



**NATIONAL POWER CORPORATION**

**SUPPLEMENTAL / BID BULLETIN NO. 1**

to the Bid Documents for the

**CONSTRUCTION OF POWER FACILITIES FOR THE FOUR (4) UNITS MODULAR DIESEL GENERATING SETS INCLUDING HAULING, INSTALLATION, TEST AND COMMISSIONING OF BALANCE OF PLANT IN CALUTCOT, BURDEOS QUEZON AND BUTAWANAN SIRUMA, CAMARINES SUR (PR NO. HO-PIB21-016 / PB220118-HG00516) (NP2)**

28 February 2023

All prospective bidders and authorized copy holders of the Terms of Reference of the above mentioned project are hereby advised of the changes in the provision of the bid documents, to wit:


**1. SECTION III- TECHNICAL SPECIFICATIONS:**

Please refer to the attached revised Technical Specifications provisions of the Terms of Reference consisting of eight (8) pages. (Title page, pages III-PH-i and pages VI-PH-1 to VI-PH-6).

All other terms and conditions shall remain the same.

For the information and guidance of all authorized copy holders of the Terms of Reference and prospective bidders.

For the Bids and Awards Committee:

  
**RENE B. BARRUELA**  
Vice President, CAG and  
Chairman, Bids and Awards Committee



## SECTION III

# TECHNICAL SPECIFICATIONS



SECTION III - TECHNICAL SPECIFICATIONS

**SECTION III – TECHNICAL SPECIFICATIONS**

**PROJECT HIGHLIGHTS**

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## PROJECT HIGHLIGHTS

### PH – 1.0 GENERAL

The Supply, Delivery, Installation, Test and Commissioning of Eight (8) Units Modular Diesel Generating Sets Including Balance of Plant for the Electrification of New Areas in Occidental Mindoro, Schedule II has been cancelled. The Generating Sets and equipment/ materials intended for these areas that were already purchased by the Contractor are delivered at NPC Minuyan, San Jose Del Monte Bulacan. The NPC Management has decided to pursue and implement the electrification projects in this Tender Documents for Calutcot, Burdeos Quezon, and Butawan, Siruma, Camarines Sur utilizing the Gensets and equipment that are to be delivered at NPC Minuyan.

### PH – 2.0 PROJECT LOCATION

The project is located in two (2) separate new plant sites, Brgy. Calutcot, Calutcot Is., Burdeos, Province of Quezon and Brgy. Butawan, Butawan Is., Siruma, Province of Camarines Sur.

### PH – 3.0 SCOPE OF WORK

The works and services to be performed for this undertaking shall essentially consist of, but not limited to the following:

a. Civil/Architectural Works:

1. Moving-in including furnishing, construction, operation and maintenance of general construction facilities and moving-out thereof after completion and acceptance.
2. Clearing and Grubbing;
3. Structural excavation and backfill for equipment foundations of diesel generating sets and its auxiliaries, transformers, and for all miscellaneous Balance-of-Plant (BOP) structures required;
4. Concreting works for equipment foundations of diesel generating sets and its auxiliaries, transformers and for all miscellaneous Balance-of-Plant (BOP) structures required;
5. Furnishing and installation of drainage systems and appurtenance structures, septic tank, oil water separator, open rc canal, drain pit and catch basin;
6. Fabrication and erection of structural steel supports for water storage tank and fuel oil day tank supports;

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7. Complete construction of prefab container house, hazardous waste storage and lube/fuel oil receiving area and guard post;
8. Complete construction of flagpole and perimeter lighting support foundation;
9. Complete construction/installation of perimeter fence and seclusion fence including entrance gates;
10. Furnishing and erection and install for steel pole and steel cross arms braces;
11. Laying surface gravel at the switchyard area and genset area; and
12. Supply and delivery of 4 x 30 ft. and 2 x 25 ft. Steel Pole and its associated steel crossarms, braces, etc. including excavation and backfill.
13. All other works and services required to complete the project.

b. All Mechanical Works:

The scope of work shall cover the on-site hauling, installation/erection, assistance to test and commissioning of the diesel engine-generator set and its auxiliaries including supply, installation and test of balance-of-plant, but not limited to the following:

