 7200 RPM Graphics NVIDIA® GeForce® RTX 4070Ti with 12GB of GDDR6X (supporting: 1x HDMI 2.1 / 3x DisplayPort 1.4a)" Optical Drive WITHOUT Card Reader WITHOUT Audio DTS:X® Ultra Networking WLAN 802.11ax/ac/a/b/g/n, Wi-Fi 6E and Bluetooth® 5.0 LAN Killer™ E2600 Gigabit Ethernet " Standard I/O Ports "Front/Side I/O connectors • Audio jack(s): 2 • USB 3.2 Gen2 Type A port(s): 3 • USB 3.2 Gen2x2 Type C port(s): 1 Rear I/O connectors • LAN port(s): 1 • Audio jack(s): 3 • USB 2.0 Type A port(s): 4 • USB 3.2 Gen1 Type A port(s): 2" Expansion Slot (s) " • Number of PCIe x16 slot(s): 2 • Number</p>

	<p>of PCIe x1 slot(s): 1 • M.2 slot (for SSD): 2 • M.2 slot (for WLAN): 1" Power Supply 800 W PFC, 80PLUS Gold, ATX Keyboard & Mouse Predator USB 4-zone RGB Keyboard & Mouse Speakers WITHOUT Accessory WITHOUT Monitor / Screen None Operating System Windows 11 Home 64-bit Dimensions 219 (W) x 504.8 (D) x 485 (H) mm (8.62 x 19.87 x 19.09 inches) Warranty 2 Years Warranty for Parts and Labor</p>
<p>HDMI OVER UTP EXTENDER</p>	<p>TRANSMITTER HDMI EXTENDER TX</p> <p>Video</p> <p>Maximum data rate 10.2 Gbps (3.4 Gbps per color) Maximum pixel clock 300 MHz Resolution range Up to 2560x1600* @ 60 Hz or 4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz, 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling (* reduced blanking) Color bit depth 8, 10, or 12 bits — subject to the maximum data rate limit Formats RGB and YCbCr digital video Standards DVI 1.0, HDMI 1.4, HDCP 2.3, CEA-861E</p> <p>Video input — transmitter Number/signal type 1 single link Video input — transmitter Number/signal type 1 single link HDMI (or DVI-D*) Connectors 1 female HDMI type A</p> <p>Interconnection between transmitter and receiver Connectors 1 female RJ-45 per unit Termination standard TIA/EIA T568B Signal transmission distance 1080p @ 60 Hz Up to 230' (70 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable 2560x1600 @ 60 Hz Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable 4K/UHD @ 30Hz and 60 Hz Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable Cable requirements Solid conductor, 24 AWG or better Cable recommendations 400 MHz bandwidth, STP (shielded twisted pair)</p> <p>Video output — receiver Number/signal type 1 single link HDMI (or DVI-D*) Connectors 1 female HDMI type A</p> <p>Audio Gain Unbalanced output: 0 dB; balanced output +6 dB Frequency response 20 Hz to 20 kHz, ±0.5 dB THD + Noise 0.03% @ 20 Hz to 20 kHz at maximum output S/N >90 dB, at maximum output (15 dBu), balanced (unweighted) Stereo channel separation >80 dB @ 1 kHz to 20 kHz</p> <p>TRANSMITTER HDMI EXTENDER RX</p>

	<p>Video</p> <p>Maximum data rate 10.2 Gbps (3.4 Gbps per color)</p> <p>Maximum pixel clock 300 MHz</p> <p>Resolution range Up to 2560x1600* @ 60 Hz or 4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz, 4K/UHD @ 60 Hz with 4:2:0 chroma subsampling (* reduced blanking)</p> <p>Color bit depth 8, 10, or 12 bits — subject to the maximum data rate limit</p> <p>Formats RGB and YCbCr digital video</p> <p>Standards DVI 1.0, HDMI 1.4, HDCP 2.3, CEA-861E</p> <p>Video input — transmitter</p> <p>Number/signal type 1 single link HDMI (or DVI-D*)</p> <p>Connectors 1 female HDMI type A</p> <p>Interconnection between transmitter and receiver</p> <p>Connectors 1 female RJ-45 per unit</p> <p>Termination standard TIA/EIA T568B</p> <p>Signal transmission distance</p> <p>1080p @ 60 Hz Up to 230' (70 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable</p> <p>2560x1600 @ 60 Hz Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable</p> <p>4K/UHD @ 30Hz and 60 Hz Up to 130' (40 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable</p> <p>Cable requirements Solid conductor, 24 AWG or better</p> <p>Cable recommendations 400 MHz bandwidth, STP (shielded twisted pair)</p> <p>Video output — receiver</p> <p>Number/signal type 1 single link HDMI (or DVI-D*)</p> <p>Connectors 1 female HDMI type A</p> <p>Audio</p> <p>Gain Unbalanced output: 0 dB; balanced output +6 dB</p> <p>Frequency response 20 Hz to 20 kHz, ±0.5 dB</p> <p>THD + Noise 0.03% @ 20 Hz to 20 kHz at maximum output</p> <p>S/N >90 dB, at maximum output (15 dBu), balanced (unweighted)</p> <p>Stereo channel separation >80 dB @ 1 kHz to 20 kHz</p>
BRACKET	<ul style="list-style-type: none"> • Max load: 25kg (55lbs) • Tilt (pitch): +/-13° • Roll: +/-6° • Yaw: 360° • Adjustable ceiling drop: 728mm (28.7") - 1128mm (44.4") • Maximum distance between fixings: 493mm (19.4")
OTHERS	STRUCTURED CABLING, 42U Data Rack

