



SUPPLEMENTAL/BID BULLETIN NO. 1

SUPPLY AND DELIVERY OF SEVENTY ONE (71) UNITS GENERATOR SETS WITH AUTOMATIC TRANSFER SWITCH (ATS) FOR PORT MANAGEMENT OFFICES

T O : All Prospective Bidders
: Members, HO-BAC-PGCS
: Others Concerned

Relative to the Bid Documents issued by the BAC-PGCS for the Supply and Delivery of Seventy One (71) Units Generator Sets with Automatic Transfer Switch (ATS) for Port Management Offices (BAC-PGCS-10-2019), please be informed of the following amendments, to wit:

"TITLE OF THE PROJECT

**SUPPLY, DELIVERY, INSTALLATION AND COMMISSIONING OF
SEVENTY-ONE (71) UNITS GENERATOR SETS WITH AUTOMATIC
TRANSFER SWITCH (ATS) FOR PORT MANAGEMENT OFFICES**

BID DATA SHEET

ITB Clause

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**5.4 For this purpose, a similar contact means Supply, Delivery and
Installation of Generator Sets.**

TERMS OF REFERENCE

See attached Terms of Reference

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	Qty. (units)	Delivery Period
1	Generator Sets with Automatic Transfer Switch (ATS)	71	<p>Within ninety (90) calendar days from the receipt of the Notice to Proceed-Delivery at Warehouse within Metro Manila - (for inspection of Head Office representatives).</p> <p>Within thirty (30) calendar days after inspection and acceptance by Head Office representatives-Delivery, Installation and Commissioning at the PMOs.</p>


SECTION VII. TECHNICAL SPECIFICATIONS:

See attached Technical Specifications."

Issued this 01st day of February 2019

THE BIDS AND AWARDS COMMITTEE:

By


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Chairperson, HO-BAC-PGCS

**SUPPLY, DELIVERY, INSTALLATION, AND COMMISSIONING OF
SEVENTY-ONE (71) UNITS GENERATOR SETS WITH
AUTOMATIC TRANSFER SWITCH (ATS) FOR
PORT MANAGEMENT OFFICES**

TERMS OF REFERENCE

I. SCOPE OF WORK

1. Supply and delivery of the brand new generator sets and ATS.
2. Mobilization of manpower, equipment and technical supervisions.
3. Installation of the equipment at the designated deployment ports.
4. Testing and commissioning of the equipment per port or terminal.

II. DEPLOYMENT

	PMO	Capacity	Qty.	Deployment
1	PMO Bataan	30KVA	1	TMO Casiguran
		60KVA	1	TMO Capinpin
2	PMO NCR North	220KVA	1	PMO NCR North
3	PMO NCR South	1000KVA	1	Baseport
		85KVA	1	TMO Pasig
		55KVA	1	PTB Pasig
		50KVA	1	VRMU (Customs)
4	PMO MarQuez	250KVA	1	Baseport
5	PMO Mindoro	300KVA	6	1- Baseport and 5 TMO s, namely:
		90KVA	2	• Bulalacao
				• Lubang
		150KVA	4	• Roxas
				• San Jose
				• Abra de Ilog
				• Puerto Galera

6	PMO Palawan	108KVA	1	Baseport
		75KVA	1	TMO Coron
		45 KVA	5	<ul style="list-style-type: none"> • TMO El Nido • TMO Brooke's Point • TMO Cuyo • TMO Buliluyan • TMO Taytay
7	PMO Masbate	250KVA	1	Baseport
8	PMO Panay/Guimaras	10KVA	1	Baseport
		10KVA	1	TMO Sibunag
9	PMO Negros Occ/Banago/Bacolod/Bredco	500KVA	1	Baseport
		100KVA	2	<ul style="list-style-type: none"> • TMO Danao • TMO San Carlos
		50KVA	2	<ul style="list-style-type: none"> • TMO Hinoba-an, • TMO Bredco
10	PMO Negros Oriental/Siquijor	150KVA	2	Baseport
		100KVA	1	TMO Siquijor
		80KVA	3	<ul style="list-style-type: none"> • TMO Tandayag • TMO Larena • TMO Guihulngan
11	PMO Bohol	750KVA	2	<ul style="list-style-type: none"> • Tagbilaran (Baseport) • TMO Jagna
		250KVA	1	TMO Tubigon
		125KVA	1	TMO Ubay
			1	TMO Talibon
			1	TMO Getafe
			1	TMO Loon
			1	TMO Tapal
12	PMO Eastern Leyte/Samar	10 KVA	1	Port of San Jose
		150 KVA	1	Port of Maguino-o
13	PMO Western Leyte/Biliran	150KVA	1	Baseport
		75KVA	5	<ul style="list-style-type: none"> • TMO Baybay • TMO Hilongos • TMO Maasin • TMO Palompon • TMO Naval