1. Packing/crating, Transportation, Hauling, Assembling, Installation, and Assistance to Testing of all Mechanical Equipment and Systems' Auxiliaries and other accessories to be transferred including but not limited to:
  - 1.1. Two (2) sets of 50 kW Modular Diesel Gensets and its systems' auxiliaries – FOR CALUTCOT DPP;
  - 1.2. One (1) set of 50 kW and one (1) set of 30 kW Modular Diesel Gensets and its systems' auxiliaries – FOR BUTAWANAN DPP;
  - 1.3. Spare Parts for Four (4) Genset as listed in Clause MW-2.0, Item a.3 of the Mechanical Works Specifications;
2. Assistance during the conduct of test and commissioning of the diesel generating sets by NPC.
3. One (1) set of 1,000-liter fuel oil day tank per genset complete with manhole, inlet and outlet nozzles, nozzles for

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- vent, overflow, drain and level guage/switch, and structural supports;
4. One (1) lot Fuel Oil Piping System complete with valves, strainers, pipe and fittings, gaskets, flanges, bolts and nuts, pipe supports and other required accessories to complete the piping systems for the fuel oil unloading, transfer of fuel oil to day tanks, day tanks to and from diesel gensets including flowmeters (supply and return), waste water/oil from powerhouse drain pit to oil water separator including necessary excavation, backfilling and asphalt jute application to embedded pipes;
  5. One (1) lot of Well Drilling Works consisting of casing installation, well development, pumping test and disinfection;
  6. Two (2) sets of Fuel Oil Hand Pump per plant complete with accessories;
  7. One (1) set of Elevated Water Storage Tank (polyethylene) 600 liters capacity per plant complete with accessories;
  8. One (1) lot of Domestic Water Supply Piping System, including valves, pipe fittings, pipe supports, excavation and backfilling of embedded pipes and other pipe accessories including disinfection of the system;
  9. One (1) unit of Inverter/Window type Air Conditioner, 16,000 kJ/h minimum cooling capacity for control house and One (1) unit of Wall mounted Exhaust Fan for toilet, 100 m<sup>3</sup>/h minimum capacity, propeller type, direct motor driven, 220V, 60 hz, 1-phase power supply for all air conditioning and ventilation units **per plant site**, all complete with mounting accessories and controls;
  10. Two (2) sets of Portable Type Fire Extinguishers, Clean Agent (HCFC or Halotron I Type), 7.1 kg. (15.5 lbs), non-expiry, multi shots, wall-hung and UL/FM approved- **per Plant Site**;
  11. One (1) lot of various Miscellaneous Equipment and Materials as listed in Clause MW-2.0, Item b.7 and MW-10.0 of the Mechanical Works Specifications;
  12. Hydrostatic testing of field-installed piping systems under the presence of NPC;
  13. One (1) lot of Painting Materials to be applied to all equipment, pipes, steel structures, tanks, pipe supports and other incidentals;

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14. Provide Labels or Standard Plant Identification Number (SPIN) for all equipment, valves, piping and instruments supplied;
15. All other works and services including those that are not specifically detailed herein but are required to fully complete the project;

**NOTE:** Refer to Mechanical Works Technical Specifications for detailed scope of works.

c. Electrical Works:

1. Hauling, Installation and **assistance to NPC during the conduct of test and commissioning** of 2 x 50 kW (for Calutcot DPP) and 1 x 30 kW & 1 x 50 kW (for Butawananan DPP), 480V, 3-phase, 60Hz AC Generator and associated auxiliary electrical equipment including grounding material that will be transferred from NPC-Minuyan, SJDM, Bulacan;
2. Hauling, Installation and **assistance to NPC during the conduct of test and commissioning** of Generator Control and Protection Panel (GCPP) for 2 x 50 kW D/G sets (for Calutcot DPP) and 1 x 30 kW & 1 x 50 kW D/G sets (for Butawananan DPP) equipped with monitoring, metering, control, protection and synchronizing equipment/devices;
3. Supply of One (1) Spare Circuit Breaker for 50 kW D/G set (for Calutcot DPP) and for 1 x 30 kW & 1 x 50 kW D/G sets (for Butawananan DPP);
4. Hauling, Installation and **assistance to NPC during the conduct of test and commissioning** of 2 x 75 kVA (for Calutcot DPP) and 1 x 75 kVA & 1 x 37.5 kVA (for Calutcot DPP), 480V/13.8kV, 3-Phase, 60Hz Generator Transformer that will be transferred from NPC-Minuyan, SJDM, Bulacan;
5. Hauling, Installation and **assistance to NPC during the conduct of test and commissioning** of 15 kVA, 7.97kV/240V, 1-Phase, 60 Hz Station Service Transformer that will be transferred from NPC-Minuyan, SJDM, Bulacan;
6. Supply, Installation and Test of 800A, 60 Hz, 15kV, 12kA, Automatic Circuit Recloser;
7. Supply, Installation and Test of 15 kV Fuse Disconnect Switches with Lightning Arrester Combination;