ANNEX C

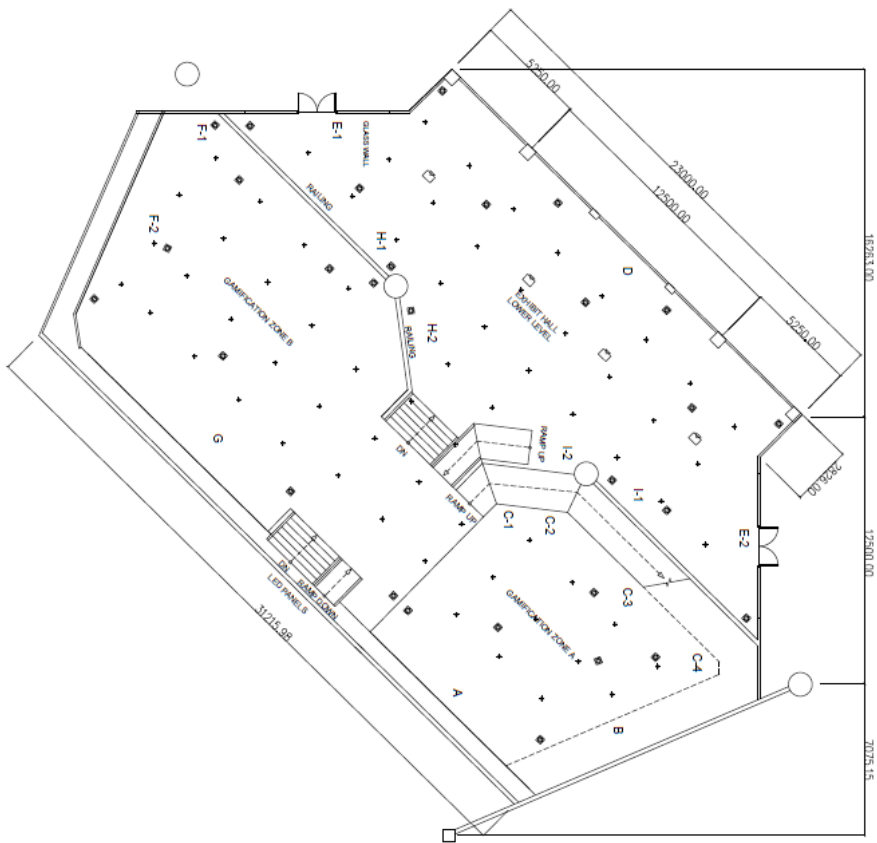
BILL OF QUANTITIES

Project Title: Development and Installation of Light and Sensurround Exhibition at the PSHC
 Project Location: Science Heritage Building, DOST Compound, Gen. Santos Ave., Bicutan, Taguig City

