



development academy of the philippines

BIDS & AWARDS COMMITTEE per SO#2023-047 dated May 16, 2023

Official Bid Documents (OBD)

NOTE: This OBD is compliant with the Philippine Bidding Documents (Goods),
6th Edition as of July 2020 prepared by GPPB.

Some minor changes have been made to suit the requirements of the

Development Academy of the Philippines (DAP)
as the Procuring Entity

for

**“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING
OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-
TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A
IN BUILDING A, DAP BUILDING, PASIG CITY”**

**with Approved Budget for the Contract of P5,000,000.⁰⁰
Invitation to Bid No.: IB No. IB23-408625-06**

DAP Bldg., San Miguel Avenue, Pasig City 1600

P.O. Box 12788, Ortigas Center, Pasig City 1600

Telephone: (632) 8631 0921 loc. 133

website: <http://www.dap.edu.ph>

email address of BAC Secretariat: dapbacsec@dap.edu.ph

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.

Table of Contents

Glossary of Acronyms, Terms, and Abbreviations	5
Section I. Invitation to Bid.....	8
Section II. Instructions to Bidders.....	11
1. Scope of Bid	11
2. Funding Information.....	11
3. Bidding Requirements	11
4. Corrupt, Fraudulent, Collusive, and Coercive Practices.....	11
5. Eligible Bidders.....	12
6. Origin of Goods	12
7. Subcontracts	12
8. Pre-Bid Conference	12
9. Clarification and Amendment of Bidding Documents	12
10. Documents comprising the Bid: Eligibility and Technical Components.....	12
11. Documents comprising the Bid: Financial Component	13
12. Bid Prices	13
13. Bid and Payment Currencies	14
14. Bid Security	14
15. Sealing and Marking of Bids	14
16. Deadline for Submission of Bids	14
17. Opening and Preliminary Examination of Bids	14
18. Domestic Preference	15
19. Detailed Evaluation and Comparison of Bids	15
20. Post-Qualification	16
21. Signing of the Contract	16
Section III. Bid Data Sheet	17
Section IV. General Conditions of Contract	20
1. Scope of Contract	20
2. Advance Payment and Terms of Payment	20
3. Performance Security	20
4. Inspection and Tests	20
5. Warranty	21
6. Liability of the Supplier	21
Section V. Special Conditions of Contract	22
Section VI. Schedule of Requirements	25
Section VII. Technical Specifications	27
Section VIII. Mechanical and Electrical Technical Specifications.....	67
Section IX. Checklist of Technical and Financial Documents	68
Section X: Bidding Forms	73
Section XI. Filenames.....	96
Section XII. Guide on How to Submit Electronic-Bids	98

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



development academy of the philippines

BIDS & AWARDS COMMITTEE SO NO. 2023-047 DATED 16 MAY 2023

INVITATION TO BID

FOR

“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”

per Invitation to Bid No.: IB23-408625-06

1. The **Development Academy of the Philippines (DAP)**, through the Corporate Operating Budget (COB) for FY 2023 intends to apply the sum of **FIVE MILLION PESOS (P5,000,000.00)** being the Approved Budget for the Contract (ABC) under the contract for **“One (1) lot Supply, Installation and Commissioning of New Seventeen (17) units Individual Inverter-Type, BMS-ready Airconditioning Units at Floor 2A in Building A, DAP Building, Pasig City”** per Invitation to Bid No. IB23-408625-06. **Bids received in excess of the ABC shall be automatically rejected at bid opening.**
2. The **DAP** now invites bids for the above Project. Delivery of the Goods is required within **90 calendar days** upon receipt of the Notice To Proceed. Bidders should have completed, within a 5-year period at least two (2) similar contracts and the aggregate contract amounts should be equivalent to at least fifty percent (50%) of the ABC; and that the largest of these similar contracts must be equivalent to at least twenty-five percent (25%) of the ABC. 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.

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 5183.

4. Prospective Bidders may obtain further information from DAP and inspect the Bidding Documents at the address given below during Monday to Friday, **9:00AM to 4:30PM**.
5. A complete set of Official Bidding Documents (OBD) may be acquired by interested Bidders on **October 30, 2023 (Mon) to 24 November 2023 (Fri)** from 09:00AM to 04:30PM, of the non-refundable applicable fee for the Bidding Documents, pursuant to

the latest Guidelines issued by the GPPB, the cost for the Official Bidding Documents is **FIVE THOUSAND PESOS (P5,000.00)**.

It may also be downloaded free of charge from the website of the Philippine Government Electronic Procurement System (PhilGEPS) and the website of the DAP. In order for bidders to participate, they shall pay the cost of the OBD not later than the scheduled Submission and Opening of the Bids.

6. Interested bidders must make payment to:

Account Name:	Development Academy of the Philippines
Account Number:	0671-0105-40
Bank:	Landbank of the Philippines
Branch of Account:	Pasig Capitol Branch

A copy of proof of payment must be emailed to DAP's Finance Department at: **cashtreasury@dap.edu.ph** for the issuance of Official Receipt (OR) and the BAC Secretariat will provide assistance to the On-line Bidder for the creation of "**bidms account**" and dedicated site in the **bidms.dap.edu.ph**.

7. The DAP will hold a Pre Bid Conference on **November 7, 2023 (Tue), 10:00AM** via Google Meet Platform which shall be opened to all interested Bidders upon formal request through the BAC Secretariat. Requests shall be coursed through email at **dapbacsec@dap.edu.ph** and an invitation link will be then provided for at most three (3) email addresses per On-line Bidder.
8. In compliance with GPPB Resolution No. 12-2020, all electronic-Bids must be duly received by the Bids and Awards Committee (BAC) Secretariat, through the designated **bidms.dap.edu.ph** secured account on or before **November 28, 2023 (Tue)** and not later than **10:00AM**. 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 **November 28, 2023 (Tue)** at **10:00AM** via Google Meet Platform. Electronic-bids will be opened in the presence of the bidders' authorized representative/s who are authorized to attend the proceedings. **LATE BIDS SHALL NOT BE ACCEPTED**.
10. The **DAP** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time in accordance with the provisions of RA 9184 and its IRR, without thereby incurring any liability to the affected bidder or bidders.
11. For further information, please refer to:

MARIET RIZ M. BRADECINA
Manager, BAC Secretariat Division
Development Academy of the Philippines
GF DAP Bldg., San Miguel Avenue, Pasig City 1600
P.O. Box 12788 Ortigas Center, Pasig City 1600 Philippines
Telephone No. : (632) 8631-0921 loc. 133
BAC Secretariat email : **dapbacsec@dap.edu.ph**
Website address : **http://www.dap.edu.ph**

12. You may visit the following websites:

For downloading of Official Bidding Documents: <https://www.dap.edu.ph/invitation-to-bid/>

For online bid submission: <http://bidms.dap.edu.ph/page/>

Issued this 30th day of October 2023.

*For the **dap** Bids & Awards Committee 2:*



ALAN S. CAJES
Chairperson, BAC

>> Nothing Follows <<

Section II. Instructions to Bidders

1. Scope of Bid

The Procuring Entity, Development Academy of the Philippines wishes to receive Bids for the **“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”** per IB No. **IB23-408625-06**, 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 year 2023 in the amount of **FIVE MILLION PESOS (P5,000,000.00)**.

2.2 The source of funding is:

a. NGA, the Corporate Operating Budget.

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. 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 should have completed at least two (2) similar contracts and the aggregate contract amounts should be equivalent to at least fifty percent (50%) of the ABC; and that the largest of these similar contracts must be equivalent to at least twenty-five percent (25%) 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. Subcontracting is not allowed.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time **through videoconferencing/webcasting** as indicated in paragraph 7 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 Eligibility and Technical Documents)**.
- 10.2 The Bidder's SLCC as indicated in **ITB** Clause 5.3 should have been completed within **5 years** 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 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.

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**.

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 **Philippine Pesos**.

14. Bid Security

- 14.1 The Bidder shall submit a Bid Securing Declaration 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 for 120 calendar days. Any Bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

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 8 of the **ITB**.

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 **ITB**. 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.

19.Detailed Evaluation and Comparison of Bids

- 19.1 The Procuring 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.
- 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 15 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:
- One Project having several items that shall be awarded as one contract.
- 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

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, 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**.

21. Signing of the Contract

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**.

Section III. Bid Data Sheet

ITB Clause	Details of BID DATA SHEET
5.3 Eligible Bidders	<p>For this purpose, contracts similar to the Project shall be:</p> <ol style="list-style-type: none"> a. One (1) lot Supply, Installation and Commissioning of New Seventeen (17) units Individual Inverter-Type, BMS-ready Airconditioning Units at Floor 2A in Building A, DAP Building, Pasig City; and b. At least two (2) similar contracts and the aggregate contract amounts should be equivalent to at least fifty percent (50%) of the ABC; and the largest of these similar contracts must be equivalent to at least twenty-five percent (25%) of the ABC.
7.1 Subcontracts	Subcontracting is not allowed.
10.1 Documents comprising the Technical Envelope: Legal, Technical and Financial Components	<p>Bidders shall submit the following:</p> <p><u>CLASS “A” Documents</u></p> <p><u>I. FOR LEGAL DOCUMENTS:</u></p> <ol style="list-style-type: none"> 1. Valid PhilGEPS Certificate of Registration under <u>PLATINUM CATEGORY</u> with the current, updated and clear copy of the documents as follows; <ol style="list-style-type: none"> 1.1. Clear and readable Photocopy of Registration Certificate from The Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI), or Cooperative Development Authority (CDA), whichever is applicable; 1.2. Clear and readable Photocopy of valid Mayor’s/Business Permit or its Equivalent Document; 1.3. Clear and readable Photocopy of Tax Clearance Certificate for FY2022 issued by the Bureau of Internal Revenue (BIR); 1.4. Clear and readable Photocopy of Audited Financial Statements for FY2021 and FY2022 stamped “received” by the BIR or its duly accredited and authorized institutions. <p><u>II. FOR TECHNICAL DOCUMENTS:</u></p> <ol style="list-style-type: none"> 2. Statement of <u>ALL</u> 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. Submit accomplished <u>FORM 6: STATEMENT OF ALL ONGOING CONTRACTS INCLUDING AWARDED BUT NOT YET STARTED;</u> 3. Statement of its Single Largest Completed Contract (SLCC), in accordance with BDS clause 5.3, similar to the contract to be bid and supported by a Certificate of Completion or Final Acceptance. Submit accomplished <u>FORM 7: STATEMENT OF BIDDER’S SINGLE</u>

	<p><u>LARGEST COMPLETED CONTRACT (SLCC):</u></p> <ol style="list-style-type: none"> 4. Bid Security in accordance with BDS Clause 14 (please refer to FORM 3: BID SECURING DECLARATION); 5. Conformity with the Technical Specifications. Bidders must state on the statement of compliance column whether the Bidder will “Comply” or “Not Comply” on the stated requirements declared in Section VII of this Official Bidding Documents (please refer to FORM 10: CONFORMITY TO TECHNICAL SPECIFICATIONS); 6. Duly Notarized Omnibus Sworn Statement (please refer to FORM 5: OMNIBUS SWORN STATEMENT) 7. Certificate of Site Inspection duly signed by any of the following (please refer to FORM 9: CERTIFICATE OF SITE INSPECTION) <ol style="list-style-type: none"> 7.1. VENER V. MADERAJE Engineer III, General Services Division 7.2. MARJORIE M WAJE-BAGANG Engineer II, General Services Division <p>Note: Interested bidders shall coordinate with the BAC Secretariat on their proposed date of inspection of the project site.</p> 8. Company Profile with a List of All Completed Contracts within the last five (5) years, including the list of Company Officers, and bidder’s company address per BDS Clause 10.1 under Technical Documents item no. 8 9. Certificate of distribution and service per BDS Clause 10.1 under Technical Documents item no. 9 <p><u>III.FOR FINANCIAL DOCUMENTS:</u></p> <ol style="list-style-type: none"> 10. NFCC computation of at least equal to the ABC. Submit accomplished <u>FORM 8: NET FINANCIAL CONTRACTING CAPACITY (NFCC).</u> <p><u>CLASS “B” Documents</u></p> <ol style="list-style-type: none"> 11. Joint Venture Agreement (JVA), if applicable. Submit requirements as required by Section 23.1 (b) for Goods. If not applicable, the bidder must indicate in writing that they will not be partaking in a Joint Venture for this project.
<p>11.1. Documents comprising the Bid: Financial Component</p>	<p>Bidders shall submit the following documents using the prescribed forms:</p> <p><u>FINANCIAL DOCUMENTS:</u></p> <ol style="list-style-type: none"> 1. Financial Bid Form or “F01” – duly signed and accomplished by the bidder. (please refer to FORM 1: FINANCIAL BID FORM); and 2. Price Schedule or “F02” – duly signed and accomplished by the

	bidder. (please refer to FORM 2: PRICE SCHEDULE).
12 Bid Prices	The price of the Goods shall be quoted in Philippine Peso .
14.1 Bid Security	The bid security shall be in the form of a Bid Securing Declaration, or any of the following forms and amounts: <ul style="list-style-type: none"> a The amount of not less than ONE HUNDRED THOUSAND PESOS (P100,000.00) or 2% of the 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 TWO HUNDRED FIFTY THOUSAND PESOS ONLY (P250,000.00) or 5% of the ABC, if bid security is in Surety Bond.
19.3 Detailed Evaluation and Comparison of Bids	No further instructions.
20 Post-Qualification	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, 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 updated 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.
21 Signing of the Contract	No further instructions.

Section IV. General 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**.

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 prior to 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.

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 specifications **at no extra cost to the Procuring Entity** in accordance with the Generic Procurement Manual. In addition to tests in the **SCC, Section IV (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

GCC Clause	Details of SPECIAL CONDITIONS OF CONTRACT
1 Scope of Contract	<p>Delivery and Documents</p> <p>The delivery terms applicable to this Contract are delivered to Development Academy of the Philippines, Pasig City. 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 ENGR. MARJORIE M WAJE-BAGANG</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; e. provide service unit to the Procuring Entity during claims of replacement or repair within the warranty period; and f. provide orientation, training, technology-transfer, and technical knowledge for the operation and maintenance of the supplied equipment. <p>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.</p> <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>

GCC Clause	Details of SPECIAL CONDITIONS OF CONTRACT
	<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</p>

GCC Clause	Details of SPECIAL CONDITIONS OF CONTRACT
	<p>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 – 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>Installation of Air-conditioning System The Supplier shall do the installation of the Air-conditioning System within the prescribed DAP office / location.</p>
2.2 Terms of Payment	One hundred percent (100%) in thirty (30) days after final acceptance.
4 Inspection	<p>The inspections and tests that will be conducted are:</p> <p>Inspection and testing of equipment after the installation and commissioning of the goods.</p>
5 Warranty	Certification from the contractor specifying warranty of at least one (1) year for poor workmanship, one (1) year for parts, five (5) years for aircon compressor and quarterly maintenance service within one (1) year from the date of receipt of Certificate of Completion and Final Acceptance issued by the DAP GSD.

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	Delivered, Weeks/Months
1	Supply of supervision, labor, materials and equipment for the installation of New Seventeen (17) units of Individual Inverter Type Air-conditioning Units including refrigerant pipes, refrigerant, electrical wires, breakers and all related accessories and testing, commissioning and turn-over	1 lot	Within 90 days upon receipt of the Notice To Proceed
2	Provide support concrete base, steel frame and vibration pads for the installed condensing outdoor unit, the dimension of outdoor unit is at least HxWxD (845mm x 970mm x 370mm) The height of condensing unit with concrete base, steel frame and vibrating pads should not exceed 1.00m	1 lot	Within 90 days upon receipt of the Notice To Proceed.
3	Install refrigerant pipes and fitting, rubber insulation, mounting brackets, condensate pipes including refrigerant R-410a or environmental friendly refrigerant and other standard accessories to interconnect the above equipment	1 lot	Within 90 days upon receipt of the Notice To Proceed.
4	Install electrical requirements such as wires , flexible conduit, fittings electrical panel boards, individual breakers and other miscellaneous materials to complete the power and control wiring (Refer to the attached Mechanical and Electrical Technical Specifications)	1 lot	Within 90 days upon receipt of the Notice To Proceed.
5	Install drain pipelines of each unit	1 lot	Within 90 days upon receipt of the Notice To Proceed.
6	Install air deflector of each unit	1 lot	Within 90 days upon receipt of the Notice To Proceed.
7	Dismantling of existing VRF air-conditioning units including all related devices and accessories and turn-over to DAP Engineering unit. The existing	1 lot	Within 90 days upon receipt of the Notice To Proceed.

	refrigerant will be recovered and hauled by the winning bidder. Any waste material shall be properly segregated, stored and handled by the winning bidder prior to disposal.		
8	Supply and install BMS modules on seventeen (17) new air-conditioning units and three (3) existing air-conditioning units, and integration & connection to the existing air-conditioning BMS Panel. To include communication wires, pipes and other related materials and accessories.	1 lot	Within 90 days upon receipt of the Notice To Proceed.
9	Supply and install of Main Breaker and Twenty-two (22) Branches Panel Board with Breaker for the new air-conditioning units and tapping of two (2) existing air-conditioning units. Supply and installation of seventeen (17) unit feeder line from Panel Board to NEMA 3R.	1 lot	Within 90 days upon receipt of the Notice To Proceed.
10	Supply/Alignment of t-runners and replacement of damaged existing ceiling due to the installation work, with the same specifications and type/finish of the existing ceiling.	1 lot	Within 90 days upon receipt of the Notice To Proceed.
11	Restore to its original condition all affected facilities, areas, fixtures, etc. due to aircon installation works; Clean the areas before turn-over; and, Turn-over the entire project for acceptance to DAP Engineering Office	1 lot	Within 90 days upon receipt of the Notice To Proceed.

Section VII. Technical Specifications

Instructions: 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 the 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.

