



**NATIONAL POWER CORPORATION**

**SUPPLEMENTAL / BID BULLETIN NO. 3**  
to the Bid Documents for the:

**SUPPLY, DELIVERY, INSTALLATION, TEST AND COMMISSIONING OF 4 X 50KW & 2 X 25KW MODULAR DIESEL GENSETS AND ASSOCIATED ELECTRICAL EQUIPMENT FOR HILABAAN, STA. MONICA AND TIKLING DPP UNDER PACKAGE 37 UNDER PR NO. SO-OPD22-023 / PB230822-CM00229**

**07 SEPTEMBER 2023**

All prospective bidders and authorized copy holders of the Bid Documents of the above - mentioned project are hereby advised of the changes in the Bid Documents, to wit:

**A. BID SUBMISSION / OPENING:**

FROM	TO
POSTPONED UNTIL FURTHER NOTICE	21 SEPTEMBER 2023 KAÑAO ROOM 9:30 AM

**B. SECTION VI PART II – TECHNICAL DATA SHEETS / MW – MECHANICAL WORKS**  
pages [VI – TDS(MW) 1 - 22]:

*"Please see revised pages"*

**C. SECTION VII – SCHEDULE OF REQUIREMENTS** pages [VII – BPS(MW) – 2 of HILABAAN DPP, STA. MONICA DPP, & TIKLING DPP]

*"Please see revised pages"*

**D. SECTION III – BID DATA SHEET (SINGLE LARGEST COMPLETED CONTRACT) / ITB CLAUSE 5.3:**

For this purpose, similar contracts shall refer to Supply, Delivery, Installation, Test and Commissioning or Construction of Power Facilities, Installation, Test and Commissioning of Diesel Generating Set/s with at least one (1) unit capacity of 50kW Prime or Continuous Power with Power Transformer/s of at least 75kVA rating.	For this purpose, similar contracts shall refer to Supply, Delivery, Installation, Test and Commissioning or Construction of Power Facilities, Installation, Test and Commissioning of Diesel Generating Set/s with at least one (1) unit capacity of <b>25kW</b> Prime or Continuous Power with Power Transformer/s of at least <b>30kVA</b> rating.
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**E. ADDITIONAL INFORMATION FOR SECTION III – BID DATA SHEET / ITB CLAUSE 20.1 (ADDITIONAL DOCUMENTS TO BE SUBMITTED DURING POST-QUALIFICATION):**

**Contract/Purchase Order and/or Notice of Award for the contract stated in the Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid (Form No. NPCSF-GOODS-03).**

All other terms and conditions shall remain the same.

For the information and guidance of all authorized copy holders of the Bid Documents and prospective bidders.

For the Bids and Awards Committee:



**ATTY. MELCHOR P. RIDULME**  
Vice President, Office of the Legal Counsel and  
Chairman, Bids and Awards Committee

**PART II – TECHNICAL DATA SHEETS**  
**MW – MECHANICAL WORKS**  
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<b>M-2.0</b>	<b>Diesel Engine</b>	VI-TDS(MW)-5
<b>M-3.0</b>	<b>Fuel Consumption Form for Diesel Generating Set</b>	VI-TDS(MW)-6
<b>Annex A.1</b>	<b>Letter of Authorization and Guarantee Statement either from: 1) Original Equipment Manufacturer (OEM) or 2) Licensee/Agreement from OEM as a Licensee 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), for the Diesel Generating Sets.</b>	Attachment As Annex A.1
<b>DOCUMENTS TO BE SUBMITTED DURING POST QUALIFICATION BUT NOT LIMITED TO:</b>		
<b>M-4.0</b>	<b>Spare Parts</b>	VI-TDS(MW)-8
<b>M-4.1</b>	<b>Spare Parts per Unit of 50 kW DG Set During the Warranty Period to be Supplied and Delivered each at Hilabaan &amp; Sta. Monica DPP</b>	VI-TDS(MW)-8
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<b>M-5.0</b>	<b>Standard/Special Tools</b>	VI-TDS(MW)-12
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<b>Annex A.2</b>	<b>"Diesel Generating Set (Engine + AC Generator) Performance Curve" @ Reference Site Conditions (Fuel Rate (L/kW-hr*) vs. Load) with duly signed full name of the representative of the Manufacturer/Assembler/Integrator of the Diesel Generating Set Model/Type being offered.</b>	Attachment As Annex A.2

\* Other SI or English units used for Time, Volume, Power and Energy will be acceptable.

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<b>DOCUMENTS TO BE SUBMITTED DURING POST QUALIFICATION BUT NOT LIMITED TO:</b>		
<b>Annex A.3</b>	<b>"Engine Performance Curve" @ Reference Site Conditions (Fuel Consumption (Liters/hr*) vs. Load) with duly signed full name of the representative of the Manufacturer/Assembler/Integrator of the DG Set/Diesel Engine Model/Type being offered.</b>	<b>Attachment As Annex A.3</b>
<b>DOCUMENTS TO BE SUBMITTED DURING PROJECT IMPLEMENTATION BUT NOT LIMITED TO:</b>		
<b>M-6.0</b>	<b>ISO 9001 Certificate of the Manufacturer/Assembler/Integrator or equivalent for each of the Diesel Generating Set</b>	
<b>M-7.0</b>	<b>Standard Certification of the proposed offered model of Diesel Generating Set from any of the following internationally recognized certifying body/organization:</b>  a. Canadian Standard Association (CSA) b. Underwriter's Laboratories (UL) c. Japanese Industrial Standards (JIS) d. European Commission (CE) e. Lloyd's Register (LR) f. Germanischer Lloyd (GL) g. Nippon Kaiji Kyokai (NKK) h. American Bureau of Shipping (ABS)	
<b>M-8.0</b>	<b>Power Derate Curves and Details or Certificate/Statement from Diesel Generating Set's Manufacturer/Assembler/Integrator that the proposed Diesel Engine-Generator Set have no deration at Reference Site Conditions.</b>	
<b>M-9.0</b>	<b>Manufacturer/Assembler/Integrator's General Data, Catalogue and Brochures of model/type of equipment offered and published as standard products for the Diesel Generating Set which contain the following information:</b>  a. Manufacturer/Assembler b. Model/Type c. Prime Rated Power d. Voltage e. Power Factor f. Frequency g. Rated Speed h. Arrangement and Number of Cylinders	
<b>M-10.0</b>	<b>Technical Data for Engine and Auxiliaries See Attached Forms</b>	<b>TDS(MW)-17</b>
<b>M-11.0</b>	<b>Supplier/Manufacturer/Assembler Drawings, Brochures, Instruction Manuals and other Documents as specified in Clause GW-6.3 and other relevant Clauses of the Technical Specifications</b>	
<b>M-12.0</b>	<b>Photos of nameplates (DG Set, Engine and Alternator) – Submit 5 months prior to Test &amp; Commissioning</b>	
<b>M-13.0</b>	<b>Serial Nos. of DG set, Engine and Alternator – Submit 5 months prior to Test &amp; Commissioning</b>	

\* Other SI or English units used for Time, Volume, Power and Energy will be acceptable.