ITEM NO.	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL COST
I. General Requirements					
1	Mobilization/ Demobilization	1.00	lot		
2	Scaffolding	1.00	lot		
3	Testing and Commissioning	1.00	lot		
4	Signed and Sealed As-built plans (design and layout)	1.00	lot		
5	Operation and Maintenance Manual	1.00	lot		
Sub-Total I					
II. Display and Audio Unit					
1	Laser Projector 6,000 lumens colour and white brightness 4k Enhancement Tech. w/ HDR support, laser light source up to 20,000 hours of use, compatible w/ wide range of up to 11 powered lenses	4.00	unit		
2	Ultra Short Throw Lens works with interchangeable lens projectors up to 8,500 lumens, project 100" to 300"; F-number: 1.9; Focal Length: 5.8mm WUXGA/WXGA throw ratio — .35 Lens Shift: Vertical: +50% to +67% (H Center) Horizontal: -10% to +10% (Vertical +50%) XGA throw ratio — .36 Lens Shift: Vertical: +50% to +57% (H Center) Horizontal: -8% to +8% (Vertical +50%)	4.00	unit		
3	Projector Ceiling Mounting Max load: 25kg (55lbs), Tilt (pitch): +/-13°, Roll: +/-6°, Yaw: 360 Adjustable ceiling drop: 728mm (28.7") - 1128mm (44.4") Maximum distance between fixings: 493mm (19.4")	4.00	unit		
4	Power Amplifier, Class D 2 Channel rated at 600W at 4-8Ω or 1 Channel with 1200W at 4-8Ω or 70/100Vat Bridge Mode.	1.00	pc		
5	In-Ceiling Loudspeaker, Two-way 6.5" woofer and 1.25" compression mounted tweeter rated 100W at 8Ω and selectable wattage of 80, 40, 20, 10, 8.5W @ 70/100V.	5.00	pc		
6	Video Wall 4k Controller/Server; 8u chassis; can support up to 6 input cards and 3 output cards; can support 4K 60Hz processing at RGB 4:4:4 to deliver 4K experience without compromising. Input Board: HDMI 1.3 (4 HDMI 1920x1080 port) x 2 Output Board: HDMI 2.0 (4k up to 8K Resolution @60Hz) x 2	1.00	unit		
7	Transmitter HDMI Extender TX	4.00	set		
8	Transmitter HDMI Extender RX	4.00	set		
9	42RU DATA RACK	1.00	unit		
10	PC Controller i7-13700 processor, 32gb RAM DDR5, Hard Disk Drive 512 GB M.2 2280 PCI-E SSD inch 7200 RPM+ 2 TB 3.5, RTX 4070Ti with 12GB of GDDR6X	1.00	unit		
11	28" 4K 60HZ DP HDMI Monitor	1.00	unit		
12	HDMI 2.0 cable	9.00	unit		
Sub-Total II					
III. Signal System Layout					
1	25mm Ø EMT Pipe(3 meters)	8.00	pc		
2	25mmØ EMT Coupling	3.00	pc		
3	25mmØ EMT Connector w/ Locknut	3.00	pc		
4	#14 GI Wire	3.00	kg		
5	Conduit Mounting Accessories	1.00	lot		
6	4X4" Square Box (galvanized)	3.00	pc		
7	PL TO XLR Cable	1.00	pc		
8	Wire Speaker	5.00	roll		
9	CAT6 Ethernet Cable, U/UTP, 305m	1.00	roll		
10	DVI Adaptor	4.00	pc		
11	Shielded RJ45 Passthrough	20.00	pc		
12	Consumables (bolts, nuts, screws, lugs, tape, cable tie)	1.00	lot		
Sub-Total III					
IV. Content Development-Projection Mapping					
1	Develop and install digital content for light and sensurround exhibition using projection mapping technology (6- 8 minutes)	3.00	lot		
Sub-Total IV					
TOTAL					

ANNEX D

REFLECTED CEILING PLAN
 SCALE 1:200



SYMBOLS	
	CEILING MOUNTED PROJECTOR
	PIN LIGHT
	CEILING MOUNTED OUTLET

Section VIII. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

The prescribed documents in the checklist are mandatory to be submitted in the Bid, but shall be subject to the following:

- a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or
- b. Any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

The BAC shall be checking the submitted documents of each Bidder against this checklist to ascertain if they are all present, using a non-discretionary “pass/fail” criterion pursuant to Section 30 of the 2016 revised IRR of RA No. 9184.

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

- (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages) **in accordance with Section 8.5.2 of the IRR;**

Technical Documents

- (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**
- (c) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided for in Sections 23.4.1.3 and 23.4.2.4 of the 2016 revised IRR of RA No. 9184, within the relevant period as provided in the Bidding Documents; **and**
- (d) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission **or** Original copy of Notarized Bid Securing Declaration; **and**
- (e) Conformity with the Technical Specifications, which may include production/delivery schedule, manpower requirements, and/or after-sales/parts, if applicable; **and**
- (f) Original duly signed Omnibus Sworn Statement (OSS) **and** if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

- (g) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC) **or** A committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation.

Class "B" Documents

- (h) If applicable, a duly signed joint venture agreement (JVA) in case the joint venture is already in existence **or** duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE

- (i) Original of duly signed and accomplished Financial Bid Form; **and**
- (j) Original of duly signed and accomplished Price Schedule(s).

Other documentary requirements under RA No. 9184 (as applicable)

- (k) [For foreign bidders claiming by reason of their country's extension of reciprocal rights to Filipinos] Certification from the relevant government office of their country stating that Filipinos are allowed to participate in

- government procurement activities for the same item or product.
- (1) Certification from the DTI if the Bidder claims preference as a Domestic Bidder or Domestic Entity.