14	PMO Misamiz/CDO	300 KVA	3	<ul style="list-style-type: none"> • Baseport • TMO Camiguin • TMO Balbagon
15	Lanao del Norte/Iligan	50 KVA	1	TMO Tubod
16	PMO Misamis Occidental/Ozamiz	300 KVA	1	Baseport
		75 KVA	1	TMO Plaridel
17	PMO Surigao	30KVA	3	<ul style="list-style-type: none"> • Hayanggabon Port • Del Carmen Port • Cantilan Port
18	PMO Socsargen	175KVA	1	Baseport
		150KVA	2	<ul style="list-style-type: none"> • TMO Saranggani • TMO Sultan Kudarat
19	PMO Zamboanga	853 KVA	1	Baseport
20	PMO Zamboanga del Norte	500KVA	1	Baseport
TOTAL NO. OF UNITS			71	

III. A. TECHNICAL SPECIFICATIONS - GENERATOR SETS

1. PMO – BATAAN

A. One (1) unit of 30 KVA Generator Set for TMO-CASIGURAN

Generator Set Specification	
Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Naturally Aspirated
Prime Rating Power (kW/kVA)	21.6kW/27kVA
Standby Rating Power (kW/kVA)	24kW/30kVA

Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	8.6/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. One (1) unit of 60KVA Generator Set for TMO-CAPINPIN

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	44KW/54kVA

Standby Rating Power (kW/kVA)	48kW/60kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	120L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

2. PMO-NCR NORTH

A. One (1) unit of 220 KVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling

Prime Rating Power (kW/kVA)	160kW/200kVA
Standby Rating Power (kW/kVA)	176kW/220kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	49L/H
Fuel Tank Capacity	350L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

3. PMO-NCR SOUTH

A. One (1) unit of 1000KVA Generator Set (Baseport)

Number of cylinders	12
Cylinder arrangement	V-Type
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	727kW/909kVA
Standby Rating Power (kW/kVA)	800kW/1000kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	204L/H
Fuel Tank Capacity	1200L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. One (1) unit of 85 KVA Generator Set (TMO-Pasig)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	61kW/77kVA
Standby Rating Power (kW/kVA)	68kW/85kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	150L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

C. One (1) unit of 55 KVA Generator Set (PTB-Pasig)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	40kW/50kVA
Standby Rating Power (kW/kVA)	44kW/55kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	120L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

D. One (1) Unit 50kVA Generator Set VRMU (Customs)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	36kW/45kVA
Standby Rating Power (kW/kVA)	40kW/50kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

4. PMO-MARQUEZ

A. One (1) unit of 250kVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	182kW/227kVA
Standby Rating Power (kW/kVA)	200kW/250kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	59L/H
Fuel Tank Capacity	350L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

5. PMO-MINDORO

A. Six (6) units 300kVA Generator Set (1-Baseport, 5-TMOs)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	218kW/273kVA
Standby Rating Power (kW/kVA)	240kW/300kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	62L/H
Fuel Tank Capacity	480L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. Two (2) units 90kVA Generator Set (TMO-Bulalacao, Lubang)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	65kW/82kVA
Standby Rating Power (kW/kVA)	72kW/90kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	20.1L/H
Fuel Tank Capacity	150L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

C. Four (4) units 150kVA Generator Set (TMO-Roxas, SanJose, Abra de Ilog, Puerto Galera)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	109KW/136kVA
Standby Rating Power (kW/kVA)	120kW/150kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	34L/H
Fuel Tank Capacity	250L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

6. PMO-PALAWAN

A. One (1) unit 108kVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	78kW/98kVA
Standby Rating Power (kW/kVA)	86kW/108kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	29.7L/H
Fuel Tank Capacity	210L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. One (1) unit 75kVA Generator Set (TMO-Coron)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	54kW/68kVA
Standby Rating Power (kW/kVA)	60kW/75kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	120L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

