

**Supplemental/ Bid Bulletin No. 2
05 July 2019**

**PUBLIC BIDDING No. 19 – 117– 4
*Design and Build of Electrical Substation and Distribution System for the
Philippine Navy (PN)***

Issued pursuant to Sec. 22.5 of the IRR of R.A. 9184 to clarify and/or amend certain provisions in the Bidding Documents issued for this project, considering the issues raised and clarifications made by prospective bidders thru written queries received within the prescriptive period for filing.

I. Amendments

REFERENCE	BASES FOR AMENDMENT / INCLUSION
<p><i>Bid Data Sheet 12.1 (b) (iv) Item No. 1</i></p> <p><i>1. Preliminary Conceptual Design Plans in accordance with the degree of details specified by the procuring entity.</i></p> <p><i>The Preliminary Conceptual Design Plans shall include:</i></p> <p><i><u>1.1 Take-Off Power (69KV)</u></i> <i><u>1.2 Three Phase Transformer Power for Distribution</u></i> <i><u>1.3 Location of 2.5MVA & Switch Gear</u></i> <i><u>1.4 Location of Lightning Arrester</u></i> <i><u>1.5 Design Cable Tray Underground w/ Cover</u></i> <i><u>1.6 Complete Lay-out 69KV Substation</u></i></p>	<p><i>To amend the requirement for better understanding.</i></p>

II. Clarifications

No.	REFERENCE	RESPONSE
1	<p><i>Section VII. Drawings Site Development Plan</i></p> <p>To request Site Development Plan/ Layout for Substation (CAD file), to determine the area for the substation.</p>	<p><i>The Site Development Plan has been issued under Bid Bulletin No. 1. However, the bidder must provide the lay-out of the Substation as part of the submission of the Technical Documents.</i></p>

2	<p><i>Section VII. Drawings Proposed One-Line Diagram 2-2.5MVA Electrical Substation</i></p> <p>Why there is no NGCP/ZAMECO Revenue Metering Point in the Single Line Diagram? If to be considered how many metering points, its voltage level and specifications of needed equipment?</p>	<p><i>There will be two (2) metering points. Please refer to Design Parameters Table, Page No. 95, Item G Nos. 1 to 3.</i></p>
3	<p><i>Design Parameter V. Design and Build Lightning Protection System</i></p> <p>A. Supply, Delivery & Installation of Lightning Protection System Complete with Concrete Post, Accessories and Fittings</p> <p>Can we offer other brand equivalent to the description indicated in Item V.A.1, 2, 8 & 9?</p>	<p><i>There is no brand preference. Please refer to revised Design Parameter.</i></p>
4	<p><i>Scope of Work. Design and Build of 13.2kV, 3 Phase Distribution Line</i></p> <p>To clarify if the cable installation from transformer bank to the building concrete pedestal, is underground or aerial installation? Also, from concrete pedestal to Main Safety Breaker.</p>	<p><i>The cable installation from transformer bank to the building concrete pedestal is underground while the cable installation from the concrete pedestal to Main Safety Breaker is aerial.</i></p>
5	<p><i>Scope of Work. Design and Build of 13.2kV, 3 Phase Distribution Line</i></p> <p>If wire installation inside the building for the loads, is included in the scope of contractor? If not, does this mean the scope of contractor is only up to Main Safety Breaker MCCB, and the contractor will wait for the availability of the buildings before the installation of Main Safety Breaker MCCB?</p>	<p><i>Wire installation inside the building for the loads is not included in the scope of contractor. The scope of contractor is up to the distribution lines only.</i></p>

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6	<p><i>Section II. Instruction to Bidders</i></p> <p>To inquire the paper size to be used for the bid, if there is required.</p>	<p><i>For the drawings, the bidder is required to submit in 20" x 30" paper size. For other documents, the bidder may use any appropriate paper size.</i></p>
7	<p><i>Section III. Bid Data Sheet</i> <i>18.1 Bid Security</i></p> <p>To clarify if Bid Securing Declaration (Bidding Form Annex I.) can be used as a Bid Security for this project.</p>	<p><i>Yes. Please refer to Bid Data Sheet 18.1.</i></p>
8	<p><i>Section III. Bid Data Sheet</i> <i>31.4(f) Other Documents</i> <i>a) to f)</i></p> <p>To clarify if the documents indicated in this section will only be submitted by the winning bidder and will not be attached to the bid.</p>	<p><i>Yes. Bid Data Sheet 31.4(f) states that:</i></p> <p><i>"The following documents shall be submitted by the winning bidder within ten (10) calendar days from receipt of the Notice of Award (NOA): ..."</i></p>

The herein amendments form an integral part of the bidding documents. Correspondingly, all other provisions in the bidding documents affected by these amendments are similarly amended or modified.

The clarifications made, explain in greater detail the purpose or intent of the requirement and do not necessarily amend that particular provision in the bidding documents.

