

102 MW (14 x 7.3 MW) HFO fired Diesel generator plant

The scope of supply consists of 14 nos. Diesel generator sets as per the attached data sheet and the following auxiliary equipment:

Equipment	Qty	Type	Make	Specification
Step-up Transformer	2		Crompton Greaves	70MVA, ONAF, 50Hz, 11kV/132kV
Station Transformer	2	TOHn 458/10	BEZ Transformatory	11kV/400V, 4000kVA, 50Hz
Switch Gear Generators	14	VD4 1212-50	ABB	Voltage 2kV, 50Hz, Normal Current 1250A,
Black Start Generator	1			
Prime Mover	14	16 CM 32 C	Caterpillar Motoren	2003 , 7680kW , 750rpm , sense of rot- left
Alternator	14	DIG171m/8	AVK DEUTSCHLAND	2004, 50Hz, 34000kg, $\cos\phi = 0.8$
charge air silencer	14	HXMK.S-NB800NB 2X 603	DIX COM Netherland	
Charge air filter 7	14	Multiduty	AAF	With plenum chamber
HFO Unloading Module	3		MAS GmbH	2004
Diesel Oil Unloading Module	1		MAS GmbH	2004
Lube Oil Unloading Module	1			2004
HFO Separators	3	OSD 60-0136-067/61	GEA Westfalia Separator	2004 , 6800rpm , heavy liquid - 1(kg/dm ³) , Solid - 1.4 (kg/dm ³)
Fuel pre Pressure Unit Auto Filter	2	6.61DN151	BOLL & KIRCH	2004, 10-14bar , 100-200C , 71L ,
HFO Final Pre Heaters	14	VW 7.0ZN5175	E.PRANG & CO:	2005 , max w.p 5-11bar , inhault vol 26.5-40.0L ,
Deisel Oil Cooler	14	OK 10.5ZN 5169A	E.PRANG & CO:	2004 , max w.p 5bar tube /8bar shell
Visco Meter	14	7829FEANAJBBBA	SOLARTRON MOBREY , UK	105bar
Lub Oil separator	14	OSD18-0196-067/10	GEA Westfalia	2004 , 9600rpm , 1.4(kg/dm ³) , 1(kg/dm ³)
Auto Filters	14	6.46 DN156	BOLL & KIRCH	10bar , 80C , 30µm , BJY-04
Duplex Filters	14	2.05.5265750DN125	BOLL & KIRCH	2004, 10bar , 80C , 2 x 47 L
Lub Oil Coolers	14	Lube Oil Water Module	MAS GmbH	2004
Oily Water Separator Unit	1	PPT-BWS/MESB	NFV	
Water Treatment Plant	1		BERKFELD	
Thermal Oil Boilers	8	AWE750H36		2004, 1450L , 18 m ³ /h , 10 bar , 750 kW , 250 C , 134 m ³
Dumping Cooler	8	TOK 7.0ZN5131	E.PRANG S CO : APPARATEBAU	2004, 5bar /28L -Tube side , 5bar/47L -Shell side
Auxiliary Boiler	1	DWE 750 V 36	PWT (Prozess)	2004 , 750kW , 465L , 29.3m ³ /h , 10bar , Tmax -250C
Cooling Water Preheater	14	VESTA™™ EH20		2004/0.021m ³ /16bar/160 C/45kW/3x400 V
Radiator Unit	14	471/41906	GEA-Wingles France	708dm3, 2004, 6.5bar/3.5bar, 8*7.5kW fans
Engine driven Fire pump	1	210435	KSB AJAX PUMPS PVT LTD	Size: 100-26
Motor Driven Fire Pump	1	210435	KSB AJAX PUMPS PVT LTD	Size: 100-27
Start Air Compressor	2	L -160	HATLAPA	2004 , 900kg , 151(m ³ /h) , 30bar , 1450rpm , 30.1kW
Air Dryer	1		DONALD SON	10-80C , 2004
SCADA system	2		SEG Power Solutions	
supply air unit-ventilation	14	H5 - L6	AAF Divisin Environment	400V- TRI - 50Hz

Equipment	Qty	Type	Make	Specification
Warehouse Containers	10			40 foot
Control Room Container	1			40 foot combined
Electric wire rope hoist	1	1542	LL146	Lift Off Industries, Faridabad.
Electric chain hoist	1	1106002	DSM-2W	DAESAN Korea
Fork Lift	1	T25C-50019	GP15NT	MITSUBISHI HEAVY INDUCTRIS LTD
Over head crane - 01	2	5T * 16.49M	Morris Material Handling	Morris 420L 4/1 CR DSH DST DSL EC-160
Thermal Oil Boiler	8	A075.384	AWE750H36	2004, 1450L , 18 m ³ /h , 10 bar , 750 kW , 250 C , 134 m ³
Auxiliary Boiler	1	DO75.377(ISW 297)	DWE 750 V 36	2004 , 750kW , 465L , 29.3m ³ /h , 10bar , Tmax -250C
Engine driven pump	1	2004/0024	210435	Size: 100-26
Motor Driven Pump	1	2004/0020	210435	Size: 100-27
Motor	1	838162	SG 280 M-2	50Hz , 620kg , 90kW , 2980 rpm , 40C , Y : 415 V, 152.2A ,
Jockey Pump	1	A96536699P20435	CR15- 10 A-F-A-F-HOOF	11 kW , 141 m , P (max)/T(max) =16/120
Jockey Pump Motor	1	H144418074	GH 150 T 11(3-Phase induction m	50Hz , 11 kW , 2935 rpm , 40 C , 2004 , Δ : 380 V , 20.1 A , Y : 415 V
Fire engine	1			
Fire Control System	1		ZX2e	230V, 0.7A, 50Hz, EN 54-2:1997 Anlogue addressable fire panel,
Fire Alarm System	1		F4	
Fire Control System	2		Zx1e	230V, 0.7A, 50Hz, EN 54-2:1997 Anlogue addressable fire panel,
Fire fighting water tank	1			500 m ³
Water Treatment Plant	1		BERKFELD - FILTER GmbH	
Pump 03	1	C4J508006P10410	GRUNDFOS	CHI4-60 A- W-GBQQE
Pump 02	1	C4H508006P10923	GRUNDFOS	CHI4-60 A- W-GBQQE
Pump 01	1	C4H508006P10413	GRUNDFOS	CHI4-60 A- W-GBQQE
Chemical dosing Pump	1	E09L03213	ETATRON DS-ROME (ITALY)	DLXB -MA/AD
UV - C System	1		Berkefeld	
Aeration Pump motor	1	R001256	DURR-PECHNIK	B- 038/0835-45AB
Sand Filter Dearation 01	1		Berkefeld	N 350 D AE PVC
Sand Filter Dearation 02	1		Berkefeld	N 350 D AE PVC
Softner Unit	1			
HFO Storage Tank	1			capacity :4000 m ³
HFO Storage Tank	1			capacity :4000 m ³
Service Oil Tank	1			capacity :150 m ³
Diesel Oil Tank	1			capacity :1000 m ³

Note:

The 10 nos. warehouse containers as well as the tanks (e.g., HFO, service oil, Diesel oil) are not in the scope of supply.