C. Five (5) units 45kVA Generator Set (TMO-El Nido, Brooke's Point, Cuyo, Buliluyan and Taytay)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	32kW/41kVA
Standby Rating Power (kW/kVA)	36kW/45kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	10.7L/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

7. PMO-MASBATE

A. One (1) unit 250kVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	182kW/227kVA
Standby Rating Power (kW/kVA)	200kW/250kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	59L/H
Fuel Tank Capacity	350L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

8. PMO-PANAY/GUIMARAS

A. One (1) unit 10kVA Generator Set (Baseport)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Naturally Aspirated
Prime Rating Power (kW/kVA)	7.2kW/9kVA
Standby Rating Power (kW/kVA)	8kW/10kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	8.6L/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. One (1) unit 10kVA Generator Set (TMO-Sibunag)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Naturally Aspirated
Prime Rating Power (kW/kVA)	7.2kW/9kVA
Standby Rating Power (kW/kVA)	8kW/10kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	8.6L/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

9. PMO-Negros Occ./Banago/Bacolod/Bredco

A. One (1) unit 500kVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	363kW/454kVA
Standby Rating Power (kW/kVA)	400kW/500kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	104L/H
Fuel Tank Capacity	850L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. Two (2) units 100kVA Generator Set (TMO-Danao, San Carlos)

Number of cylinders	4
Cylinder arrangement	In Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	73kW/91kVA
Standby Rating Power (kW/kVA)	80kW/100kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	20.1L/H
Fuel Tank Capacity	150L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

C. Two (2) units 50kVA Generator Set (TMO-Bredco, Hinoba-an)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	36kW/45kVA
Standby Rating Power (kW/kVA)	40kW/50kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

10. PMO-NEGROS ORIENTAL/SIQUIJOR

A. Two (2) units 150kVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	109kW/136kVA
Standby Rating Power (kW/kVA)	120kW/150kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	34L/H
Fuel Tank Capacity	250L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. One (1) unit 100kVA Generator Set (TMO-Siquijor)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	73kW/91kVA
Standby Rating Power (kW/kVA)	80kW/100kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	20.1L/H
Fuel Tank Capacity	150L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

C. Three (3) units 80kVA Generator Set (TMO-Tandayag, Larena, Guihulngan)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	58kW/72kVA
Standby Rating Power (kW/kVA)	64kW/80kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	150L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

11. PMO-BOHOL

A. Two (2) units 750kVA Generator Set (TMO-Tagbilaran and Jagna)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	545kW/682kVA
Standby Rating Power (kW/kVA)	600kW/750kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	140L/H
Fuel Tank Capacity	1200L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. One (1) unit : 250kVA Generator Set (TMO-Tubigon)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	182kW/227kVA
Standby Rating Power (kW/kVA)	200kW/250kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	59L/H
Fuel Tank Capacity	350L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

C. Five (5) units 125kVA Generator Set (TMO-Ubay, Talibon, Getafe, Tapal, Loon)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	91kW/113kVA
Standby Rating Power (kW/kVA)	100kW/125kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	29.7L/H
Fuel Tank Capacity	210L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

12. PMO-EASTERN LEYTE/SAMAR

A. One (1) unit 10kVA Generator Set (Port of San Jose)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Naturally Aspirated
Prime Rating Power (kW/kVA)	7.2kW/9.1kVA
Standby Rating Power (kW/kVA)	8kW/10kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	8.6L/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. One (1) unit 150kVA Generator Set (Port of Maguino-o)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	109kW/136kVA
Standby Rating Power (kW/kVA)	120kW/150kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	34L/H
Fuel Tank Capacity	250L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

13. PMO-WESTERN LEYTE/BILIRAN

A. One (1) unit 150kVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	109kW/136kVA
Standby Rating Power (kW/kVA)	120kW/150kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	34L/H
Fuel Tank Capacity	250L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. Five (5) units 75kVA Generator Set (TMO- Baybay, Hilongos, Maasin, Palompon and Naval)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	54kW/68kVA
Standby Rating Power (kW/kVA)	60kW/75kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	1
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	120L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

14. PMO-MISAMIS/CDO

A. Three (3) units 300kVA Generator Set (Baseport,Camiguin, TMO-Balbagon)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	218kW/272kVA
Standby Rating Power (kW/kVA)	240kW/300kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	62L/H
Fuel Tank Capacity	480L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