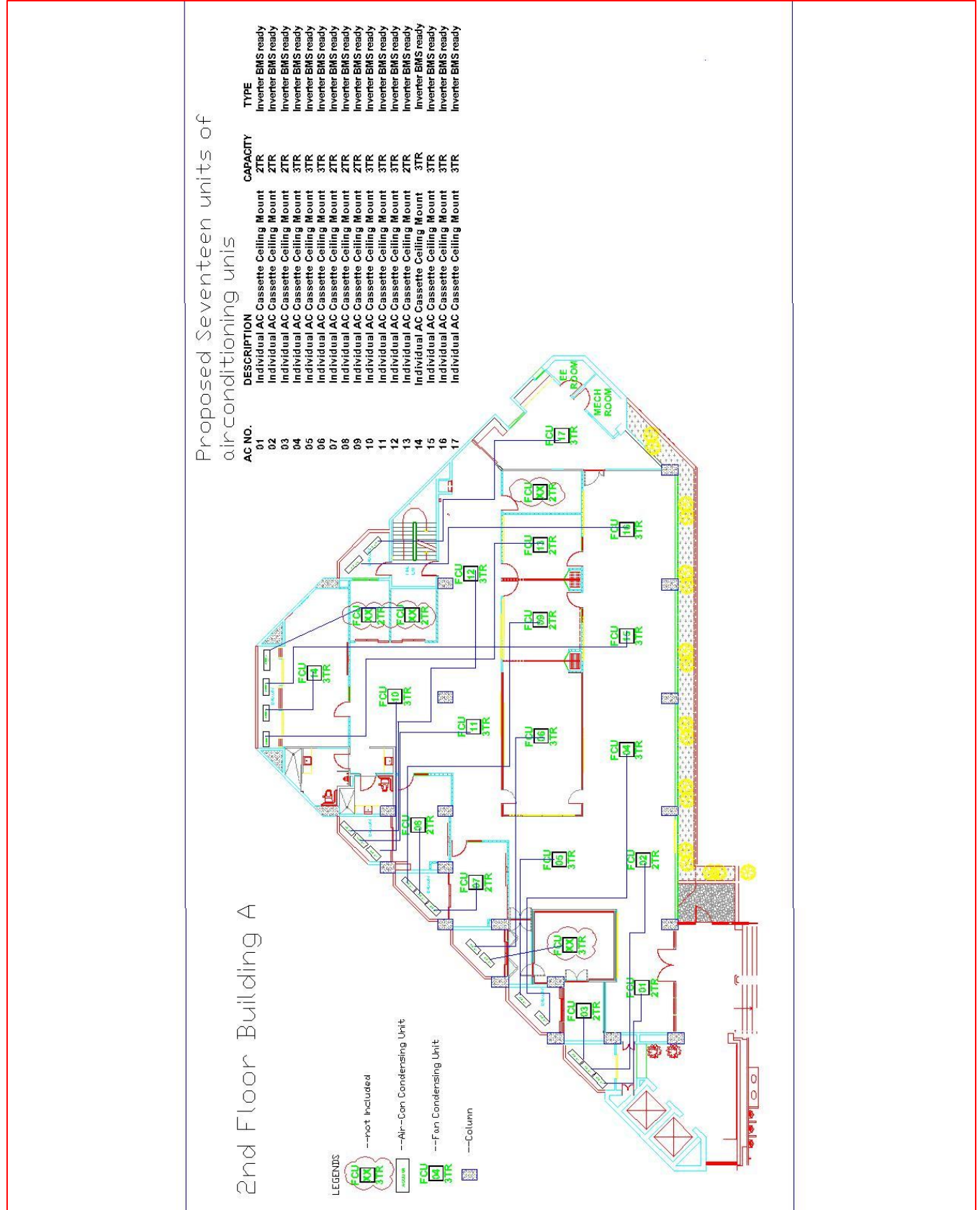
Item	Specification	Qty	unit	Statement of Compliance
AIRCONDITIONING UNITS				
1.01 2TR Inverter Cassette Type Aircon Units	Supply, install, testing and commissioning of Seven (7)-2TR Inverter Cassette Type Aircon Units; Voltage/ Hz/Phase: 220-240V, 50/60Hz, 1phase; Cooling: at least 24,000(BTU/Hr) Power Consumption: at least 2170 (W); Rated current: at least 9.5 (A) ; BMS Ready; EER: at least 3.24; and, Refrigerant: at least R410A or eco-friendly refrigerant.	7	units	
1.02 3TR Inverter Cassette Type Aircon Units	Supply, install, testing and commissioning of Ten (10)-3TR Inverter Cassette Type Aircon Units; Voltage/ Hz/Phase: 220-240V, 50/60Hz, 1phase; Cooling: at least 36,000(BTU/Hr) Power Input: at least 2900 (W); Rated current: at least 19 (A); BMS Ready; EER: at least 3.24; and, Refrigerant: at least R410A or eco-friendly refrigerant	10	units	
ROUGHING-IN INSTALLATION MATERIALS				
1.03	Supply and Install FCU indoor unit, electrical control device and refrigerant piping from 2A/F as well as condensing unit on the 2A balcony	1.00	Lot	

Item	Specification	Qty	unit	Statement of Compliance
1.04	Provide support concrete base, steel frame and vibration pads for the installed condensing outdoor unit, the dimension of outdoor unit is at least HxWxD (845mm x 970mm x 370mm) The height of condensing unit with concrete base, steel frame and vibrating pads should not exceed 1.00m	1.00	Lot	
1.05	Supply and Install refrigerant pipes and fitting, rubber insulation, mounting brackets, condensate pipes including refrigerant R-410a or environmental friendly refrigerant and other standard accessories to interconnect the above equipment	1.00	Lot	
1.06	Supply and install electrical requirements such as wires , flexible conduit, fittings electrical panel boards, individual breakers and other miscellaneous materials to complete the power and control wiring (Refer to Annex A- Mechanical and Electrical Technical Specifications)	1.00	Lot	
1.07	Supply and Install drain pipe and air deflector of each unit	1.00	Lot	
DISMANTLING OF EXISTING VRF AIRCONDITIONING UNITS				
1.08	Dismantling of existing VRF air-conditioning units including all related devices and accessories and turn-over to DAP Engineering unit. The existing refrigerant will be recovered and hauled by the winning bidder. Any waste material shall be properly segregated, stored and handled by the winning bidder prior to disposal.	1.00	Lot	
INSTALLATION AND INTEGRATION OF BMS MODULES				
1.09	Supply and install BMS modules on seventeen (17) new air-conditioning units and three (3) existing air-conditioning units, and integration & connection to the existing air-conditioning BMS Panel. To include communication wires, pipes and other related materials and accessories.	20	Units	
INSTALLATION OF PANEL BOARD				
1.10	Supply and install of Main Breaker and Twenty-two (22) Branches Panel	1.00	Lot	

Item	Specification	Qty	unit	Statement of Compliance
	Board with Breaker for the new air-conditioning units and tapping of two (2) existing air-conditioning units.			
1.11	Supply and installation of seventeen (17) unit feeder line from Panel Board to NEMA 3R.	1.00	Lot	
REPLACEMENT OF DAMAGED AND EXISTING CEILING				
1.12	Supply/Alignment of t-runners and replacement of damaged existing ceiling due to the installation work, with the same specifications and type/finish of the existing ceiling.	1.00	Lot	
TESTING, CLEANING, CLEARING AND TURN-OVER				
1.13	Restore to its original condition all affected facilities , areas, fixtures, etc. due to aircon installation works	1.00	Lot	
1.14	Clean the areas before turn-over	1.00	Lot	
1.15	Turn-over the entire project for acceptance to DAP General Services Division	1.00	Lot	
PROVISION OF POST INSTALLATION DOCUMENT				
1.16	Four (4) copies of As-built plan for Electrical and Mechanical works signed and sealed in A3 size complete with legend, technical specifications, test results, start-up report and measurements.	1.00	Lot	
1.17	Certification from the contractor specifying warranty of at least one (1) year for poor workmanship, one (1) year for parts, five (5) years for aircon compressor and quarterly maintenance service within one (1) year from the date of receipt of Certificate of Completion and Final Acceptance issued by the DAP GSD.	1.00	Lot	
1.18	Project duration should be Ninety (90) calendar days upon receipt of the Notice To Proceed.	1.00	Lot	
1.19	All work-details, plans, lay-outs, and schedule should be submitted and approved by the DAP GSD before the Contractor begins to work	1.00	Lot	
1.20	Submit the hardcopy in A3 size and soft copy in flash drive of before, on-going and after pictures with date and time stamp	1.00	Lot	
1.21	BMS Ready Certification of seventeen (17) air-conditioning units from	1.00	Lot	

Item	Specification	Qty	unit	Statement of Compliance
	manufacturer.			

DRAWINGS



Section VIII. Mechanical And Electrical Technical Specifications

MECHANICAL WORKS SPLIT PACKAGE AIR-CONDITIONING SYSTEM

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

The Section "Mechanical General Requirements" with the addition and modifications specified herein, applies.

1.2 SCOPE OF WORK

Supply and installation of DX split type, INVERTER units complete with refrigerant piping, controls, power wiring and all other required accessories.

1.3 Refrigerant Piping, Fittings and Accessories

Refrigerant piping assembly as used in this section includes pipes, flanges, bolting, gaskets, valves, relief devices, fittings, and the pressure containing parts of other piping components. It also includes hangers and supports and other equipment items necessary to prevent overstressing the pressure containing parts.

a. Piping

ANSI 15 and ANSI B31.5. Compatible with fluids for which they are being used and capable of withstanding the pressures and temperatures of the service that they are handling.

b. Tubing

Refrigerant piping shall be seamless copper tubing, hard drawn, type L, ASTM B88. Tubing used for refrigerant service shall be cleaned, sealed, capped or plugged prior to being shipped from the manufacturer's plant. Fittings for copper tubing shall be wrought copper or bronze, brazing or solder joint type ANSI B16.18 or ANSI B16.22. Copper flared type tubing may be made only in annealed copper tubing ASTM B280 and in nominal sizes smaller than one-inch only for connection to equipment and no larger than 1-3/8 inches diameter for other connections.

c. Corrosion Prevention

Unless specified otherwise, equipment fabricated from ferrous metals that do not have a zinc coating shall be treated for prevention of rust with a factory coating or paint system that will

withstand 125 hours in a salt-spray fog test except that equipment located outdoors shall be tested for 500 hours. The salt spray fog test shall use a 20 percent sodium chloride solution. Immediately after completion of the test, the coating shall show no signs of blistering, wrinkling or cracking, no loss of adhesion, and the specimen shall show no signs of rust creepage beyond 1/8 inch on either side of the scratch mark. The film thickness of the factory coating or paint system applied on the equipment, shall be not less than film thickness used on the test specimen.

d. Safety Standards

1. Design, Manufacture and Installation of Mechanical Refrigeration Equipment: ASHRAE Safety Code for Mechanical Refrigeration.
2. Machinery Guards: Fully guard drive mechanisms, or other moving parts. Provide guards fabricated of steel and expanded metal, rigidly mounted, and readily removed without disassembly.

PART 2 - PRODUCTS

2.1 AIR-CONDITIONING SYSTEMS – SPAC INVERTER, 4-WAY CEILING CASSETTE.

2.1.1 General

The air-conditioning systems shall be designed, constructed, and rating tested in accordance with ARI Standard 210 for air-conditioning equipment of capacities below 135,000 Btu's per hour and ARI Standard 300 for equipment with capacities of 135,000 Btu's per hour and greater. Units shall be ARI certified. Units with capacities below 135,000 Btu's per hour shall be listed in the ARI Directory of Certified Unitary Air-Conditioners.

2.1.2 Performance Rating

Cooling capacity of unit shall meet the sensible heat requirements and total requirements indicated. In selecting unit size, make true allowance for "sensible to total heat ratio" to satisfy required sensible cooling capacity. Submittals shall include catalog selection data which accounts for sensible to total heat ratio, entering air-conditions at evaporator, and condenser air-conditions.

2.1.3 Air-Conditioners, Split Type

The air-conditioning system shall consist of WALL mounted type evaporator-blower unit and remote air-cooled condensing unit. The separate assemblies shall be designed to be used together and ratings shall be based on the use of the matched assemblies. Submit data to demonstrate that the units will produce the capacity requirement specified or indicated on the drawings.

2.1.4 Evaporator Fan

Fans shall be as specified in Section "Air Ventilation Equipment".

2.1.5 Compressors

Provide hermetic, semi-hermetic rotary, inverter type provided with all the minimum

standard equipment and accessories listed therein. Compressor speed for compressors above 20 tons shall not exceed 1750 rpm. Provide compressors with automatic capacity reduction of at least 50 percent for units over 10 tons. Compressors shall start unloaded. Provide each compressor with devices to protect the compressor from short-cycling when shut-down by safety controls. Provide a pump-down cycle of the non-recycling start type for each compressor 20 tons and over. Provide compressors with vibration isolators. Compressor motor shall be suitable for electric power characteristics as indicated. Motor shall conform to NEMA NG-1. Motor starters shall conform to NEMA ICS. Motors shall be constant speed, squirrel-cage induction, open type or hermetically sealed, low-starting current, high-torque type, and shall be furnished with reduced voltage or and magnetic across-the-line type motor starter with weather-resistant enclosures.

2.1.6 Coils

a. Fan Coil Unit Cooling Coils

Cooling Coils shall conform to ARI 410. Direct-expansion coils shall be fin-and-tube type constructed of seamless copper or aluminum tubes and copper or aluminum fins mechanically bonded or soldered or helically wound to tubes. Casing and tube support sheets shall be not lighter than 16-gage (0.0635-inch nominal thickness) galvanized steel, formed to provide structural strength. Suction header shall be seamless copper tubing or seamless or resistance welded steel tube with copper connection. Supply header shall consist of a distributor to distribute the refrigerant liquid through seamless copper tubing, equally to all the circuit in the coil. Tubes shall be circuited to insure minimum pressure drop and maximum heat transfer. Circulating shall permit refrigerant flow from liquid inlet to suction outlet without causing oil staging or restricting refrigerant flow in coil. Rack coil shall be tested at the factory under water at not less than 300 psi air pressure and shall be suitable for 200 psi working pressure. Each coil shall be completely dehydrated and scaled at the factory upon completion of pressure tests. Coil shall be mounted for counterflow service.

b. The air-cooled condenser coil shall be extended-surface fin-and-tube type with seamless copper or aluminum construction. Aluminum alloy conforming to ASTM B210, alloy 1100, shall be used for the tubes, and aluminum alloy conforming to chemical requirements of ASTM B209, alloy 7072, shall be used for fins and sheets. Fins shall be soldered or mechanically bonded to tubes and installed in a metal casing. Coils shall be air tested under water for leakage. After testing, dry coils for remote type units to remove free moisture, and cap to prevent entrance of foreign matter. Evacuate and seal coils at the factory.

2.1.7 Filter Boxes

Provide filter boxes with either hinged access doors or removable panels. Filter boxes shall have racks for filters arranged for angle pattern. Filters shall be of type indicated and shall conform to paragraph hereinafter entitled, "Filters".

2.1.8 Mixing Boxes

Mixing boxes shall be of physical size to match the basic unit and include equal sized flanged openings, each sized to handle full air flow. Arrangement of openings shall be as indicated. Provide openings with dampers of opposed blade type. All damper shafts shall be connected together by one continuous linkage bar. Arrange dampers for manual operation so that when one starts to close from its opened position, the other starts to open from its closed position.

2.1.9 Controls

a. Condenser Controls

Provide load pressure control to insure condensing temperature for proper system operation at all ambient temperatures down to 40 degrees F.

b. Condenser Start-up Control

Provide condenser with a start-up control package which permits start-up compressor regardless of low ambient temperatures. Package shall temporarily bypass system low pressure-start to permit start-up whenever minimum ambient temperature is below design evaporator coil suction temperature.

2.1.10 Refrigerant Circuits

Entire refrigerant circuit shall be dehydrated, purged, and charged with refrigerant and oil at factory. Factory oil charge shall be the full amount required for operation.

2.1.11 Corrosion Protection

Units shall be factory corrosion protected in accordance with paragraph entitled, Corrosion Prevention.

2.2 CLEANING, PAINTING AND IDENTIFICATION

Cleaning, painting and identification of piping shall be as specified under appropriate section of these Specifications.

2.3 IDENTIFICATION TAGS AND PLATES

Provide equipment, thermometers, valves, and controllers with tags numbered and stamped for their use. Plates and tags shall be of brass or suitable non-ferrous material, securely mounted or attached. Minimum letter and numeral size shall be 1/8 inch.

PART 3 - EXECUTION

3.1 INSTALLATION

Application and installation practices for unitary air-conditioning systems shall conform to the requirements of an acceptable industry standard for installation of unitary systems.

3.1.1 General

Install equipment and components in a manner to insure proper and sequential operation of the equipment and its controls. Installation of equipment not covered herein or in manufacturer's instructions shall be installed as recommended by manufacturer's representative. Provide proper foundations for mounting of equipment, accessories, appurtenances, piping and controls including, but not limited to, supported vibration isolators, stands, guides, anchors, clamps, and brackets. Foundations for equipment shall conform to equipment manufacturer's recommendation, unless otherwise shown in the drawings. Set anchor bolts and sleeves accurately using properly constructed templates. Anchor bolts shall be of adequate length and provided with welded-on plates on the head end embedded in the

concrete. Level equipment bases, using jacks or steel wedges, and neatly grouted-in with a non-shrinking type of grouting mortar. Locate equipment so that working space is available for all necessary servicing such as shaft removal, disassembling compressor cylinders and pistons, replacing or adjusting drives, motors, or shaft seals, access to water heads and valves of shell and tube equipment, tube cleaning or replacement, access to automatic controls, refrigerant charging, lubrication, oil draining and working clearance under overhead lines. Provide electric isolation between dissimilar metals for the purpose of minimizing galvanic corrosion.

3.1.2 4-Way Ceiling Cassette Air-Conditioning System

Install system as indicated, in accordance with the requirements of ASHRAE 15-76 and as recommended in the manufacturer's installation and operational instructions. The following Split-Package Air Conditioner (SPAC), 4-Way Ceiling Cassette-Inverter Type are to be installed:

EQUIPMENT, REF.PIPING AND ACCESSORIES TO BE INSTALLED							
LOCATION	PIPE LENGTH & DIAMETER					R.I.	QTY.
GROUND FFLR. 2A	LM	¼" ∅	⅜" ∅	½" ∅	⅝" ∅	∅-INCHES	ASSY.
2.0TR	Approx. 145	X			X	¾" ∅	7-UNITS
3.0TR	Approx. 226		X		X	¾" ∅	10-UNITS

3.1.3 Electrical Work

Electric motor driven equipment specified herein shall be provided complete with motors, motor starters, and controls. Electrical equipment and wiring shall be in accordance with Building Code. Motor starters shall be provided complete with properly sized thermal overload protection and other appurtenances necessary for the motor control wiring required for controls and devices but not indicated.

3.1.4 Piping

a. Piping Sleeves

Pipe sleeves shall be as Galvanized Iron, Schedule 20.

b. Provide refrigerant driers, sight glass liquid indicators, moisture indicators, and strainers in refrigerant piping for remote installations when not furnished by the manufacturer as part of the equipment.

c. Locate strainers close to equipment they are to protect. Provide a strainer in the common refrigerant liquid supply to two or more thermal valves in parallel when each thermal valve has a built-in strainer. Install strainers with screen down and in direction of flow as indicated on strainers body.

d. Solenoid valves shall be installed in horizontal lines with stem vertical and with flow in

direction indicated on the valve. If not incorporated as internal part of the valve, provide strainers upstream of the solenoid valve. Provide service valves upstream of the solenoid valve, upstream of the strainer, and downstream of the solenoid valve. Remove the internal parts of the solenoid valve when brazing the valve.

3.1.5. Auxiliary Drain Pans, Drain Connections, and Drain Lines

Provide auxiliary drain pans under all drain pans of the units located above finished ceilings or over mechanical or electrical equipment where condensate overflow over unit drain pan may cause damage to ceilings, piping, and equipment below. Provide drain lines for all drain and auxiliary drain pans. Trap the drain from bottom pan of air-conditioning units to insure complete pan drainage. Drain lines shall be full size of opening.

3.1.6 Air Filters

Provide access panels for all concealed valves, controls, dampers, and other fittings requiring inspection and maintenance.

3.1.7 Inspection Plates and Test Holes

Inspection plates and test holes where required in casings for air balance measurements shall conform to SMACMA High Pressure Low Velocity Duct Construction Standards. Test holes shall be a factory-fabricated, air-tight, non-corrosive test hole with screw cap and gasket. Extend cap through insulation.

3.1.8 Flashing and Pitch Pockets

Provide flashing and pitch pockets for equipment support and roof penetrations and flashing where piping or ductwork passes through exterior walls.

