Diesel Engine Power Plant

Diesel Power Department
[Status: Mar. 2013]
I. STX Diesel Power Plant

II. Conventional Diesel Power Plant (DPP)

III. Containerized Power Plant (CPP)

IV. Engine Program

V. Supply Record

VI. Iraq 900MW CPP PJT Intro.
1. Supply Chain of STX

**Integrated Value Chain for Diesel Power Plant**

**Manufacture**
- Engine Components
- Crank Shaft
- Turbo Charger
- Other Core Parts

**Assembly**
- Medium Speed 4-Stroke
- Low Speed 2-Stroke

**EPC Turn-key Supply**
- Customized Engineering
- Engine & BOP Equipment
- Erection & Construction
2. Technical Tie-up

MAN Diesel & Turbo (Germany)
- 250 Years Diesel History, World Leading Maker
- 4-Stroke Engine Lineup up to 19MW
- 2-Stroke Engine Lineup up to 80MW

Niigata Power Systems (Japan)
- 110 Years Diesel History, World Class Maker
- 4-Stroke Engine Lineup up to 12MW
- Specialized in Gas Engine Manufacture

STX Engine, STX Heavy Industries (Korea)
- Presently, Global Top Class Engine Maker based on, Engine Productive Horsepower
- Full range of 4-Stroke & 2-Stroke Engine Lineup
3. Engine Production Capacity

Annual 4-Stroke Medium Speed Engine Production Capacity of STX

<table>
<thead>
<tr>
<th>Products</th>
<th>Korea Units</th>
<th>Korea MWe</th>
</tr>
</thead>
<tbody>
<tr>
<td>STX Engine</td>
<td>530</td>
<td>2,247</td>
</tr>
<tr>
<td>STX H.I</td>
<td>800</td>
<td>702</td>
</tr>
<tr>
<td>Korea Capacity</td>
<td>1,330</td>
<td>2,949</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Products</th>
<th>China Units</th>
<th>China MWe</th>
</tr>
</thead>
<tbody>
<tr>
<td>STX Fushun</td>
<td>500</td>
<td>351</td>
</tr>
<tr>
<td>China Capacity</td>
<td>500</td>
<td>351</td>
</tr>
</tbody>
</table>

| Total Capacity          | 1,830       | 3,300     |

※ Power Output : ISO 3046-1:2002
4. Diesel Power Plant Overview

- **TYPE I**: Diesel Power Plant (DPP)
- **TYPE II**: Containerized Power Plant (CPP)
5. Basic Work Scope Segment

<table>
<thead>
<tr>
<th>A) Offshore Works (Equipment Supply, S/V)</th>
<th>B) Onshore Works (Site Construction)</th>
<th>C) Customer Works</th>
</tr>
</thead>
<tbody>
<tr>
<td>➢ Basic / Detail Engineering</td>
<td>➢ Various Oil tank farm</td>
<td>➢ Authority Permits, License.</td>
</tr>
<tr>
<td>➢ Diesel Engine Generators</td>
<td>➢ Land Transport to Job-site</td>
<td>➢ Access Roads to Site</td>
</tr>
<tr>
<td>➢ Mechanical &amp; Electric</td>
<td>➢ Installation of Plant Equipment,</td>
<td>➢ Fuel Oil, Lub.Oil, Cooling Water,</td>
</tr>
<tr>
<td>Auxiliaries</td>
<td>➢ Construction of Civil &amp; Building</td>
<td>➢ Chemicals etc. supply.</td>
</tr>
<tr>
<td>➢ Ocean Transport (if needed)</td>
<td>➢ Site Training</td>
<td>➢ Insurance, Import Duties,</td>
</tr>
<tr>
<td>➢ Commissioning, Supervision from erection up to start-up</td>
<td></td>
<td>➢ Taxation etc.</td>
</tr>
</tbody>
</table>

◆ Based on optimizing EPC cost for a customer.