**PART II – TECHNICAL DATA SHEETS**

**MW – MECHANICAL WORKS**

**DOCUMENTS TO BE SUBMITTED DURING THE BID OPENING**  
**(Sections M-1.0, M-2.0, M-3.0 Annexes A.1)**

**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, M-3.0 and non-submission of the required documents listed as Annexes A.1 shall be ground for disqualification.
4. All data and information shall be in English language.

Name of Firm	Name & Signature of Representative	Designation
NATIONAL POWER CORPORATION		VI-TDS(MW)-3

**M-1.0 DIESEL GENERATING (DG) SET AND ASSOCIATED EQUIPMENT DATA SUMMARY**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
M-1.1	DG Set (Diesel Engine + AC Generator) – PRIME DUTY *	Designed, manufactured & tested in compliance with the latest version of the standards* listed below, mounted on heavy duty steel baseframe with anti-vibration pads contained in a sound attenuated & weatherproof enclosure	
M-1.1.1	Manufacturer/Assembler/Integrator of DG Set being offered	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-1.1.2	Brand Name of DG Set being offered	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-1.1.3	Model of DG Set being offered	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-1.1.4	DG Set Manufacturer/Assembler/Integrator Experience, Year	5 (Minimum)	<u>50kW:</u> <u>25kW:</u>
M-1.1.5	DG Set Guaranteed Prime Rated Power at Reference Site Conditions* & 0.8 Power Factor, kW	50 (min.) & 25 (min.)	<u>50kW:</u> <u>25kW:</u>
M-1.1.6	D/G set Guaranteed Fuel Rate at Required D/G Set Prime Power Output and at Reference Site Conditions*, 100 % Rated Load, li/kW-hr	<u>50 kW:</u> 0.34 (maximum) <u>25 kW:</u> 0.38 (maximum)	<u>50kW:</u> <u>25kW:</u>
M-1.1.7	Voltage, V	<u>50 kW:</u> 480 (± 5%) <u>25 kW:</u> 240 (± 5%)	<u>50kW:</u> <u>25kW:</u>
M-1.1.8	Power factor	0.80 (min.)	
M-1.1.9	Frequency, Hz	60	
M-1.1.10	No. of Phases, Ø	<u>50 kW:</u> 3 <u>25 kW:</u> 1	<u>50kW:</u> <u>25kW:</u>
M-1.1.11	Rated Speed, RPM	1800	
M-1.1.12	Governor	Electronic	
M-1.1.13	Arrangement & Number of Cylinders	In-line & Multi-cylinder	
M-1.1.14	Maximum Sound Pressure Level @ 1-meter distance, dBA	85	<u>50kW:</u> <u>25kW:</u>
M-1.1.15	Maximum Permissible NOx, mg/Nm <sup>3</sup>	2000 as NO <sub>2</sub>	<u>50kW:</u> <u>25kW:</u>

- NOTES:**
- \* IEC 60034, IEC 60085, IEC60529, ISO 9001, ISO 8528 and ISO 3046
  - 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.

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



**M-1.0 DIESEL GENERATING (DG) SET AND ASSOCIATED EQUIPMENT DATA SUMMARY (Cont'd...)**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
M-1.1.16	Maximum Permissible Sox, mg/Nm <sup>3</sup>	700 as SO <sub>2</sub>	50kW: 25kW:
M-1.1.17	Maximum Permissible CO, mg/Nm <sup>3</sup>	500 as CO	50kW: 25kW:
M-1.1.18	Particulates, mg/Nm <sup>3</sup>	200	50kW: 25kW:
M-1.1.19	Factory Acceptance test	Yes	

**M-2.0 DIESEL ENGINE**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
<b>M-2.1</b>	<b>DIESEL ENGINE</b>		
M-2.1.1	1. Manufacturer	By Supplier	50kW: 25kW:
	2. Manufacturer's Experience, yr.	10	50kW: 25kW:
M-2.1.2	Place of Manufacture	By Supplier	50kW: 25kW:
M-2.1.3	Model/Type	By Supplier	50kW: 25kW:
M-2.1.4	Engine Prime Rated Brake Power at Reference Site Conditions, kWm or BHP	By Supplier	50kW: 25kW:
M-2.1.5	Number of Cylinders	By Supplier	50kW: 25kW:
M-2.1.6	Bore and Stroke, mm	By Supplier	50kW: 25kW:
M-2.1.7	Piston Displacement, L	By Supplier	50kW: 25kW:
M-2.1.8	Piston Speed, m/s	By Supplier	50kW: 25kW:
M-2.1.9	Engine Mean Effective Pressure, kg/cm <sup>2</sup>	By Supplier	50kW: 25kW:
M-2.1.10	Compression Ratio	By Supplier	50kW: 25kW:
M-2.1.11	Overall Dimension of Complete Unit, L x W x H, m	By Supplier	50kW: 25kW:
M-2.1.12	Maximum Weight of Diesel Engine Generator Set on Skid, kg	By Supplier	50kW: 25kW:
M-2.1.13	Heat Dissipation including (Generating set), kJ/hr	By Supplier	50kW: 25kW:

Name of Firm

Name & Signature of Representative

Designation




**M-3.0 – FUEL CONSUMPTION FOR DIESEL GENERATING (DG) SET**

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)
50		75.55	3,427	
25		75.55	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
NATIONAL POWER CORPORATION		VI-TDS(MW)-6



**PART II – TECHNICAL DATA SHEETS**

**MW – MECHANICAL WORKS**

**DOCUMENTS TO BE SUBMITTED DURING POST-QUALIFICATION  
BUT NOT LIMITED TO:**

**(Sections M-4.0 to M-5.3)**

**NOTES**

1. The Bidder shall complete this technical data sheet and submit the filled-up forms during the post-qualification which shall only serve as reference for the review and approval of brochure/drawings during implementation stage. 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 which shall at least be equal or superior to the requirements specified by NPC.
3. The lists of Spares and Tools (Items M-4.1 to M-5.3) are preliminary and subject to changes to conform with the final design and model/brand of the proposed equipment (per manufacturer's standard).

