

APPENDIX – 04:

MISCELLANEOUS DATA

LOT 1: LAKHRA POWER PLANT (150MW)

LAKHRA POWER GENERATION CO. LTD

150MW LAKHRA FBC POWER STATION

NEAR KHANOT DISTT: JAMSHORO

NAME PLATE DATA OF



EQUIPMENT DESCRIPTION

CONDENSER:

Type	N-4340
Suction Pressure	0.008042 Mpa
Steam Flow	140 t.hr
Surface	4340 m ²
Cooling water Pressure	0.1.96 Mpa
Cooling water Temp:	31 °C

STEAM TURBINE:

Type	N – 50 – 8.3/535 High pressure Single Cylinder Condensing Steam Turbine
Rated out put	50 MW
Rated Speed	3000 rpm
Fresh Pressure	8.83 Mpa
Fresh Temp:	535 °C
Exhaust Pressure	0.008 Mpa

H.P HEATER

Type	JG- 170 - 1-1
Design Pressure	Shell / Tube 2.75 / 17.65 Mpa
Actuating Pressure	1.3 / 11.77 Mpa
Test Pressure	4.12 / 24.22 Mpa
Heating Surface	170 m ²
Actuating Medium	Steam – Water
Design Temp:	Shell / Tube 400 / 230 °C
Vessel Grade	III
Net weight	11523kg

L.P HEATER

Type	DR- 120 - 1-3
Design Pressure	Shell / Tube 0.49 / 1.96 Mpa
Actuating Pressure	0.3 / 11.77 Mpa
Test Pressure	0.62 / 2.45 Mpa
Heating Surface	120 m ²
Design Temp:	Shell / Tube 200 / 130 °C
Vessel Grade	II
Net weight	6135g

CONDENSATE PUMP:

Type	8 - NL - 130
Speed	2975 rpm
Total Head	139 m
Rated Flow	160 cu.m/h
Rated Pressure Head	1.323 MPa
Capacity	44.4 L/S
Power	110 Kw
Weight	890 kg

FEED WATER PUMP:

Type	2DG - 10
Capacity	270 m ³ /hr
Shaft Power	1474 Kw
Motor Power	1600 Kw
Total Head	1615 m
Rated Pressure Head	14 MPa
Speed	2980 rpm

Feed Water Tank

Model	YS-70
Rated Water Tank Volume	70 cu.m

STEAM JET EJECTOR:

Model	C – 7.5 - 60
Suction Pressure	7.5 x10 ⁻³ Mpa
Steam Flow	800 kg / hr
Air Ejector	60 kg / hr
Steam Pressure	0.49 Mpa
Steam Temp:	151 °C

Deaerator

Model	YC-225
Rated Capacity	225 t/h
Rated working pressure	0.59 MPa

OIL PURIFIER

Model	Y J - 3000
Filter Fineness	5 U m
Water Content	0.03 %
Weight	1330 kg
Capacity	3000 L / hr
Power Consumption	2.25 kw
Dimension	1805.1755 .135 mm

STARTING OIL PUMP

Model	100 YX – 120 x 2 A
Head	205 m
Shift Power	95.4 kw
Efficiency	54.5 %
Capacity	93 m ³ / hr
NPSH	5.05 m
Speed	2950 rpm
Weight	460 kg

EMERGENCY OIL PUMP

Type	100 Y – 60 B
Head	38 m

Shift Power (Motor)	12.55 kw
Efficiency	65 %
Capacity	79 m ³ / hr
NPSH	3.5 m
Speed	2950 rpm

OIL COOLER

Type	Y L – 80
Surface	80 m ²
In / Out Oil Pump	46 / 60 °C
Oil Flow	35 t / hr
Water Flow	125 t / hr

TUBULAR –COOLER AIR SIDE No: 1

Type	G C - 4
Cooling Area	17 m ²
Working Pressure	1.6 Mpa
Working Temp:	120 °C
Weight	126 kg

TUBULAR –COOLER AIR SIDE No: 2

Type	G C - 4
Cooling Area	17 m ²
Working Pressure	1.6 Mpa
Working Temp:	120 °C
Weight	226 kg