3.2 FIELD TESTS AND INSPECTIONS

3.2.1 Tests

All tests shall be performed and materials and equipment required for test shall be furnished by the Contractor. Tests after installation and prior to acceptance shall be performed in the presence of a representative of the Owner and subject to his approval. Equipment and material certified as having been successfully tested by the manufacturer in accordance with referenced specifications and standards will not require retesting before installation. Equipment and materials not tested at the place of manufacturer will be tested before or after installation, as applicable, where necessary to determine compliance with referenced specifications and standards.

a. Leak Testing

Upon completion of installation of the air-conditioning equipment, test all factory as well as field refrigerant piping with an electronic-type leak detector to acquire a leak tight refrigerant systems. If leaks are detected at the time of installation or during the guarantee period, remove the entire refrigerant charge from the system, correct the leaks and retest the system.

b. Evacuation, Dehydration, and Charging

After system is found to be without leaks, evacuate the system using a reliable gage and a vacuum pump capable of pulling a vacuum of at least 1 mm lig absolute. Evacuate system in strict compliance with the triple-evacuation and blotter method or in strict accordance with equipment manufacturer's printed instructions. System leak testing, evacuation, dehydration, and charging with refrigerant shall comply with the requirement contained in an acceptable industry standard.

c. Start-Up and Operation Tests

The air-conditioning system and its components shall be started and initially placed under operation and checked to see that it is functioning correctly. Adjust safety and automatic control instruments as necessary to place them in proper operation and sequence. The operational test shall be not less than 8 hours.

d. Performance Tests

Upon completion of evacuation, charging, start-up, final leak testing, and proper adjustment of controls, the system shall be performance tested to demonstrate that it complies with the performance and capacity requirements of the specifications and plans. Test the system for not less than 8 hours, during which time hourly readings shall be recorded. At the end of the test period, the readings shall be averaged and the average shall be considered to be the system performance.

e. Sound Tests, Air-conditioner- Split Type

Sound pressure level measurements shall be conducted on units designated by the Owner. Calculate sound power levels by ASHRAE Systems Handbook and Product Directory. Submit test results and calculations.

- End of Section

SECTION 16011

ELECTRICAL GENERAL REQUIREMENTS

PART 1 – GENERAL

1.1 APPLICATION:

This section applies of Division 16, “Electrical”, of this project except as specified otherwise in each individual section.

1.2 SCOPE OF WORK:

The work shall include supply and installation of equipment, materials and all other items necessary to complete the following:

- a. Exterior Lighting
- b. Grounding System
- c. Testing and Commissioning of Electrical Works

1.3 CODES, INSPECTION, PERMITS AND FEES:

All works under this contract shall be installed in accordance with the latest requirements of the Philippine National Building Code, Philippine Electric Code (PEC), Regulation of local Power Company and Telephone Company.

1.3.1 PERMITS AND FEES: All construction permits and fees required for this works shall be obtained by and at the expense of the Contractor. The contractor shall furnish the Engineers and the Owner final certificates of inspection and approval from the proper government authorities after the completion of the work. The contractor shall prepare all shop or working drawings, as-built plans, and all other paperwork required by the approving authorities.

1.3.2 APPROVAL OF PLANS: Approval from authorities of all plans for construction shall be secured by the contractor.

1.4 SUBMITTALS:

Obtain approval before procurement, fabrication, or delivery of items to the job site. Partial submittals will not be acceptable and will be returned without review. Submittals shall include the manufacturer’s name, trade name, place of manufacturer, catalog model or number, nameplate data, size, layout dimensions, capacity, project specification and paragraph reference, applicable industry, and technical society publication references, and other information necessary to establish contract compliance of each item to be furnished. Substitutions for materials, devices and equipment other than those specified shall be accepted only when specified brand names are not available.

1.4.1 SHOP DRAWINGS: Shop drawing shall meet the following requirements. Drawing shall be a minimum of 215 mm by 280 mm in size, except as specified otherwise. Drawing shall include wiring diagrams and installation details of equipment indicating proposed location, layout and arrangement, accessories , and other items that must be shown to assure a coordinated installation. Wiring diagrams shall identify circuit terminals and indicate the internal wiring for each item of equipment and the interconnection between each item of equipment. Drawings shall indicate adequate clearance for operation, maintenance, and replacement of operating equipment devices.

If equipment is disapproved, revise drawings to show acceptable equipment and resubmit.

1.4.2 MANUFACTURER'S DATA: Submittals for each manufacture items shall be current manufacturer's descriptive literature of cataloged products, equipment drawings, diagrams, performance and characteristic curves, and catalog cuts.

1.4.3 PUBLICATION COMPLIANCE: Where equipment or materials are specified to conform to industry and technical society publications of organizations such as American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), and Underwriters Laboratories Inc. (UL), submit proof of such compliance. The label or listing by the specified organization will be acceptable evidence of compliance. In each of the publications referred to herein, consider the advisory provisions to be mandatory, as through the word "shall" had been substituted for "should" wherever it appears. In lie of the label or listing, submit a certificate from an approved independent testing organization, adequately equipped and competent to perform such services, stating that the item has been tested in accordance with the referenced publications", or" equal or exceed the service and performance of the specified materials". Certifications shall simply state that the item conforms to the requirements specified. Certificates shall be printed on the manufacturer's letterhead and shall be signed by the manufacturer's official authorized to sign certificates of compliance.

1.5 RECORD DRAWINGS:

The contractor shall, during the progress of the work, keep a record of all deviations of the actual installation from the contract drawings.

1.5.1 ELECTRONIC COPIES: The Engineer will furnish the contractor at cost a complete set of electronic copies of drawings, or may Contractor may prepare his own, on which he shall indicate all changes and revisions. Electronic files and prints of these indicating such changes and revisions, shall be submitted to Engineer.

1.5.2 AS-BUILT DRAWINGS: Upon completion of the work, contractor shall submit four (4) copies of the as-built drawing, indicating the work as actually and finally installed, including new information not originally shown in contract drawings, to the Engineer for approval as to conformance with the design concepts and compliance with pertinent code provisions. After such approval, the contractor shall submit the as-built drawings electronic files and originals and one (1) set of prints to the Owner. Approval of the as-built drawings by the Project Manager shall be a requirement for final acceptance of the completed works and for final payment.

1.6 OPERATION AND MAINTENANCE MANUAL:

Submit as required for systems and equipments indicated in the technical sections. Furnished three copies, bound in the hardback binders or an approved equivalent. Furnished one complete manual prior to the performance of systems or equipment test, and furnish the remaining manuals prior to contract completion. Inscribed the following identification on the cover: the words "OPERATION AND MAINTENANCE MANUAL," the name and location of the system, equipment, building, name of contractor, and Contract number. Include in the manual the names, addresses, and telephone numbers of each subcontractor installing the system or equipment. Include a table of contents, with the tab sheets placed before instruction covering the subject. The instructions shall be legible and easily read, with large sheets of drawing folded in. the manual shall include:

- a. Internal and interconnecting wiring and control diagrams with data to explain detailed operation and control of the system or equipment
- b. A control sequence describing startup, operation, and shutdown
- c. Description of the function of each principal item of equipment
- d. Installation and maintenance instructions
- e. Safety precautions
- f. Diagram and illustrations
- g. Testing method
- h. Performance data
- i. Parts list. The list shall indicate sources of supply, indicate sources of supply, recommended spare parts, and name of servicing organization
- j. Appendix: List qualified permanent servicing organizations for support of the equipment, including addresses and certified qualifications

1.7 POSTED OPERATING INSTRUCTIONS :

Furnish approved operating instructions for the system and equipment indicating instructions for system and equipment indicated in the technical sections for use by operation and maintenance personnel. The operating instruction shall include wiring diagrams, control diagrams, and control sequence for each principal system and equipment. Print or engrave operating instructions and frame under glass or in approved laminated plastic. Post instruction as directed. Attach or post operating instructions adjacent to each principal system and equipment including startup, proper adjustment to each principal system and equipment including startup, proper adjustment, operating, lubrication, shutdown, safety precautions, procedure in the event of equipment failure, and other items of instruction as recommended by the manufacturer of each system or equipment.

1.8 DELIVERY AND STORAGE:

Handle, store, and protect equipment and materials in accordance with the manufacturer's recommendations. Replace damaged or defective items with new items.

1.9 CATALOGED PRODUCTS/SERVICE AVAILABILITY:

Materials and equipment shall be current products by manufacturer's regularly engaged in the production of such products. Products shall have been in satisfactory commercial or industrial use for two years prior to bid opening. The two-year period shall include applications of equipment and materials under similar circumstances and of similar size. The two-year period shall be satisfactorily completed by a product for sale on the commercial market through advertisements, manufacturer's catalog, or brochures. Products having less than a two-year field service record will be acceptable if a certified record of satisfactory field operation for not less than a two-year period shall be satisfactorily completed by a product for sale on the commercial market through advertisements, manufacturer's catalog, or brochures. Products having less than a two-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturer's factory or laboratory tests, is furnished. The equipment items shall be equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

1.10 MANUFACTURER'S RECOMMENDATIONS:

Where installation procedures or any part thereof are required to be accordance with manufacturer's recommendation, furnish printed copies of the recommendation prior to installation. Installation of the item shall not proceed until recommendations are received. Failure to furnish recommendations shall be cause for rejection of the equipment or material.

1.11 ELECTRICAL REQUIREMENTS:

Provide Electrical Lighting Layout under Section 16520, "Exterior Lighting".

1.12 GUARANTEE:

The contractor shall guarantee that the Electrical Works are free from defective workmanship and materials and will remain so for a period of one year from date of acceptance of the work. Any defects appearing within the said period shall be remedied by the contractor at his own expense.

1.12.1 The Contractor shall indemnify and save harmless the Owner and the Engineers from and against all liability for injuries to persons or damage to property occasioned by any act or omissions of the contractor or any of his Sub-contractors, including any and all expenses, legal or otherwise which may be incurred by the Owner of the Engineers, in the defense of any claim, action or suit.

PART 2 – PRODUCTS

2.1 NAMEPLATES: Provide laminated plastic nameplates for each enclosure, switch, and device. Each nameplate inscription shall identify the function and, when applicable, the position. Nameplates shall be melamine plastic, 3 mm thick, white with black center core. Surface shall be matte finish. Corners shall be square. Accurately align lettering and engrave into the black core. Minimum size of nameplates shall be 50 mm by 150 mm. Lettering shall be a minimum of 25 mm high normal block style.

2.2 EQUIPMENT AND MATERIAL: Equipment and the materials should be based on acceptable brands or manufacturers as indicated below. Any substitution or use of equivalent brands other than those listed shall be subject to the approval of the Engineers. The list of the acceptable brands or manufacturers indicates compliance of the equipment and the materials listed to the project specifications. Final approval and selection of specific equipment and materials shall comply with paragraph 1.3 of this section.

PART 3 – EXECUTION

3.1 NAMEPLATE MOUNTING: provide number, location and letter designation of nameplates as indicated. Fasten nameplates to the device with a minimum of two sheet-metal screws or two rivets.

3.2 PAINTING OF EQUIPMENT:

3.2.1 Factory Applied: Electrical equipment shall have factory applied painting system which shall, as a minimum, meet the requirements of NEMA ICS6 corrosion-resistance test. Baked enamel paint or powder-coat finish on epoxy primer is also acceptable.

3.2.2 Field Applied: Paint electrical equipment as required to match finish or to meet safety criteria.

-- End of Section --

**SECTION 16130
RACEWAYS, CABINETS, BOXES AND FITTINGS**

PART 1 - GENERAL

1.1 DESCRIPTION

This item shall consist of the supply and construction of the complete raceways consisting of electrical conduits; conduit boxes such as junction boxes, pull boxes, utility boxes, octagonal and square boxes; conduit fittings and other materials such as couplings, locknuts, bushings and other electrical materials to complete the conduit roughing-in work for the project.

PART 2 - PRODUCTS

2.1 MATERIAL REQUIREMENTS

All materials shall be brand new and shall be of the Approved Type, meeting all the requirements of the *Philippine Electrical Code* and bearing the Philippine Standard Agency (PSA) mark.

A. Conduits are classified as per the following:

1. Intermediate Metal Conduit - Zinc coated mild steel tubing, hot dipped galvanized for exposed installations.
2. Flexible Metal Conduit - For Drop Connections on Fixtures and Motors subject to vibrations
3. Rigid Non-Metallic Conduit - UPVC schedule 40 for underground and concealed on ceilings, walls and floors.

B. Cabinets and boxes shall be PEC grade galvanized formed steel sheet with corrosion resistant screws. Cabinets and boxes exposed to weather or wet locations shall be NEMA 3R as indicated. Boxes installed indoors shall be NEMA 1.

1. Light outlet box concealed on ceiling shall be 100 mm square x 78 or 55 mm deep as required with plaster rings. Cast metal box shall be used on surface or exposed conduit runs.
2. Wiring devices outlet boxes shall be 100 mm x 50 mm x 78 mm or 55 mm deep.

PART 3 - EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

A. Underground installation

Underground installation shall be concrete encased under paved areas (and reinforced under roads subject to traffic conditions). Underground conduits entering areas below grade shall be arranged to drain water that may enter the conduit system. Where possible, conduits shall pitch away from building to exterior hand holes. Conduit entries through building walls below grade shall be made watertight by means of manufactured fittings. Fittings shall provide sleeve through wall having neoprene ring gasket that can be compressed for positive seal between entering conduit and fitting body.

- B. Exposed conduit
Exposed conduit shall run parallel or perpendicular to walls or ceiling and shall be kept as inconspicuous as possible. Conduits shall be substantially supported by pipe straps, or suitable clamps or pipe hangers attached to structural members or wall supports.
- C. Conduit connections
Connections to pull boxes, safety switches, panels, etc. shall be made by double steel locknuts. The conduit system including boxes shall form a continuously grounding system.
- D. Conversion of PVC and IMC conduits
Conversion of PVC and IMC conduits shall be made through the use of adapter concealed on grade, floor or ceiling.
- E. Conduit on structural slab
Conduits on structural slab shall be placed between upper or lower layers of reinforcing steel and shall be spaced at least 200 mm apart. Conduit shall have at least 30 mm of concrete all around.
- F. Junction boxes
Junction boxes shall be provided where necessary to terminate or tap multiple circuit runs and where required to comply with PEC.
- G. Pull boxes
Pull boxes shall be installed where required for offsets to facilitate installation of conductors or where shown on plans.
- H. Boxes
Boxes shall be supported independently of conduits. Splices shall not be made in conduit bodies.

END OF SECTION

**SECTION 16140
WIRING DEVICES**

PART 1 - GENERAL

1.1 DESCRIPTION

This item shall consist of the supply and installation of wires and wiring devices comprising of electric wires and cables, wall switches, convenience receptacles, heavy duty receptacles and other devices shown on the Plans but not mentioned in these Specifications.

PART 2 - PRODUCTS

2.1 MATERIAL REQUIREMENTS

A. Wall switches

Wall switches shall be NEMA WD1, heavy duty AC only, general use, snap type, ivory plastic with rating 250V AC, 10 or 15 amps. Complete with matching plate cover.

B. Receptacles

Receptacles shall be NEMA WD1, heavy duty general use receptacle, ivory plastic, grounding type complete with matching plate cover, with rating 250V AC 10 or 15 Amps and 20 Amps for Air con units.

PART 3 - EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

Install devices flush and level to finished wall and floor. Install wall switches 1.3716 meters above finish floor while receptacle outlets will be 0.3048 meter above finish floor or 0.150 meter above counter or 1.3716 meters for toilet hand dryer and convenience outlet. For Air con units and other equipment, field verify equipment location.

END OF SECTION

SECTION 16149 LOW VOLTAGE SWITCHGEAR

PART 1 - GENERAL

1.1 REQUIREMENTS:

- A. These specifications cover complete low voltage switchgear. All equipment shall be designed, assembled and tested in conformity with the single line diagram and the layout shown on the drawings.
- B. The equipment shall consist of the following sections: Main Compartment, Branch feeders compartment, bus bar section and instrumentation.

1.2 SUBMITTALS:

- A. Shop Drawings:

Submit shop drawings for substations indicating, but not limited to the following:

1. Overall dimension, front view, and sectional view.
2. Bus arrangement including dimension and ampere ratings of all bus bars.
3. Type and spacing of bus and cable supports.
4. Maximum short-circuit bracing.
5. Circuit breaker type, interrupting rating, trip setting.
6. Ratings and sizes of lugs, impedance taps and fans.
7. Elementary diagrams and wiring diagrams with terminals identified and indicating the internal wiring for each item of equipment.
8. Manufacturer's data for all components and accessories including labels.

9. Routine test and design tests.
 10. Installation Shop Drawings.
 11. Equipment base construction details including foundation-loading weights.
 12. Metering equipment, connections, and mounting details.
 13. Cable terminal devices and supports.
- B. Operation and Maintenance Manuals.
 - C. Complete protective relay coordination study and settings.
 - D. Test reports.

PART 2 - PRODUCTS

- A. This section shall consist of metal enclosed switchboard assembly rated 600 volts, AC and arranged for service on a 480 and 230 volts, 3-phase, 3 wire, with ground bus.
- B. Construction:
 1. The low voltage distribution section shall consist of completely enclosed, self-supporting vertical structures bolted together to form one sheet metal enclosure. It shall be provided with front and rear channels. The ends, top and rear shall be covered with removable screw-on-steel plates not less than 12 gauge. Switchboard shall include all protective devices and equipment as listed with necessary interconnection, instrumentation and control wiring, terminal blocks, and mechanical type solderless connectors for terminals.
 2. Protective devices shall have individual drawings or compartment, and necessary bus connection straps. Devices shall be modular-sized and so arranged as to be individually removable and readily interchangeable. Each device shall be provided with cardholder and card for identifications.
 3. Bus structure shall be arranged to permit future extension. It shall be mounted on insulator supports of high impact, non-tracking, high quality insulation material and adequately braced to withstand the mechanical forces exerted during short circuit conditions up to 100,000 amperes RMS symmetric short circuit at 400 volts. Bus bars shall be silver plated copper, ratings as shown on the drawings. Branch circuit bushing shall connect directly to the bus structure. All bushings shall be arranged so as not to obstruct straight in wiring to the protective devices. All bus work shall consist of sufficient copper to limit temperature to 40°C ambient temperature.
 4. Small wiring necessary fuse blocks and terminal blocks within each vertical structure shall be furnished as needed.
 5. All hardware shall have suitable protective finish.
 6. Metal surfaces shall be chemically cleaned and treated. Chemical treatment shall provide a bond between paint and metal surfaces and help prevent entrance of moisture and formation of rust under the paint film.

The vertical structure shall be finished in ASA No. 49 medium-light-gray, the hinged doors over the protective devices on the front in ASA No. 61 light gray.

Switchboard shall be completely assembled and wired at the factory. Rigid inspection before and after assembly shall be made to assure correctness of design and workmanship. All groups of control wires leaving equipment shall be provided with terminal blocks with suitable numbering strips.

7. Switchboard supports of anchoring and for providing proper alignment will be furnished and installed on the floor or pad by others.
8. A ground bus shall be furnished secured to each vertical structure and shall extend the entire length of the switchboard.
9. All switchboard-outgoing feeders shall be top and bottom exit. Provide feeder cross brace supports as directed.
10. Engraved metal nameplates shall be provided for each device. The letters or numerals on the nameplates shall be a minimum of 25mm in height, with light colored, enameled characters on a dark background. The legend on the strips shall be so composed as to clearly indicate the name of the feeder and/or panelboard and/or equipment served by protective devices, etc.

C. Circuit Breaker:

1. The main and feeder breakers shall be air or molded case, manually operated, each with direct acting inverse time characteristics and instantaneous over current devices. Feeder breakers shall be fixed mounting type.
2. All feeder breakers shall be air circuit breaker or molded case manually operated.
3. All feeder breakers shall be provided with adjustable continuous ampere setting, adjustable long time delay setting, adjustable short time delay pick-up, adjustable instantaneous pick-up and adjustable ground fault pick-up.
4. All circuit breaker shall be 3-pole unless noted otherwise on plans, rated 100,000 A RMS symmetrical minimum interrupting rating, at 400 volts with trip ratings as shown on the one-line diagrams.

2.1 METERING:

1. All equipment shall be equipped with an ac ammeter, and ammeter transfer switch, an ac voltmeter, a voltmeter transfer switch, a watt-hour meter with demand register and power factor meter. All meters shall be switchboard type.
2. AC Ammeter:

Transformer rated, 5-ampere input, for use with a 5 A current transformer secondary ratio, scale range as required, 60 Hz.
3. AC Voltmeter:

Transformer rated, 120 volt, input for use with a 230V-120 volt potential transformer ratio, 0 to 600-volt scale range, and 60 Hz.
4. Watt-hour Meter:

Shall be 3-phase, 3-wire system, 2 stators, and 120V potential coil, 60 Hz with 15 minutes integrating interval demand register.