The Bidder shall indicate "N/A" to the respective items in the said lists (Items M-4.1 to M-5.3) if found not applicable to the brand/model of the proposed equipment. However, NPC reserves the right to request the Supplier to provide the same or its equivalent if it is determined as "deemed necessary or standard tool/inherent part or optional item" during the evaluation, checking and review/approval of the final lists to be submitted by the Supplier during the Contract Stage at no cost to NPC.

4. Non submission of the above documents including documents listed as Annexes A.2 and A.3 shall be a ground for disqualifications.

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Name of Firm	Name & Signature of Representative	Designation
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**M-4.0 SPARE PARTS**

**M-4.1 SPARE PARTS PER UNIT OF 50 KW DG SET DURING THE WARRANTY PERIOD TO BE SUPPLIED AND DELIVERED EACH AT HILABAAN DPP & STA. MONICA DPP (Minimum Requirements as Specified in the Technical Specifications and Manufacturer’s Standard and Recommended Spare Parts) \***

ITEM	DESCRIPTION	PART NO.	MINIMUM QTY.**	SUPPLIER'S DATA
M-4.1a	Air Filter Element		6 pcs/size	
M-4.1b	Lube Oil Filter Element		30 pcs/size	
M-4.1c	Fuel Filter Element		15 pcs/size	
M-4.1d	Water Filter Element		6 pcs/size	
M-4.1e	Fan Belt		3 pcs/size	
M-4.1f	Alternator Belt		3 pcs/size	
M-4.1g	Coolant		4 gallons	
M-4.1h	Expected spares to be consumed during the performance test		1 lot	
M-4.1i	Other spare parts recommended by Manufacturer		1 lot	
M-4.1i.1				
M-4.1i.2				
M-4.1i.3				
M-4.1i.4				
M-4.1i.5				
M-4.1i.6				
M-4.1i.7				
M-4.1i.8				
M-4.1i.9				
M-4.1i.10				

**NOTES:**

\* *The above list is preliminary which is subject to changes to conform with the final design and model/brand of the proposed equipment (per manufacturer's standard). Refer also to NOTE #3 of page VI-TDS (MW)-7.*

\*\* *Quantities may be increased depending on manufacturer's required replacement intervals.*

Name of Firm	Name & Signature of Representative	Designation




**M-4.2 SPARE PARTS PER UNIT OF 25 KW DG SET DURING THE WARRANTY PERIOD TO BE SUPPLIED AND DELIVERED AT TIKLING DPP (Minimum Requirements as Specified in the Technical Specifications and Manufacturer's Standard and Recommended Spare Parts) \***

ITEM	DESCRIPTION	PART NO.	MINIMUM QTY.**	SUPPLIER'S DATA
M-4.2a	Air Filter Element		6 pcs/size	
M-4.2b	Lube Oil Filter Element		30 pcs/size	
M-4.2c	Fuel Filter Element		15 pcs/size	
M-4.2d	Water Filter Element		6 pcs/size	
M-4.2e	Fan Belt		3 pcs/size	
M-4.2f	Alternator Belt		3 pcs/size	
M-4.2g	Coolant		4 gallons	
M-4.2h	Expected spares to be consumed during the performance test		1 lot	
M-4.2i	Other spare parts recommended by Manufacturer		1 lot	
M-4.2i.1				
M-4.2i.2				
M-4.2i.3				
M-4.2i.4				
M-4.2i.5				
M-4.2i.6				
M-4.2i.7				
M-4.2i.8				
M-4.2i.9				
M-4.2i.10				

**NOTES:**

\* *The above list is preliminary which is subject to changes to conform with the final design and model/brand of the proposed equipment (per manufacturer's standard). Refer also to NOTE #3 of page VI-TDS (MW)-7.*

\*\* *Quantities may be increased depending on manufacturer's required replacement intervals.*

Name of Firm	Name & Signature of Representative	Designation
NATIONAL POWER CORPORATION		VI-TDS(MW)-9


**M-4.3 SPARE PARTS PER TOTAL UNITS OF 50 KW DG SET SUPPLIED AND DELIVERED EACH AT HILABAAN DPP AND STA. MONICA DPP \***

ITEM	DESCRIPTION	PART NO.	MINIMUM QUANTITY**	SUPPLIER'S DATA
M-4.3a	Fuel Injector Assembly		2 pcs	
M-4.3b	Top Overhauling Kit		1 set	
M-4.3c	Actuator		1 set	
M-4.3d	Jacket Water Pump Repair Kit		1 set	
M-4.3e	Lube Oil Pump Repair Kit		1 set	
M-4.3f	Fan Adaptor & Accessories including Bearings		2 sets	
M-4.3g	Rocker Gear Cover Gasket		12 pcs	
M-4.3h	Thermostat		1 set	
M-4.3i	Lube Oil Pump Switch		1 set	
M-4.3j	Hot Water Temp. Switch		1 set	
M-4.3k	Turbocharger Repair Kit		1 set	
M-4.3l	Exhaust Manifold Bellow		1 set	
M-4.3m	Magnetic Pick-up		1 pc	
M-4.3n	Other spare parts recommended by Manufacturer		1 Lot	
M-4.3n.1				
M-4.3n.2				
M-4.3n.3				
M-4.3n.4				
M-4.3n.5				

**NOTES:**

\* *The list is preliminary which is subject to changes to conform with the final design and model/brand of the proposed equipment (per manufacturer's standard). Refer also to NOTE #3 of page VI-TDS (MW)-7.*

\*\* *Quantities may be increased depending on manufacturer's required replacement intervals.*

Name of Firm	Name & Signature of Representative	Designation
NATIONAL POWER CORPORATION		VI-TDS(MW)-10

