



## NATIONAL POWER CORPORATION

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### SUPPLEMENTAL / BID BULLETIN NO. 2 to the Bid Documents for the:

**SUPPLY, DELIVERY, INSTALLATION, TEST & COMMISSIONING OF 2 x 40KW  
(FOR ILIJAN DPP) AND 1 X 100KW (FOR CINCO RAMA DPP) MODULAR DIESEL  
GENERATING SETS AND ASSOCIATED ELECTRICAL EQUIPMENT UNDER  
PACKAGE 20-B PR No. SO-OPD21-013 / REF. NO. PB211202-HG00436 (PB2)**

**07 FEBRUARY 2022**

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All prospective bidders and authorized copy holders of the Bid Documents of the above- mentioned project are informed of the changes in:

**SEE ATTACHED REVISED FILE FOR SECTION VI, PART II – TECHNICAL DATA SHEETS, MW-MECHANICAL WORKS for the following pages:**

- p. VI-TDS(MW)-i
- p. VI-TDS(MW)-ii
- p. VI-TDS(MW)-iii
- p. VI-TDS(MW)-1
- p. VI-TDS(MW)-2
- p. VI-TDS(MW)-11
- p. VI-TDS(MW)-12

All other terms and conditions shall remain the same.

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

For the Bids and Awards Committee:

**ATTY. ROGEL T. TEVES**

Vice President, Power Engineering Services and  
Chairman, Bids and Awards Committee



**PART II – TECHNICAL DATA SHEETS  
MW – MECHANICAL WORKS  
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| M-1.0   | Diesel Engine-Generator and Associated Equipment Data Summary  | VI-TDS(MW)-1            |
| M-2.0   | Fuel Consumption Form for Diesel Engine-Generator Sets   | VI-TDS(MW)-2            |
| Annex A.1   | Letter of Authorization and Guarantee Statement either from: 1) <i>Original Equipment Manufacturer (OEM) or 2) Licensee of the OEM accompanied by a Certification from OEM as a Licensee or the Licensee Agreement or 3) Authorized Distributor/Dealer (accompanied by a Certificate of Authorized Distributorship/Dealership from the OEM/Licensee of the OEM). If from the Licensee, a Certification from the OEM as a Licensee or the Licensee agreement must also be submitted</i> ), for the following diesel generating sets:<br>a) 100 kW Prime Rated Power<br>b) 40 kW Prime Rated Power | Attachment As Annex A.1 |
| Annex A.2   | Performance Curve (duly signed with full name) issued by the Diesel Engine-Generator Set / Diesel Generating Set (Engine + AC Generator) Manufacturer/Assembler/Integrator @ Specified Reference Site Conditions for each Diesel Engine-Generator Set Model/Type being offered.  | Attachment As Annex A.2 |
| Annex A.3   | Performance Curve @ Reference Site Conditions issued by the Diesel Engine Manufacturer or Diesel Generating Set Manufacturer/Assembler/Integrator (duly signed with full name) for the Diesel Engine Model/Type being offered.   | Attachment As Annex A.3 |
| <b>DOCUMENTS TO BE SUBMITTED DURING POST QUALIFICATION BUT NOT LIMITED TO</b> |  |                         |
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| M-4.0   | Spare Parts  | VI-TDS(MW)-5            |
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| M-4.2   | Spare Parts per Unit of 40 kW Diesel Generating Set During the Warranty Period   | VI-TDS(MW)-6            |
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| <b>DOCUMENTS TO BE SUBMITTED DURING POST QUALIFICATION BUT NOT LIMITED TO</b> |  |                            |
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| M-4.0   | Spare Parts  | VI-TDS(MW)-5               |
| M-4.1   | Spare Parts per Unit of 100 kW Diesel Generating Set During the Warranty Period  | VI-TDS(MW)-5               |
| M-4.2   | Spare Parts per Unit of 40 kW Diesel Generating Set During the Warranty Period   | VI-TDS(MW)-6               |
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| <b>DOCUMENTS TO BE SUBMITTED DURING PROJECT IMPLEMENTATION BUT NOT LIMITED TO:</b> |  |  |
| M-6.0  | ISO 9001 Certificate of the Manufacturer/Assembler or equivalent for each of the Diesel Engine- Generator Set Package.   |  |
| M-7.0  | <b>Standard Certification</b> of the proposed offered model of Diesel Engine-Generator Set from any of the following internationally recognized certifying body/organization:<br>a) Canadian Standard Association (CSA)<br>b) Underwriter's Laboratories (UL)<br>c) Japanese Industrial Standards (JIS)<br>d) European Commission (CE)<br>e) Lloyd's Register (LR)<br>f) Germanischer Lloyd (GL)<br>g) Nippon Kaiji Kyokai (NKK)<br>h) American Bureau of Shipping (ABS) |  |
| M-8.0  | <b>Power Derate Curves and Details or Certificate/Statement from Diesel Engine-Generator Set/ Genset Manufacturer/Assembler/ Integrator</b> that the proposed Diesel Engine-Generator Set have no deration at Specified Reference Site Conditions.   |  |
| M-9.0  | <b>Manufacturer/Assembler/Integrator General Data, Catalogue and Brochures of model/type of equipment offered and published as standard products for the Diesel Engine-Generator Set</b> which contain the following information:<br>a) Manufacturer/Assembler<br>b) Model/Type<br>c) Prime Rated Power<br>d) Voltage<br>e) Power Factor<br>f) Frequency<br>g) Rated Speed<br>h) Arrangement & Number of Cylinders   |  |
| M-10.0   | <b>Technical Data for Engine and Auxillaries</b>   | See Attached Forms on page VI-TDS(MW)-13 |
| M-11.0   | <b>Supplier/Manufacturer/Assembler Drawings, Brochures, Instruction Manuals and other Documents</b> as specified in Clause GW-6.3 and other relevant Clauses of the Technical Specifications   |  |