5. Power Factor Meter:

Transformer rated, 5 amperes, 120V input, 0.5 lag to 0.5 leading scale range.

6. Rating of instrument transformers shall be as required by instruments application.

PART 3 - EXECUTION

3.1 GENERAL:

- A. All equipment and auxiliaries shall be delivered to the project site.
- B. Installation of all supplied equipment shall be supervised by the Manufacturer's Qualified Representative, who shall be personally present at all times while the equipment are being installed and tested.

**END OF SECTION
SECTION 16402
INTERIOR WIRING SYSTEMS**

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS: Section 16011, "Electrical General Requirements," applies to this section with additions and modifications specified herein. In each of the standards referred to herein, consider the advisory provisions to be mandatory, as though word "shall" had been substituted for "should" wherever it appears. Interpret reference in these standards to the "authority having jurisdiction," or words of similar meaning, to mean the engineers. Underground Service: Underground primary service conduits shall be continuous from the service entrance pole to the pad mounted transformer.

1.2 SUBMITTALS

1.2.1 Manufacturer's Data:

- a. Receptacles
- b. Circuit Breakers
- c. Switches
- d. Conduit and Fitting (each type)
- e. Ground rods
- f. Device plates
- g. Insulated conductors
- h. Outlet and junction boxes

1.2.2 Shop Drawings:

- a. Panelboards
- b. Wireways
- c. Pullboxes

Phase C – blue
Neutral - Yellow
Ground - Green

2.5.3 Insulation: Unless specified or indicated otherwise or required to be otherwise by PEC, all power and lighting wires shall be 600-volt, Type THHN, except that grounding wire may be Type TW; remote-control and signal circuits shall be Type THHN.

2.5.4 Bonding Conductors: ASTM B 1, solid bare copper wire for size 2.6 mm dia. And smaller; ASTM B 8, Class B, stranded bare copper wire for sizes 8.0 mm sq. and larger.

2.6 SPLICES AND TERMINATION COMPONENTS: UL 486A, as applicable for wire connectors, and UL 510 for insulating tapes. Connectors for wires 2.6 mm dia. and smaller shall be insulated pressure-type, twist-on-splicing connector. Provide Soderless terminal lugs on stranded conductors.

2.7 DEVICE PLATES: Provide one-piece device plates for outlets and fittings to suit the devices installed. Plate on unfinished walls and fittings shall be of zinc-coated sheet steel or cast metal having round or beveled edges. Plates on finished walls shall be satin finish stainless steel, minimum 0.75 mm thick. Screws shall be machine type with countersunk head in a color to match the finish of the plate. Plates installed in wet locations shall be gasketed. Telephone outlet shall be modular jack with six (6) position, four contracts and matching cover plate.

2.8 SWITCHES

2.8.1 Toggle Switches: Totally enclosed with bodies of thermosetting plastic and a mounting strap. Wiring terminals shall be of the screw, slide wired. Switches shall be rated quiet-type ac only 220 volts, with the current rating and number of poles indicated.

2.8.2 Disconnect Switches: NEMA KSI, Switches serving as motor-disconnect means shall be horsepower rated.

2.9 RECEPTACLES: NEMA WD1, grounding type. Ratings and configurations shall be as indicated. Bodies shall be of thermosetting plastic supported on a metal mounting strap. Wiring terminals shall be of the screw type, side wired. Connect grounding pole to the mounting strap.

2.9.1 Weatherproof Receptacles: Provide in a cast metal box with a gasketed, weatherproof, cast-metal cover plate and a gasketed cap over each receptacle opening. The cap(s) shall be provided with a spring-hinged flap. Receptacle shall be UL approved for use in “wet locations”

2.9.2 Ground-Fault Circuit Interrupter (GFCI) Receptacles: UL 943 Duplex for mounting in standard outlet box. Device shall be capable of detecting current leak of 6 milliamperes or greater and tripping per requirements of UL943 for Class A GFCI devices.

2.9.3 Special Purpose Receptacles: Receptacles serving water heater, etc. are considered special purpose for this project. Provide in ratings indicated.
Furnish one matching plug with each receptacle.

2.10 PANELBOARDS: Panelboards shall be circuit breaker equipped. Design shall be such that any individual breaker can be removed without disturbing adjacent units or without loosening or removing supplemental insulation supplied as a means of obtaining clearances as required by UL. Where “space only” is indicated, make provisions for the installation of a breaker sized as indicated. All panelboard locks included in the project shall be keyed alike. Directories shall be typed to indicate load serve by each circuit and mounted in a holder behind protective covering. Enclosure shall be 2.0 mm thick (Ga.14)

- 2.10.1 Panelboard Buses: Support copper bus bars on bases independent of the circuit breakers. Main buses and back pans shall be designed so that breakers may be changed without machining, drilling, or tapping. Provide a separate ground bus as indicated, marked with a green stripe along its front and bonded to the steel cabinet for connecting grounding conductors.
- 2.10.2 Circuit Breakers: Bolt-on, thermal magnetic type with interrupting capacity as indicated. Breaker terminals shall be UL listed as suitable for the type of conductor provided. Plug-in circuit breakers are not acceptable.
 - a. Multipole Breakers: Provide internal common-trip type with a single operating handle. Breaker design shall be such that an overload in one pole automatically causes all poles to open. Maintain phase sequence throughout each panel so that any three adjacent breaker pole are connected to Phase A, B, and C, respectively. Single pole circuit breakers provide with external tripping handles for multipole circuit breaker are not acceptable.

2.11 TELEPHONE SYSTEM: Provide a system of conduits and terminal boxes, outlets and junction boxes, and other accessories. Provide pull wires in empty conduits. The complete system shall be ready for use by others who will provide wires/cables and install equipment and outlets.

- 2.11.1 Outlet Boxes for Telephone System: Standard type, as specified hereinbefore. Mount flush in finished walls at the height indicated.
- 2.11.2 Cover Plates: Standard telephone type of the finish specified for receptacle and switch cover plates.
- 2.11.3 Conduit Sizing: Unless otherwise indicated, conduit for single outlets shall be a minimum of 20 mm electrical trade size and for multiple outlets as shown on drawings. Size conduits for telephone risers to telephone cabinets, junction boxes, distribution centers, and telephone services as indicated.

2.12 GROUNDING AND BONDING EQUIPMENT: Ground rods shall be copper – encased steel, with a diameter of 20 mm dia and total length as indicated.

PART 3 - EXECUTION

3.1 INSTALLATION:

- 3.1.1 General Requirements: Electrical installations shall conform to the requirements of the PEC and to requirements specified herein.
- 3.1.2 Wiring Methods: Wiring method shall be insulated conductors installed in conduit, except where specifically indicated or specified otherwise, or required by the PEC to be installed otherwise. An insulated equipment grounding conductor shall be provided in all feeder and branch circuits, including lighting circuits. Provide insulated, green-colored conductor for grounding conductors installed in conduit or raceways.
 - 3.1.2.1 Conduit in Floor Slabs: Rigid steel or Intermediate Metal Conduit.
 - 3.1.2.2 Nonmetallic Conduit: Do not use above ground floor slab except where specifically indicated or specified for special situation or systems.

3.1.3 Conduit Installation: Unless indicated otherwise, conceal conduit within finished walls, ceilings, and floors. Keep conduit at least 150 mm away from parallel runs of flues and steam or hot-water pipes. Install conduit parallel with or at right angles to ceilings, walls, and structural members where located above accessible ceilings and where conduit will be visible after completion of project. Conduits in crawl space under slab shall be run as if exposed.

3.1.3.1 Where conduits rise through floor slabs, the curved portion of bends shall not be visible above the finish slab.

3.1.3.2 Conduit Support. Support conduit by pipe straps, wall brackets,

Hangers or ceiling trapeze. Fasten by wood screws to wood, by toggle bolts on hollow masonry units; by concrete inserts or expansion bolts on concrete or brick; by machine screws, welded threaded studs, or spring-tension clamps on steel work. Do not weld conduits or pipe straps to steel structures. The load applied to fasteners attached to concrete ceiling shall be vibration and shock

resistant. Holes cut to a depth of more than 38 mm in reinforced concrete beams or to a depth or more than 20 mm in reinforced concrete beams or to a depth of more than 20 mm in concrete joints shall not cut the main reinforcing bars. Fill holes that are not used. In partitions of light steel construction, run conduit above the ceiling and fasten only lighting system branch circuit conduits to the ceiling supports. Spring steel fasteners may be used for lighting branch circuit conduit supports in suspended ceiling in dry locations.

3.1.3.3 Make changes in direction of runs with symmetrical bends or cast-metal fittings. Make field-make bends and offsets with a hickey or conduit-bending machine. Do not install crushed or deformed conduits. Avoid trapped conduits. Prevent plaster, dirt or trash from lodging in conduit, boxes fittings, and equipment during construction. Free clogged conduits of all obstructions.

3.1.3.4 Install pull wires in empty conduits in which wire is to be installed by others. The pull wire shall be 2.0 sq. mm. zinc-coated steel or plastic having not less than 90 kg. Tensile strength. Leave not less than 300 mm of slack at each end of the pull wire.

3.1.3.5 Telephone and Signal System Conduits: Install in accordance with the previous requirements for conduit and with the additional requirement that no length of run shall exceed 45 m for trade sizes 50 mm and smaller and shall not contain more than two 90-degree bends or the equivalent. Provide pull or junction boxes where necessary to comply with these requirements. Inside radii of bends in conduits 25 mm trade size and larger shall not be less than two (2) times the nominal diameter. Terminate conduit in terminal cabinet with two locknuts and a plastic bushing.

3.1.3.6 Conduit Installed in Concrete Floor Slabs: Locate so as not adversely affect the structural strength of the slabs. Install conduit within the middle one-third of the concrete slab. Do not stack conduits. Space conduits horizontally not closer than three diameters except at cabinet locations. Curved portions of bends shall not be visible above the finish slab. Increase slab thickness as necessary to provide a minimum 25 mm be run parallel with or at right angles to the main reinforcement; when at right angles to the reinforcement, the conduit shall be close to one of the support of the slab.

- 3.1.3.7 Fasten conduits to sheet metal boxes and cabinets with two locknuts where required by PEC, where insulated bushings are used, and where bushings cannot be brought into firm contact with the box; otherwise, use at least a single locknut and bushing. Locknut shall be the type with sharp edges for digging into the wall of metal enclosures. Install bushings on the ends of conduits and provide insulating type where required by the PEC.
- 3.1.3.8 Stub-Ups: Provide conduits stubbed up through concrete floor for connection to free-standing equipment with an adjustable top or coupling threaded inside for plugs, set flush with the finished floor. Extend conductors to equipment in rigid steel, except that flexible metal conduit may be used 150 mm above the floor. Where no equivalent connections are made, install screwdriver-operated threaded flush plugs in conduit end.
- 3.1.3.9 Flexible connections of short length (maximum of 1.8 m) shall be provided for recessed and semi-recessed lighting fixtures; for equipment subject to vibration, noise transmission, or movement; and for motors. Liquid-tight flexible conduit shall be used in wet locations. A separate ground conductor shall be provided across flexible connections.
- 3.1.4 Boxes, Outlets, and Supports: Provide boxes in the wiring or raceway systems wherever required for pulling of wires, making connections, and mounting of devices or fixtures. Boxes for metallic raceways shall be of the cast-metal hub type when located in normally wet locations, when surface mounted on outside of exterior surfaces, when installed exposed up to 2.10 m above interior floors and walkways. Boxes on other location shall be sheet steel. Each box shall have the volume required by the PEC for the number of conductors enclosed in the box. Boxes for mounting lighting fixtures shall be not less than 100 mm square, except that smaller boxes may installed as required by the fixture configurations, as approved. Boxes for use in masonry-block or tile walls shall be square-cornered tile type, or standard boxes having square-cornered tile-type covers. Provide gaskets for boxes installed flush with the outside of exterior surfaces. Provide separate boxes for flush or recessed fixtures when required by the fixture terminal operating temperature; fixtures shall be readily removable for access to the boxes unless ceiling access panels are provided. Support boxes and pendants for surface-mounted fixtures on suspended ceilings independently of the ceiling supports or make adequate provisions for distributing the load over the ceiling support members in an approved manner. Fasten boxes and supports with bolts and expansion shield on concrete or brick, with toggle bolts on hollow masonry units, and with machine screws or welded studs on steel works. Threaded studs driven in by charge and provided with lock washers and nuts or nail-type nylon anchors may be used in lieu of wood screws, expansion shield or machine screws. In open overhead spaces, cast boxes threaded to raceways need not be separately supported except where used for fixture support; support sheet metal boxes directly from the building structure or by bar hangers. Where bar hangers are not used, attach the bar to raceways on opposite sides of the box and support the raceways with an approved type fasteners not more than 600 mm from the box. When penetrating reinforced-concrete members, avoid cutting any reinforcing steel.
- 3.1.4.1 Boxes for use with raceways systems shall not be less than 55 mm deep, except where shallower boxes required by structural conditions are approved. Boxes for other than lighting-fixture outlets shall not be less than 100 mm square, except that 100 mm x 50 mm boxes may be used where only one raceway enters the outlet. Telephone outlets shall be a minimum of 100 mm x 55 mm deep.
- 3.1.4.2 Pull boxes: Construct of not less than the minimum size required by the PEC of code-gage galvanized sheet steel, except where cast- metal boxes are required in locations specified above. Furnish boxes with screw fastened covers. Where

several feeders pass through a common pullbox, tag the feeders to indicate clearly the electrical characteristics, circuit number and panel designation.

- 3.1.5 Mounting Heights: Mount panelboards, circuit breakers, and disconnecting switches so that the height of the operating handle at its highest position will not exceed 1.8 m from the floor. Mounting lighting switches, receptacles and other devices as indicated. Measure mounting heights of wiring devices and outlets to the center of device or outlet.
- 3.1.6 Conductor Identification: Provide conductor identification within each enclosure where a tap, splice, or termination is made. For conductors 14 mm sq. and smaller, color coding shall be by factory-applied plastic-coated, self-sticking markers, colored nylon cable ties and plates, or heat-shrink type sleeves. Identify control circuit terminations.
- 3.1.7 Splices: Make splices in accessible locations. Make splices in conductors 2.6 mm dia. and smaller with an insulated pressure type connector. Make splices in conductors 8 sq. mm and larger with a solderless connector and cover with an insulation material equivalent to the conductor insulation.
- 3.1.8 Covers and Device Plates: Install with all four edges in continuous contact with finished wall surfaces without the use of mats or similar devices. Plaster fillings will not be permitted. Plates shall be installed with an alignment tolerance of 2 mm. The use of sectional type device plates will not be permitted. Plates installed in wet locations shall be gasketed.
- 3.1.9 Grounding and Bonding: In accordance with the PEC, Ground all exposed non-current-carrying metallic part of electrical equipment, metallic raceways systems, and neutral conductors of wiring systems. Make ground connection to driven ground rods as shown on drawings.
 - 3.1.9.1 Grounding Conductor: Provide an insulated, green-colored equipment grounding conductor in all feeder and branch circuits. This conductor shall be separate from the electrical system neutral conductor.
 - 3.1.9.2 Resistance: The maximum resistance to ground of the grounding system shall not exceed 25 ohms under normally dry conditions.

3.2 FIELD TESTS: The contractor shall provide all test equipment and personnel and submit written copies of all tests results. As an exception to requirements that may be stated elsewhere in the contract, the Engineer shall be given 5 working days notice prior to each test.

- 3.2.1 Device Subject to Manual Operation: Each device subject to manual operation shall be operated at least five times, demonstrating satisfactory operation each time.
- 3.2.2 Test on 600-Volt Wiring: Test all 600-volt wiring to verify that no circuits or accidental grounds exist. Perform insulation resistance test on all wiring using an instrument which applies a voltage of approximately 500 volts to provide a direct reading of resistance; minimum resistance shall be 250,000 ohms.
- 3.2.3 Grounding System Test: Test the grounding system to assure continuity and that the resistance to ground is not excessive. Test each ground rod for resistance to ground before making any connections to the rod; then tie entire grounding system together and test for resistance to ground. Make resistance measurements in normally dry weather, not less than 48 hours after rainfall. Submit written results of each test to the Engineer and indicate the locations of the rods as well as the resistance and soil conditions at the time the measurement were made.

END OF SECTION

SECTION 16450 GROUNDING

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Power system grounding.
- B. Electrical equipment and raceway grounding and bonding.
- C. Isolated equipment grounding.
- D. High-performance grounding system for computers and process equipment.

1.2 RELATED WORK

- A. This Section shall be used in conjunction with the following other specifications and related Contract Documents to establish the total requirements for grounding:
 - 1. Section 16010 – Basic Electrical Requirements
 - 2. Section 16120 – Wire and Cable
 - 3. Section 16972 – Startup Testing and Commissioning of Electrical Equipment.

CAUTION! Use of this Section without including all of the above-listed items will result in omission of basic requirements.

- B. In the event of conflict regarding grounding requirements between this Section and any other section, the provisions of this Section shall govern.

1.3 SYSTEM DESCRIPTION

- A. Ground the electrical service system neutral at service entrance equipment to grounding electrodes (do not use piping).
- B. Ground each separately derived system neutral to specific purpose grounding grid plate at the nearest column electrode or grounding grid pigtail.
- C. Bond together system neutrals, service equipment enclosures, exposed noncurrent carrying metal parts of electrical equipment, metal raceway systems, grounding conductor in raceways and cables, receptacle ground connectors, and plumbing systems.
- D. Provide separate isolated, insulated equipment grounding conductor bonded to grounding counterpoise system only at service or separately derived source where required for reduction of electrical noise.

1.4 SUBMITTALS

- A. Provide the following in addition to the standard requirements: Indicate layout of ground ring, location of system grounding electrode connections, and routing of grounding electrode conductor.

PART 2 - PRODUCTS

2.1 GROUND RODS

- A. Copper-clad steel, 20mm diameter, 3.00 meters long and 25mm diameter, 3.00 meters

long driven full length into the earth.

2.2 GROUND CONDUCTORS

- A. Provide grounding conductors of the size shown and the type specified in Section 16402, Interior Wiring System.

2.3 GROUND CONNECTIONS

- A. Below Grade: Exothermic-welded type connectors by Cadweld, Thermoweld.
- B. Above Grade or in Manholes: Compression type connectors by T&B, Burndy, or Anderson.
- C. When making bolted connection to aluminum or galvanized structures, apply a corrosion-inhibitor such as Penetrox A to all contact surfaces between cable, connector, and surface of structure.

2.4 GROUND CONDUCTOR FOR GROUNDING GRID AND ASSOCIATED CONNECTIONS

- A. 100mm², 60mm² and 50mm² Bare Copper Wire, 7 stranded

2.5 GROUND BRAID

- A. Acceptable Manufacturers:
 - 1. Phelp Dodge
 - 2. American Wire
 - 3. Belden
 - 4. Philflex
- B. Grounding Braid: constructed from flat 98-percent conductivity tinned copper grounding braid.

PART 2 - EXECUTION

3.1 GENERAL

- A. Where grounding conductors are shown, bond the wires to metallic enclosures at each end and to all intermediate metallic enclosures. Connect grounding conductors to all grounding bushings on raceways. Where any equipment contains a ground bus, extend and connect grounding conductors to that bus. Connect the enclosure of the equipment containing the ground bus to that bus. Run grounding conductors inside conduits enclosing the power conductors.