TUBULAR –COOLER No: 1

Type	G C - 3
Cooling Area	10 m ²
Working Pressure	1.6 Mpa
Working Temp:	120 °C
Weight	150 kg

TUBULAR –COOLER No: 2

Type	G C - 3
Cooling Area	10 m ²
Working Pressure	1.6 Mpa
Working Temp:	120 °C
Weight	150 kg

BALL – SEPEARATORS

Type	S – 1000 - 11
Weight	1420 kg

GAS RESERVOIR

Working Pressure	0.8 Mpa
Working Temp	120 °C
Of the out fit	873.7 kg
Total Volume	2 m ³

NO:1, EXTRACTION NON- RETURN VALVE

Type	FH – 64 – 100 - 1
Nom Dia	DE 100 mm
Working Pressure	6.3 Mpa
Working Temp	450 °C
Air Pressure	0.6 Mpa
Stroke	30 mm

NO:2, EXTRACTION NON- RETURN VALVE

Type	FH – 64 – 200
Nom Dia	DE 200 mm
Working Pressure	6.28Mpa
Working Temp	350 °C
Air Pressure	0.588 Mpa
Stroke	55 mm

NO:3, EXTRACTION NON- RETURN VALVE

Type	FH – 64 – 50
Nom Dia	DE 200 mm
Working Pressure	6.28Mpa
Working Temp	350 °C
Air Pressure	0.588 Mpa
Stroke	55 mm

NO:4, EXTRACTION NON- RETURN VALVE

Type	FH – 64 – 200
Nom Dia	DE 200 mm
Working Pressure	6.28Mpa
Working Temp	350 °C
Air Pressure	0.588 Mpa
Stroke	55 mm

NO:5, EXTRACTION NON- RETURN VALVE

Type	FH – 40 – 300
Nom Dia	DE 300 mm
Working Pressure	3.92Mpa
Working Temp	350 °C
Stroke	80 mm

PERIODIC BLOWDOWN FLASH TANK

Type.	D P -7. 5
Design Pressure	0.147 Mpa
Working Pressure	3.92 Mpa
Actuating Pressure	0.13 Mpa
Test Pressure	0.245 Mpa
Volume	7.5 m ³
Actuating Medium	Water / Steam
Design Temp:	200 °C

BOILER SIDE

ROOTS BLOWER OR SEAL POT BLOWER No.1

Type	RD - 125
P In	101.3 Kpa
P out	199.3 Kpa
P	98.0 Kpa

Flow	16.6 m ³ /min
Speed	2000 rpm
Power	40.3 kw
Weight	360 kg

No.2 &3

Type	RD - 125
P In	101.3 Kpa
P out	199.3 Kpa
P	98.0 Kpa
Flow	16.7 m ³ /min
Speed	2000 rpm
Power	40.3 kw
Weight	360 kg

DISCHARGE VALVE ROOTS BLOWER & SEAL BLOWER

Type	2-41, t-10
Vapour	10 Mpa
Temperature	200 °C
DN – No:	DN – No 125mm
PN	PN 10 Mpa

ROTARY LOBE VACUUM BLOWER

No.1& 2

Type	1016 DVJV
Speed	1150 rpm
In let volume	1813 ILFM
Vacuum	18.00 HGv

REVERSE BLOW BAG DUST SEPARATOR

Type	TM - 11 – 64 – 24
Blast Velocity	1.2 – 1.4 m/min
Rating of Air	5000 – 5000 m ³ / hr
Resistance Loss	1180 – 1370 Mpa
In let Concentration	15 g m ³
Weight	2900 kg

ROOTS BLOWER OR VACUUM BLOWER

No.1

Type	TRC - 100
P In	101.3 Kpa
P out	219.0 Kpa
P	117.6 Kpa
Flow	8.09 m ³ /min
Speed	2000 rpm
Power	20.9 kw
Weight	430 kg

No.2

Type	TRC - 100
P In	101.3 Kpa
P out	219.0 Kpa
P	117.6 Kpa
Flow	8.7 m ³ /min

Speed	2000 rpm
Power	20.9 kw
Weight	430 kg

F.D FAN

Type	G9-26-11 No-18d
Suction Volume	126000- 144000 m ³ / hr
In let volume	1813 ILFM
Total Pressure	17946 – 19467 Pa
Speed	1491 rpm
Shaft Power	1400 kw
Gas Density	1.175 kg / m ³