**M-4.4 SPARE PARTS PER TOTAL UNITS OF 25 KW DG SET SUPPLIED AND DELIVERED AT TIKLING DPP \***

ITEM	DESCRIPTION	PART NO.	MINIMUM QUANTITY**	SUPPLIER'S DATA
M-4.4a	Fuel Injector Assembly		2 pcs	
M-4.4b	Top Overhauling Kit		1 set	
M-4.4c	Actuator		1 set	
M-4.4d	Jacket Water Pump Repair Kit		1 set	
M-4.4e	Lube Oil Pump Repair Kit		1 set	
M-4.4f	Fan Adaptor & Accessories including Bearings		2 sets	
M-4.4g	Rocker Gear Cover Gasket		12 pcs	
M-4.4h	Thermostat		1 set	
M-4.4i	Lube Oil Pump Switch		1 set	
M-4.4j	Hot Water Temp. Switch		1 set	
M-4.4k	Turbocharger Repair Kit		1 set	
M-4.4l	Exhaust Manifold Bellow		1 set	
M-4.4m	Magnetic Pick-up		1 pc	
M-4.4n	Other spare parts recommended by Manufacturer		1 Lot	
M-4.4n.1				
M-4.4n.2				
M-4.4n.3				
M-4.4n.4				
M-4.4n.5				

**NOTES:**

\* *The list is preliminary which is subject to changes to conform with the final design and model/brand of the proposed equipment (per manufacturer's standard). Refer also to NOTE #3 of page VI-TDS (MW)-7.*

\*\* *Quantities may be increased depending on manufacturer's required replacement intervals.*

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Name of Firm    Name & Signature of Representative    Designation




**M-5.0 STANDARD/SPECIAL TOOLS**

**M-5.1 STANDARD/SPECIAL TOOLS PER TOTAL UNITS OF GENERATING SETS SUPPLIED AND DELIVERED AT HILABAAN DPP (Minimum Requirements as Specified in the Technical Specifications and Manufacturer’s Standard/Recommended Tools)<sup>+</sup>**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER’S DATA
M-5.1a	Portable computer (Minimum of Intel I7 Processor, 16GB (1x16GB) DDR4 2666 MHZ, 256 GB PCIe NVMe SSD +1TB SATA 5400RPM 2.5" Inch, 13"-15.6" screen size & with the latest pre-installed windows operating system compatible with manufacturer’s/or Supplier’s software) needed in programming the genset control setting (complete with licensed CD-ROM drive dongles of genset control system) and electronic/digital governing system including other digital components that require exclusive programs from the Manufacturer and/or Supplier with free update throughout the operating life of the genset	1 set	
M-5.1b	Other tools recommended by the Manufacturer	1 lot	


**NOTES: +** *Minimum requirements but the Supplier shall provide/include in the list all the necessary/standard tools required in the performance of normal maintenance and overhaul. The above list is preliminary which is subject to changes to conform with the final design and model/brand of the proposed equipment (per manufacturer’s standard). Refer also to NOTE #3 of page VI-TDS (MW)-7.*

Name of Firm	Name & Signature of Representative	Designation
NATIONAL POWER CORPORATION		VI-TDS(MW)-12

**M-5.2 STANDARD/SPECIAL TOOLS PER TOTAL UNITS OF GENERATING SETS SUPPLIED AND DELIVERED AT STA. MONICA DPP (Minimum Requirements as Specified in the Technical Specifications and Manufacturer's Standard/Recommended Tools)<sup>+</sup>**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
M-5.2a	Portable computer (Minimum of Intel I7 Processor, 16GB (1x16GB) DDR4 2666 MHZ, 256 GB PCIe NVMe SSD +1TB SATA 5400RPM 2.5" Inch, 13"-15.6" screen size & with the latest pre-installed windows operating system compatible with manufacturer's/or Supplier's software) needed in programming the genset control setting (complete with licensed CD-ROM drive dongles of genset control system) and electronic/digital governing system including other digital components that require exclusive programs from the Manufacturer and/or Supplier with free update throughout the operating life of the genset	1 set	
M-5.2b	Other tools recommended by the Manufacturer	1 lot	


**NOTES: +** Minimum requirements but the Supplier shall provide/include in the list all the necessary/standard tools required in the performance of normal maintenance and overhaul. The above list is preliminary which is subject to changes to conform with the final design and model/brand of the proposed equipment (per manufacturer's standard). Refer also to NOTE #3 of page VI-TDS (MW)-7.

Name of Firm	Name & Signature of Representative	Designation
NATIONAL POWER CORPORATION		VI-TDS(MW)-13

**M-5.3 STANDARD/SPECIAL TOOLS PER TOTAL UNITS OF GENERATING SETS SUPPLIED AND DELIVERED AT TIKLING DPP (Minimum Requirements as Specified in the Technical Specifications and Manufacturer's Standard/Recommended Tools)<sup>+</sup>**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
M-5.3a	Portable computer (Minimum of Intel I7 Processor, 16GB (1x16GB) DDR4 2666 MHZ, 256 GB PCIe NVMe SSD +1TB SATA 5400RPM 2.5" Inch, 13"-15.6" screen size & with the latest pre-installed windows operating system compatible with manufacturer's/or Supplier's software) needed in programming the genset control setting (complete with licensed CD-ROM drive dongles of genset control system) and electronic/digital governing system including other digital components that require exclusive programs from the Manufacturer and/or Supplier with free update throughout the operating life of the genset	1 set	
M-5.2b	Other tools recommended by the Manufacturer	1 lot	

**NOTES: +** Minimum requirements but the Supplier shall provide/include in the list all the necessary/standard tools required in the performance of normal maintenance and overhaul. The above list is preliminary which is subject to changes to conform with the final design and model/brand of the proposed equipment (per manufacturer's standard). Refer also to NOTE #3 of page VI-TDS (MW)-7.

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NATIONAL POWER CORPORATION		VI-TDS(MW)-14



**PART II – TECHNICAL DATA SHEETS**

**MW – MECHANICAL WORKS**

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

**(Sections M-6.0, M-7.0, M-8.0, M-9.0, M-10.0 & 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 each of the Diesel Generating Set	
M-7.0	Standard Certification of the proposed offered model Diesel Generating Set from any of the following internationally recognized certifying body/organization: a) Canadian Standard Association (CSA) b) Underwriter's Laboratories (UL) c) Japanese Industrial Standards (JIS) d) European Commission (CE) e) Lloyd's Register (LR) f) Germanischer Lloyd (GL) g) Nippon Kaiji Kyokai (NKK) h) American Bureau of Shipping (ABS)	

Cont'd.....