◆ STX as EPC Solution Provider can execute entire diesel power plant works (A,B) by the international quality control system and local standards to meet local regulation.
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VI. Iraq 900MW CPP PJT Intro.
1. Conceptual Plant Lay-Out

90MW Class
- 16V34HLX x 12 sets

- Power House
- Diesel Generator Sets
- Air Vent system
- Intake & Exhaust system
- Piping Installation
- Cooling system
- Purifier & Pump house
- Tank Farm
## 2. PJT Milestone

<table>
<thead>
<tr>
<th>Basic / Detailed Engineering</th>
<th>Supply of Equipment</th>
<th>Transportation</th>
<th>Installation</th>
<th>Commissioning</th>
<th>Commercial Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6~9 M</td>
<td>1 M</td>
<td>3~5 M</td>
<td>1 M</td>
<td>Total 11~16 Months</td>
</tr>
</tbody>
</table>

- Contract
- Technical Specification for Diesel Power Plant
- Estimated Total Power Demand
- General Arrangement Drawing for Ge-nset
- General Layout for Power Plant
- Electrical Panel Layout
- Outline Drawings for Equipment
- Piping and Instrumentation Diagram
- Single Line Diagram
- Sequence Diagram for Panels
- Control Logic Diagram
- Instrument List
- Design Data for Engineering of Equipment
- Factory Test and Site Test Program
- Piping Layout
- Cable Layout including Cable Schedule Plan
- Spare and Tool List

- Manufacturing & Assembly
- Shop Test
- Factory Training
- Ocean Freight
- Local Transport
- Civil Work
- Equipment Installation
- Mechanical Work
- Electrical Work
- Site Test & Commissioning
- Completion
- Operating / Maintenance

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## 1. Advantages of STX CPP

: **Variously Applicable New Diesel Power Plant**

### High Reliability
- Excellent engine maker STX
- Adoption of reliable, proven engine model
- 1.5MW (NPS), 4MW (MAN), 7.8MW (NPS), 8.7MW(MAN)

### Easy Transport
- Compact design for special container
- The easy transport of container module, equipped with BOP auxiliaries etc.

### Quick Installation
- Pre-fabricated equipment, pipe rack, etc.
- Modular designed application

### Various Application
- Easy Extension
- Designed for heavy fuel oil operation under all kind of hard conditions
2. EPC Schedule Comparison

◆ Easy & Quick Installation (Appr. 100~200MW Case, Same Site Assumption)
3. Conceptual Plant Layout

Power Capacity: 1.5 MW X 8 sets = 12 MW
Dimension of Layout: 120 x 70 (meter)

- 1. MDU (Main Diesel Unit)
- 2. HFO Supply Unit
- 3. Starting Air Unit
- 4. Main Control Unit
- 5. Central Control Room
- 6. Black Start D/G Unit
- 7. Step-up Transformer
- 8. Heat Recovery Unit
- 9. Pump Station Unit
- 10. DO Storage Tank
- 11. HFO Storage Tank
- 12. Raw Water Tank

Power Capacity: 4 MW X 6 sets = 24 MW
Dimension of Layout: 160 x 80 (meter)

- 13. Water Treatment Unit
- 14. Radiator
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### 8L22HLX Main Data

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder No.</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Bore/Stroke</td>
<td>220/300mm</td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>50Hz</td>
<td>60Hz</td>
</tr>
<tr>
<td>Power per Cylinder</td>
<td>207.5kWm</td>
<td>185kWm</td>
</tr>
<tr>
<td>Power range (ISO-3046-1:2002)</td>
<td>1,577kWe</td>
<td>1,406kWe</td>
</tr>
<tr>
<td>Speed</td>
<td>1,000rpm</td>
<td>900rpm</td>
</tr>
<tr>
<td>Mean piston speed</td>
<td>10.0m/s</td>
<td>9.0m/s</td>
</tr>
<tr>
<td>Fuel acceptance</td>
<td>HFO(700cSt/50°C)</td>
<td></td>
</tr>
</tbody>
</table>