I.D FAN

Type	Y5-47-11 No 24.5 F
Total Pressure	5737-6453 Pa
Speed	990 rpm
Shaft Power	900 kw
Gas Temp:	166 °C
Gas Density	0.7252 kg / m ³
Suction Volume	236400- 270000 m ³ / hr

BOILER DURM SAFETY VALVE RIGHT -SIDE

Type	1738 WA-2-139-5
Size	2.5 inch
Set Pressure	1717
Lift	0.450
Capacity	207391 Lbs/hr at sat Fo
B/M	9259915
KMC	466

BOILER DURM SAFETY VALVE LEFT -SIDE

Type	1738 WA-2-139-5 KMC 466
Size	2.5 inch
Set Pressure	1667
Lift	0.450
Capacity	200725 Lbs/hr at sat Fo
B/M	9259915
KMC	466

BOILER DURM VENT VALVE OR SERVICE STEAM VALVE ON TOP OF BOILER DRUM

Type	J 61 Y-25
Dg	50
Pg	25 Mpa
Working Pressure	10.0 Mpa
Working Temp	450 °C

BOILER

Fluidized bed combustion Boiler	
Model:	DG220/9.8-5
Maximum Main Steam Flow:	220 t/h

Rated Steam Flow: 200 t/h
Rated Main Steam Pressure: 9.8 MPa
Rated Temperature of Feed water: 215 C

Bag House Filters

Model: HJL-16000
Rated Flue Gas Flow: 442,800 cu.m /h
Rated Inlet Gas Temperature: 150 C
Total Filtered area: 15,912 squ.m
Total Cells: 8
Total Bags: 1632

Booster Fan

Model: G4-73-No.10D
Rated Pressure Head: 0.0227 MPa
Rated Air Flow: 45,051 cu.m/h

Seal Pot Blower

Model: RD-125
Rated Air Flow: 364.2-1242 cu.m/h

Coal Flipper

Number of Cell A: 7
Number of Cell B: 3

Screw Coal Feeder

Model: GX250-LA
Rated Capacity: 1.67-10 t/h
Number of Cell A: 7
Number of Cell B: 3

Screw Lime Stone Feeder

Model: GX250-LA
Rated Capacity: 1.43-8.6 t/h
Number of Cell A: 5
Number of Cell B: 2

Cinder Cooler

Rated Capacity: 3.6 t/h
Number of Cell A: 4
Number of Cell B: 2

Elevator

Model: THJ1000/0.5-JX

Phosphate Solution Tank

Rated Capacity: 1 cu.m

Phosphate Injection Pump

Model: J-7.20/160 HI

Rated Capacity: 20 I/h

Hydrazine and Ammonia Injection Pump

Model: ZJ2-40/25/II

Rated Capacity: 40 I/h

Generator-Transformer

Generator

Model QFQ-50.2B Hydrogen Cooled
Rated Capacity 50 MW
Rated Voltage 10.5 KV
Rated Current 3440 A
Rated Power Factor 0.8
Rated Frequency 50 Hz

Exciter

Model DQLT-10
Rated output Voltage 250V
Rated output Current 527 A

Exciter Transformer

Rated capacity 450 KVA

Magnetic Breaker

Model DM-600

Rectifier Box

Rated Voltage 500 V

High Voltage standby Transformer

Model SFZ-12500/132TA

Rated Capacity 12.5 MVA

Main Transformer

Model SF-63000/132TA
Rated Capacity 63 MVA

High Voltage Auxiliary Transformer

Model SFZ-12500/10TA
Rated Capacity 12.5 MVA

Low Voltage Auxiliary Transformer

Model S-1000/6 TA
Rated Capacity 1 MVA

Low Voltage Auxiliary Transformer

Model S-500/6 TA
Rated Capacity 500 KVA



LAKHRA POWER GENERATION COMPANY LIMITED

150MW LAKHRA FBC POWER STATION NEAR KHANOT DISTT. JAMSHORO

DETAILS OF PUMPS

1) HYDRAZINE & AMMONIA INJECTION PUMP

Model	ZJ2-40/25/II	01 No:
Rated Capacity	40 I/h	04 Nos:

2) FEED WATER PUMP

Model	2DG-10	02 No:
Rated Flow	270cu.m/h	
Rated Pressure head	1.40MPa	
Rated Speed	2,850 rpm	

3) CONENSATE PUMP

Model	8NL-130	02 Nos:
Rated Flow	160cu.m/h	
Rated Pressure head	1.323MPa	

Rated Speed 2,850 rpm

4) **OIL PURIFIRE PUMP**

Model CB-B63 01 No:

5) **DRAINAGE PUMP**

Model IS80-50-315I 02 Nos:
Rated Capacity 60cu.m/h

6) **CHEMICAL FEEDING PUMP**

Model J-Z800/4 02 Nos:
Rated Capacity 800 l/h
Rated Pressure 0.4MPa

7) **INTERMEIATE WATER PUMP**

Model 80F--381 02 Nos:
Rated Capacity 32.4-60cu.m/h

8) **DEMI WATER PUMP**

Model 80F--381 02 No:
Rated Capacity 32.4-60cu.m/h



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9) **SALTING LIQUID PUMP**

Model 50FS-25Y-60B 01 No:
Rated Capacity 7.92-19.8cu.m/h

10) SERVICE C.W PUMP

Model	ZOSA-ZZB	02 Nos:
Rated Pressure head	0.13MPa	.
Rated Capacity	1,440 t/h	

11) BOOSTER PUMP

Model	S300-58A	02 Nos:
Rated Pressure head	0.54-0.41MPa	
Rated Capacity	529-893 t/h	

12) OIL UNLOADING PUMP

Model	65Y-60B	01 No:
Rated Capacity	20cu.m/h	

13) OIL SUPPLYING PUMP

Model	40YB40x8	02 Nos:
Rated Capacity	10cu.m/h	

14) DRAIN OIL PUMP

Model	5/3.3-1	01 No:
Rated Capacity	05cu.m/h	

15) FERRO SULPHATE INJECTING PUMP

Model	25FB-41	02 Nos:
Rated Capacity	2.16-3.96cu.m/h	

16) CHLORINE INJECTING WATER PUMP

Model	IS65-50-160	02 Nos:
Rated Capacity	15-30cu.m/h	



LAKHRA POWER GENERATION COMPANY LIMITED

150MW LAKHRA FBC POWER STATION NEAR KHANOT DISTT. JAMSHORO

17) CHEMICAL INJECTING WATER PUMP

Model J-Z200/16-III 02 Nos:

18) CIRCULATING WATER PUMP

Model 32SH-19 03 No:
Rated Flow 4,700-6,400 t/h
Rated Pressure head 0.34-0.24 MPa
Rated Speed 730 rpm

19) FLUSH PUMP

Model IS80-50-200 01 No:
Rated Capacity 31-61 t/h
Rated Pressure head 0.45-0.54 MPa
Rated Speed 2,950 rpm

20) FIRE FIGHTING PUMP

Model SI 50-28 01 No:
Rated Capacity 162-198 t/h
Rated Pressure head 0.32-0.61 MPa

21) CETRIFUGAL WATER PUMP

Model S200-63 03 Nos:

22) CONDENSATE WATER PUMP

Model ISR 50-32-160 01 No:
Rated Capacity 7.5-15cu.m/h

23) COOLING WATER PUMP

Model S200-63A 03 Nos:

24) MAKE-UP WATER PUMP

Model 350HBRC vertical flow 04 Nos:
Rated Capacity 600-900cu.m/h
Rated Pressure head 0.45-0.53 MPa
Rated Speed 1475 rpm

25) LUBRICATING PUMP

Model IS65-40-250A 02 Nos:
Rated Capacity 15-20 t/h
Rated Pressure head 0.65-0.56 MPa

26) PLANT SERVICE WATER PUMP

Model S300-58 02 Nos:
Rated Pressure head 0.63-0.49 MPa
Rated Speed 1450 rpm
Rated Capacity 576-972 t/h

27) CHEMICAL CLARIFIED WATER PUMP

Model 1S100-65-200 02 Nos:
Rated Pressure head 0.54-0.44 MPa
Rated Capacity 65-125 t/h