3.2 INSTALLATION

- A. Grounding conductors shall not be spliced except in junction or outlet boxes.
- B. Provide a separate, insulated equipment grounding conductor in all circuits. Terminate each end on a grounding lug, bus, or bushing and to all intermediate metallic enclosures.

- C. Connect grounding conductors to motors 10 hp and above or circuits 20A or above by a solderless terminal and a 7.94mm minimum bolt tapped to motor frame or equipment housing. Connect to smaller motors or equipment by fastening the terminal to a connection box. Connect junction boxes to the equipment grounding system with grounding clips mounted directly on the box or with 9.52mm machine screws. Completely remove all paint, dirt, or other surface coverings at grounding conductor connection points so good metal-to-metal contact is made.
- D. Connect grounding electrode conductors to metal water pipe using a suitable ground clamp. Make connections to flanged piping at street side of flange. Provide bonding jumper around water meter.
- E. Supplementary Grounding Electrode: use driven ground rod on exterior of building. Install ground rod in suitable recessed well; fill with gravel after connection is made.
- F. Separately Derived Source:
 - 1. Transformers, UPS systems, power conditioners, inverters or other power supplies are separately derived sources.
 - 2. Standby or emergency ac generators are separately derived sources if the neutral is bonded to the generator frame and if there is no direct connection of the generator neutral conductor to the service neutral conductor.
 - 3. Ground separately derived sources to the service ground and to closest additional electrode as described in this Section.
- G. Provide one No. 6 AWG bare copper conductor from facility grounding grid to each communication / data backboard.
- H. Bare Grounding Conductors Below Grade:
 - 1. Minimum 76.2 cm below the soil or as shown on Drawings.
 - 2. Not in contact with gravel fill or concrete unless making transition from connections above the slab to conductors below grade.
 - 3. Neatly trained around foundations and footings.
- I. Ground Resistance: Maximum 1 ohm at 60Hz as measured by Three-point Fall-of-Potential test.
- J. Ground shields of any shielded power cable at each termination as recommended by the manufacturer. Ground shields of any control cables in accordance with the details shown.
- K. Ground metal sheathing and any exposed metal vertical structural elements of buildings. Ground metal fences enclosing electrical equipment. Bond any metal equipment platforms which support electrical equipment to the equipment ground. Provide good electrical contact between metal frames and railings supporting push-button stations, receptacles, instrument cabinets, etc., and raceways carrying circuits to these devices.
- L. Grounding Connections:
 - 1. Connect grounding conductors to ground rods at the upper end of the rod with the end of the rod and the connection point below finished grade.
 - 2. Connect sections of outdoor ground mats (counterpoise) for substations or other equipment below grade. Connect other grounding conductors generally in an accessible manner.
 - 3. In manholes, install ground rods with ends 100 to 150 mm above the floor with connections of grounding conductors fully visible and accessible.
 - 4. Do not use thermite welds in manholes.
 - 5. In medium-voltage manholes, apply compression connectors using hydraulic-type tool similar to Burndy Model Y-35. Kearney-type screw connections shall

not be used.

6. When making thermite welds, wire brush or file the point of contact to a bare metal surface. Use thermite welding cartridges and molds in accordance with the manufacturer's recommendations. After welds have been made and cooled, brush slag from the weld area and thoroughly clean the joint. For compression connectors, use homogeneous copper, anticorrosion, surface treatment compound at connectors in accordance with connector manufacturer's recommendations. Use connectors of proper size for conductors and ground rods specified. Use connector manufacturer's compression tool. Notify the Inspector prior to backfilling any ground connections.
- M. Bond fab raised floor stringer system to building grounding system per attached details. Length-to-width ratio of installed ground braid shall not exceed 5:1.

3.3 FIELD QUALITY CONTROL

- A. Inspect grounding and bonding system conductors and connections for lightness and proper installation.
- B. Test all ground fault interrupter (GFI) receptacles, alarm systems, and circuit breakers for proper connection and operation with methods and instruments prescribed by the manufacturer.
- C. Test grounding system in accordance with the requirements of Section 16972, Start up Testing and Commissioning of Electrical Equipment.

END OF SECTION

SECTION 16470 PANELBOARDS

PART 1 - GENERAL

1.5 WORK INCLUDED

- A. Distribution panelboards.
- B. Branch circuit panelboards.

1.6 RELATED WORK

- A. This Section shall be used in conjunction with the following other specifications and related Contract Documents to establish the total requirements for panelboards:
 1. Section 16011 – Electrical General Requirements
 2. Section 16402 – Interior Wiring System
- B. In the event of conflict regarding grounding requirements between this Section and any other section, the provisions of this Section shall govern.

1.7 SUBMITTALS

- A. Provide the following in addition to the standard requirements with the Bid:
 1. Electrical characteristics of circuit breakers, including voltage, frame size, trip

- rating, short-circuit rating in rms symmetrical amperes, and time-current curves.
2. Panelboard electrical ratings, including short-circuit rating.

PART 2 - PRODUCTS

2.6 ACCEPTABLE MANUFACTURERS – DISTRIBUTION PANELBOARDS

- A. General Electric Company (Spectra Series).
- B. Cutler Hammer.
- C. Square D.
- D. Westinghouse
- E. Siemens
- F. Fuji Electric

2.7 DISTRIBUTION PANELBOARDS

- A. Panelboards: NEMA PB 1; circuit breaker type.
- B. Enclosure: NEMA PB 1; size as shown on the Drawings.
- C. Provide cabinet front with door-in-door (picture frame) construction. Finish in manufacturer's standard gray enamel.
- D. Provide panelboards with copper phase bus, ratings as shown on the Drawings. Provide aluminum ground bus in all panelboards.
- E. Where indicated, provide neutral bus bar of the same material as the phase bus bars and a continuous current rating 200 percent of the phase bus bars. Provide at least one terminal screw for each branch circuit.
- F. Minimum Short-Circuit Rating: as shown on the Drawings.
- G. Molded-Case Circuit Breaker: NEMA AB 1; circuit breakers with integral thermal and instantaneous magnetic trip in each pole. Handle shall be pad-lockable in OFF position. All circuit breakers shall be fully rated.
- H. Factory-Installed Nameplates: temporary tape labels.
- I. Field-Installed Nameplates: laminated plastic with engraved letters on each unit (furnished by installing subcontractor).

2.8 ACCEPTABLE MANUFACTURERS – BRANCH CIRCUIT PANELBOARDS

- A. General Electric (A Series).
- B. Cutler Hammer
- C. Westinghouse
- D. Square D

- E. Siemens
- F. Fuji Electric

2.9 BRANCH CIRCUIT PANELBOARDS

- A. Lighting and Appliance Branch Circuit Panelboards: NEMA PB1; circuit breaker type.
- B. Enclosure: NEMA PB1; as shown on the Drawings.
- C. Cabinet Size: as shown on the Drawings.
- D. Provide cabinet front with door-in-door, hinged-to-box construction with flush inner door lock and screwed-on outer door. Finish in manufacturer's standard gray enamel.
- E. Provide panelboards with copper phase bus, ratings as scheduled on Drawings. Provide extruded aluminum ground bus with main lug in all panelboards.
- F. Provide extruded aluminum neutral bus with a minimum continuous current rating of 100 percent of the phase bus bars, except where 200 percent neutral bus is specified. Provide at least one terminal screw for each branch circuit.
- G. Where more than one neutral bus is provided in the same panelboard, the neutral buses shall be connected together at the factory with continuous current rating of the connector equal to the neutral bus rating.
- H. Minimum Short-Circuit Rating: 10,000 amps rms symmetrical unless otherwise shown on the panel schedules.
- I. Molded-Case Circuit Breakers: NEMA AB 1; bolt-on type thermal magnetic trip circuit breakers, with common trip handle for all poles. Provide circuit breakers UL listed as Type SWD for lighting circuits. Provide UL Class A ground fault interrupter circuit breakers where shown on the Drawings. Provide circuit breakers UL listed as Type HACR for air-conditioning equipment branch circuits. All circuit breakers shall be fully rated.
- J. Provide lock-off devices for each panelboard. Device shall be capable of accepting a single padlock.
- K. Terminations: Provide all hardware required to accommodate the type of connectors specified in Section 16402 – Interior Wiring System
- L. Factory-Installed Nameplates: temporary tape labels.
- M. Field-Installed Nameplates: laminated plastic with engraved letters on each unit.
- N. Provide standard circuit inventory holders.
- O. Refer to panel schedules attached to this Section for specific requirements.
- P. Provide isolated ground bus where indicated.

PART 3 - EXECUTION

3.4 PROTECTION DURING CONSTRUCTION

- A. Store all products specified in this Section in a dry location. Following installation, protect products from the effects of moisture, corrosion, and physical damage during construction.

3.5 BRANCH CIRCUIT AND DISTRIBUTION PANELBOARDS

- A. Mount panelboards securely where indicate, plumb, in-line, and square with walls. Unless otherwise, mount panelboard with top of its cabinet approximately 1.98 meters above the floor. Provide a typewritten circuit directory with transparent plastic cover inside each panelboard.
- B. Directories: Provide typewritten circuit directory on the inside face of each panel.

3.6 GROUND BUS INSTALLATION

- A. Install ground bus in accessible location.

3.7 NAMEPLATES

- A. Provide laminated plastic nameplates with engraved letters per the requirements of Section 16402 (3.16) Identification.

END OF SECTION

SECTION 16950 TESTING AND COMMISSIONING OF ELECTRICAL SERVICES

PART 1 GENERAL

1.1 SCOPE OF WORK

- A. Provide any materials, equipment and labor required, and make such tests as specified in the various Electrical Power and Lighting Systems, Standby Power Generator System and Communication system as specified herein, and as otherwise deemed necessary to show proper execution of the work in the presence of the Architect/Engineer.
- B. Any deficiencies discovered as result of such tests shall be corrected without additional cost to the Owner.
- C. After the installation is completed and properly adjusted, operating tests shall be conducted. The various equipment and systems shall be demonstrated to operate in accordance with the requirements of the Contract Documents. Test shall be performed in the presence of the Architect/Engineer. Provide electric power, instruments and personnel necessary for performing the various tests.

- D. Procedures and tests outlined below are to be considered as in addition to normal visual and mechanical inspections which must be carried out prior to balancing equipment in service.
- E. Procedures and test outline below are to be considered as in addition to tests called for under other sections of the electrical specifications.
- F. Perform the following tests in the presence of the Architect/Engineer:
 1. Voltage test shall be made at the last outlet on each circuit. If drop in potential is excessive, correct the condition and re-test the relevant circuit.
 2. All cables, after being pulled in place and before being connected, shall be tested by Megger test to determine that conductor insulation resistance is not less than that recommended by cable manufacturer. Four copies of all test shall be furnished to the Architect. All cable failing insulation test shall be removed, replaced and re-tested.
 3. All equipment shall pass similar tests and entire system tested after all final connections have been made.
 4. All motors shall be tested under load with ammeter readings taken in each phase, and the RPM of motors recorded at the time. All motors shall be tested for correct direction of rotation.

1.2 TESTING, SPECIAL REQUIREMENTS

- A. The following relevant tests shall be conducted at the factory and witnessed by the Architect or his representative for all custom built, electrical plant and equipment such as Main Low Voltage Switchgear Transformers. Automatic Transfer Switches, and Diesel Generator Sets:
 1. Earthing facilities
 2. Installation resistance
 3. Phasing and wiring check
 4. Operational checks of all circuit breakers, isolators, starters and switches.
 5. Check major component type and sizes.
- B. The contractor shall take every precaution possible to assure the proper functioning of equipment or systems, and shall adhere to the following procedures.
 1. Electrical equipment delivered to job-site during construction shall be protected in such a way that prevent dirt, dust, water or any other foreign materials from entering or contaminating the working parts. This protection shall also be provided after installation as long as construction operations continue.
 2. Before any equipment or system is energized, the following procedures and tests should be followed and/or performed.
 - a. Clean all dirt, dust and moisture from equipment.
 - b. Check for loose bus and cable connections.
 - c. Check for missing insulation in equipment and on conductors.
 - d. Check for any modifications, alternations, or the use of unapproved parts in the assembly of the equipment against the approved submittals.
 - e. Ascertain that all circuit breaker short interrupting ratings are adequate.
 - f. The equipment room or area should be free of moisture accumulations
 - g. Check conductors run in multiple to ensure that they are properly phased.
 - h. Conduct a "megger" test of all equipment and wiring (the use of battery operated test lights and bells is not acceptable for this test).

- C. For maximum safety on feeder of 200 amperes and greater, it is recommended that a low amperage test fuse (15 amperes or less) be used and the circuit be energized without load to ensure the safe interruption of the circuit if a fault exists. Under no circumstances shall a wire or open link be used as a substitute for approved enclosed fuse.
- D. Ascertain that all equipment is rated for the available fault current.

1.3 SUBMITTALS

- A. Provide a detailed short circuit and coordination study of the electrical system including the incoming Meralco supply and 34.5 KV Switchgear, Bus Duct and feeder Cables to Sub-Switchboards and Distribution Boards and Standby Power System.
- B. The study result shall be submitted for review in the following form:
 - 1. For the short circuit study, five (5) bound copies of the time current curves, together with a tabulation of relay identification, location and recommended settings. A commentary covering the basis for selection of settings, and suggestions for improvement of coordination and protection shall be included where applicable.
- C. A short circuit study and protective device coordination study shall be performed as described herein.
- D. A short circuit study shall determine the maximum duty that the system protective devices, transformers, and interconnections will be subjected to in event of three phase and/or line-to-ground fault conditions. The fault study shall also provide the basic information required for determining protective relay settings.
 - 1. The study be a tabulation of symmetrical RMS short circuit values for both interrupting duty and momentary duty. Resistance and reactance components of total impedance to the point of fault, the X/R ratios and voltages on two busses remote from the fault shall be given. All values shall be printed in per unit form or kilo amperes. A fault shall be assumed at each of the bus locations, and the total duty on the bus, as well as the individual contributions from each connected branch shall be indicated.
 - 2. In addition to the above, the study shall include a list of all branch and source impedances. Branch and bus identification numbers shall be pre-assigned and identified on an accompanying system diagram.
 - 3. Individual switching operations shall be performed during the course of the study to stimulate opening or closing of the circuit or the addition of generation or other short circuit sources as applicable.
- E. The coordination study shall include the necessary calculations and logic decisions to select, or to check the selection of power circuit breaker ratings, phase and ground over-current relay characteristics and settings, and the ratios of associated instrument transformers. The objective of the study is to provide the optimum protective and coordination performance of these devices.
 - 1. The coordination study shall cover utility service cable, all high voltage classes of equipment (34.5KV) and including the 380 Volt transformer mains, feeders and motor control centre.
 - 2. The coordination study may be performed manually or by digital computer or combination of the two procedures.

- F. The results of the study shall be presented graphically on time-current coordination curves. These curves to illustrate the selected trip characteristics of the protective devices in series to the fault location, and show the degree of protection attained from transformers, motor, etc. as selective tripping obtained from the backup protective devices.
- G. The results of the study shall also be presented as data tabulations under the following heading where applicable:
1. Short circuit data:
 - a. Current values for maximum and minimum fault conditions for close-in and line-end fault locations for each protective device.
 - b. A comparative tabulation of the calculated short circuit duties versus the ratings of the applied circuit breakers and fuses. If the study reveals problem areas or inadequacies of protective device, the report shall include recommendations for corrective steps to be taken.
 2. Devices identification and Settings:
 - a. A listing of relay types and available taps, current transformer ratios, breaker types, fuses ratings and the location of each device in the system.
 - b. The recommended tap and time dial setting, and the instantaneous pickup setting is to be given for each over current relay and setting for each breaker.
 - c. A critique of the applied devices shall be included with comments pertaining to the suitability of the selected types, ranges and CT ratios, etc.
 3. Device Operation Check:
 - a. For faults at each bus location, the operation time in second shall be listed for each relay at the fault bus one and two buses away from the fault bus.
- H. The contractor shall obtain the following data where applicable from the switchgear manufacturer, utility company and/or other Sub-contractor to enable him to proceed with the short circuit and coordination study. (data to be obtained unless otherwise noted from contract document send/or manufacturer furnished equipment for the project).
1. Single line interconnection diagram.
 2. Short circuit contribution from power company source and X/R ratio of this contribution.
 3. Impedance, voltage ratio, MVA rating and method of neutral earthing of power transformers.
 4. The ratings of all induction motors. Rating of motors should include full load amperes, voltage, speed and sub-transient reactance.
 5. Type voltage rating, size and number of conductors, type of conduits, shielding, and lengths of all interconnecting cable.
 6. Identification of circuit breakers and power fuses to include manufacturer and type, voltage rating, interrupting and momentary short circuit ratings, and rated interrupting time.
 7. Indication of which tie breakers or switches are normally closed or cannot be closed for certain reasons.
 8. The ratio of the instrument transformers energizing each relay.

9. The type designation, range of adjustments, style or catalogue number and the manufacturer of each protection relay. The existing settings on each relay should be included if applicable.

1.4 SAFETY AND PRECAUTIONS

- A. Safety practices shall included but are not limited to the following requirements:
 1. Local Authority and Insurance Company's Standards/Requirements.
 2. Applicable national and Local Safety operating procedures.
 3. Owner's safety practices
- B. All tests shall be performed with apparatus de-energized except where otherwise specially required herein.
- C. Power circuits shall have conductors shortened to earth by a hot line earthing device approved for the purpose.
- D. In all cases, work shall not proceed until it has been determined that it is safe to do so.
- E. The Contractor shall have available, sufficient protective barriers and warning signs to conduct specified tests safety.

PART 2 - PRODUCTS

(NOT APPLICABLE)

PART 3 - TESTING, ADJUSTING AND VERIFICATION

3.1 TESTING, ADJUSTING AND VERIFICATION

- A. Provide necessary material, labor and miscellaneous services for temporary feeders, provision of jumpers and connections, and handling equipment during the testing, adjusting and verification procedure.
- B. Confirm that all protective device schemes function properly. Conduct circuit breaker trip test. Apply correct voltage and current to protective device.
- C. Provide cross wattmeter readings equivalent or any differential and or directional relay schemes. Verify metering schemes.
- D. During the testing and verification procedure, conduct spot checks on selected protective devices with representative of the Owner and/or Engineering to adjust and to re-test prospective devices to that final settings will result in performance in accordance with approved issue of respective coordination curve.
- E. Witness tests shall occur in locations to be determined once manufacturers have been agreed with the successful electrical sub-contract tenderer.
- F. Provide factory witness testing to suit delivery schedule of manufacturers. Provide hourly rates etc. to re-witness equipment if initial tests fails.

- G. Provide all submission and final report as previously specified.
- H. The final report and study shall include assurance for the following items:
 - 1. That the protective devices on the main low voltage equipment its coordinate with the Utility Company protective devices.
 - 2. That the protective devices within the parameters of the study conform to the results of the study.
 - 3. That the equipment has been tested and performs as per the settings of approved coordination curves.
 - 4. That the “as left” condition of the protective device correspond to the record documents.

Complete studies and reports shall be submitted simultaneously to the Engineer as well as part of the requirement of the Project record document.

3.2 BUILDING DISTRIBUTION SYSTEM

- A. Before energizing any portion of the electrical systems perform megger tests on all feeders. Result to conform to the applicable Codes and Standards to the satisfaction of the authorized inspection authority and to the Electrical Engineer.
- B. Upon completion of the building and immediately prior to final inspection and takeover check the load balance on all feeders at distribution centers, motor control and panelboards. Tests to be carried out by turning on all possible loads in the building and checking load current balance. If load imbalance exceeds 10%, reconnect circuit to balance load.
- C. Make voltage checks throughout building after building is in operation for sixty (60) days and at this time. If directed by the Electrical Engineer, adjust transformer tap settings. Readings taken at this time to be logged, tabulated and any adjustments made to be suitably logged and incorporated in the Operating and Maintenance Manuals.
- D. All protective devices to be tested and calibrated on site prior to energizing, to ensure proper operation as calculated on coordination studies provided by equipment suppliers. Testing and calibration to consist of verification of published curves and setting of devices at specified settings. Complete report to be submitted to the Electrical Engineer within seven (7) days of completion of testing.