#### 8L22HLX Oil Consumption (100% Load)

<table>
<thead>
<tr>
<th>RPM [rpm]</th>
<th>Engine Output [kWm]</th>
<th>SFOC [g/kWm·hr]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000 / 900</td>
<td>1,660 / 1,480</td>
<td>198.1</td>
</tr>
</tbody>
</table>

* 5% of tolerance is not included in the above figures.
2. Engine Features - 12V28HLX

○ 12V28HLX Oil Consumption (100% Load)

<table>
<thead>
<tr>
<th>RPM [rpm]</th>
<th>Engine Output [kWm]</th>
<th>SFOC [g/kWm·hr]</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 / 720</td>
<td>4,080 / 3,900</td>
<td>183.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>12V28HLX Main Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder No.</td>
</tr>
<tr>
<td>Bore/Stroke</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Power per Cylinder</td>
</tr>
<tr>
<td>Power range (ISO-3046-1:2002)</td>
</tr>
<tr>
<td>Speed</td>
</tr>
<tr>
<td>Mean piston speed</td>
</tr>
<tr>
<td>Fuel acceptance</td>
</tr>
</tbody>
</table>

* 5% of tolerance is not included in the above figures.
3. Engine Features - 18V28/32S

- 18V28/32S Oil Consumption (100% Load)

<table>
<thead>
<tr>
<th>RPM [rpm]</th>
<th>Engine Output [kWm]</th>
<th>SFOC [g/kWm·hr]</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 / 720</td>
<td>4,230 / 4,050</td>
<td>189.3/ 189.1</td>
</tr>
</tbody>
</table>

* 5% of tolerance is not included in the above figures.

**18V28/32S Main Data**

<table>
<thead>
<tr>
<th></th>
<th>18V28/32S Main Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder No.</td>
<td>18</td>
</tr>
<tr>
<td>Bore/Stroke</td>
<td>280/320mm</td>
</tr>
<tr>
<td>Frequency</td>
<td>50Hz 60Hz</td>
</tr>
<tr>
<td>Power per Cylinder</td>
<td>235kWm 225kWm</td>
</tr>
<tr>
<td>Power range (ISO-3046-1:2002)</td>
<td>4,061kWe 3,888kWe</td>
</tr>
<tr>
<td>Speed</td>
<td>750rpm 720rpm</td>
</tr>
<tr>
<td>Mean piston speed</td>
<td>8.0m/s 7.7m/s</td>
</tr>
<tr>
<td>Fuel acceptance</td>
<td>HFO(700cSt/50℃)</td>
</tr>
</tbody>
</table>
4. Engine Features - 16V34HLX

16V34HLX Main Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder No.</td>
<td>16</td>
</tr>
<tr>
<td>Bore/Stroke</td>
<td>340/500mm</td>
</tr>
<tr>
<td>Frequency</td>
<td>50Hz</td>
</tr>
<tr>
<td>Power per Cylinder</td>
<td>501kWm</td>
</tr>
<tr>
<td>Power range (ISO-3046-1:2002)</td>
<td>7,789kWe</td>
</tr>
<tr>
<td>Speed</td>
<td>600 rpm</td>
</tr>
<tr>
<td>Mean piston speed</td>
<td>10.0m/s</td>
</tr>
<tr>
<td>Fuel acceptance</td>
<td>HFO(700cSt/50 ℃)</td>
</tr>
</tbody>
</table>

16V34HLX Oil Consumption (100% Load)

<table>
<thead>
<tr>
<th>RPM [rpm]</th>
<th>Engine Output [kWm]</th>
<th>SFOC [g/kWm·hr]</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>8,030</td>
<td>181</td>
</tr>
</tbody>
</table>

* 5% of tolerance is not included in the above figures.
5. Engine Features - 18V32/40

- 18V32/40 Oil Consumption (100% Load)

<table>
<thead>
<tr>
<th>RPM [rpm]</th>
<th>Engine Output [kWm]</th>
<th>SFOC [g/kWm·hr]</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 / 720</td>
<td>9,000</td>
<td>181</td>
</tr>
</tbody>
</table>

*5% of tolerance is not included in the above figures.