28) CHEMICAL WATER COUNTER FLUSH PUMP

Model 1S150-125-315A 01No:
Rated Pressure head 0.26-0.22 MPa
Rated Capacity 115-200 t/h

29) POTABLE WATER PUMP

Model	1S125-100-250A	02 Nos
Rated Pressure head	0.65-0.55 MPa	.
Rated Capacity	115-200 t/h	

LPGCL

Attachment 4: Main Specification for Major Equipment of the Systems to be Handed Over as Mentioned in the Acceptance Report

NOTE: In this Attachment, only the Main Specification for Major Equipment of the Systems to be Handed Over as Mentioned in the Acceptance Report (hereinafter called MAIN SPECIFICATION) has been listed. For more details, please refer to the approved final design drawings & the CONTRACT documents. If there is any discrepancy between this MAIN SPECIFICATION and the approved final design drawings & CONTRACT documents, the approved final design drawings & CONTRACT documents shall govern.

1. Main Specification for Boiler No.1 and its Main Auxiliaries

No.	Designation	Model/Specification	Quantity
1.1	fluidized bed combustion boiler	model: DG220/9.8-5 maximum main steam flow: 220 t/h rated steam flow: 200 t/h rated main steam pressure: 9.8 MPa rated temperature of feed water: 215 C	1
1.2	bag house filters	model: HJL-16000 rated flue gas flow: 442,800 cu.m /h rated inlet gas temperature: 150 C total filtered area: 15,912 squ.m total cells: 8 total bags: 1,632	1
1.3	forced draft fan	model: G9-26-11 NO.18D rated pressure head: 0.0179MPa rated air flow: 126,000 cu.m /h	2
1.4	induced draft fan	model: Y5-47-11 NO.24.5 rated pressure head: 0.0057MPa rated air flow: 236,400 cu.m /h	2
1.5	booster fan	model: G4-73-NO.10D rated pressure head: 0.0227MPa rated air flow: 45,051 cu.m /h	1
1.6	seal pot blower	model: RD-125 rated air flow: 364.2-1242 cu.m/h	2
1.7	coal flipper	number of cell A: 7 number of cell B: 3	10

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- III. SPTS. HANGERS AND FABRICATED PARTS

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EQUIPMENT & MATERIAL LIST

序号 ITEM	名 称 DISIFNATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
—	汽轮发电机设备 TURBO-GENERATOR				
1	汽轮机 STEAM TURBINE	N50-8.83/535 50MW 535 C 8.83MPa	台 SET	3	东方汽轮机厂(DTW) SUPPLIED BY DONGFANG TURBINE WORKS
2	发电机 GENERATOR	QFQ-50-2-B 50MW 3000r. p. m 10.5KV	台 SET	3	东方电机厂(D. EGW) SUPPLIED DONGFANG ELEC- TRIC GENERATOR WORKS
3	凝汽器 CONDENSER	N-4340 4340m ²	台 SET	3	汽机本体辅机 TURBINE AUXILIARY EQUIP.
4	凝结水泵 CONDENSATE PUMP	8NL-130 1.323MPa 配电机: 160m ³ /h WITH MOTOR Y315S-2 380V (立式) 2970r. p. m IP44 110KW	台 SET	6	上海水泵厂 SUPPLIED BY WORKS
5	启动抽气器 START-UP EJECTOR	CD-20-80	台 SET	3	汽机本体辅机 TURBINE AUXILIARY EQUIP.
6	主抽气器 MAIN EJECTOR	C-7.5-60	台 SET	6	"
7	汽封抽气器 GLAND EJECTOR	CQ-95-164	台 SET	3	"
8	#1 低压加热器 NO. 1 L. P. HEATER	JD-120-1-1 120m ²	台 SET	3	东方锅炉厂(D. BW) SUPPLIED BY DONGFANG BOILER WORKS
9	#2 低压加热器 NO. 2 L. P. HEATER	JC-120-1-2 120m ²	台 SET	3	"

