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**THE FOLLOWING GAS ENGINE FIRED POWER PLANT IS AVAILABLE FOR SALE WITH US WITH IMMEDIATE DELIVERY:**

**2 Nos.** – 138 MW each, **Wartsila (2012)** make Complete Gas Engine based Combined Cycle Power Plants as per the following technical specifications:

**138 MW Combined Cycle Power Plant:**

Fuel type : Natural Gas  
Rated Output (existing-Gas Motors) : 126.1 MW  
Rated Output CCPP : 138.38MW  
Generation Capacity : 1,107,040,000 kWh/Year

**TECHNICAL CHARACTERISTICS**

Type of Generation : Combined Cycle  
Fuel Type : Natural Gas  
Number of Units : 13 Gas Motors/Gen. + 1 ST/Gen  
Gas Motors Manufacturer : Wartsila  
Type of Gas Motors : 20W34SG

|                                       |   |                           |
|---------------------------------------|---|---------------------------|
| Rated Output (Gas Motors)             | : | 9.73 MWe                  |
| Efficiency (Gas Motors)               | : | %45                       |
| Steam Turbine Manufacturer            | : | SIEMENS                   |
| Type of Steam Turbine                 | : | SST – PAC - 300           |
| Power Output                          | : | 12.280 MWe                |
| Number of Boiler                      | : | 13                        |
| Capacity Boilers                      | : | 4,6 t/h, 59,8 t/h (total) |
| Steam Pressure                        | : | 15 bar                    |
| Steam Temperature                     | : | 350 °C                    |
| Efficiency of Combined Cycle(Overall) | : | %48.5                     |
| Rated Power of TRs                    | : | 100 MVA                   |

**TOTAL RUNNING HOURS OF PLANT –I & PLANT – II:**

|                   | 1 No. | 2 No. | 3 No. | 4 No. | 5 No. | 6 No. | 7 No. | 8 no. | 9 No. | 10 No. | 11 No. | 12 No. | 13 No. |
|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| <b>PLANT - I</b>  | 2,293 | 2,287 | 2,203 | 2,283 | 2,292 | 2,294 | 2,294 | 2,287 | 2,242 | 2,285  | 2,294  | 2,292  | 2,293  |
| <b>PLANT - II</b> | 1,865 | 1,796 | 1,649 | 1,780 | 1,789 | 1,564 | 1,576 | 1,884 | 1,754 | 1,879  | 1,818  | 1,719  | 1,844  |

### LIST OF EQUIPMENT FOR EACH POWER PLANT

| Nos. | DESCRIPTION   | TECHNICAL SPECIFICATIONS                 | BRAND                         | YOM  | QTY      |
|------|---|--|-------------------------------|------|----------|
| 1.0  | <b>Gas Engines – <u>1,300 operational hours</u></b>               | 9730 kW, 750 rev/min                     | WARTSILA-W20V34GS             | 2011 | 13       |
| 2.0  | <b>Alternator</b>   | 9730 kW, 750 rev/min                     | AVK - 8430499 H101            | 2011 | 13       |
| 3.0  | <b>Natural Gas Pressure Adjustment Station for Engines</b>        | RMG, 6-7 bar to 3-3,2 bar                |                               | 2011 | 13       |
| 4.0  | <b>Maintenance Tank</b>   | 5 tons                                   | HT                            | 2011 | 3        |
| 5.0  | <b>Charge Air System for Engines</b>                              |  |                               | 2011 | 13       |
| 5.1  | <b>Air Tank</b>   | 2 tons, 33 bar, 480 l                    |                               | 2011 | 5        |
| 5.2  | <b>Water Cooling Fans, Radiator Panels and Installation</b>       | 14x13 kW                                 | COILTECH                      | 2011 | 13 sets  |
| 6.0  | <b>Exhaust and Funnel System</b>                                  |  | HT                            | 2011 | 13       |
| 7.0  | <b>Natural Gas Fuel System</b>                                    |  | HT                            | 2011 | Complete |
| 8.0  | <b>Lubrication System</b>   |  | HT                            | 2011 | Complete |
| 8.1  | <b>Oil Pump and Component</b>                                     | 3 kW                                     |                               | 2011 | 2        |
| 8.2  | <b>New Lubricating Oil Tank</b>                                   | 55 m <sup>3</sup>                        | HT                            | 2011 | 1        |
| 8.3  | <b>Waste Oil Tank</b>   | 7 m <sup>3</sup>                         | HT                            | 2011 | 1        |
| 8.4  | <b>Service Oil Tank</b>   | 7 m <sup>3</sup>                         | HT                            | 2011 | 1        |
| 9.0  | <b>Screw Compressor, Drier and Air Tank and Instrument System</b> | 2,7 m <sup>3</sup> /min, 7 bar, 18,5 kW  | GARDNER DENVER - WD 18-7 EANA | 2010 | 3        |
| 10.0 | <b>Piston Compressor for Start-up Air</b>                         | 108 m <sup>3</sup> /min, 30 bar, 24,3 kW | SPERRE - HL2/140              | 2010 | 4        |
| 11.0 | <b>Ventilation Fans and Fan Assemblies for Machinery</b>          | 2x21.600 m <sup>3</sup> /h, two fans     |                               | 2011 | 13       |
| 12.0 | <b>Ventilation Fans and Fan Assemblies for Machinery Room</b>     | 64.800 m <sup>3</sup> /h                 |                               | 2011 | 13       |
| 13.0 | <b>Frequency Inverter for Ventilation</b>                         | 13x15 kW                                 |                               | 2011 | Complete |
| 14.0 | <b>Extinguishing Installation</b>                                 |  | HT                            | 2011 |          |
| 14.1 | <b>Fire Hydrant and Fire-hose Cabinets</b>                        |  |                               | 2011 | 6        |