3.3 SYSTEM

The following systems and equipment are to be tested, inspected and certified.

- A. Wire and Cable (600 Volts and Below):
 - 1. Inspect all splices and terminations and make mechanically and electrically tight transformer tap settings. Readings taken at this time to be logged, tabulated and any adjustments made to be suitable logged and incorporated in the Operating and Maintenance Manuals.
 - 2. Perform standard 500 volt insulation test with “megger” tester for all conductors. Test shall show insulation resistance in excess of minimum values required by Codes. Submit certification to the Architect/Engineer.
- B. Motor controllers:

1. Submit with certification in tabular form a complete listing of all motors on the project for which motor controller have been provided. Include on this listing, the nameplate full load amperes of each motor and the size overload heaters installation each motor controller.

C. Motors:

1. Test all motors under load and confirm that motor rotation is correct.

D. Engine Generator and Automatic Transfer Switches.

1. Factory testing:

- a. Prior to shipment of each engine-generator set from the factory, a certified load test shall be performed and the results submitted to the Architect/Engineer for approval before shipment of the unit. The test shall conform the proper operation of all alarms and shut down circuits.
- b. The test shall also demonstrate compliance with the set performance criteria as specified herein.
- c. Testing shall be performed as follows:
 - c.1 In a period of five (5) hours with a loading of 25, 50, 75, 100 and 110 percent of rated load. Step loading procedures shall be utilized (i.e. 25 % first hour, 50% second hour, etc).
 - c.2 Shock load of 100% of rated output, step loading is unacceptable. Maintain 100 load for 1 hour.

2. Field testing:

- a. After completion of the installation, the Contractor shall arrange with the engineer for a load test of each control switchgear and related automatic transfer switches. The generator shall be required to start- up and accept full load within 10 seconds. The unit shall continue to operate for not less than four (4) hours at 100% rated load. The test shall also include demonstrating that all alarms, signals, shut down devices, lift recall, etc., are functioning properly. The Contractor shall be responsible for securing all temporary load-banks, etc. required for the tests.
- b. The contractor shall supply all fuel for the testing. Upon acceptance by the Architect/Engineer the day tank and main fuel oil tank shall be filled to capacity after testing.

E. HV Switchgear, Substation, Low Voltage Switchboards.

1. At the completion of the work equipment shall be field tested in the presence of the Engineer in accordance with applicable standards. Tests shall be conducted under the close supervision of the service organization of the manufacturer.
2. Test shall include the following:
 - a. Operation of each disconnecting means under load.
 - b. Operation of all metering equipment.
 - c. Operation of all alarm devices.
 - d. Operation of forced air cooling system.
 - e. Operation of all key interlocks.

3. The manufacturer shall observe all cable bracing both incoming and outgoing and certify that same in provided in accordance with the manufacturers' recommendations.
4. The earth leakage systems shall be set at the level specified by the switchboard supplier.
5. As work shall be retorqued in accordance with manufacturer's recommendations. Submit certification of same.

F. Lighting Protection System

1. Provide testing for the system as per applicable codes and standards attach a certified label at the origin of the electrical installations as required by this standard.

G. Earthing

1. Upon completion of the electrical earthing system for the contractor shall test the earthing system for stray currents, earths, shorts, etc. these tests shall be performed with approved instruments.

H. Auxiliary Systems

1. Refer to the auxiliary system sections the details of testing.

3.4 COMMISSIONING

- A. The contractor shall be responsible for the coordination of all the previously described elements which comprise the whole installation.
- B. In addition, the Contactor shall carry out final settings and adjustments and commissioning of the whole installation up to including the incoming circuit breakers of the main low voltage switchboards in accordance with the manufacturer's recommendations and recognized practice.
- C. details of proposed commissioning procedures shall accompany the Contractor's proposal Submission.

END OF SECTION

Section IX. Checklist of Technical and Financial Documents

Bid Document CHECKLIST – Technical (Including Eligibility)

01. All submissions of the Bidder must clearly indicate the paper the document number. For example, photocopy of valid PhilGEPS registration papers (i.e., 5pcs) of “Bidder Corporation”, **Technical Component** should be marked “**T01~1**”, “**T01~2**”, “**T01~3**”, “**T01~4**”, and “**T01~5**”.
02. On this checklist, the column “As Checked” shall be marked ...
- ✓ “**PASSED**” to indicate that said document was available; or
 - ✓ “**FAILED**” when the document listed is not available in the bid proposal submitted; or
 - ✓ “**NO NEED**” if the item in the checklist will not be appropriate
03. *At any stage of the procurement process, a proposal may still be declared “not eligible” if the contents/substance of the document is missing, or its found inappropriate or does not comply with the given requirements for this transaction.*

Bidding No.	IB23-408625-06	Total ABC:	P5,000,000.00
Particulars:	“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”		
Venue of Bid Opening	Via Google Meet Platform	DATE & TIME of Bid Opening	November 28, 2023 (Tue) at 10:00AM
BIDDER'S INFORMATION	COMPANY NAME:		
	COMPANY HEAD OFFICE MAILING ADDRESS:		
	COMPANY WEBSITE OR EMAIL ADDRESS:		
Representative attending the Bidding:	NAME OF THE COMPANY REPRESENTATIVE:		
	POSITION TITLE OF THE COMPANY REPRESENTATIVE:		
JV Info:	IS THE BIDDER INTO JOINT VENTURE AGREEMENT WITH ANOTHER ENTITY/IES? YES /NO		

I. Technical Component Envelope

DAP DOES NOT ALLOW ANY BIDDER from any country outside the Philippines

Class “A” Documents		
Legal Documents	mark	As Checked
1) Valid PhilGEPS Certificate of Registration (Platinum Membership), with the current, updated, and clear copy of the documents as follows, per BDS Clause 10.1, item no. 1. <ul style="list-style-type: none"> ❑ Clear and readable Photocopy of Registration Certificate from Securities and Exchange Commission (SEC), Department of Trade and Industry (DTI), or Cooperative 	T01	<input type="checkbox"/> Passed <input type="checkbox"/> Failed

<p>Development Authority (CDA), whichever is applicable;</p> <ul style="list-style-type: none"> ❑ Clear and readable Photocopy of valid Mayor’s/Business Permit or its Equivalent Document; ❑ Clear and readable Photocopy of Tax Clearance Certificate for FY2022 issued by the Bureau of Internal Revenue (BIR); ❑ Clear and readable Photocopy of Audited Financial Statements for FY2021 and FY2022 stamped “received” by the BIR or its duly accredited and authorized institutions. 		
Technical Documents	mark	As Checked
2) 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, per BDS Clause 10.1, item no. 2.;	T02	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
3) Statement of the bidder’s SLCC at least two (2) completed similar contracts and the aggregate contract amounts should be equivalent to at least fifty percent (50%) of the ABC; and that the largest of these similar contracts must be equivalent to at least twenty-five (25%) of the ABC. pursuant to the exception 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 per BDS Clause 10.1, item no. 3.;	T03	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
4) 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, per BDS Clause 10.1, item no. 4.;	T04	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
5) Conformity with the Technical Specifications, which may include fabrication / Shop drawings, material board, mock-ups, production/delivery schedule, and/or after- sales/parts, if applicable as per BDS Clause 10.1, item no. 5.;	T05	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
6) Original duly signed Omnibus Sworn Statement (OSS); and 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, per BDS Clause 10.1, item no. 6. ;	T06	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
7) Certificate of Site Inspection duly signed by TWG-End-user representative or TWG Chairperson or the End-User, per BDS Clause 10.1, item no. 7.;	T07	<input type="checkbox"/> Passed <input type="checkbox"/> Failed

8) Company Profile with a List of All Completed Contracts within the last five (5) years, including the list of Company Officers, and bidder's company address per BDS Clause 10.1 under Technical Documents item no. 1	T08	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
9) Certificate of distribution and service per BDS Clause 10.1 under Technical Documents item no. 2	T09	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
Financial Documents		mark As Checked
10) 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, per BDS Clause 10.1, item no. 8 ; and	T10	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
Class "B" Documents		
11) If applicable, valid 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, shall be included in the bid, per BDS Clause 10.1, item no. 11 .	T11	<input type="checkbox"/> Passed <input type="checkbox"/> Failed <input type="checkbox"/> N/A
BAC's Evaluation on the submitted TECHNICAL COMPONENT:		<input type="checkbox"/> PASSED <input type="checkbox"/> FAILED
END OF TECHNICAL COMPONENT CHECKLIST		
BAC's Remarks:	<input type="checkbox"/> ELIGIBLE	<input type="checkbox"/> INELIGIBLE <input type="checkbox"/> FOR RECONSIDERATION
CHECKED BY:	NOTED BY:	DOCUMENTS RECEIVED BY:
ENGR. VENER V. MADERAJE TWG Chairperson	ALAN S. CAJES BAC Chairperson	MARIET RIZ M. BRADECINA Manager, BAC Secretariat Division

Checklist No.2 FINANCIAL DOCUMENTS

01. All submissions of the Bidder must clearly indicate the paper the document number. For example, Financial Component (i.e., 4pcs) should be marked "F01~1", "F01~2", "F01~3", and "F01~4".
02. On this checklist; the column "As Checked" shall be marked ...
 - ✓ "PASSED" to indicate that said document was available; or
 - ✓ "FAILED" when the document listed is not available in the bid proposal submitted; or
03. At any stage of the procurement process, a proposal may still be declared "not eligible" if the contents/substance of the document is missing, or its found inappropriate or does not comply with the given requirements for this transaction.

Bidding No.	IB23-408625-06	Total ABC:	P5,000,000.00
Particulars:	"ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY"		
Venue of Bid Opening	Via Google Meet Platform	DATE & TIME of Bid Opening	November 28 2023 (Tue) at 10:00AM

BIDDER'S INFORMATION	<i>COMPANY NAME:</i>
	<i>COMPANY HEAD OFFICE MAILING ADDRESS:</i>
	<i>COMPANY WEBSITE OR EMAIL ADDRESS:</i>
Representative attending the Bidding:	<i>NAME OF THE COMPANY REPRESENTATIVE:</i>
	<i>POSITION TITLE OF THE COMPANY REPRESENTATIVE:</i>
JV Info:	<i>IS THE BIDDER INTO JOINT VENTURE AGREEMENT WITH ANOTHER ENTITY/IES? YES /NO</i>

II. Financial Component Envelope

dap DOES NOT ALLOW ANY BIDDER from any country outside the Philippines

FINANCIAL DOCUMENTS	mark	As Checked
a. Original of duly signed and accomplished Financial Bid Form, per BDS Clause 11.1.	F01	<input type="checkbox"/> Passed <input type="checkbox"/> Failed
b. Original of duly signed and accomplished Price Schedule(s), per BDS Clause 11.1.	F02	<input type="checkbox"/> Passed <input type="checkbox"/> Failed

BAC's Evaluation on the submitted Financial Component: **PASSED** **FAILED**

END OF FINANCIAL DOCUMENTS CHECKLIST

BAC's Remarks:	<input type="checkbox"/> ELIGIBLE	<input type="checkbox"/> INELIGIBLE	<input type="checkbox"/> FOR RECONSIDERATION
CHECKED BY:	NOTED BY:	DOCUMENTS RECEIVED BY:	
ENGR. VENER V. MADERAJE TWG Chairperson	ALAN S. CAJES BAC-Chairperson	MARIET RIZ M. BRADECINA Manager, BAC Secretariat Division	

Section X. BIDDING FORMS

TABLE OF CONTENTS

Form 1: BID FORM	73
Form 2: PRICE SCHEDULE FOR GOODS OFFERED FROM WITHIN THE PHILIPPINES	75
Form 3: BID SECURING DECLARATION.....	81
Form 4: CONTRACT AGREEMENT FORM	83
Form 5: OMNIBUS SWORN STATEMENT.....	85
Form 6: STATEMENT OF ALL ONGOING CONTRACTS INCLUDING CONTRACTS AWARDED BUT NOT STARTED.....	87
Form 7: STATEMENT OF BIDDER'S SINGLE LARGEST COMPLETED CONTRACT (SLCC).....	87
Form 8: NET FINANCIAL CONTRACTING CAPACITY.....	89
Form 9: CERTIFICATE OF SITE INSPECTION	91
Form 10: TECHNICAL SPECIFICATIONS COMPLIANCE	92

Bidder's LETTERHEAD

FORM 1: FINANCIAL BID FORM

INSTRUCTIONS to BIDDERS:

01. THIS FORM SHOULD BE ACCOMPLISHED USING THE BIDDER'S LETTERHEAD, SIGNED COPY SHOULD BE SUBMITTED AS PART OF THE FINANCIAL DOCUMENTS MARKED AS "F01";
02. THE SIGNED COPY OF THIS DOCUMENT (IN PDF OR JPEG FORMAT) MUST BE PART OF THE ELECTRONIC FILES THAT SHOULD BE CONTAINED IN THE SUBMITTED ELECTRONIC BID; AND,
03. THE FILENAME STRUCTURE SHOULD BE "FOI_XXX=FINANCIAL_BID_FORM=<BIDDERNAME>".

BID FORM

Issued by the GPPB through GPPB Resolution 16-2020, dated 16 September 2020

Date: _____

Invitation to Bid No.: **IB23-408625-06**

BIDS & AWARDS COMMITTEE

Development Academy of the Philippines

3F, DAP Bldg., San Miguel Avenue, Pasig City 1600

P.O. Box 12788 Ortigas Center, Pasig City 1600 Philippines

Telephone: (632) 8631-0921 loc. 133

BAC Secretariat email: dapbacsec@dap.edu.ph

Website address: <http://www.dap.edu.ph>

Having examined the Bidding Documents, including the Supplemental or Bid Bulletin Numbers [insert numbers], the receipt of which is hereby duly acknowledge, we undersigned, offer to [supply/deliver/perform] for the Contract: **“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”** with the said OBDs for the sum of total Bid amount in words and figures] or the total calculated bid price as evaluated and corrected for computational errors, and other bid modifications in accordance with the Price Schedules attached herewith and made part of this Bid. The total bid price includes the cost of all taxes, such as, but not limited to: [specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties], which are itemized herein or in the Price Schedules.

If our Bid is accepted, we undertake:

- a. to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements of the OBD;
- b. to provide a performance security in the form, amounts, and within the times prescribed in the OBD;
- c. to abide by the Bid Validity Period specified in the PBDs and it shall remain binding upon us at any time before the expiration of that period

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below¹:

Name and address of agent	Amount and Currency	Purpose of Commission or gratuity
_____	_____	_____
_____	_____	_____
_____	_____	_____

NOTE: if none, state “None”

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your Notice of Award, shall be binding upon us.

We understand that you are not bound to accept the lowest or any Bid you may receive; and,

We certify/confirm that we comply with the eligibility requirements pursuant to the OBD.

The undersigned is authorized to submit the bid on behalf of [name of the bidder] as evidenced by the attached [state the written authority].

We acknowledge that failure to sign each and every page of this Bid Form, including the attached Schedule of Prices, shall be a ground for the rejection of our bid.

	Yours sincerely,
SIGNATURE OF THE AUTHORIZED REPRESENTATIVE	
NAME OF THE AUTHORIZED REPRESENTATIVE	
POSITION TITLE OF SIGNATORY:	
NAME OF FIRM\BIDDER:	
POSTAL ADDRESS:	
TELEPHONE NUMBER:	
EMAIL ADDRESS:	

¹Applicable only if the Funding Source is the ADB, JICA or WB.

Bidder's LETTERHEAD

FORM 2: PRICE SCHEDULE

(AS PER GPPB RESOLUTION NO. 16-2020)

INSTRUCTIONS to BIDDERS:

01. THIS FORM SHOULD BE ACCOMPLISHED USING THE BIDDER'S LETTERHEAD, SIGNED COPY SHOULD BE SUBMITTED AS PART OF THE FINANCIAL DOCUMENTS MARKED AS "F02";
02. THE SIGNED COPY OF THIS DOCUMENT (IN PDF OR JPEG FORMAT) **MUST BE PART OF THE ELECTRONIC FILES THAT SHOULD BE CONTAINED IN THE SUBMITTED ELECTRONIC BID; AND**
03. DO NOT LEAVE BLANK CELLS. KINDLY PUT **N/A** IF "NOT APPLICABLE";
04. KINDLY USE ADDITIONAL SHEETS IF NECESSARY; **AND**
05. THE FILENAME STRUCTURE SHOULD BE "F02_XXX=PRICE_SCHEDULE=<BIDDERNAME>".

For Goods Offered From Within the Philippines

Name of Bidder _____

Page ___ of ____.

Invitation to Bid Number:

1 Item	2 Description	3 QTY	4 UNIT	5 Unit price EXW per item	6 Transportation and Insurance and all other costs incidental to delivery, per item	7 Sales and other taxes payable if Contract is awarded, per item	8 Cost of Incidental Services, if applicable, per item	9 Total Price, per unit (col 5+6+7+8)	10 Total Price delivered Final Destination (col 9) x (col 4)
AIRCONDITIONING UNITS									
1.01 2TR Inverter Cassette Type Aircon Units	Supply, install, testing and commissioning of Seven (7)-2TR Inverter Cassette Type Aircon Units; Voltage/ Hz/Phase: 220-240V, 50/60Hz, 1phase; Cooling: at least 24,000(BTU/Hr) Power Consumption: at least 2170 (W); Rated current: at least 9.5 (A); BMS Ready; EER: at least 3.24; and, Refrigerant: at least R410A or eco-friendly refrigerant.	7	units						
1.02 3TR Inverter Cassette Type Aircon Units	Supply, install, testing and commissioning of Ten (10)-3TR Inverter Cassette Type Aircon Units;	10	units						

	<p>Voltage/ Hz/Phase: 220-240V, 50/60Hz, 1phase; Cooling: at least 36,000(BTU/Hr) Power Input: at least 2900 (W); Rated current: at least 19 (A); BMS Ready; EER: at least 3.24; and, Refrigerant: at least R410A or eco-friendly refrigerant</p>								
ROUGHING-IN INSTALLATION MATERIALS									
1.03	Supply and Install FCU indoor unit, electrical control device and refrigerant piping from 2A/F as well as condensing unit on the 2A balcony	1.00	Lot						
1.04	Provide support concrete base, steel frame and vibration pads for the installed condensing outdoor unit, the dimension of outdoor unit is at least HxWxD (845mm x 970mm x 370mm) The height of condensing unit with concrete base, steel frame and vibrating pads should not exceed 1.00m	1.00	Lot						
1.05	Supply and Install refrigerant pipes and fitting, rubber insulation, mounting brackets, condensate pipes including refrigerant R-410a or environmental friendly refrigerant and other standard accessories to interconnect the above equipment	1.00	Lot						
1.06	Supply and install electrical requirements such as wires , flexible	1.00	Lot						

	conduit, fittings electrical panel boards, individual breakers and other miscellaneous materials to complete the power and control wiring (Refer to the attached Mechanical and Electrical Technical Specifications)								
1.07	Supply and Install drain pipe and air deflector of each unit	1.00	Lot						

DISMANTLING OF EXISTING VRF AIRCONDITIONING UNITS

1.08	Dismantling of existing VRF air-conditioning units including all related devices and accessories and turn-over to DAP Engineering unit. The existing refrigerant will be recovered and hauled by the winning bidder. Any waste material shall be properly segregated, stored and handled by the winning bidder prior to disposal.	1.00	Lot						
------	---	------	-----	--	--	--	--	--	--

INSTALLATION AND INTEGRATION OF BMS MODULES

1.09	Supply and install BMS modules on seventeen (17) new air-conditioning units and three (3) existing air-conditioning units, and integration & connection to the existing air-conditioning BMS Panel. To include communication wires, pipes and other related materials and accessories.	20	Units						
------	--	----	-------	--	--	--	--	--	--

INSTALLATION OF PANEL BOARD

1.10	Supply and install of Main Breaker and Twenty-two (22) Branches Panel Board with Breaker for the	1.00	Lot						
------	--	------	-----	--	--	--	--	--	--

	new air-conditioning units and tapping of two (2) existing air-conditioning units.								
1.11	Supply and installation of seventeen (17) unit feeder line from Panel Board to NEMA 3R.								
REPLACEMENT OF DAMAGED AND EXISTING CEILING									
1.12	Alignment of t-runners and replacement of damaged and existing ceiling.	1.00	Lot						
TESTING, CLEANING, CLEARING AND TURN-OVER									
1.13	Restore to its original condition all affected facilities , areas, fixtures, etc. due to aircon installation works	1.00	Lot						
1.14	Clean the areas before turn-over	1.00	Lot						
1.15	Turn-over the entire project for acceptance to DAP General Services Division	1.00	Lot						
PROVISION OF POST INSTALLATION DOCUMENT									
1.16	Four (4) copies of As-built plan for Electrical and Mechanical works signed and sealed in A3 size complete with legend, technical specifications, test results, start-up report and measurements.	1.00	Lot						
1.17	Certification from the contractor specifying warranty of at least one (1) year for poor workmanship, one (1) year for parts, five (5) years for aircon compressor and quarterly maintenance service within one (1) year from the date of receipt of Certificate of Completion and Final Acceptance issued by the DAP GSD.	1.00	Lot						

1.18	Project duration should be Ninety (90) calendar days upon receipt of the Notice To Proceed.	1.00	Lot						
1.19	All work-details, plans, lay-outs, and schedule should be submitted and approved by the DAP Engineering office before the Contractor begins to work	1.00	Lot						
1.20	Submit the hardcopy in A3 size and soft copy in flashdrive of before, on-going and after pictures with date and time stamp	1.00	Lot						
1.21	BMS Ready Certification of seventeen (17) air-conditioning units from manufacturer.	1.00	Lot						

Name: _____

Legal Capacity: _____

Signature: _____

Duly authorized to sign Bid for and on behalf of _____

For Goods Offered From Abroad

Name of Bidder _____

Page ___ of ____.