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EQUIPMENT & MATERIAL LIST

序号 ITEM	名 称 DISINATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
10	#3 低压加热器 NO. 3 L. P. HEATER	JD-120-1-3 120m ²	台 SET	3	东方锅炉厂(D. BW) SUPPLIED BY DONGF BOILER WORKS
11	低压加热器疏水泵 DRAINAGE PUMP OF L. P. HEATER	3N6×2 1.25MPa 配电机: Y180M-2 380V 26m ³ /h WITH MOTOR; 22KW 2940r. p. m	台 SET	6	沈阳第一水泵厂 SUPPLIED BY WORKS
12	#1 高压加热器 NO. 1 H. P. HEATER	JG-170-1-1 170m ²	台 SET	3	东方锅炉厂 SUPPLIED BY D. B. W
13	#2 高压加热器 NO. 2 H. P. HEATER	JG-170-1-2 170m ²	台 SET	3	"
14	除氧器 DEAERATOR	YC-225 0.59MPa 225t/h	台 SET	3	"
15	给水箱 FEED WATER TANK	YS-70 70m ³	台 SET	3	"
16	减压减温器 PRESSURE REDUCING AND DESUPERHEATER	WY-25/280-25	台 SET	3	东方汽轮机厂辅机 SUPPLIED BY D. T. W.
17	汽机本体疏水扩容器 TURBINE DRAIN FLASH TANK	SW-55 0.55m ³	台 SET	3	"
18	低压蒸汽联箱 L. P. STEAM HEADER	∅245×18	台 SET	3	自制 MADE BY SELF
19	储气罐 AIR STORAGE TANK	2m ³ 0.78MPa	台 SET	3	成都锅炉厂辅机厂 SUPPLIED BY WORKS

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EQUIPMENT & MATERIAL LIST

序号 ITEM	名 称 DISIFNATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
20	主油箱 MAIN OIL TANK	11m ³	台 SET	3	东方汽轮机厂辅机 SUPPLIED BY D. T. W
21	直流事故油泵 EMERGENCY D. C. OIL PUMP	0. 328MPa 7. 5KW 45m ³ /h	台 SET	3	"
22	高压调速油泵 H. P. SPEED GOVERNING OIL PUMP	100Y—120×2A 2. 009MPa 配电机: 93m ³ /h WITH MOTOR: Y315S—2 380V 110KW 2970r. p. m	台 SET	3	沈阳水泵厂 SUPPLIED BY WORKS
23	低压润滑油泵 L. P. LUB. OIL PUMP	100Y60B 0. 372MPa 配电机: 79m ³ /h WITH MOTOR: YB160L 380V 18. 5KW 2930r. p. m	台 SET	3	沈阳水泵厂 SUPPLIED BY WORKS
24	油净化装置 OIL PURIFIER	油净化器:YJ—3000;油净化泵:CB—B63;油净化器排烟风机:CQ2—J OIL PURIFIER OIL PURIFIER PUMP 1. 5KW FUME EXHAUSTER OF OIL PURIFER	台 SET	3	东方汽轮机厂 SUPPLIED BY D. T. W
25	干燥风机 DRYING FAN	4—72—11NO2. 8A 0. 000951MPa 配电机: 1330m ³ /h WITH MOTOR: JO2—21—2 380V 1. 5KW 2900r. p. m	台 SET	3	东方汽轮机厂辅机 DITTO
26	汽缸大螺栓电加热装置 ELECTRIC. HEATER FOR CYCLINDER BOLT.		台 SET	2	东方汽轮机厂 SUPPLIED BY D. TW.
27	测量螺栓伸长工具 BOLT STRETCHING MEA- SURER		台 SET	8	东方汽轮机厂,其中4套供安装 SUPPLIED BY D.TW.4 SETS FOR ERECTION
28	起吊专用工具 HOIST (SPECIFIC)		台 SET	2	东方汽轮机厂,1套供安装 SUPPLIED BY D.TW.1 SETS FOR ERECTION
29	顶轴油泵 JACKING OIL PUMP	Y2B—B74C—JF 13. 73MPa 配电机: 3. 9m ³ /h WITH MOTOR: Y200L2—6 380V 22KW 1000r. p. m	台 SET	6	东方汽轮机厂辅机 DITTO