<b>DOCUMENTS TO BE SUBMITTED DURING PROJECT IMPLEMENTATION BUT NOT LIMITED TO: (CONT'D.....)</b>		
<b>SECTION</b>	<b>DESCRIPTION</b>	<b>PAGE</b>
M-8.0	<b>Power Derate Curves and Details or Certificate/Statement from Diesel Generating Set Manufacturer/Assembler/ Integrator</b> that the proposed Diesel Engine-Generator Set have no deration at Reference Site Conditions.	
M-9.0	<b>Manufacturer/Assembler/Integrator's General Data, Catalogue and Brochures of model/type of equipment</b> offered and published as standard products for the Diesel Generating Set which contain the following information: a) Manufacturer/Assembler b) Model/Type c) Prime Rated Power d) Voltage e) Power Factor f) Frequency g) Rated Speed h) Arrangement & Number of Cylinders	
M-10.0	<b>Technical Data for Engine and Auxiliaries</b>	See Attached Forms on page VI-TDS(MW)-19
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	
M-12.0	<b>Photos of nameplates (DG Set, Engine and Alternator) – Submit 5 months prior to Test &amp; Commissioning</b>	
M-13.0	<b>Serial Nos. of DG set, Engine and Alternator – Submit 5 months prior to Test &amp; Commissioning</b>	

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**M-10.0 DIESEL ENGINE**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
<b>M-10.1</b>	<b>DIESEL ENGINE</b>		
M-10.1.1	<b>Fuel Rate at Required Prime Rated Power and Reference Site Conditions DG Set</b>		
	75 % Rated Load, li/kW-hr	By Supplier	<u>50kW:</u> <u>25kW:</u>
	50 % Rated Load, li/kW-hr	By Supplier	<u>50kW:</u> <u>25kW:</u>
	25 % Rated Load, li/kW-hr	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.1.2	Number of Strokes	4	<u>50kW:</u> <u>25kW:</u>
M-10.1.3	Rotating Direction (Viewed from Flywheel Side)	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.1.4	Required Time from Starting Signal to Rated Speed, min.	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.1.5	Maximum Time from "Cold Condition" to Rated Speed w/ Load and w/o AC power available for motor-driven auxiliaries, min.	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.1.6	Heaviest part of D/G set for maintenance, kg	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.1.7	Idling Speed Recommended, RPM	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.1.8	Duration of Idling (max.), min.	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.1.9	Minimum Load @ Normal Speed, kW	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.1.10	Maximum Load @ Normal Speed, kW	By Supplier	<u>50kW:</u> <u>25kW:</u>

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**M-10.0 DIESEL ENGINE (Cont'd.....)**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA										
M-10.1.11	Engine Heat Dissipation, kJ/hr	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.1.12	Engine Mechanical Efficiency, $\eta_m$	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.1.13	Numerical Values for Power Adjustment Parameters (Exponents) for high speed per Table 2 of ISO 3046,	By Supplier	<table border="0"> <tr> <td><u>50 kW:</u></td> <td><u>25kW:</u></td> </tr> <tr> <td>a=</td> <td>a=</td> </tr> <tr> <td>m=</td> <td>m=</td> </tr> <tr> <td>n=</td> <td>n=</td> </tr> <tr> <td>s=</td> <td>s=</td> </tr> </table>	<u>50 kW:</u>	<u>25kW:</u>	a=	a=	m=	m=	n=	n=	s=	s=
<u>50 kW:</u>	<u>25kW:</u>												
a=	a=												
m=	m=												
n=	n=												
s=	s=												
M-10.1.14	Expected Useful Life of Unit @ Prime Rated Power Load, Yrs.	10											
M-10.1.15	Factory Acceptance Test	Yes											
<b>M-10.2 LUBRICATING OIL SYSTEM</b>													
M-10.2.1	Total Lube Oil System Capacity, liters	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.2.2	Lube Oil Consumption of the Engine, g/kWhr	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.2.3	Lube Oil Pump Capacity, m <sup>3</sup> /hr	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.2.4	Lube Oil Filter Mesh, microns	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.2.5	Lube Oil Filter Type & Capacity,	Spin-On Full Flow											
M-10.2.6	Lube Oil Priming Pump Capacity, if applicable, m <sup>3</sup> /hr	By Supplier											
<b>M-10.3 STARTING SYSTEM</b>													
M-10.3.1	Battery Capacity, AH	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.3.2	Starting Voltage, V	24 or 12											
M-10.3.3	Starting Motor Rating, HP	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.3.4	Full Load Cranking Current, A	By Supplier	<u>50kW:</u> <u>25kW:</u>										
M-10.3.5	Battery Charging Type,	By Supplier											
M-10.3.6	Battery Charger Charging rate	By Supplier											
M-10.3.7	Time of Cranking, sec	30											

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**M-10.0 DIESEL ENGINE (Cont'd.....)**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
<b>M-10.4</b>	<b>EXHAUST SYSTEM</b>		
M-10.4.1	Exhaust Gas Flow, m <sup>3</sup> /hr	By Supplier	50kW: 25kW:
M-10.4.2	Exhaust Gas Temperature, °C	By Supplier	50kW: 25kW:
M-10.4.3	Maximum Allowable Back Pressure, mmH <sub>2</sub> O	By Supplier	50kW: 25kW:
M-10.4.4	Exhaust Pipe (nom. Diameter x length x weight), mm x mm x kg	By Supplier	50kW: 25kW:
M-10.4.5	Silencer (nom. Diameter x length x weight), mm x mm x kg	By Supplier	50kW: 25kW:
M-10.4.6	Exhaust Pipe Material, ASTM	A 106 or as required	
M-10.4.7	Silencer Material, ASTM	A 106 or as required	
<b>M-10.5</b>	<b>INTAKE AIR SYSTEM</b>		
M-10.5.1	Air Intake Valve (Free Air), m <sup>3</sup> /hr	By Supplier	50kW: 25kW:
M-10.5.2	Air Filter Type	By Supplier	
M-10.5.3	Turbocharger Type	By Supplier	
M-10.5.4	Turbocharger RPM	By Supplier	50kW: 25kW:
M-10.5.5	Charge Air Cooler Type	By Supplier	50kW: 25kW:
<b>M-10.6</b>	<b>COOLING SYSTEM</b> (Coolant for Initial filling shall be provided by Supplier per Engine).		
M-10.6.1	Total Cooling Water Capacity, Liters	By Supplier	50kW: 25kW:
M-10.6.2	Cooling Water Pump Capacity, m <sup>3</sup> /hr	By Supplier	50kW: 25kW:
M-10.6.3	Jacket Water Pump Capacity, m <sup>3</sup> /hr	By Supplier	50kW: 25kW:
M-10.6.4	Radiator Fan Air Flow, m <sup>3</sup> /hr	By Supplier	50kW: 25kW:
M-10.6.5	Core Material	Aluminum	
M-10.6.6	Radiated Heat to Ambient, kW/hr	By Supplier	50kW: 25kW:

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**M-10.0 DIESEL ENGINE (Cont'd.....)**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
M-10.6.7	Expansion Tank Capacity and Elevation, if applicable, liters and m.	By Supplier	
M-10.6.8	Radiator Dimensions (l x w x h), m x m x m	By Supplier	
M-10.6.9	Recommended cooling water properties such as ph, hardness, TDS, etc., ASTM		
	PH Value, ppm	By Supplier	
	Total Hardness	By Supplier	
	TDS, ppm	By Supplier	
	Chloride	By Supplier	
	Sulfate, ppm	By Supplier	
	Silica, mg/l	By Supplier	
	Iron, ppm	By Supplier	
	Conductivity, uS/cm	By Supplier	
<b>M-10.7</b>	<b>FUEL SYSTEM</b>		
M-10.7.1	Fuel Feed Pump Capacity, m <sup>3</sup> /hr	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.7.2	Discharge Head of Feed Pump, m	By Supplier	<u>50kW:</u> <u>25kW:</u>
M-10.7.3	Fuel Filter Type and Mesh, microns	Spin-On Full Flow	
M-10.7.4	Injection Nozzle Type	By Supplier	
M-10.7.5	Fuel Day Tank Capacity, m <sup>3</sup>	1	
M-10.7.6	Fuel Day Tank Type (Elevated)	Rectangular or Approved Shape	
M-10.7.7	Fuel Tank Dimensions (W x L x H), m x m x m	Per Drawings	
M-10.7.8	Fuel Tank Plate Material, ASTM	A 36	
M-10.7.9	Fuel Tank Shell Thickness, mm	5	
M-10.7.10	Structural Steel Supports	Included	

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**M-10.0 DIESEL ENGINE (Cont'd.....)**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
M-10.8	<b>ENCLOSURE (Weatherproof)</b>		
M-10.8.1	Manufacturer	By Supplier	
M-10.8.2	Max. Sound Pressure Level @ 1-m distance, dBA	85	
M-10.8.3	Dimensions (L x W x H), m x m x m	By Supplier	
M-10.8.4	Enclosure Walls Thickness, mm	2 minimum	
M-10.8.5	Enclosure Roof Thickness, mm	2 minimum	
M-10.8.6	Enclosure Material, ASTM	A 36	
M-10.8.7	Hinges Material	Stainless Steel	
M-10.8.8	Insulation Materials	Oil-water resistant and fire retardant insulation and sound attenuating material	
M-10.8.9	Total Weight (DG set, Auxiliaries & Enclosure), kg	By Supplier	

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SECTION VI – TECHNICAL SPECIFICATIONS

**M-10.0 DIESEL ENGINE (Cont'd.....)**

ITEM	DESCRIPTION	NPC REQUIREMENT	SUPPLIER'S DATA
<b>M-10.9</b>	<b>ENGINE METERING AND INDICATION</b>		
M-10.9.1	RPM Meter (RPM) *	Included	
M-10.9.2	Hours Run Counter (hours) *	Included	
M-10.9.3	Oil Pressure (kg/cm <sup>2</sup> )*	Included	
M-10.9.4	Oil Temperature (°C) *	Included	
M-10.9.5	Cooling Water Temp. (°C) *	Included	
M-10.9.6	Cylinders Exhaust Gas Temperature (°C)	Optional	
M-10.9.7	Battery Voltage (V)	Included	
M-10.9.8	Ready to Start	Included	
M-10.9.9	Remote Control Position Indication	Included	
<b>M-10.10</b>	<b>ENGINE PROTECTION AND ALARM</b>		
M-10.10.1	Engine Overspeed	Included	
M-10.10.2	Lube Oil Pressure Low	Included	
M-10.10.3	Lube Oil Temperature High	Included	
M-10.10.4	Cooling Water Temp. High	Included	
M-10.10.5	Cooling Water Temp. Low	Optional	
M-10.10.6	Fuel Day Tank Level High	Included	
M-10.10.7	Fuel Day Tank Level Low	Included	
M-10.10.8	Battery Voltage High	Included	
M-10.10.9	Battery Voltage Low	Included	
M-10.10.10	Failure to Crank	Included	
M-10.10.11	Overcrank	Included	
M-10.10.12	Annunciator Window with Common Audio alarm	Included	
<b>M-10.11</b>	<b>HUMAN MACHINE INTERFACE CONTROL</b>		
M-10.11.1	Manual Start/Stop *	Included	
M-10.11.2	Auto/Remote Start	Included	
M-10.11.3	Test Run Auto	Included	
M-10.11.4	Emergency Stop *	Included	
M-10.11.5	Alpha/Numeric Screen	Included	
M-10.11.6	Discrete Status Indicators	Included	
M-10.11.7	Fault Reset	Included	

**NOTE:** \* These monitoring/control points shall also be provided at DG set Enclosure-mounted panel with viewing window

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SECTION VII - SCHEDULE OF REQUIREMENTS  
 BPS.2 - Breakdown of Prices  
 (BID PRICE SCHEDULE)  
 2 X 50 KW HILABAAN DIESEL POWER PLANT

SUPPLY, DELIVERY, INSTALLATION, TEST AND COMMISSIONING OF 400 KW & 205 KW MODULAR DIESEL GENERATING SETS AND ASSOCIATED ELECTRICAL EQUIPMENT FOR HILABAAN, STA. MONICA AND TILDING DRPP UNDER PACKAGE 37

Item No.	Description of Work or Materials	UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED FROM ABROAD										UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED FROM WITHIN THE PHILIPPINES	TOTAL PRICE		
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)				
				QTY. - UNIT											