**PART II – TECHNICAL DATA SHEETS**

**MW – MECHANICAL WORKS**

**DOCUMENTS TO BE SUBMITTED DURING THE BID OPENING**  
**(Sections M-1.0, M-2.0, Annexes A.1, A.2 & A.3)**

**NOTES**

1. The Bidder shall complete this technical data sheet and submit the filled-up forms with the technical proposal. The Bidder shall use additional sheets as necessary for any other additional information following the format shown herein or by reproducing the same.
2. The data required are technical features and characteristics of the Equipment to be provided by the bidder. Bidder's proposal shall at least be equal or superior to the requirements specified by NPC.
3. Deviation from the requirements indicated in the technical data sheets M-1.0, M-2.0 and non-submission of the required documents listed as Annexes A.1 and A.2 shall be ground for disqualification.
4. All data and information shall be in English language.

|              |                                    |             |
|--------------|------------------------------------|-------------|
| Name of Firm | Name & Signature of Representative | Designation |
|--------------|------------------------------------|-------------|




**M-1.0 DIESEL ENGINE-GENERATOR AND ASSOCIATED EQUIPMENT DATA SUMMARY**

| ITEM   | DESCRIPTION  | NPC REQUIREMENT  | SUPPLIER'S DATA            |
|--------|--|--|----------------------------|
| M-1.1  | Diesel Engine-Generator Set/Generating Set (DG Set) - (Prime Duty) *   | Designed, manufactured & tested in compliance with the latest version of the standards* listed below, mounted on heavy duty steel base frame with anti-vibration pads contained in a sound attenuated & weatherproof enclosure |                            |
| M-1.2  | Manufacturer/Assembler/Integrator of Diesel Engine-Generator set being offered   | By Supplier  | 100kW;<br>40kW;            |
| M-1.3  | Brand name of DG Sets Being offered  | By Supplier  | 100kW;<br>40kW;            |
| M-1.4  | Model of DG sets being offered   | By Supplier  | 100kW;<br>40kW;            |
| M-1.5  | DG Sets Manufacturer's/ Assembler's/Integrator's Experience, Year  | 5 (minimum)  | 100kW;<br>40kW;            |
| M-1.6  | DG set <b>Guaranteed Prime Rated Power</b> at Specified Reference Site Conditions* & 0.8 Power Factor, kW  | 100 (minimum)<br>80 (minimum)  | 100kW;<br>40kW;            |
| M-1.7  | D/G set <b>Guaranteed Fuel Rate at Required DG Power Output &amp; at Reference Site Conditions</b><br>100 % Rated Load, l/kW-hr  | 0.30 (maximum)<br>0.34 (maximum)   | 100kW;<br>40kW;            |
| M-1.8  | Voltage, V   | 480 (± 5%)   |                            |
| M-1.9  | Power factor   | 0.80 (min.)  |                            |
| M-1.10 | Frequency, Hz  | 60   |                            |
| M-1.11 | No. of Phases, Ø   | 3  |                            |
| M-1.12 | Rated Speed, RPM   | 1800   |                            |
