

## TECHNICAL DESCRIPTION & SCOPE OF SALE (IN BLACK)

### 4 x Units Type PG6531, Land Based Gas Turbine Power Plant

Fuel	:	DISTILLATE
Date	:	1988
Total Hours	:	28,953
Total Starts	:	1,384

#### I. PRIME MOVER :

1. Gas Turbine - One (1) lot, four (4) sets consisting mainly of compressor and turbine mounted on a common base plate with four (4) module and combined in one horizontally split casing.

Manufacturer	:	ALSTOM
Type / Model	:	PG6531
Unit Rating	:	30,880 KW
No. of Comp. Stages	:	17
No. of Turbine Stages	:	3
Turbine Speed	:	5135 rpm

complete with the following: compressor, diesel engine, starting system, fuel system,. Lubricating system, heat exchanger, hydraulic supply system, cooling water system, atomizing air system, cool down mechanism, fire detection and protection .etc..

#### II. GENERATOR :

1. Generator - One (1) lot, four (4) sets synchronous generator block coupled to the thermal block by a reduction gear block and said generator is air cooled, open ventilation, etc..

Manufacturer	:	ALSTOM
Type	:	Air-cooled, open ventilation
Rated Voltage	:	13.8 KV
Nominal Speed	:	3600 RPM
Power Factor	:	0.80
No. of Poles	:	2
No. of Phase	:	3
Frequency	:	60 Hz

#### III. ACCESSORY ELECTRIC EQUIPMENT :

1. Control Board Cubicle / Station Load Center - One (1) lot, consisting of the following:
  - a) Instrumental Panel
  - b) Low Voltage Switchboard  
750 V. Insulating

- 460 V. Service
- c) Distribution Switchboard
  - d) Generator Control Panel
2. Gas Turbine Control Cab - One (1) lot, four (4) sets, consisting of the following panels. and associated equipment:
- a) Speedtronic Mark IV Turbine Control Panel
  - b) Gen Control Panel with Automatic Voltage Regulator (AVR) & Power System Stabilizer (PSS)
  - c) 460 V AC and 125 V DC Motor Control Center
  - d) Protection Relay Control Panel
  - e) 125 V DC Battery and Batter Charges
  - f) CO<sup>2</sup> Bottle for Gas Turbine Fire Protection

#### IV. STATION EQUIPMENT : **(NOT INCLUDED)**

1. Power Transformer - One (1) lot, two (2) units 88,000 KVA (88MVA) capacity, 230,000/13,800 V (230/13.8 KV), 60 Hz, 3-phase, "TAKAOKA" ELECTRIC, with complete accessories and appurtenances
2. Auxiliary Transformer - One (1) lot, two (2) units 1600 KVA capacity,ALSTOM, 13,800/480 volts, 60 Hz, 3-phase, with complete accessories and appurtenances.
3. Gas Circuit Breaker - One (1) lot consisting of the following:
  - a) Three (3) units gas circuit breaker -
 

Manufacturer	:	NISSIN
Type	:	6F A-I-N
Voltage	:	230 KV
  - b) Lighting Arrester : 120 KV
  - c) Voltage Transformer Capacitor : 230 KV
  - d) Automatic Disconnect Switch : 230 KV
  - e) Current Transformer : 230 KV
4. HV Bus Work / Steel Tower Structure - One (1) lot consisting of twelve (12) pieces 230 KV Terminator with two (2) unit pressure Tank, bus support conductor, suspension insulator, miscellaneous bus and other electrical equipment accessories and appurtenances.
5. Grounding System - One (1) lot consists of standard copper cable, 19 mm Ø weld ground rod, structural support, equipment grounding including interconnection to grounding grid, boxes, fittings and other relevant accessories.
6. Cable Trenches - One (1) lot
7. Cable Tray - One (1) lot
8. Power Control Cable - One (1) lot consisting of HV and I. V power and control cable of various sizes complete with clamps and termination ends.

#### V. FUEL HOLDERS, PRODUCERS AND ACCESSORIES :

1. Fuel Oil Tank - One (1) lot, fixed roof, TAIHEIDENGYO KAISHA, 3,000 m<sup>3</sup> capacity, 19,3650 mm Ø, 11,450 mm H, API design, complete with fuel pipings, valves, flow meters, floating Suctions, vents, strainers, drains and all other necessary fittings. **(NOT INCLUDED)**
2. Fuel Forwarding Skid - One (1) lot, four (4) sets, consisting of the following:
 

Pump	:	
Manufacturer	:	POMPES

Capacity	:	4.7liters / sec
Type	:	NCP5-250 / 198
T-min	:	3500
CV	:	78 KV
ANEE	:	88
Motor		
a) Manufacturer	:	UNELEC (DC), I unit /set
Voltage	:	125 volts
Rating	:	1.5 KW
Speed	:	2,500 rpm
Current	:	15 Amps
b) Manufacturer	:	ALSTOM (AC), 2 units/set
Type	:	FT2-132-M22
Speed	:	3,500 rpm
Rating	:	75 KW
Current	:	460 Amps
Power Factor	:	0.83

3. Fuel Oil Filtering Skid - One (1) lot, eight (8) sets consisting of fuel filters, pressure measuring panel, fuel accumulators, gauges, valves, fittings complete with gas accumulator, etc..

Manufacturer	:	FILTRES PHILIPPE S.A
Type	:	HILOCO
Model	:	F2-ESS

4. Washing Skid - One (1) lot, two (2) sets consisting of the following:

Pump		
Manufacturer	:	POMPES RUTSCHI S.A
Capacity	:	6.1 liters / sec
Motor		
Manufacturer	:	ALTSHOM
Rating	:	35 KW
Capacity	:	1050 Liters / hr
Speed	:	3,555 rpm

## VI. STRUCTURE AND IMPROVEMENTS : **(NOT INCLUDED)**

1. Lighting System - One (1) lot, consisting of various types of lighting fixtures, conductors, panel boards, auxiliary compartment lighting, main atomizing air compressors / exciter compartment lighting and accessories within the electrical building and plant compound..
2. Communication System - One (1) lot

## VII MISCELLANEOUS PLANT EQUIPMENT :

1. Emergency Diesel Engine Generator Set -		
Manufacturer	:	DENYO POWER
Model	:	DCA 220 DK
AC Generator		
Model	:	DH 2531K
Voltage	:	460 V
Rated Capacity	:	220 KVA
Current	:	26 Amp.
Engine		
Model	:	86D125

Output : 259 PJ  
Speed : 1800 rpm

2. Fire Protection System - One (1) lot, consisting of foam system concentrate from the foam liquid horizontal type liquid tank with capacity of 1,400 liters complete with pipelines, hoe box, hydrants, valves, pressure gauges, fittings, etc..

Type : PTT-1400 S  
Max Operating Pressure : 14kg / cm<sup>2</sup>  
Hydrant Test Pressure : 1.2 kg/ cm<sup>2</sup>

