(SGD.)
ENGR. ESTRELLITA G. FULE
Chairperson, DBM-PS BAC IV

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**NAVAL COMBAT ENGINEERING BRIGADE
ENGINEER SUPPORT OPERATIONS CENTER**

BNS, Fort Bonifacio, Taguig City

Name of Project: Design and Build of the Electrical Substation and Distribution System

Location: Naval Station Leovigildo Gantioqui, San Antonio, Zambales

DESIGN PARAMETERS

STANDARDS, CODES, AND REGULATIONS

The design, equipment, installation, testing, and commissioning of the Electrical Substation and Distribution System shall be in accordance with the applicable requirements set forth in the latest edition of the following codes and standards:

1. Philippine Electrical Code
2. National Electrical Code
3. American National Standard Institute (ANSI)
4. National Electrical Manufacturer's Association (NEMA)
5. National Building Code
6. National Structural Code of the Philippines (NSCP 2015)

Design Criteria for Electrical Substation and Distribution System:

The Contractor's Proposed Electrical Substation and Distribution System shall consist primarily of 2 Sets 2.5 MVA 67 Delta / 13200 V Y: Off Load Tap Changer Power Transformers.

The following are the parameters from which the Electrical Substation and Distribution System shall be designed with all the materials deemed necessary for a working system should be supplied by the contractor:

Item No.	Parameters	Minimum Limits	Unit
I.	Design and Build 5 MVA Electrical Substation		
A	Supply, Delivery, & Installation of Power Transformer		
1	Power Transformer 2.5 MVA 67 Delta / 13.2 KV Y : Off Load Tap Changer	2	set
B	Supply, Delivery, & Installation of Substation Steel Structures		
1	69 KV Receiving Structures	1	lot
2	Power Circuit Breaker Structures		
3	Potential Transformer Structures		
4	Current Transformer Structures		
5	Surge Arrester Structures		
6	Disconnect Switch Structures		
7	Post Insulators Structure		
8	Battery Rack Structure		
C	Supply, Delivery, & Installation of 69 KV Protection and Metering Equipment		
1	Power Circuit Breaker, SF6, Live Tank	2	set

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2	Current Transformer (3 Sets: Primary Protection Relay)	6	set
3	Post Insulator, 350 KV BIL	6	set
4	Surge Arresters, 60 KV, 48 MCOV	6	set
5	Disconnect Switch Vertical Break	2	set
D	Supply, Delivery, & Installation of Station Battery & Battery Charger		
1	Battery Bank, 125 VDC (20 batteries x 6 V)	2	set
2	Battery Charger, 125 VDC, 30 A, 1 Phase	2	set
E	Supply, Delivery, & Installation of Service Station Distribution Transformer		
1	Distribution Transformer, 1 Phase, 25 KVA	2	set
2	Concrete Pole, 30 ft	2	set
3	Cut-Out and Arrester Combination	2	set
4	Transformer Hanger	2	set
F	Supply, Delivery, & Installation of 15 KV Power Cable and Termination Kit		
1	15 KV XLPE Power Cable, 95 sq mm	300	mtrs
2	15 KV Outdoor Heat Shrink Termination Kits	8	set
3	15 KV Outdoor Termination Kits, 95 sq mm	8	set
G	Supply, Delivery, & Installation of 69 KV / 15 KV Metering, Control and Protection Panel		
1	Accessories: Multi-Function Power Quality Meter, Transformer Relay and Annunciators	2	set
2	Overcurrent And Ground Fault Relays, Multi-Function Protective Relay		
3	Modern Alarm with Arc Flash Protection		
4	Overcurrent Feeder Protection Relay, DNP3/ Modbus Multi Protocol	4	set
5	Vacuum Circuit Breaker, 800 A, 17.5 KV, 25 KAIC	5	set
6	Current Transformer, 15 KV	30	set
7	Potential Transformer, 15 KV 8400:120	6	set
8	Power Quality Multifunction Meter	4	set
9	Surge Arrester, 12 KV, 10KV	6	set
10	Disconnect Switch, 1200 A Single Pole	12	set
11	Surge Arrester, 10 KV, 8.4 MCOV	12	set
12	Load Break Switch (LBS) 15 KV, 600 A, Motorized	2	set
13	Remote Terminal Unit, SCADA Software, HMI	1	set
H	Civil and Other Electrical Works		
1	Equipment Foundation and Take Off Pedestal	1	lot
2	Feeder Take Off and Incoming 69 KV Overhead Lines	1	lot
3	Wires, Hardware, and Accessories	1	lot
4	Complete Grounding System, 300 sq m	1	lot
5	Power House/ SCADA Room	1	lot
6	Perimeter Fence	1	lot
7	Site Development / Grading / Gravelling / Perimeter Lights	1	lot
II.	Design and Build 69 KV Incoming Line		
A	Supply, Delivery, & Installation of Concrete Poles & Overhead Wires Complete with Line Hardware, Accessories, & Fittings		