Invitation to Bid Number:

1	2	3	4	5	6	7	8	9
Item	Description	Country of origin	Quantity	Unit price CIF port of entry (specify port) or CIP named place (Specify border point or place of destination)	Total CIF or CIP price per item (col.4 x 5)	Unit Price Delivered Duty Unpaid (DDU)	Unit price Delivered Duty Paid (DDP)	Total Price delivered DDP (col.4 x 8)
A								
B								

Name: _____

Legal Capacity: _____

Signature: _____

Duly authorized to sign Bid for and on behalf of _____

Bidder's LETTERHEAD

FORM 3: BID SECURING DECLARATION

INSTRUCTIONS: THIS FORM SHOULD BE ACCOMPLISHED USING THE BIDDER'S LETTERHEAD

REPUBLIC OF THE PHILIPPINES)
CITY OF _____) S.S.
X-----X

BID-SECURING DECLARATION

Invitation to Bid No. IB23-408625-06

To: **Development Academy of the Philippines**
dapbacsec@dap.edu.ph

I/We², the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid-Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any procurement contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of the written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1(f), of the IRR of RA No. 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid Securing Declaration shall cease to be valid on the following circumstances:
 - (a) Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
 - (b) I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right;
 - (c) I am/we are declared the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

IN WITNESS WHEREOF, I/We have hereunto set my/our hand/s this ____ day of [month] [year] at [place of execution].

² Select one and delete the other. Adopt the same instruction for similar terms throughout the document.

[Insert NAME OF BIDDER'S AUTHORIZED REPRESENTATIVE]
[Insert signatory's legal capacity]
Affiant

SUBSCRIBED AND SWORN to before me this ___ day of *[month]* *[year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert two (2) government identification cards used]*, with his/her photograph and signature appearing thereon, with 1st ID No. _____ issued on _____ at _____ and 2nd ID No. _____ issued on _____ at _____ .

Witness my hand and seal this ___ day of *[month]* *[year]*.

NAME OF NOTARY PUBLIC

Serial No. of Commission _____

Notary Public for _____ until _____

Roll of Attorneys No. _____

PTR No. _____ *[date issued], [place issued]*

IBP No. _____ *[date issued], [place issued]*

Doc. No. _____

Page No. _____

Book No. _____

Series of _____

FORM 4: CONTRACT AGREEMENT FORM

CONTRACT AGREEMENT

Invitation to Bid No. IB23-408625-06

THIS AGREEMENT made the ____ day of _____ 20____ between Development Academy of the Philippines hereinafter called “DAP” of the one part and [name of Supplier] of [city and country of Supplier] (hereinafter called “the Supplier”) of the other part:

WHEREAS the Entity invited Bids for certain goods and ancillary services, viz., **“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”** and has accepted a Bid by the Supplier for the supply of those goods and services in the sum of [contract price in words and figures] (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. . The following documents as required by the 2016 revised Implementing Rules and Regulations of Republic Act No. 9184 shall be deemed to form and be read and construed as part of this Agreement, viz.:

i. Official Bidding Documents (OBDs);

- i. Schedule of requirements;
- ii. Technical Specifications;
- iii. General and Special Conditions of Contracts;
- iv. Supplemental or Bid Bulletins, if any

ii. Winning bidder’s bid, including the Eligibility requirements, Technical and Financial Proposals, and all other documents or statements submitted;

Bid form, including all the documents/statements contained in the Bidder’s bidding envelopes, as annexes, and all other documents 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;

iii. Performance Security;

iv. Notice of Award of Contract and the Bidder’s conforme thereto; and

v. Other contract documents that may be required by existing laws and/or the Procuring Entity concerned in the PBDs. **Winning bidder agrees that additional contract documents or information prescribed by the GPPB that are subsequently required for submission after the contract execution, such as the Notice to Proceed, Variation Orders, and Warranty Security, shall likewise form part of the Contract.**

3. In consideration for the sum of [total contract price in words and figures] or such other sums as may be ascertained, [Named of the bidder] agrees to [state the object of the contract] in accordance with his/her/its Bid.

4. The **DAP** agrees to pay the above-mentioned sum in accordance with the terms of the Bidding.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of the Republic of the Philippines on the day and year first above written.

<i>for the Development Academy of the Philippines (“DAP”):</i>	<i>for the {name of the Firm of the Winning Bidder} (“SUPPLIER”):</i>
Atty. ENGELBERT C. CARONAN, JR., MNSA <i>President and CEO</i>	name of Authorized Representative. <i>position-title of “Supplier”</i>
***witnesses ***	
Witness1 of DAP <i>position-title of “DAP’s Witness1”</i>	Witness1 of the Bidder <i>position-title of “Supplier’s Witness1”</i>
Witness2 of DAP <i>position-title of “DAP’s Witness2”</i>	Witness2 of the Bidder <i>position-title of “Supplier’s Witness2”</i>

REMINDER: [Addendum showing the corrections, if any, made during the bid evaluation and/or negotiation should be attached to this Contract]

Bidder's LETTERHEAD

FORM 5: OMNIBUS SWORN STATEMENT

INSTRUCTIONS: THIS FORM SHOULD BE ACCOMPLISHED USING THE BIDDER'S LETTERHEAD

REPUBLIC OF THE PHILIPPINES)
CITY/MUNICIPALITY OF _____) S.S.

AFFIDAVIT

I, [*Name of Affiant*], of legal age, [*Civil Status*], [*Nationality*], and residing at [*Address of Affiant*], after having been duly sworn in accordance with law, do hereby depose and state that:

1. **Select one, delete the other:**

If a sole proprietorship: I am the sole proprietor of [*Name of Bidder*] with office address at [*address of Bidder*];

If a partnership, corporation, cooperative, or joint venture: I am the duly authorized and designated representative of [*Name of Bidder*] with office address at [*address of Bidder*];

2. **Select one, delete the other:**

[If a sole proprietorship:] As the owner and sole proprietor, I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for **“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE,BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”** of the *Development Academy of the Philippines*, as shown in the attached duly notarized Special Power of Attorney;

“[If a sole proprietorship:] As authorized representative of [*Name of Bidder*], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for **“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE,BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”** of the *Development Academy of the Philippines*, as shown in the attached duly notarized Special Power of Attorney;

If a partnership, corporation, cooperative, or joint venture: I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the **“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE,BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”** and/or to represent the [*Name of Bidder*] in the bidding as shown in the attached [*state title of attached document showing proof of authorization (e.g., duly notarized Secretary's Certificate issued by the corporation or the members of the joint venture)*];

3. **[Name of Bidder]** is not “blacklisted” or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**
4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;
5. **[Name of Bidder]** is authorizing the Head of the **Development Academy of the Philippines** or its duly authorized representative(s) to verify all the documents submitted;
6. **Select one, delete the rest:**

[If a sole proprietorship:] I am not related by consanguinity or affinity up to the third civil degree to the Head of the **Development Academy of the Philippines**, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the Head of the Project Management Office or the end-user unit, and the project consultants;

[If a partnership or cooperative:] None of the officers and members of **[Name of Bidder]** is related by consanguinity or affinity up to the third civil degree to the Head of the **Development Academy of the Philippines**, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the Head of the Project Management Office or the end-user unit, and the project consultants;

[If a corporation or joint venture:] None of the officers, directors, and controlling stockholders of **[Name of Bidder]** is related by consanguinity or affinity up to the third civil degree to the Head of the **Development Academy of the Philippines**, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the Head of the Project Management Office or the end-user unit, and the project consultants;

7. **[Name of Bidder]** complies with existing labor laws and standards; and
8. **[Name of Bidder]** is aware of and has undertaken the following responsibilities as a Bidder:
 - a) Carefully examined all of the Bidding Documents;
 - b) Acknowledged all conditions, local or otherwise, affecting the implementation of the Contract;
 - c) Made an estimate of the facilities available and needed for the contract to be bid, if any; and,
 - d) Inquired or secured Supplemental/Bid Bulletin(s) issued for the **“ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY”**
9. **[Name of Bidder]** did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.
10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the**

government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.

IN WITNESS WHEREOF, I have hereunto set my hand this __ day of __, 20__ at _____,
Philippines.

Bidder's Representative/Authorized Signatory
(JURAT)

Bidder's LETTERHEAD

FORM 6: STATEMENT OF ALL ONGOING CONTRACTS INCLUDING CONTRACTS AWARDED BUT NOT YET STARTED

INSTRUCTIONS to BIDDERS:

- 01.** THIS FORM SHOULD BE ACCOMPLISHED USING THE BIDDER'S LETTERHEAD, SIGNED COPY SHOULD BE SUBMITTED AS PART OF THE TECHNICAL DOCUMENTS MARKED AS "T02";
- 02.** IF THERE IS NO ONGOING INCLUDING AWARDED BUT NOT YET STARTED GOVERNMENT OR PRIVATE CONTRACTS, STATE "NONE", OR EQUIVALENT TERM;
- 03.** THE TOTAL AMOUNT OF THE ONGOING AND AWARDED BUT NOT YET STARTED CONTRACTS SHOULD BE CONSISTENT WITH THOSE FIGURES USED IN THE NET FINANCIAL CONTRACTING CAPACITY (NFCC).

Note: Excel file will be provided through email, which forms part of the OBD bought by the Bidder.

Bidder's LETTERHEAD

FORM 7: STATEMENT OF BIDDER'S SINGLE LARGEST COMPLETED CONTRACT (SLCC)

INSTRUCTIONS to BIDDERS:

- 01.** THIS FORM SHOULD BE ACCOMPLISHED USING THE BIDDER'S LETTERHEAD, SIGNED COPY SHOULD BE SUBMITTED AS PART OF THE TECHNICAL DOCUMENTS MARKED AS "T03";
- 02.** ATTACHED PHOTOCOPY OF CERTIFICATE OF FINAL ACCEPTANCE OR OFFICIAL RECEIPT ISSUED TO THE PROCURING ENTITY OR ANY EQUIVALENT DOCUMENT WITH INDICATED AMOUNT;
- 03.** THE TOTAL AMOUNT OF THE SLCC SHOULD BE EQUIVALENT TO AT LEAST FIFTY PERCENT (50%) OF THE ABC.

Note: Excel file will be provided in email, which forms part of the OBD bought by the Bidder.

Bidder's LETTERHEAD

FORM 8: NET FINANCIAL CONTRACTING CAPACITY

INSTRUCTIONS to BIDDERS:

THIS FORM SHOULD BE ACCOMPLISHED USING THE BIDDER'S LETTERHEAD, SIGNED COPY SHOULD BE SUBMITTED AS PART OF THE TECHNICAL COMPONENT MARKED AS "T10".

- A. Summary of the Applicant/Bidder's assets and liabilities on the basis of the attached income tax return and audited financial statement, stamped "RECEIVED" by the Bureau of Internal Revenue or BIR authorized collecting agent, for the immediately preceding year and a certified copy of Schedule of Fixed Assets particularly the list of construction equipment.

		Year 2022
1.	Total Assets	
2.	Current Assets	
3.	Total Liabilities	
4.	Current Liabilities	
5.	Net Worth (1-3)	
6.	Net Working Capital (2-4)	

- B. The Net Financial Contracting Capacity (NFCC) based on the above data is computed as follows:

NFCC = [(current asset minus current liabilities) (**15**)] minus [value of all outstanding or uncompleted portions of the projects under ongoing contracts including awarded contracts yet to be started coinciding with the contract to be bid].

The values of the domestic bidder's current assets and current liabilities shall be based on the latest Audited Financial Statements submitted to the BIR.

	Amount
Current Assets	
Less: Current Liabilities	
Net Current Assets	
Multiplied by 15	x 15
Sub-Total	
Less: Total value of all outstanding or uncompleted portions of the projects under on-going contracts including awarded contracts yet to be started coinciding with the contract to be negotiated	
Net Financial Contracting Capacity (NFCC)	

Herewith attached are certified true copies of the Income Tax Return (*filed through the Electronic Filing and Payments System (EFPS)*) and Audited Financial Statement: stamped "RECEIVED" by the BIR or BIR authorized collecting agent for the immediately preceding year.

<i>SIGNATURE OF THE AUTHORIZED REPRESENTATIVE</i>	
NAME OF THE AUTHORIZED REPRESENTATIVE	
POSITION TITLE OF SIGNATORY:	
NAME OF FIRM\BIDDER:	
POSTAL ADDRESS:	
TELEPHONE NUMBER:	
EMAIL ADDRESS:	

NOTE: If Partnership or Joint Venture, each Partner or Member Firm of Joint Venture shall submit the above requirements.

Bidder's LETTERHEAD

FORM 9: CERTIFICATE OF SITE INSPECTION

INSTRUCTIONS to BIDDERS:

- 01.** SIGNED COPY SHOULD BE SUBMITTED AS PART OF THE TECHNICAL DOCUMENTS MARKED AS "T02";
- 02.** THE SIGNED COPY OF THIS DOCUMENT (IN PDF OR JPEG FORMAT) **MUST BE PART OF THE ELECTRONIC FILES THAT SHOULD BE CONTAINED IN THE SUBMITTED ELECTRONIC BID;**
- 03.** THE FILENAME STRUCTURE SHOULD BE "T07_XXX=CERT_SITE_INSPECTION=<BIDDERNAME>".

<p>CERTIFICATE OF SITE INSPECTION</p> <p>in</p> <p>DAP PASIG</p>

BIDDING NO.:	IB23-408625-06	
CONTRACT:	"ONE (1) LOT SUPPLY, INSTALLATION AND COMMISSIONING OF NEW SEVENTEEN (17) UNITS INDIVIDUAL INVERTER-TYPE, BMS-READY AIRCONDITIONING UNITS AT FLOOR 2A IN BUILDING A, DAP BUILDING, PASIG CITY"	
Bidder's Company Name:		
Bidder's Rep.#1 Name /Position		
Bidder's Rep.#2 Name / Position		
Bidder's Rep.#3 Name / Position		
DAP Representative during inspection		
Date and time of Inspection		
<p>This is to certify that we have adequately inspected the DAP-Pasig facilities and was able to get enough info/data pertaining to the above stated Project.</p> <p>By Bidder/ Bidder's Authorized Representative:</p> <p>Signature: _____</p> <p>Name: _____</p> <p>Position Title: _____</p>	<p>This is to certify that the above-named Bidder/Bidder's Representative had indeed visited/ inspected the DAP-Pasig in reference to the above stated Project.</p> <p>By:</p> <p>Signature: _____</p> <p>Name: _____</p> <p>Position Title: _____</p>	

Bidder's LETTERHEAD

FORM 10 : TECHNICAL SPECIFICATIONS COMPLIANCE

Instructions: 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 the 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.