<table>
<thead>
<tr>
<th>18V32/40 Main Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder No.</td>
</tr>
<tr>
<td>Bore/Stroke</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Power per Cylinder</td>
</tr>
<tr>
<td>Power range (ISO-3046-1:2002)</td>
</tr>
<tr>
<td>Speed</td>
</tr>
<tr>
<td>Mean piston speed</td>
</tr>
<tr>
<td>Fuel acceptance</td>
</tr>
</tbody>
</table>
6. Engine Features (GAS) - 18V28AGS

18V28AGS Main Data

<table>
<thead>
<tr>
<th>Cylinder No.</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bore/Stroke</td>
<td>295/400mm</td>
</tr>
<tr>
<td>Frequency</td>
<td>50Hz/60Hz</td>
</tr>
<tr>
<td>Power per Cylinder</td>
<td>343.6kWm/329.3kWm</td>
</tr>
<tr>
<td>Power range (ISO-15550:2002)</td>
<td>6,000kWe/5,750kWe</td>
</tr>
<tr>
<td>Speed</td>
<td>750/720rpm</td>
</tr>
</tbody>
</table>

18V28AGS Fuel Consumption (100% Load)

<table>
<thead>
<tr>
<th>RPM [rpm]</th>
<th>Engine Output [kWm]</th>
<th>Specific H/R [kJ/kWm·hr]</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 / 720</td>
<td>6,184 / 5,927</td>
<td>7,585</td>
</tr>
</tbody>
</table>

* 5% of tolerance is not included in the above figures.

Methane Numbers Min. 80
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1. Overseas Experiences

Total 821 Unit Worldwide
3,063 MWe

(As of Jan. 2013)
### America

#### MEXICO
- **CFE**: 12K80MC x 1 set, 42.8MW

#### COLOMBIA
- **EI**: 8L22HLX x 8 sets, 11.2MW
- **PIL**: 8L22HLX x 5 sets, 7MW

#### BRAZIL
- **EPASA**: 18V32/40 x 40 sets, 340MW
- **Aratu-1**: 18V32/40 x 20 sets, 175MW

---

Map indicating ongoing and completed projects in Latin America as of January 2013.
## Middle East & Africa

<table>
<thead>
<tr>
<th>Country</th>
<th>Project Details</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRAQ</td>
<td>MOE Phase-1</td>
<td>900MW</td>
</tr>
<tr>
<td></td>
<td>16V34HLX x 28 sets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18V28/32S x 168 sets</td>
<td></td>
</tr>
<tr>
<td>NRC</td>
<td>16V34HLX x 12 set</td>
<td>85MW</td>
</tr>
<tr>
<td>IRAN</td>
<td>PTA(STPC)</td>
<td>4.7MW</td>
</tr>
<tr>
<td></td>
<td>12V32/40 x 1 set</td>
<td></td>
</tr>
<tr>
<td>SUDAN</td>
<td>Daewoo-ITMD</td>
<td>5.6MW</td>
</tr>
<tr>
<td></td>
<td>12V28/32H x 2 sets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daewoo-NIC</td>
<td>8.1MW</td>
</tr>
<tr>
<td></td>
<td>12V28/32H x 3 sets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Daewoo-NCTC</td>
<td>10.8MW</td>
</tr>
<tr>
<td></td>
<td>12V28/32H x 4 sets</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sudan Port Corp.</td>
<td>3MW</td>
</tr>
<tr>
<td></td>
<td>8L28/32H x 2 sets</td>
<td></td>
</tr>
</tbody>
</table>

(As of Jan. 2013)
### Asia

#### Bangladesh

<table>
<thead>
<tr>
<th>Plant</th>
<th>Type</th>
<th>Sets</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPA</td>
<td>12V28/32H</td>
<td>1 set</td>
<td>2.5MW</td>
</tr>
<tr>
<td>SPGC</td>
<td>16V34HLX</td>
<td>7 sets</td>
<td>54MW</td>
</tr>
<tr>
<td>SPGC</td>
<td>16V34HLX</td>
<td>7 sets</td>
<td>54MW</td>
</tr>
<tr>
<td>SEL</td>
<td>16V34HLX</td>
<td>7 sets</td>
<td>54MW</td>
</tr>
<tr>
<td>VERL</td>
<td>18V28AGS</td>
<td>4 sets</td>
<td>24MW</td>
</tr>
</tbody>
</table>