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1	Insulator	180	set
2	Concrete Pole, 70 ft	4	set
3	Strain Clamp	12	set
4	Suspension Insulator	24	set
5	Clamp Suspension	12	set
6	ACSR	1	lot
7	OHGW	1	lot
8	Pole Assembly Line Hardware, Fittings and Accessories	1	lot
III.	Design and Build 13.2 KV 3 Phase Distribution Line		
A	Supply, Delivery, & Installation of Concrete Poles & Overhead Wires Complete with Line Hardware, Accessories, & Fittings		
1	Distribution Line Assembly (97 Sets Concrete Pole 50 ft, Overhead Distribution Lines ACSR 4/0, Overhead Ground Wire ACSR #4, Guy System, Grounding Rod, & Accessories)	1	lot
IV.	Design and Build 13.2 KV/ 240V 3Φ Electrical Distribution System		
A	Supply, Delivery, & Installation of 3 Phase Banked Transformers: Off Load Tap Changer Complete with Line Hardware, Accessories, & Fittings		
1	Transformer 10 KVA Pole Type 1 Phase 13.2 KV / 240V	6	set
2	Transformer 25 KVA Pole Type 1 Phase 13.2 KV / 240V	9	set
3	Transformer 50 KVA Pole Type 1 Phase 13.2 KV / 240V	6	set
4	Transformer 75 KVA Pole Type 1 Phase 13.2 KV / 240V	9	set
5	Transformer 100 KVA Pole Type 1 Phase 13.2 KV / 240V	6	set
6	Cut-Out 15 KV	36	set
7	Arrester 10 KV	36	set
8	Transformer Hangers, Accessories, and Fittings	1	lot
B	Supply, Delivery, & Installation of Secondary Wires & Concrete Pedestal Complete with Line Hardware, Accessories, & Fittings		
1	Concrete Pedestal (30cm x 40cm x 7m)	22	set
2	Secondary Wires & Cabling Works	1	lot
3	IMC Pipes, Accessories, and Fittings	1	lot
C	Supply, Delivery, & Installation of 3Φ Metering & Safety Breaker MCCB with NEMA 3R Enclosure Complete with Accessories & Fittings		
1	Safety Breaker, MCCB, 1000 AT 3 Phase	2	set
2	Safety Breaker, MCCB, 500 AT 3 Phase	2	set
3	Safety Breaker, MCCB, 175 AT 3 Phase	4	set
4	Safety Breaker, MCCB, 150 AT 3 Phase	6	set
5	Safety Breaker, MCCB, 100 AT 3 Phase	6	set
6	Safety Breaker, MCCB, 70 AT 3 Phase	1	set
7	Safety Breaker, MCCB, 60 AT 3 Phase	4	set
8	KWH Meter	12	set
9	Current Transformer	36	set
10	CT (NGCP Revenue Metering Point)	3	set
11	Wires, IMC Pipes, Tapes, CT, Meter Box	1	lot

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12	Ground Rod, Bolt, Clamp & Accessories	1	lot
V.	Design and Build Lightning Protection System		
A	Supply, Delivery, & Installation of Lightning Protection System Complete with Concrete Post, Accessories, and Fittings		
1	Flashcaptor Early Streamer Emission (ESE) Air Terminal with 107 m Radius of Protection (AT-5360)	2	set
2	Lightning Event Counter (AT-01G)	2	set
3	2/0 AWG (60 sqmm) Bare Copper Wire	200	lm
4	Copper Bonded Ground Rods 3/4" x 10' 1H-1034N	6	pc
5	Exothermic Welding Tablet 43 mm Diameter (3 Tablets)	30	pc
6	Exothermic Starting Powder	10	set
7	80 ft Self-Supported Tapered Monopole	2	set
8	Aircraft Obstruction LED Light (RTLSE/120-240)	2	set
9	Auto Time Switch w/ Battery (TB-38800KE7)	2	set
10	3/4" Conduit Pipe	2	set
11	1/2" PVC Pipe	80	pc
12	Royal Cord 14/2	150	m
13	Miscellaneous Materials: Cement, Gravel, and Sand, Deform Bar, Lumber, Plywood, Nails, Clamp, P. Box for Lightning Event Counter	1	lot
VI.	Substation Maintenance Equipment		
A	Supply & Delivery of Substation Maintenance Equipment		
1	Insulation Tester MIT-430	1	set
2	Earth Leakage Clamp Meter DCM-300E	1	set
3	Transformer Ratio TTR100	1	set
VII.	Design and Build Emergency Power		
A	Supply, Delivery, & Installation of 3Φ Generator Set w/ Manual/ Automatic Transfer Switch (NEMA 3R Enclosure) Complete w/ Line Hardware, Accessories, & Fittings		
1	100 KVA, 3Φ, 240/ 440 V Generator, Silent-Type (no more than 65 Decibels), Weather Proof (Outdoor)	1	set
2	250 AT/ 1000 AT, 3Φ, MTS/ ATS	1	set
3	Wires and Cabling Works	1	lot
4	IMC Pipes, Accessories, and Fittings	1	lot
5	Equipment Foundation and Take Off Pedestal	1	lot
6	Complete Grounding System	1	lot
7	Perimeter Fence	1	lot
8	Site development/ Grading/ Graveling/ Perimeter Lights	1	lot

Prepared By:

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Secretary, TWG BSL-NSLG & ND Subic

Approved By:

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MEDERICO R CELSO

Chairman, TWG BSL-NSLG & ND Subic

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