Item	Specification	Qty	unit	Statement of Compliance
AIRCONDITIONING UNITS				
1.01 2TR Inverter Cassette Type Aircon Units	Supply, install, testing and commissioning of Seven (7)-2TR Inverter Cassette Type Aircon Units; Voltage/ Hz/Phase: 220-240V, 50/60Hz, 1phase; Cooling: at least 24,000(BTU/Hr) Power Consumption: at least 2170 (W); Rated current: at least 9.5 (A) ; BMS Ready; EER: at least 3.24; and, Refrigerant: at least R410A or eco-friendly refrigerant.	7	units	
1.02 3TR Inverter Cassette Type Aircon Units	Supply, install, testing and commissioning of Ten (10)-3TR Inverter Cassette Type Aircon Units; Voltage/ Hz/Phase: 220-240V, 50/60Hz, 1phase; Cooling: at least 36,000(BTU/Hr) Power Input: at least 2900 (W); Rated current: at least 19 (A); BMS Ready; EER: at least 3.24; and, Refrigerant: at least R410A or eco-friendly refrigerant	10	units	

Item	Specification	Qty	unit	Statement of Compliance
ROUGHING-IN INSTALLATION MATERIALS				
1.03	Supply and Install FCU indoor unit, electrical control device and refrigerant piping from 2A/F as well as condensing unit on the 2A balcony	1.00	Lot	
1.04	Provide support concrete base, steel frame and vibration pads for the installed condensing outdoor unit, the dimension of outdoor unit is at least HxWxD (845mm x 970mm x 370mm) The height of condensing unit with concrete base, steel frame and vibrating pads should not exceed 1.00m	1.00	Lot	
1.05	Supply and Install refrigerant pipes and fitting, rubber insulation, mounting brackets, condensate pipes including refrigerant R-410a or environmental friendly refrigerant and other standard accessories to interconnect the above equipment	1.00	Lot	
1.06	Supply and install electrical requirements such as wires , flexible conduit, fittings electrical panel boards, individual breakers and other miscellaneous materials to complete the power and control wiring (Refer to the attached Mechanical and Electrical Technical Specifications)	1.00	Lot	
1.07	Supply and Install drain pipe and air deflector of each unit	1.00	Lot	
DISMANTLING OF EXISTING VRF AIRCONDITIONING UNITS				
1.08	Dismantling of existing VRF air-conditioning units including all related devices and accessories and turn-over to DAP Engineering unit. The existing refrigerant will be recovered and hauled by the winning bidder. Any waste material shall be properly segregated, stored and handled by the winning bidder prior to disposal.	1.00	Lot	
INSTALLATION AND INTEGRATION OF BMS MODULES				
1.09	Supply and install BMS modules on seventeen (17) new air-conditioning units and three (3) existing air-conditioning units, and integration & connection to the existing air-conditioning BMS Panel. To include communication wires, pipes and other	20	Units	

Item	Specification	Qty	unit	Statement of Compliance
	related materials and accessories.			
INSTALLATION OF PANEL BOARD				
1.10	Supply and install of Main Breaker and Twenty-two (22) Branches Panel Board with Breaker for the new air-conditioning units and tapping of two (2) existing air-conditioning units.	1.00	Lot	
1.11	Supply and installation of seventeen (17) unit feeder line from Panel Board to NEMA 3R.	1.00	Lot	
REPLACEMENT OF DAMAGED AND EXISTING CEILING				
1.12	Supply/Alignment of t-runners and replacement of damaged existing ceiling due to the installation work, with the same specifications and type/finish of the existing ceiling.	1.00	Lot	
TESTING, CLEANING, CLEARING AND TURN-OVER				
1.13	Restore to its original condition all affected facilities , areas, fixtures, etc. due to aircon installation works	1.00	Lot	
1.14	Clean the areas before turn-over	1.00	Lot	
1.15	Turn-over the entire project for acceptance to DAP General Services Division	1.00	Lot	
PROVISION OF POST INSTALLATION DOCUMENT				
1.16	Four (4) copies of As-built plan for Electrical and Mechanical works signed and sealed in A3 size complete with legend, technical specifications, test results, start-up report and measurements.	1.00	Lot	
1.17	Certification from the contractor specifying warranty of at least one (1) year for poor workmanship, one (1) year for parts, five (5) years for aircon compressor and quarterly maintenance service within one (1) year from the date of receipt of Certificate of Completion and Final Acceptance issued by the DAP GSD.	1.00	Lot	
1.18	Project duration should be Ninety (90) calendar days upon receipt of the Notice To Proceed.	1.00	Lot	
1.19	All work-details, plans, lay-outs, and schedule should be submitted and approved by the DAP GSD before the Contractor begins to work	1.00	Lot	
1.20	Submit the hardcopy in A3 size and soft copy in flash drive of before, on-	1.00	Lot	

Item	Specification	Qty	unit	Statement of Compliance
	going and after pictures with date and time stamp			
1.21	BMS Ready Certification of seventeen (17) air-conditioning units from manufacturer.	1.00	Lot	

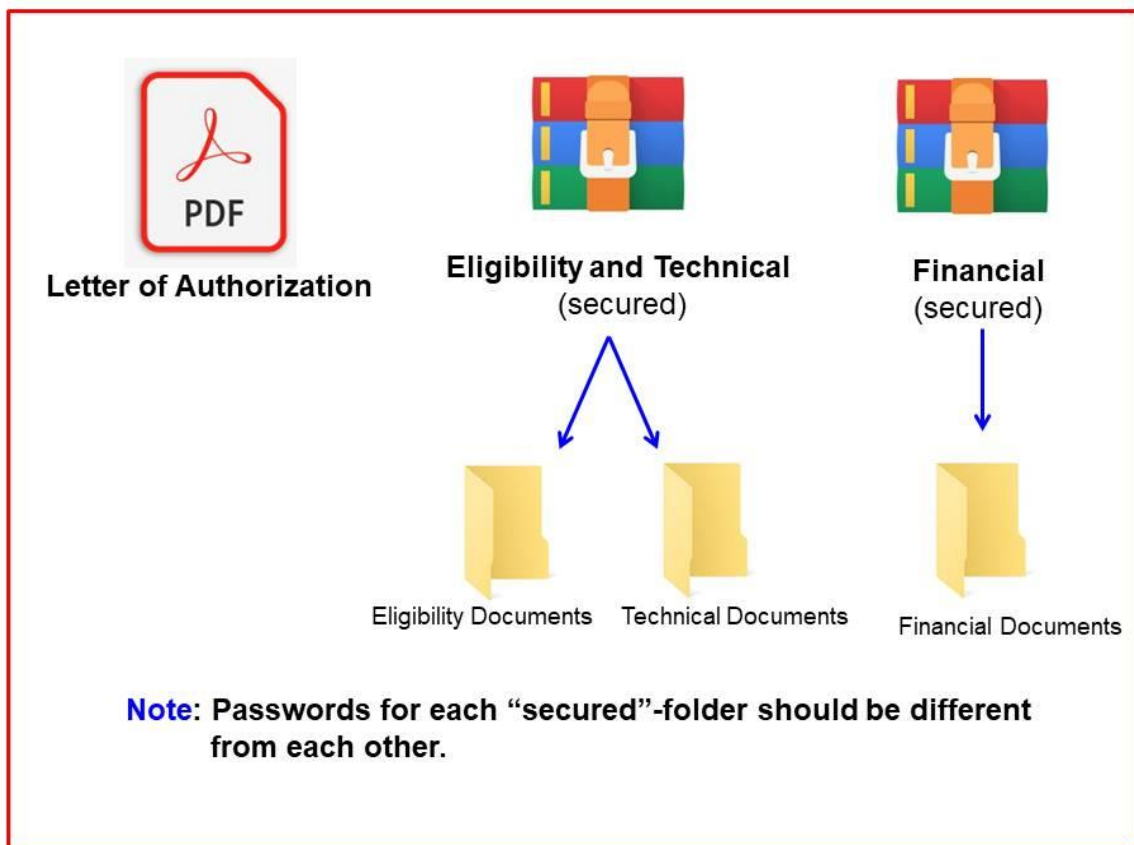
Section XI. FILENAMES

Notes to the Bidders:

This Section of the OBD provides the information necessary for interested Bidders to prepare responsive bids, in accordance with the requirements of DAP.

The tendered Bid shall be assessed on the basis of what is deemed advantageous to DAP, in particular, and to the Government, in general before an award will be served.

This Section contains provisions that are to be used unchanged. For illustration purposes, the following shall be packaged as follows:



Below are information and a step-by-step guide in preparing the FILENAMES acceptable to DAP:

1. The submitted secured [zip.file](#)-bid should contain the Technical and Financial Components of the Bid. The e-files that can be found in the said secured zip/rar.file-bid must be certified by the Bidder as the faithful electronic copies of the submitted requirements.
2. The Bidder certifies that all of the electronic files with suffix **<BidderName>** had been diligently and carefully examined;

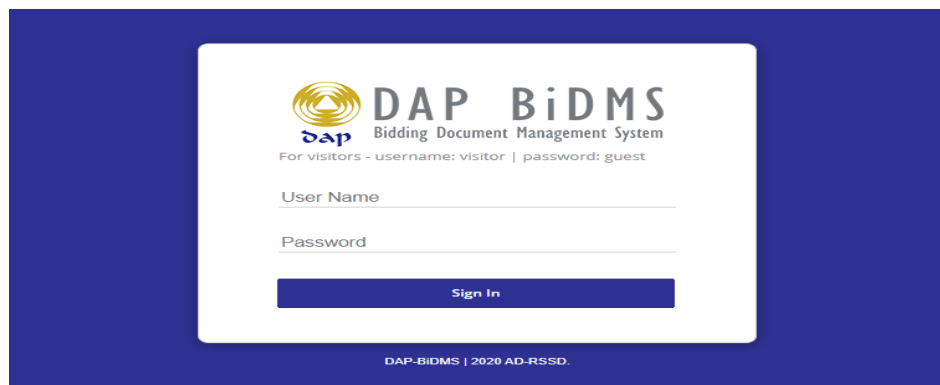
The Bidder must ensure that each file is inspected, and that the files enumerated here below are saved and uploaded in the designated bidms.dap.edu.ph account of the Bidder.

FILENAME		Filetype
N	<p>INSTRUCTIONS: * The structure of the "final-filename" followed the file structure below. The first 3 characters of the filename refers to the document-tag;</p> <p>* The "_XXX" represents the page-number of the file (if in jpg-format), or the last page-number if the file is in pdf-format. In case there is only one page, "_XXX" will be "_000"; and,</p> <p>* The suffix "<BidderName>" was replaced by the Company Name of the Bidder.</p>	
01	<p>LOA_XXX=signed_Letter_of_Authorization=<BidderName></p> <p><i>INSTRUCTIONS: The duly adjusted/filled-out, printed, and signed LOA should be placed prior to the Opening of the secured zip-file bid. The LOA can be read without opening any part of the submitted bid.</i></p>	Pdf, or jpg, or word
I. Technical Components (Class A Documents)		
02	T01_XXX=PhilGEPS_Registration=<BidderName>	pdf or jpg
03	T02_XXX=EXCEL_All_Ongoing_Contracts=<BidderName>	EXCEL
	T02_XXX=IMAGE_All_Ongoing_Contracts=<BidderName>	pdf or jpg
04	T03_XXX=Single_Largest_Completed_Contract=<BidderName>	EXCEL
	T03_XXX=Single_Largest_Completed_Contract=<BidderName>	pdf or jpg
05	T04_XXX=Bid_Security=<BidderName>	pdf or jpg
06	T05_XXX=Technical_Specifications=<BidderName>	pdf or jpg
07	T06_XXX=Omnibus_Sworn_Statement=<BidderName>	pdf or jpg
08	T07_XXX=Cert_Site+Inspection=<BidderName>	pdf or jpg
09	T08_XXX=Company_Profile=<BidderName>	pdf or jpg
10	T09_XXX=Cert_Distribution and Service=<BidderName>	pdf or jpg
11	T10_XXX=NFCC_computation=<BidderName>	pdf or jpg
12	<p>T11_XXX=VALID_Joint_Venture_Agreement=<BidderName></p> <p><i>INSTRUCTIONS: If the Bidder will not have any joint venture agreement (JVA) with any juridical entity/ies, the Bidder is still required to issue a Statement, written in its letterhead, clearly indicating that the Bidder will not enter into any JVA for this Project.</i></p>	pdf or jpg
II. Financial Components		
13	F01_XXX=FINANCIAL_BID_FORM=<BidderName>	pdf or jpg
14	F02_XXX= PRICE_SCHEDULE=<BidderName>	pdf or jpg

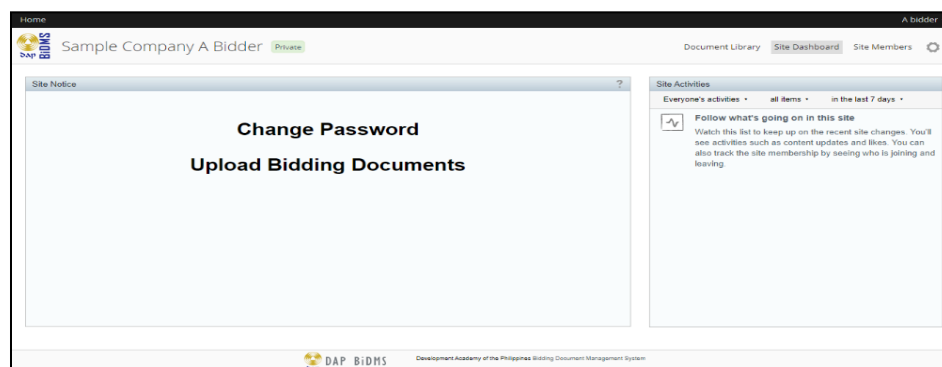
Section XII. Guide on How to Submit Electronic-bids

ACCESSING AND USING THE BIDDING DOCUMENT MANAGEMENT SYSTEM (BiDMS):

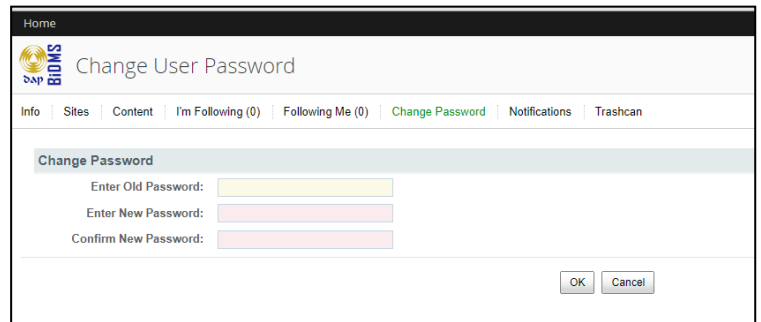
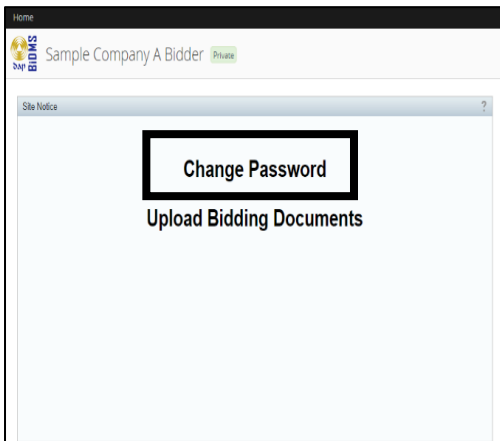
1. Each prospective bidder, who bought the Official Bidding Documents (OBD) amounting to the required OBD Fee and with an issued Official Receipt (OR) from DAP's Finance Department, will be provided by the BAC Secretariat with its own BiDMS credentials (username and password);
2. The given password by the BAC Secretariat must be changed upon logging in and the Bidder should not disclose their password to any unauthorized personnel from their Company nor to the Procuring Entity;
3. The Bidders should access the BiDMS web portal through: <http://bidms.dap.edu.ph> and to log-in using the username and password;



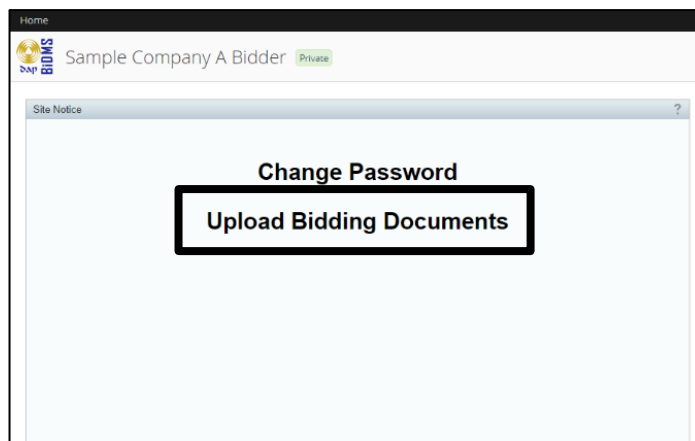
4. The Bidder dashboard will be loaded;



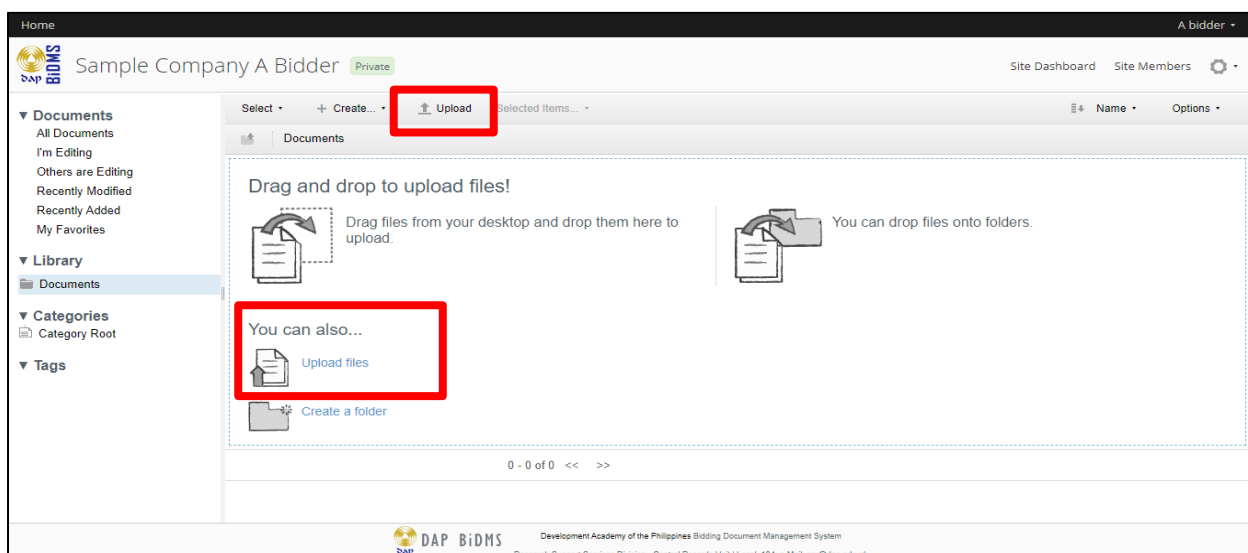
5. The Bidder should change their password;



6. After changing the password, the Bidder can now upload their electronic bid submission in two (2) password protected compressed folders (zip/rar);



7. The Bidder could either upload the compressed folders using the upload button or dragging and dropping the compressed from a device.



8. The Bidders site folder should contain only three (3) files:

- 1st:** Duly Notarized Scanned-copy of the Letter of Authorization;
- 2nd:** A secured folder containing the secured compressed file of Eligibility and Technical Documents; and
- 3rd:** A secured folder containing the secured compressed file of Financial Documents.

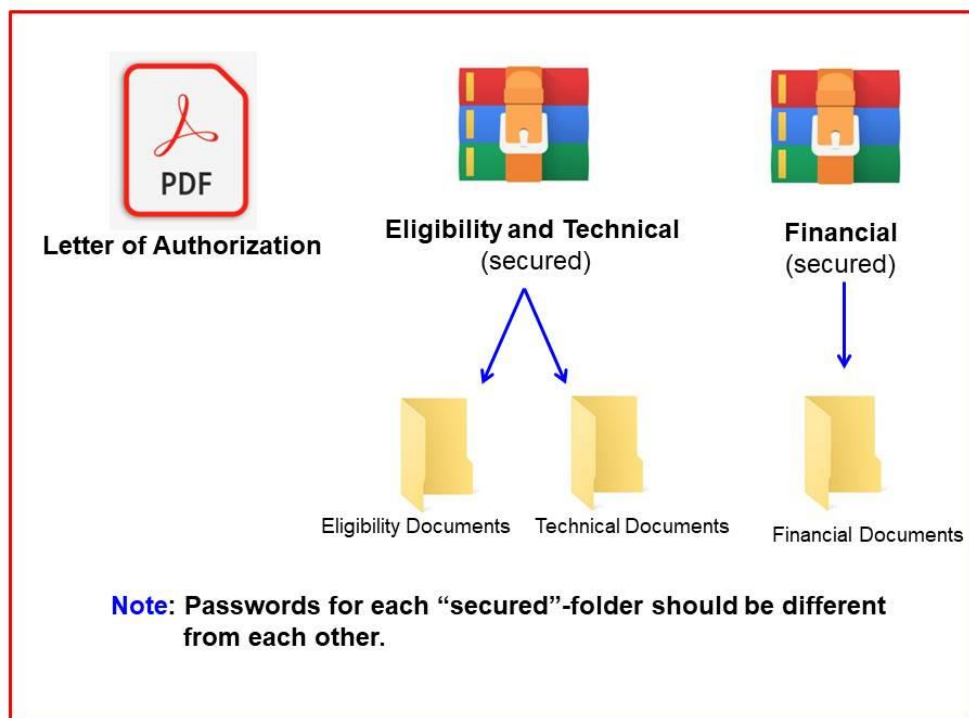
Note: Passwords for each “secured”-folder should be different from each other.

- 9. The Bidder may update/upload their bidding documents by first deleting the initially uploaded compressed folders. Bidders are allowed to upload before the set deadline which is prior to the announced schedule of the Opening of Bids.

Note: On the set deadline of submission of e-Bids, the system will disable Bidders access to ensure that the most recent uploaded e-Bid will not be modified.

- 10. The Bidders will only be asked to provide their passwords during the Opening of Bids by typing into the chat-box while in session.

- 11. **An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.**





development academy of the philippines

BIDS & AWARDS COMMITTEE per SO#2023-047 dated May 16, 2023

**NOTHING
FOLLOWS**

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