15. PMO-LANAO DEL NORTE/ILIGAN

A. One (1) unit 50kVA Generator Set (TMO-Tubod)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	36kW/45kVA
Standby Rating Power (kW/kVA)	40kW/50kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

16. PMO-MISAMIS OCCIDENTAL/OZAMIZ

A. One (1) unit 300kVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	218kW/273kVA
Standby Rating Power (kW/kVA)	240kW/300kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	62L/H
Fuel Tank Capacity	480L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. One (1) unit 75kVA Generator Set (TMO-Plaridel)

Number of cylinders	4
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	54kW/58kVA
Standby Rating Power (kW/kVA)	60kW/75kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	15.9L/H
Fuel Tank Capacity	120L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

17. PMO-SURIGAO

A. Three (3) units of 30 KVA Generator Set (TMO-Hayanggabon, Del Carmen, Cantilan)

Number of cylinders	4
Cylinder arrangement	In Line
Aspiration	Naturally Aspirated
Prime Rating Power (kW/kVA)	21.6kW/27kVA
Standby Rating Power (kW/kVA)	24kW/30kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	8.6/H
Fuel Tank Capacity	85L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

18. PMO-SOCSARGEN

A. One (1) unit of 175 KVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	127kW/159kVA
Standby Rating Power (kW/kVA)	140kW/175kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	38L/H
Fuel Tank Capacity	300L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

B. Two (2) units 150kVA Generator Set (TMO-Saranggani, Sultan Kudarat)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	109kW/136kVA
Standby Rating Power (kW/kVA)	120kW/150kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	34L/H
Fuel Tank Capacity	250L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

19. PMO-Zamboanga

A. One (1) unit 853kVA Generator Set (Baseport)

Number of cylinders	12
Cylinder arrangement	V-Type
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	620kW/775kVA
Standby Rating Power (kW/kVA)	682kW/853kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	154L/H
Fuel Tank Capacity	1200L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

20. PMO-ZAMBOANGA DEL NORTE

A. One (1) unit 500kVA Generator Set (Baseport)

Number of cylinders	6
Cylinder arrangement	In-Line
Aspiration	Turbocharged after-water cooling
Prime Rating Power (kW/kVA)	363kW/454kVA
Standby Rating Power (kW/kVA)	400kW/500kVA
Control Panel	Digital
Speed governor	Electronic
Cooling system	Water Cooling Cycle
Phase	3
Rpm	1800
Volts	230Vac
Frequency	60hZ
Power Factor	0.8
Fuel consumption at 100% load (L/H)	104L/H
Fuel Tank Capacity	850L
Insulation	Class H
Starter motor	24V
Exciter type	Single bearing, Brushless, Self-excited

KVA	SOUND LEVEL
10 - 30	72dBA@7m
45 - 300	75dBA@7m
500 - 1000	85dBA@7m

All generator set units = 3 phase, except for PMO Western Leyte/Biliran ports (single phase).

III. B. TECHNICAL SPECIFICATIONS - AUTOMATIC TRANSFER SWITCH

1. 220-480 volts, 1-3 phase, wall-mounted/free standing with NEMA enclosure equal to the capacity of the generator set.
2. Transfer Switched Based on Molded-Case-Switch Components

IV. OTHER REQUIREMENTS

1. **ISO Compliance.**
ISO 9001:2015 and ISO 14001:2015 standard.
2. **Delivery.**
 - a.) Within ninety (90) calendar days from the receipt of the Notice to Proceed - Delivery at Warehouse within Metro Manila - (for inspection of Head Office representatives).
 - b.) Within thirty (30) calendar days after inspection and acceptance by Head Office representatives - Delivery, Installation and Commissioning at the PMOs
3. **Payment.**
 - a.) 80% of contract cost - After inspection and acceptance by Head Office.
 - b.) 20% of contract cost - After inspection and acceptance by the PMOs.

4. Maintenance.

The supplier shall provide quarterly preventive maintenance service within 2-year warranty period.

5. Repairs.

Repair services shall be available during office hours. Response time shall be within twenty-four (24) hours from notice by PPA.

6. Provisions.

- a.) Set of Tools, Operating and Parts Manual
- b.) Initial diesel in tank for testing, upon delivery of Genset
- c.) Cables during installation: At least ten (10) meters wiring/cables per unit (if distance of unit to main breaker exceeds 10 meters, PPA will shoulder cost of excess).