| M-1.13 | Governor   | electronic   |                            |
| M-1.14 | Arrangement & Number of Cylinders  | In-line & Multi-cylinder   | 100kW;<br>40kW;            |
| M-1.15 | Maximum Sound Pressure Level @ 1-meter distance, dBA   | 85 for Modular D/G<br>(120)** Open Type D/G  | 100kW;<br>40kW;<br>40kW**; |
| M-1.16 | Maximum Permissible NOx, mg/Nm <sup>3</sup>  | 2000 as NO <sub>2</sub>  | 100kW;<br>40kW;            |
| M-1.17 | Maximum Permissible Sox, mg/Nm <sup>3</sup>  | 700 as SO <sub>2</sub>   | 100kW;<br>40kW;            |
| M-1.18 | Maximum Permissible CO, mg/Nm <sup>3</sup>   | 500 as CO  | 100kW;<br>40kW;            |
| M-1.19 | Particulates, mg/Nm <sup>3</sup>   | 200  | 100kW;<br>40kW;            |
| M-1.20 | Performance Curve (duty signed with full name) issued by the Diesel Engine-Generator Set / Diesel Generating Set (Engine + AC Generator) Manufacturer/ Assembler/Integrator @ Specified Reference Site Conditions for each Diesel Engine-Generator Set Model/Type being offered. | (To be submitted as "Annex A.2")   |                            |

**NOTES:**

- \* IEC 60034, IEC 60085, IEC60529, ISO 9001, ISO 3046 and ISO 8528
- Guaranteed Fuel Consumption which is more than the specified maximum value will be ground for rejection of the equipment being offered.
- Experience less than what is required will be ground for rejection of the equipment being offered.
- \*\* One (1) Genset for Ilijan DPP (1x40kW) shall be open type.

|                            |   |              |
|----------------------------|---|--------------|
| Name of Firm               | Name & Signature of Representative  | Designation  |
| NATIONAL POWER CORPORATION |  | VI-TDS(MW)-1 |

**M-1.0 DIESEL ENGINE-GENERATOR AND ASSOCIATED EQUIPMENT DATA SUMMARY Cont'd . . . .**

| ITEM    | DESCRIPTION  | NPC REQUIREMENT                | SUPPLIER'S DATA |
|---------|--|--------------------------------|-----------------|
| M-1.2   | Diesel Engine  |                                |                 |
| M-1.2.1 | Manufacturer   | By Supplier                    |                 |
| M-1.2.2 | Manufacturer's Experience, years   | 10                             |                 |
| M-1.2.3 | Place of Manufacture   | By Supplier                    |                 |
| M-1.2.4 | Brand Name of Diesel Engine being offered  | By Supplier                    |                 |
| M-1.2.5 | Model/Type   | By Supplier                    |                 |
| M-1.2.6 | Engine Prime Brake Power Output at Specified Reference Site Conditions, kWm or BHP   | By Supplier                    |                 |
| M-1.2.7 | Performance Curve @ Reference Site Conditions issued by the Diesel Engine Manufacturer or Diesel Generating Set Manufacturer/Assembler/Integrator (duly signed with full name) for the Diesel Engine Model/Type being offered. | (To be Submitted as Annex A.3) |                 |