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EQUIPMENT & MATERIAL LIST

序号 ITEM	名 称 DISIFNATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
30	主油箱排烟风机 FUNNE EXHAUSTING FAN. OF MAIN OIL TANK	0.000747MPa 136m ³ /h 0.75KW 380V	台 SET	3	东方汽轮机厂辅机 SUPPLIED BY D. T.W.
31	冷油器 OIL COOLER	YL-80 80m ²	台 SET	9	"
32	氢侧油冷却器 HYDROGEN SIDE OIL COOL- ER	GC3-10 10m ²	台 SET	6	东方电机厂辅机 SUPPLIED BY D. T.W.
33	空侧油冷却器 AIR SIDE OIL COOLER	GC4-17 17m ²	台 SET	6	"
34	氢侧密封油泵 HYDROGEN SIDE SEALING OIL PUMP	50Y50A 0.353MPa 配电机: YB132S1-2 380V 10.6m ³ /h WITH MOTOR: 5.5KW 2900r. p. m	台 SET	6	"
35	空侧密封油泵 AIR SIDE SEALING OIL PUMP	50Y50A 0.49MPa 配电机: YB132S1-2 380V 12.5m ³ /h WITH MOTOR: 5.5KW 1900r. p. m -220V 2.5KW	台 SET	6	"
36	氢密封油泵 HYDROGEN SEALING OIL TANK	∅800	台 SET	3	"
37	隔氧装置 OXYGEN ISOLATOR	GQ-1	台 SET	3	"
38	隔氢装置排风机 EXHAUSTER FOR HYDRO- GEN ISOLATOR	B4-72-3.2A 0.00125MPa 配电机: 380V 右旋180° 1975m ³ /h WITH MOTOR YB90L-2 2.2KW CLOCKWISE 180°	台 SET	3	订货 ORDERED
39	电动给水泵 MOTOR - DRIVEN FEED WATER PUMP	2DG-10 14.857MPa 配电机: YK1600-2 6000V 270m ³ /h WITH MOTOR: 1600KW 2980r. p. m	台 SET	5	沈阳水泵厂 SUPPLIED BY WORKS

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EQUIPMENT & MATERIAL LIST

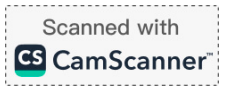
序号 ITEM	名 称 DISINATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
40	给水泵辅助油泵 AUXILIARY OIL PUMP OF FEED WATER PUMP	FJ7	台 SET	5	沈阳水泵厂 SUPPLIED BY WORKS
41	给水泵润滑油冷却器 LUB. OIL COOLER OF FEED WATER PUMP	LG5	台 SET	5	"
42	给水泵润滑油箱 LUB. OIL TANK OF FEED WATER PUMP	JC-200 200l	台 SET	5	"
43	发电机氢气冷却器 GENERATOR HYDROGEN COOLER	150KW	台 SET	12	东方电机厂辅机 SUPPLIED BY WORKS
44	汽机补充油箱 TURBINE MAKE - UP OIL TANK	2m ³	台 SET	1	自制 MADE ON - SITE
45	汽机事故排油坑 EMERGENCY OIL SUMP OF TURBINE	14m ³	台 SET	1	自制 DITTO
46	凝汽器胶球清洗装置 CONDENSER RUBBER BALL CLEANER	∅1020×8 循环水管用 USED FOR CIRCULATING WATER	套 SET	3	邯郸电力修造厂 SUPPLIED BY WORKS
47	双梁桥式起重机 CRANE	50/10t L=25.5m JC=15% H=16m/18m	台 SET	1	上海起重运输机械厂 SUPPLIED BY WORKS
48	二氧化碳瓶 CO ₂ BOTTLE	40l 14.7MPa	台 SET	30	成都高压容器厂 SUPPLIED BY WORKS
49	气体控制站 GAS-CONTROL PANEL	QK-6	台 SET	3	东方电机厂辅机 SUPPLIED BY WORKS