#### Malaysia

<table>
<thead>
<tr>
<th>Plant</th>
<th>Type</th>
<th>Sets</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAHAD DATU</td>
<td>12V28/32H</td>
<td>1 set</td>
<td>16.5MW</td>
</tr>
<tr>
<td>KUDAT</td>
<td>12V28/32H</td>
<td>2 sets</td>
<td>4.4MW</td>
</tr>
</tbody>
</table>

#### Indonesia

<table>
<thead>
<tr>
<th>Plant</th>
<th>Type</th>
<th>Sets</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIDECO 7th</td>
<td>8L28/32H</td>
<td>3 sets</td>
<td>5.4MW</td>
</tr>
<tr>
<td>KIDECO 8th</td>
<td>8L28/32H</td>
<td>3 sets</td>
<td>5.4MW</td>
</tr>
<tr>
<td>PLN</td>
<td>6L28/32H</td>
<td>6 sets</td>
<td>8.1MW</td>
</tr>
</tbody>
</table>

(As of Jan. 2013)

[Map of Asia with project locations marked]

Ongoing Project

Completed Project
2. On-going Projects

**Client:**
SINHA Group

**Location:**
Katpatti & Homna, Bangladesh

**Work Scope:**
Equipment Supply, Supervision

**Fuel Type:**
HFO, DO

**Total Capacity:**
54MW

**Engine Model:**
STX-NIIGATA 16V34HLX
7.8MW x 7 sets

**COD:**
(E) Jul. 2013

54MW x 2 sites in Bangladesh
2. On-going Projects

Client:
Energy International

Location:
Colombia

Work Scope:
Equipment Supply, Supervision

Fuel Type:
HFO, DO

Total Capacity:
11.2MW

Engine Model:
STX-NIIGATA 8L22HLX
1.4MW x 8 sets

Equipment Delivery:
(E) Jan. 2013

E.I Rental 11.2 MW CPP Project
2. On-going Projects

Client:
North Refinery Company

Location:
Iraq

Work Scope:
EPC Turnkey

Fuel Type:
HFO, DO

Total Capacity:
85MW

Engine Model:
STX-NIIGATA 16V34HLX
7.8MW x 12 sets

COD:
(E) May. 2013

NRC 85MW DPP, IRAQ
2. On-going Projects

Client:
CFE (Mexico’s State Power Company)

Location:
Mexico

Work Scope:
Equipment Supply, Supervision

Fuel Type:
HFO, DO

Total Capacity:
42MW

Engine Model:
STX-MAN 12K80MC-S
42MW x 1 set

Delivery Date:
(E) Jan. 2013
2. On-going Projects

Client:
PROYECTOS INTEGRALES SAS

Location:
Columbia

Work Scope:
Equipment Supply, Supervision

Fuel Type:
HFO, DO

Total Capacity:
7MW

Engine Model:
STX-NIIGATA 8L22HLX
1.4MW x 5 sets

Equipment Delivery:
(E) Jun. 2013

PIL 7MW CPP Project
2. On-going Projects

Client: Venture Energy Resources Ltd.

Location: Bhola, Bangladesh

Work Scope: Equipment Supply, Supervision

Fuel Type: Gas

Total Capacity: 24MW

Engine Model: STX-NIIGATA 18V28AGS 6MW x 4sets

Equipment Delivery: (E) May. 2013
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<table>
<thead>
<tr>
<th>Diesel Maker</th>
<th>Accumulated Output [MW, ISO]</th>
</tr>
</thead>
<tbody>
<tr>
<td>STX (Korea)</td>
<td>994</td>
</tr>
<tr>
<td>Wartisila (Finland)</td>
<td>490</td>
</tr>
<tr>
<td>Hyundai (Korea)</td>
<td>451</td>
</tr>
<tr>
<td>MAN (Germany)</td>
<td>403</td>
</tr>
</tbody>
</table>