**M-2.0 – FUEL CONSUMPTION FOR DIESEL ENGINE-GENERATOR SETS**

| A   | B**   | C                      | D*                                    | E  |
|---|---|------------------------|---------------------------------------|--|
| DG Set Guaranteed Prime Rated Power at Reference Site Conditions (Minimum kW) | DG Set Guaranteed Fuel Rate at Required Prime Rated Power & at Reference Site Conditions (liters/kilowatt-hour) | Cost of Fuel (PhP/ltr) | No. of operating hours per year (hrs) | 1-Year Cost of Fuel Consumption, (A x B x C x D) (PhP) |
| 100   |   | 40.40                  | 3,427                                 |  |
| 40  |   | 40.40                  | 3,427                                 |  |

**NOTES:** \* For evaluation Purposes: The estimated number of operating hours per year is based on 16 hrs/day operation, 25 days PMS, 10% Outages and assumed 70% Utilization Factor.

\*\* Write the Guaranteed Fuel Rate in three decimal places, i.e. 0.270 L/kW-hr. If Fuel Rate is indicated in more than three decimal places, only the first three decimal numbers will be considered regardless of any number written in the fourth decimal number.

\_\_\_\_\_  
 Name of Firm    Name & Signature of Representative    Designation

**PART II – TECHNICAL DATA SHEETS**

**MW – MECHANICAL WORKS**

**DOCUMENTS TO BE SUBMITTED DURING THE PROJECT IMPLEMENTATION BUT NOT LIMITED TO:**

**(Sections M-6.0 to M-11.0)**

**NOTES**

1. The Bidder shall complete this technical data sheet/documents and submit the filled-up forms during the project implementation (during contract stage). The Bidder shall use additional sheets as necessary for any other additional information following to the format shown herein or by reproducing the same.
2. The data required are technical features and characteristics of the Equipment to be provided by the bidder. Bidder's proposal shall at least be equal or superior to the requirements specified by NPC. The data provided shall be used as basis for evaluation of brochures, drawings and other documents to be submitted for review and approval during the project implementation.
3. All data and information shall be in English language.

| <b>DOCUMENTS TO BE SUBMITTED DURING PROJECT IMPLEMENTATION BUT NOT LIMITED TO:</b> |   |             |
|--|---|-------------|
| <b>SECTION</b>   | <b>DESCRIPTION</b>  | <b>PAGE</b> |
| M-6.0  | ISO 9001 Certificate of the Manufacturer/Assembler/Integrator or equivalent for the Diesel Engine- Generator Set Package.   |             |
| M-7.0  | Standard Certification of the proposed offered model of Genset from any of the following internationally recognized certifying body/organization:<br>a) Canadian Standard Association (CSA)<br>b) Underwriter's Laboratories (UL)<br>c) Japanese Industrial Standards (JIS)<br>d) European Commission (CE)<br>e) Lloyd's Register (LR)<br>f) Germanischer Lloyd (GL)<br>g) Nitppon Kaiji Kyokai (NKK)<br>h) American Bureau of Shipping (ABS) |             |
| M-8.0  | Power Derate Curves and Details or Certificate/Statement from Diesel Engine-Generator Set/Genset Manufacturer/Assembler/Integrator that the proposed Diesel Engine-Generator set have no deration at Specified Reference Site Conditions.   |             |



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|--|--|--|
| <b>SECTION</b>   | <b>DESCRIPTION</b>   | <b>PAGE</b>                              |
| M-9.0  | <b>Manufacturer's/Assembler's/Integrator's General Data, Catalogue and Brochures of model/type of equipment offered and published as standard products for the Diesel Engine-Generator Set which contain the following information:</b><br>a) Manufacturer/Assembler<br>b) Model/Type<br>c) Prime Rated Power<br>d) Voltage<br>e) Power Factor<br>f) Frequency<br>g) Rated Speed<br>h) Arrangement & Number of Cylinders |  |
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\_\_\_\_\_  
 Name of Firm                                      Name & Signature of Representative                                      Designation