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8. Supply, Installation and Test of Kilowatt-hour Demand Meter and associated Instrument Transformers and Accessories;
9. Supply, Installation and Test of Bus Conductor and Line Materials and Hardware;
10. Supply, Laying and Test of Power, Control and Instrumentation Cables including ground conductors and other appurtenances required for the interfacing of supplied equipment;
11. Supply, Installation and Test of Grounding System;
12. Supply, Installation and Test of Lightning Protection System;
13. Supply, Installation and Test of Lighting & Power System and its Accessories;
14. Supply and Installation of Conduit System;
15. Supply and Delivery of Special Tools;
16. Supply, Delivery and Test of two (2) sets of Job Site Cameras to be installed before the start of construction and/or installation of equipment; and
17. All other works and services including those not specifically detailed herein but are required to fully complete the project.

**PH – 4.0 CONTRACT PERIOD**

The contractor shall complete the works as specified within **Two Hundred Ten (210)** calendar days. The contract duration is inclusive of Fifteen (15) unworkable days considered unfavorable for the prosecution of works at the site. The total contract duration shall be reckoned from the date of contract effectivity as specified in the **Notice to Proceed**.

**PH – 5.0 CONTRACTOR'S CLASSIFICATION**

The Contractor must have a valid Philippine Contractors Accreditation Board (PCAB) license or Special PCAB License in case of Joint Ventures, and registration for the type and cost of the contract for this Project as follows: License Category of at least **"CATEGORY D – GENERAL BUILDING"** and registration classification of at least **"SMALL B – BUILDING & INDUSTRIAL PLANT"** or **"SMALL B – MECHANICAL WORKS"**

For this purpose, similar contracts shall refer to refer to projects involving construction/transfer of power facilities of Diesel Generating





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Sets or erection, installation, test and commissioning of Diesel Power Plant.

**PH – 6.0 MINIMUM REQUIRED KEY PERSONNEL**

1. **One (1) Project Engineer** - Registered Civil Engineer or Registered Mechanical Engineer or Registered Electrical Engineer who had supervised at least a project similar in nature as to the type of the proposed project within the last 10 years.
2. **One (1) Materials Engineer** - Registered Civil Engineer with valid accreditation from the Department of Public Works and Highways (DPWH) as Materials Engineer I.
3. **One (1) Safety Officer 2** - Construction Safety Officer who has completed at least forty (40) hours of Construction Safety and Health Training (COSH) from Occupational Safety and Health Center (OSHC) or Safety Training Organizations (STOs) accredited by the Department of Labor and Employment (DOLE)

Valid Professional Regulations Commission (PRC) license for professional personnel, Construction Safety and Health Training Certificate from OSHC/STOs accredited by DOLE for the Safety Officer, certificate of accreditation including ID card issued by DPWH for Materials Engineer, shall be submitted, and included as an attachment in the Standard Form NPCSF-INFR-09: List of Key Personnel Proposed to be Assign to the Contract.

The above key personnel must either be employed by the Bidder or contracted by the Bidder to be employed for the contract to be bid.

**PH – 7.0 MINIMUM REQUIRED CONSTRUCTION EQUIPMENT**  
(Owned or leased)

The works and services to be performed under this undertaking shall essentially consist of, but not limited to the following:

- |                                     |          |
|-------------------------------------|----------|
| a. Welding Machine (300 Amp)        | - 1 unit |
| b. Oxyacetylene cutting outfit      | - 1 unit |
| c. Portable Generator (300 kVA)     | - 1 unit |
| d. Bar cutter (25mm $\Phi$ capable) | - 1 unit |
| e. Concrete Vibrator (3.5HP)        | - 1 unit |
| f. Concrete Mixer (2-bagger)        | - 1 unit |
| g. Service Vehicle (4x4 pick up)    | - 1 unit |