Sourced by Maker website
Data accumulated since 1990
Fast-Track Solution for Severe Power Shortage in Iraq

Complete turn-key execution just **11 months**
(Signing Contract ‘11.09 to 900MW Commercial Operation as of ‘12.07.01)

4 Scattered Sites 900MW execution in central regions

North Diwaniyah 200MW / East Diwaniyah 200MW
Karbala 300MW / Missan 200MW

Totally Integrated modular Containerized Power Plant

[18V28/32S (4MW) x 168 units + 16V34HLX (7.8MW) x 28 units]
900MW Progress of Each Site

- **North Diwaniyah** (200MW)
  - Turn Over: 6/30
  - 2/29
  - 4/26
  - 5/30
  - 6/30

- **Karbala** (300MW)
  - Turn Over: 6/30
  - 2/26
  - 4/23
  - 5/30
  - 6/30

- **Missan** (200MW)
  - Turn Over: 6/30
  - 2/26
  - 4/26
  - 5/30
  - 6/30

- **East Diwaniyah** (200MW)
  - Turn Over: 6/30
  - 2/15
  - 4/5
  - 4/10
  - 5/20
  - 6/10

**Timeline Events**
- 9/28: Signing 900MW
- 10/22: 1st Shipment Departed
- 11/11: Civil Started
- 11/30: Groundbreaking ceremony
- 11/30: Provisional Acceptance Cert.(PAC)

**Legend**
- ▼ Gen-sets Arrived at Site
- ▼ Completion of Civil
- ◼ Start of Commissioning
- ▼ Completion of Mech. & Elec. Installation
- ◼ Provisional Acceptance Cert.(PAC)
East Diwaniyah (200MW)

Client: IRAQ Ministry of Electricity

Location: East Diwaniyah, Iraq

Work Scope: EPC + 1yr Maintenance

Fuel Type: HFO, DO

Total Capacity: 218MW
31MW Power block x 6

Engine Model: STX-NIIGATA 16V34HLX
7.8MW x 28 sets

COD: July 1, 2012
East Diwaniyah 200MW Diesel Power Plant
Comprising of 32 x 16V34 HLX Four-stroke Engines
HFO Operation

Republic of Iraq
Ministry of Electricity
Karbala Power Plant, Iraq (300MW)

Client: IRAQ Ministry of Electricity

Location: Karbala, Iraq

Work Scope: EPC + 1yr Maintenance

Fuel Type: HFO, DO

Total Capacity: 288MW
24MW Power block x 12

Model: STX-MAN 18V28/32S
4MW x 72 sets

COD: July 1, 2012
3D Plant Completion View-K.A

Karbala 300MW Diesel Power Plant
Comprising of 72 x 18V28/32S Four-stroke Engines

Republic of Iraq
Ministry of Electricity
North Diwaniyah (200MW)

Client:
IRAQ Ministry of Electricity

Site:
North Diwaniyah, Iraq

Work Scope:
EPC + 1yr Maintenance

Fuel Type:
HFO, DO

Total Capacity:
192MW
24MW Power block x 8

Model:
STX-MAN 18V28/32S
4MW x 48 sets

COD:
July.1.2012
North Diwaniyah 200MW Diesel Power Plant
Comprising of 72 x 18V28/32S Four-stroke Engines
HFO Operation

Republic of Iraq
Ministry of Electricity
Missan Power Plant, Iraq (200MW)

Client:
IRAQ Ministry of Electricity

Site:
Missan, Iraq

Work Scope:
EPC + 1yr Maintenance

Fuel Type:
HFO, DO

Total Capacity:
192MW
24MW Power block x 8

Model:
STX-MAN 18V28/32S
4MW x 48 sets

COD:
July 1, 2012
Missan 200MW Diesel Power Plant
Comprising of 48 x 18V28/32S Four-stroke Engines
HFO Operation

Republic of Iraq
Ministry of Electricity
THANK YOU.