7. Warranty Certificates:

- a.1.) One (1) year warranty for manufacturing defects from the date of receipt of the Certificate of Acceptance.
- a.2.) Two (2) years warranty for parts and services from the date of receipt of the Certificate of Acceptance.

8. Other Documentary Requirements. Duly authenticated copies of the following documents must be submitted. Documents coming from abroad must be duly authenticated/consularized by the appropriate foreign office.

- a.) Certificate of Manufacturer
- b.) Certificate of Product Origin
- c.) Certificate of Distributorship with (2) years validity from date of bidding (in line with PPA required Warranty)
- d.) Certificate of Factory Coupling 60 days fresh from Manufacturing
- e.) Certificates - ISO 9001:2015 and ISO 14001:2015
- f.) Certificate - Original Equipment Manufacturer(OEM) of Generator Set Engine
- g.) Certificate - Original Equipment Manufacturer(OEM) of Generator Set Controller

h.) Certificate -Original Equipment Manufacturer(OEM) of
Generator Set Alternator

i.) Certificate of Availability of Authorized Service Center (in the
Philippines)

These documents shall have a validity of at least two(2) years from
date of opening of bids (in line with PPA required Warranty).

The original copy of these documents with Red Ribbon shall be
attached and submitted during bid opening.

9. Testing. The equipment shall be tested (on/off and running for at least
10 minutes).

V. APPROVED BUDGET FOR THE CONTRACT (ABC)

The ABC for this project is in the amount of Four Hundred Five Million
Pesos (P405,000,000.00)

Technical Specifications

Item	Specification	Statement of Compliance
		<p>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 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</p>

		statement either in the Bidders 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 subject to the provisions of ITB Clause 3.1(a)(ii) and/or GCC Clause 2.1(a)(ii).
One (1) unit of 30 KVA Generator Set for TMO-CASIGURAN		
	Number of cylinders	4
	Cylinder arrangement	In-Line
	Aspiration	Naturally Aspirated
	Prime Rating Power (kW/kVA)	21.6kW/27kVA
	Standby Rating Power (kW/kVA)	24kW/30kVA
	Control Panel	Digital
	Speed governor	Electronic
	Cooling system	Water Cooling Cycle
	Phase	3
	Rpm	1800
	Volts	230Vac
	Frequency	60hZ
	Power Factor	0.8
	Fuel consumption at 100% load (L/H)	8.6/H
	Fuel Tank Capacity	85L
	Insulation	Class H
	Starter motor	24V
	Exciter type	Single bearing, Brushless, Self-excited
One (1) unit of 60KVA Generator Set for TMO-CAPINPIN		
	Number of cylinders	4
	Cylinder arrangement	In-Line
	Aspiration	Turbocharged after-water cooling
	Prime Rating Power (kW/kVA)	44KW/54kVA

	Standby Rating Power (kW/kVA)	48kW/60kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	120L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit of 220 KVA Generator Set (PMO-NCR North, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	160kW/200kVA	
	Standby Rating Power (kW/kVA)	176kW/220kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	49L/H	
	Fuel Tank Capacity	350L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit of 1000KVA Generator Set (PMO-NCR South, Baseport)			
	Number of cylinders	12	
	Cylinder arrangement	V-Type	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	727kW/909kVA	
	Standby Rating Power	800kW/1000kVA	

	(kW/kVA)		
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	204L/H	
	Fuel Tank Capacity	1200L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit of 85 KVA Generator Set (TMO-Pasig)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	61kW/77kVA	
	Standby Rating Power (kW/kVA)	68kW/85kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	150L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit of 55 KVA Generator Set (PTB-Pasig)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	40kW/50kVA	
	Standby Rating Power (kW/kVA)	44kW/55kVA	

	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	120L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) Unit 50kVA Generator Set VRMU (Customs)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	36kW/45kVA	
	Standby Rating Power (kW/kVA)	40kW/50kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	85L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit of 250kVA Generator Set (PMO-Marquez, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	182kW/227kVA	
	Standby Rating Power (kW/kVA)	200kW/250kVA	
	Control Panel	Digital	

	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	59L/H	
	Fuel Tank Capacity	350L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Six (6) units 300kVA Generator Set (PMO-Mindoro, 1-Baseport, 5-TMOs)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	218kW/273kVA	
	Standby Rating Power (kW/kVA)	240kW/300kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	62L/H	
	Fuel Tank Capacity	480L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Two (2) units 90kVA Generator Set (TMO-Bulalacao,Lubang)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	65kW/82kVA	
	Standby Rating Power (kW/kVA)	72kW/90kVA	
	Control Panel	Digital	
	Speed governor	Electronic	