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)						
D.1	OTHER ELECTRICAL WORKS	Generator Panel complete with the required metering, monitoring, control and protection devices, synchronization, circuit breaker, grounding materials as described in the Technical Specifications, Technical Data Sheet and as shown on the Bid Drawing including installation	2 Sets												
D.2		Fuse Disconnect Switch with Lighting Arrestor Combination complete with the required bus link, brackets and accessories in accordance with the Technical Specifications, Technical Data Sheet and as shown on the Bid Drawing including installation works	1 Lot												
D.3		Power, Control & Information Cables complete with the required accessories for cabling works in accordance with the Technical Specifications, Technical Data Sheet and as shown on the Bid Drawing including installation works	1 Lot												
D.4		Electrical Control System complete with the required fittings and other accessories for cabling works as described in the Technical Specifications and Technical Data Sheet as shown on the Bid Drawing including installation works	1 Lot												
D.5		Take-Off Structure complete with the required steel pole, cross arms, braces, bus conductor, line material hardware, termination kit and other accessories as described in Technical Specifications, Technical Data Sheet and as shown on the Bid Drawing including installation works	1 Lot												
D.6		Grounding System complete with the required grounding grid conductor, equipment bonding riser, electrostatic working mats, test pit, ground rods and other accessories as described in the Technical Specifications and Technical Data Sheet as shown on the Bid Drawing including installation works	1 Lot												
D.7		Luminaire including power cables and other fittings for the New Hazardous Waste Storage Facility as described in Technical Specifications and as shown on the Bid Drawing including installation works	1 Lot												

PRICE OF THIS ITEM SHALL BE INCLUDED IN ITEMS A.1 ABOVE

SUB-TOTAL D		(Amount in Words)													
E.1	Site Development														
E.1.1	Earth Works														
E.1.2	Drainage System/Appurtenances														
E.1.2.1	150mm Gravel Surtopping (Generator Sit Area)														
E.1.2.2	Drain Pipe														
E.1.2.3	Drain Pipe														
E.2	Design and Construct (including anchor bolts and other relevant accessories shown in the Bid Drawing)														
E.2.1	Concrete Foundation for Generator Transformer (drawing)														
E.2.2	Concrete Foundation for 2x50 KW Generators including drain ditch and all other relevant items shown in the Bid Drawing														
E.3	Hazardous Waste Storage Facility (2.2mx1.7m)														
E.3.1	Other Structures and Facilities														
E.3.2	Hazardous Waste Storage Facility (2.2mx1.7m)														
E.3.3	Guard Post (1.5mx1.5m)														
E.3.4	Day Tank Support														
E.3.5	150mm Zocalo Wall for General Area														

SUB-TOTAL E		(Amount in Words)													
F.1	Final delivery use of all equipment/materials shall be at the bid site and score														
F.2	There is a discrepancy on the manufacturer/subcontractor between or among the technical provision and Schedule of Requirements (SOR), SOF and final award														
F.3	Bidder shall enter a code representing the Country of Origin of all imported equipment, materials and accessories														
F.4	Cost of equipment, freight, insurance, set-up to Phil port of entry, Pallet to ITB														
F.5	Unit Price for Local Transportation, Insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site														

Country of Origin	Code

Name of Firm	Name and Signature of Authorized Representative	Designation

SECTION VI - SCHEDULE OF REQUIREMENTS

**SECTION VII - SCHEDULE OF REQUIREMENTS  
(BID PRICE SCHEDULE)  
BPS.2 - Breakdown of Prices**

**2 X 50 KW STA. MONICA DIESEL POWER PLANT**

Item No.	Description of Work or Materials	QTY.- UNIT	C O D E	UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED FROM ABROAD				UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED FROM WITHIN THE PHILIPPINES			TOTAL PRICE	
				Unit Price of Goods or Services Foreign Currency ( ) <sup>**</sup>	Import Duties & other Levies imposed by Phil. Govt. (Phil. Peso)	Value Added Tax and other Taxes imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)	Unit Price of Goods or Services (Phil. Peso)	Value Added Tax and other Taxes imposed by Phil. Govt. (Phil. Peso)	Local Transport from Plant to Delivery Site (Phil. Peso)	Foreign Currency (E x C)	Local Currency Portion (Phil. Peso) ((F+G+H) x C) or ((I+J+K) x C)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
<b>D.</b>	<b>OTHER ELECTRICAL WORKS</b>											
D.1	Generator Control and Protection Panel complete with the required metering, monitoring, control and protection devices, synchronizing, circuit breaker, grounding materials and other appurtenances as described in the Technical Specifications, Technical Data Sheet and as shown on the Bid Drawings including installation works in the containerized control room	2 Sets		PRICE OF THIS ITEM SHALL BE INCLUDED IN ITEMS A.1 ABOVE								
D.2	Fuse Disconnect Switch with Lightning Arrester Combination complete with the required fuse link, brackets and accessories in accordance with the Technical Specifications, Technical Data Sheets and as shown on the Bid Drawings including installation works	1 Lot										
D.3	Power, Control & Instrumentation Cabinets complete with the required accessories for cabling works to interface the supplied equipment to the 13.8kV bus as described in the Technical Specifications, Technical Data Sheet and as shown on the Bid Drawings including installation works	1 Lot										
D.4	Electrical Control System complete with the required fittings and other accessories for cabling works as described in the Technical Specifications and Technical Data Sheets as shown on the Bid Drawings including installation works	1 Lot										
D.5	Take-Off Structure complete with the required steel pole, cross arms, braces, bus conductor, line material hardware, terminal kit and other accessories as described in Technical Specifications, Technical Data Sheet and as shown on the Bid Drawings including installation works	1 Lot										
D.6	Grounding System complete with the required grounding grid conductor, equipment bonding riser, external earthing materials, test pit, ground rods and other accessories as described in the Technical Specifications and Technical Data Sheets as shown on the Bid Drawings including installation works	1 Lot										
D.7	Luminaires including power cables and other fittings for the New Hazardous Waste Storage Facility as described in Technical Specifications and as shown on the Bid Drawings including installation works	1 Lot										
<b>SUB-TOTAL D</b>				(Amount in Words)								
<b>E.</b>	<b>CIVIL WORKS AND ARCHITECTURAL WORKS</b>											
E.1	Site Development											
E.1.1	Earth Works											
	a. Gravel Surfacing (Generator Set Area)	6.4 cu.m.										
E.1.2	Drainage System/Appurtenances											
	a. Drain Pit	2.0 pcs.										
	b. Pipes (UPVC)	10.0 l.m.										
E.2	Design and Construct (including anchor bolts and other relevant accessories shown in the Bid Drawings)											
	a. Concrete foundation for 2x50 kW Gensets including drain ditch and all other relevant items shown in the	1 lot										
	b. Concrete foundation for Generator Transformers	1 lot										
E.3	Other Structures and Facilities											
	a. Hazardous Waste Storage Facility (2.2mx1.7m)	1.0 lot										
	b. Guard Post (1.5mx1.5m)	1.0 lot										
	c. Day Tank Support	1.0 lot										
	d. 150mm Zocelo Wall for Genset Area	18 l.m.										
<b>SUB-TOTAL E</b>				(Amount in Words)								