|      |  |   |                    |      |          |
|------|--|---|--------------------|------|----------|
| 14.2 | <b>Diesel Pump</b>   | 90 kW   | NORM               | 2011 | 1        |
| 14.3 | <b>Electrical Pump</b>   | 90 kW   |                    | 2011 | 1        |
| 14.4 | <b>Jockey Pump</b>   | 3 kW  | DAF                | 2011 | 1        |
| 14.5 | <b>Fire and Gas Detection and Alarm System</b>   |   | MAXLOGIC, MAVIGARD | 2011 | 1 set    |
| 14.6 | <b>Fire Tank</b>   | 1000 m <sup>3</sup>                                       |                    | 2011 | 1        |
| 15.0 | <b>Water Purification System (complete with switchboard and all equipment)</b>                 |   | HT                 | 2011 | Complete |
| 15.1 | <b>Sand Filter, Activated Carbon Filters, Water Softening Device, Water Reclamation Device</b> |   |                    | 2011 | 1        |
| 15.2 | <b>Hydrophore System (complete with pumps and expansion tank)</b>                              | 2x5,5 kW  | STANDARD PUMP      | 2011 | Complete |
| 15.3 | <b>Water Tank (Soft Water Tank)</b>  | 150 m <sup>3</sup> , Cr-Ni Stainless                      | HT                 | 2011 | 1        |
| 15.4 | <b>Water Tank (Glycol Tank)</b>  | 35 m <sup>3</sup> , Cr-Ni Stainless                       | HT                 | 2011 | 1        |
| 16.0 | <b>HVAC Cooling System</b>   |   | HT M               | 2011 | Complete |
| 17.0 | <b>Natural Gas Pressure-Reducing Station</b>   | RMS-A, 35-75 bar to 12-19 bar                             | RMG                | 2011 | 1        |
| 18.0 | <b>Natural Gas Pressure-Reducing Station</b>   | RMS-B, 12-19 bar to 6-7 bar                               | RMG                | 2011 | 1        |
| 19.0 | <b>Bridge Crane</b>  | 2 tons  | GMD - 20 920       | 2011 | 1        |
| 20.0 | <b>Grounding and Lightning Conductor</b>   |   |                    | 2011 | Complete |
| 21.0 | <b>Roof Monitor</b>  | 51 grills   |                    | 2011 | Complete |
| 22.0 | <b>Transformer</b>   | 100 MVA   |                    | 2011 | 2        |
| 23.0 | <b>Transformer</b>   | 2500 kVA  |                    | 2011 | 2        |
| 24.0 | <b>Switching Station, complete with Units, Boards and all Appurtenance</b>                     | 154 kV, 5 Fiber   |                    | 2011 | Complete |
| 24.1 | <b>Low Voltage Power Switchboards</b>  | 0,4 kV  |                    | 2011 | 1 set    |
| 24.2 | <b>Medium Voltage Cells</b>  | 11 kV for 14 engines and<br>for 10 auxiliary transformers |                    | 2011 | 1 set    |
| 24.3 | <b>System Control and Steering Boards</b>  |   |                    | 2011 | 1 set    |

|      |   |          |                     |      |          |
|------|---|----------|---------------------|------|----------|
| 24.4 | <b>Switchboard Room (complete with Medium Voltage Panel, Measurement Cell, Medium Voltage Cell, Inverter, Feeding Pump, Compensation Panel, Distribution Panel, Fan Inverter, Direct Current Panel)</b> |          |                     | 2011 | 1 set    |
| 25.0 | <b>Automatic Diesel Generator</b>   | 275 kVA  | TJ275SD5C           | 2011 |          |
| 26.0 | <b>Uninterrupted Power Supply (complete with batteries)</b>   | 10 kVA   | ENEL - AS           | 2011 | 1        |
| 27.0 | <b>Heat Recovery Boiler (complete with all equipment)</b>   |          |                     | 2012 | 13       |
| 28.0 | <b>Steam Turbine</b>  | 12,28 MW | SIEMENS - PAC - 300 | 2012 | 1        |
| 29.0 | <b>Alternator</b>   |          | SIEMENS             | 2012 | 1        |
| 30.0 | <b>Condenser</b>  |          |                     | 2012 | 1        |
| 31.0 | <b>Fixtures</b>   |          |                     | 2011 | Complete |

**PHOTOGRAPHS:**















Gas Engines, Alternators, incl. its Equipment



Gas Engines, Alternators, incl. its Equipment



Gas Engines, Alternators, incl. its Equipment



Water Purification Equipment

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### Steam Turbine, Alternator, Condenser and Other Equipment



### Ventilation Fans and Fan Assemblies



### Start-up Air Equipment

### Hydrophore, incl. its Equipment



Start-up Air Piston Compressors



Instrument Air Screw Compressors





DC Panel Assembly and Frequency Invertors

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DC Panel Assembly



Fan Switchboards and Compensation Panels



LV Panels



LV Panels



MV Panels



MV Panels