	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	20.1L/H	
	Fuel Tank Capacity	150L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Four (4) units 150kVA Generator Set (TMO-Roxas, SanJose, Abra de Ilog, Puerto Galera)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	109KW/136kVA	
	Standby Rating Power (kW/kVA)	120kW/150kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	34L/H	
	Fuel Tank Capacity	250L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 108kVA Generator Set (PMO-Palawan, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	78kW/98kVA	
	Standby Rating Power (kW/kVA)	86kW/108kVA	
	Control Panel	Digital	
	Speed governor	Electronic	

	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	29.7L/H	
	Fuel Tank Capacity	210L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 75kVA Generator Set (TMO-Coron)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	54kW/68kVA	
	Standby Rating Power (kW/kVA)	60kW/75kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	120L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Five (5) units 45kVA Generator Set (TMO-El Nido, Brooke's Point, Cuyo, Buliluyan and Taytay)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	32kW/41kVA	
	Standby Rating Power (kW/kVA)	36kW/45kVA	
	Control Panel	Digital	
	Speed governor	Electronic	

	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	10.7L/H	
	Fuel Tank Capacity	85L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 250kVA Generator Set (PMO-Masbate, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	182kW/227kVA	
	Standby Rating Power (kW/kVA)	200kW/250kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	59L/H	
	Fuel Tank Capacity	350L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 10kVA Generator Set (PMO-Panay/Guimaras, Baseport)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Naturally Aspirated	
	Prime Rating Power (kW/kVA)	7.2kW/9kVA	
	Standby Rating Power (kW/kVA)	8kW/10kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	

	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	8.6L/H	
	Fuel Tank Capacity	85L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 10kVA Generator Set (TMO-Sibunag)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Naturally Aspirated	
	Prime Rating Power (kW/kVA)	7.2kW/9kVA	
	Standby Rating Power (kW/kVA)	8kW/10kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	8.6L/H	
	Fuel Tank Capacity	85L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 500kVA Generator Set (PMO-Negros Occ./Banago/Bacolod/Bredco, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	363kW/454kVA	
	Standby Rating Power (kW/kVA)	400kW/500kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	

	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	104L/H	
	Fuel Tank Capacity	850L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Two (2) units 100kVA Generator Set (TMO-Danao, San Carlos)			
	Number of cylinders	4	
	Cylinder arrangement	In Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	73kW/91kVA	
	Standby Rating Power (kW/kVA)	80kW/100kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	20.1L/H	
	Fuel Tank Capacity	150L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Two (2) units 50kVA Generator Set (TMO-Bredco, Hinoba-an)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	36kW/45kVA	
	Standby Rating Power (kW/kVA)	40kW/50kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	

	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	85L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Two (2) units 150kVA Generator Set (PMO-NEGROS ORIENTAL/SIQUIJOR, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	109kW/136kVA	
	Standby Rating Power (kW/kVA)	120kW/150kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	34L/H	
	Fuel Tank Capacity	250L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 100kVA Generator Set (TMO-Siquijor)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	73kW/91kVA	
	Standby Rating Power (kW/kVA)	80kW/100kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	

	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	20.1L/H	
	Fuel Tank Capacity	150L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Three (3) units 80kVA Generator Set (TMO-Tandayag, Larena, Guihulngan)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	58kW/72kVA	
	Standby Rating Power (kW/kVA)	64kW/80kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	150L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Two (2) units 750kVA Generator Set (PMO-Bohol, TMO-Tagbilaran and Jagna)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	545kW/682kVA	
	Standby Rating Power (kW/kVA)	600kW/750kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	

	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	140L/H	
	Fuel Tank Capacity	1200L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit: 250kVA Generator Set (TMO-Tubigon)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	182kW/227kVA	
	Standby Rating Power (kW/kVA)	200kW/250kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	59L/H	
	Fuel Tank Capacity	350L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Five (5) units 125kVA Generator Set (TMO-Ubay, Talibon, Getafe, Tapal, Loon)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	91kW/113kVA	
	Standby Rating Power (kW/kVA)	100kW/125kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	