Notes: Final delivery site of all equipment/materials shall be at the plant site stated above

If there is a discrepancy on the numbers/units/weights/quantities between or among the technical provision and Schedule of Requirements (SOR), SOR shall prevail.

\* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories

\*\* Cost of equipment, freight, insurance, etc. up to Phil. port of entry. Refer to ITB

\*\*\* Unit Price for Local Transport/toll, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Code	Country of Origin

Name of Firm

Name and Signature of Authorized Representative

Designation

SECTION VII - SCHEDULE OF REQUIREMENTS

**SECTION VII - SCHEDULE OF REQUIREMENTS  
(BID PRICE SCHEDULE)**

**BPS.2 - Breakdown of Prices**

**2 X 25 KW TIKLING DIESEL POWER PLANT**

Item No.	Description of Work or Materials	QTY.- UNIT	C O D E	UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED FROM ABROAD				UNIT PRICE FOR GOODS AND RELATED SERVICES TO BE SUPPLIED FROM WITHIN THE PHILIPPINES			TOTAL PRICE			
				Unit Price of Goods or Services Foreign Currency ( )**	Import Duties & other Levies imposed by Phil. Govt. (Phil. Peso)	Value Added Tax and other Taxes imposed by Phil. Govt. (Phil. Peso)	Local Transport from Port to Delivery Site (Phil. Peso)	Unit Price of Goods or Services (Phil. Peso)	Value Added Tax and other Taxes imposed by Phil. Govt. (Phil. Peso)	Local Transport from Plant to Delivery Site (Phil. Peso)	Foreign Currency (E x C)	Local Currency Portion (Phil. Peso) ((F+G+H) x C) or ((I+J+K) x C)		
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)		
<b>D. OTHER ELECTRICAL WORKS</b>														
D.1	Generator Control and Protection Panel complete with the required metering, monitoring, control and protection devices, synchronizing, circuit breaker, grounding materials and other appurtenances as described in the Technical Specifications, Technical Data Sheet and as shown on the Bid Drawings including installation works in the containerized control room	2 Sets		PRICE OF THIS ITEM SHALL BE INCLUDED IN ITEMS A.1 ABOVE										
D.2	Fuse Disconnect Switch with Lightning Arrester Combination complete with the required fuse link, brackets and accessories in accordance with the Technical Specifications, Technical Data Sheets and as shown on the Bid Drawings including installation works	1 Lot												
D.3	240V Main Distribution Panel, Complete with all necessary appurtenances in accordance with the bid drawings, technical specifications and technical data sheets including installation works	1 Set												
D.4	Power, Control & Instrumentation Cables complete with the required accessories for cabling works to interface the supplied equipment to the 240V bus as described in the Technical Specifications, Technical Data Sheet and as shown on the Bid Drawings including installation works	1 Lot												
D.5	Electrical Conduit System complete with the required fittings and other accessories for cabling works as described in the Technical Specifications and Technical Data Sheets as shown on the Bid Drawings including installation works	1 Lot												
D.6	Bus conductor, line materials/hardware, termination kit and other accessories as described in Technical Specifications, Technical Data Sheet and as shown on the Bid Drawings including installation works	1 Lot												
D.7	Grounding System complete with the required grounding grid conductor, equipment bonding riser, exothermic welding materials, test pit, ground rods and other accessories as described in the Technical Specifications and Technical Data Sheets as shown on the Bid Drawings including installation works	1 Lot												
D.8	Dismantling and Storage of the existing 25KVA, 240V/7.97KV, 1-Phase, 60 Hz Generator Transformer including its associated Fuse Disconnect Switch with Lightning Arrester Combination, power cables, conduits and other accessories as described in Technical Specifications and as shown on the Bid Drawings	1 Lot												
D.9	Luminaires including power cables and other fittings for the New Hazardous Waste Storage Facility as described in Technical Specifications and as shown on the Bid Drawings including installation works.	1 Lot												
<b>SUB-TOTAL D</b>				(Amount in Words)										
<b>E. CIVIL WORKS AND ARCHITECTURAL WORKS</b>														
E.1	Site Development													
E.1.1	Earth Works													
	a. Gravel Surfacing (Generator Set Area)	5.4 cu.m.												
E.1.2	Drainage System/Appurtenances													
	a. Drain Pit	2.0 pcs												
	b. Pipes (uPVC)	18.0 Lm.												
E.2	Design and Construct (Including anchor bolts and other relevant accessories shown in the Bid Drawings)													
	a. Concrete foundation for 2x25 kW Generators including drain ditch and all other relevant items shown in the drawing	1 lot												
E.3	Other Structures and Facilities													
	a. Hazardous Waste Storage Facility (2.2mx1.7m)	1.0 lot												
	b. Guard Post (1.5mx1.5m)	1.0 lot												
	c. Day Tank Support	1.0 lot												
	d. 150mm Zocalo Wall for Genset Area	18 Lm.												
<b>SUB-TOTAL E</b>				(Amount in Words)										

Notes: Final delivery site of all equipment/materials shall be at the plant site stated above  
 If there is a discrepancy on the number/units/sets/quantities between or among the technical provision and Schedule of Requirements (SOR), SOR shall prevail.  
 \* Bidders shall enter a code representing the Country of Origin of all imported equipment, materials and accessories  
 \*\* Cost of equipment, freight, insurance, etc. up to Phil. port of entry. Refer to ITB  
 \*\*\* Unit Price for Local Transportation, insurance and other local costs incidental to delivery of the goods from the Phil port of entry to final delivery site

Code	Country of Origin

Name of Firm

Name and Signature of Authorized Representative

Designation