	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	29.7L/H	
	Fuel Tank Capacity	210L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 10kVA Generator Set (PMO-Eastern Leyte/Samar, Port of San Jose)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Naturally Aspirated	
	Prime Rating Power (kW/kVA)	7.2kW/9.1kVA	
	Standby Rating Power (kW/kVA)	8kW/10kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	8.6L/H	
	Fuel Tank Capacity	85L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 150kVA Generator Set (Port of Maguino-o)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	109kW/136kVA	
	Standby Rating Power (kW/kVA)	120kW/150kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	

	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	34L/H	
	Fuel Tank Capacity	250L	
	Insulation	Class H	
	Starter motor	24V	
	Number of cylinders	6	
One (1) unit 150kVA Generator Set (PMO-WESTERN LEYTE/BILIRAN, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	109kW/136kVA	
	Standby Rating Power (kW/kVA)	120kW/150kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	34L/H	
	Fuel Tank Capacity	250L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Five (5) units 75kVA Generator Set (TMOs Baybay, Hilongos, Maasin, Palompon, Naval)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	54kW/68kVA	
	Standby Rating Power (kW/kVA)	60kW/75kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	1	

	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	120L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Three (3) units 300kVA Generator Set (PMO-Misamis/CDO, Baseport,Camiguin,TMO-Balbagon)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	218kW/272kVA	
	Standby Rating Power (kW/kVA)	240kW/300kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	62L/H	
	Fuel Tank Capacity	480L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 50kVA Generator Set (PMO-Lanao del Norte/Iligan, TMO-Tubod)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	36kW/45kVA	
	Standby Rating Power (kW/kVA)	40kW/50kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	

	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	85L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 300kVA Generator Set (PMO-MISAMIS OCCIDENTAL/OZAMIZ, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	218kW/273kVA	
	Standby Rating Power (kW/kVA)	240kW/300kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	62L/H	
	Fuel Tank Capacity	480L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 75kVA Generator Set (TMO-Plaridel)			
	Number of cylinders	4	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	54kW/58kVA	
	Standby Rating Power (kW/kVA)	60kW/75kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	

	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	15.9L/H	
	Fuel Tank Capacity	120L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Three (3) units of 30 KVA Generator Set TMO-Hayanggabon, Del Carmen, Cantilan (PMO-Surigao)			
	Number of cylinders	4	
	Cylinder arrangement	In Line	
	Aspiration	Naturally Aspirated	
	Prime Rating Power (kW/kVA)	21.6kW/27kVA	
	Standby Rating Power (kW/kVA)	24kW/30kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	8.6/H	
	Fuel Tank Capacity	85L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
	Number of cylinders	4	
One (1) unit of 175 KVA Generator Set (PMO-Socsargen, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	127kW/159kVA	
	Standby Rating Power (kW/kVA)	140kW/175kVA	

	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	38L/H	
	Fuel Tank Capacity	300L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
Two (2) units 150kVA Generator Set (TMO-Saranggani, Sultan Kudarat)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	109kW/136kVA	
	Standby Rating Power (kW/kVA)	120kW/150kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	34L/H	
	Fuel Tank Capacity	250L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 853kVA Generator Set (PMO-Zamboanga, Baseport)			
	Number of cylinders	12	
	Cylinder arrangement	V-Type	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	620kW/775kVA	
	Standby Rating Power (kW/kVA)	682kW/853kVA	
	Control Panel	Digital	
	Speed governor	Electronic	

	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	154L/H	
	Fuel Tank Capacity	1200L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
One (1) unit 500kVA Generator Set (PMO-Zamboanga del Norte, Baseport)			
	Number of cylinders	6	
	Cylinder arrangement	In-Line	
	Aspiration	Turbocharged after-water cooling	
	Prime Rating Power (kW/kVA)	363kW/454kVA	
	Standby Rating Power (kW/kVA)	400kW/500kVA	
	Control Panel	Digital	
	Speed governor	Electronic	
	Cooling system	Water Cooling Cycle	
	Phase	3	
	Rpm	1800	
	Volts	230Vac	
	Frequency	60hZ	
	Power Factor	0.8	
	Fuel consumption at 100% load (L/H)	104L/H	
	Fuel Tank Capacity	850L	
	Insulation	Class H	
	Starter motor	24V	
	Exciter type	Single bearing, Brushless, Self-excited	
AUTOMATIC TRANSFER SWITCH			
	220-480 volts, 1-3 phase, wall-mounted/free standing with NEMA enclosure equal to the capacity of the generator set.		
	Transfer Switched Based on Molded-Case-Switch Components		