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序号 ITEM	名 称 DISIFNATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
50	二氧化碳汇流排 CO ₂ HEADER	YQ10S 150/15-1	台 SET	3	四川机械工业供销总公司 SUPPLIED BY WORKS 上海劳动阀门厂 SUPPLIED BY WORKS
51	滤水器 WATER FILTER	Dg250 LS-250型	台 SET	6	东方汽轮机厂辅机 SUPPLIED BY WORKS
52	氢气干燥器 HYDROGEN DRYER	QGQ-4型	台 SET	9	"
53	油气分离器 OIL-STEAM SEPARATOR	YQ-65	台 SET	18	"
54	电加热器 ELECTRIC HEATER		台 SET	3	"
55	过滤器 FILTER	(锅炉减温水用) (USED FOR BOILER DESUPER HEATING WATER)	台 SET	3	东方锅炉厂供 SUPPLIED BY WORKS
56	蒸汽过滤器 STEAM FILTER		台 SET	3	东方汽轮机厂辅机 SUPPLIED BY WORKS
57	液位信号器 WATER LEVER INDICATOR		台 SET	6	东方电机厂辅机 SUPPLIED BY WORKS
58	滤油机 OIL FILTER	LY-150 150l/min 0.29MPa	台 SET	3	自贡滤油机厂 SUPPLIED BY WORKS
59	滤油器 DITTO	2L107	台 SET	12	东方电机厂辅机 SUPPLIED BY WORKS

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号 DM	名 称 DISIFNATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QE	备 注 REMARKS
D	调节阀 REG VALVE	Pg16 (Pg1.57MPa) Dg100 ZMHN-16B	台 SET	3	订货 直接作用压力调节阀 ORDERED P.REG. VALVE
	调节阀 REG VALVE	Pg16 (Pg1.57MPa) Dg65 ZMHN-16B	台 SET	1	"



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序号 ITEM	名 称 DISIFNATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARK
一	锅炉设备 BOILER				
1	锅炉 BOILER	DG220/9.8-5 200t/h 540 C 9.8MPa	台 SET	3	东方锅炉厂 SUPPLIED BY DEW
2	原煤斗 BOAL BUNKER	V=628m ³ (一台炉容积) (FOR 1 BOILER)	台 SET	9	自制 MADE ON-SITE
3	石灰石斗 LIMESTONE BUNKER	V=343m ³ (一台炉容积) (FOR 1 BOILER)	台 SET	9	"
4	螺旋给煤机 COAL SCREW FEEDER	GX-250-LA 1.67~10t/h 配电机: WITH MOTOR: YCT160-4B 3KW	台 SET	30	自贡运输机械总厂 SUPPLIED BY WOR
5	螺旋石灰石给料机 LIMESTONE SCREW FEED- ER	GX-250-LA 1.43~8.6t/h 配电机: WITH MOTOR: YCT180-4A 4KW	台 SET	21	"
6	抛煤机 COAL SPREADER		台 SET	30	锅炉本体辅机 SUPPLIED BY WOR
7	送风机 F. D. FAN	G9-26-11NO18D Q=126000m ³ /h 配电机: 0.0183MPa WITH MOTOR: YKS560-4 6000V 1490r. p. m 左.右旋0° L. .R. RTOATION 1400KW	台 SET	6	成都电力机械厂 SUPPLIED BY WOR
8	送风机进口消音器 INLET SILENCER OF F. D. FAN	TFD-2.0×3.2 消声量 35dB SILENCE	台 SET	6	成都噪声控制设备厂 SUPPLIED BY WOR
9	暖风机 AIR HEATER	NFT I-1.5-2.2 12片	台 SET	6	汉口电力设备厂 SUPPLIED BY WOR

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号 EM	名 称 DISINATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
0	密封风机 SEALING FAN	RD-125 9.8~98KPa 配电机: Y250M-4 380V 364.2~1242m ³ /h WITH MOTOR: 55KW 2000r. p. m	台 SET	6	长沙鼓风机厂 SUPPLIED BY WORKS
1	布袋除尘器 BAGHOUSE	HJL-16000 F=16000m ²	台 SET	3	哈尔滨环保设备工业公司 SUPPLIED BY WORKS
2	布袋除尘器反吹风机 COUNTER-BLOW FAN OF BAGHOUSE	Y5-47NO12.4 0.00369MPa 配电机: 55680m ³ /h WITH MOTOR:	台 SET	3	除尘器配套 SUPPLIED WITH BAGHOUSE
13	引风机 I.D. FAN	Y5-47-12NO24.5D 0.00585MPa 配电机: YKS500-6 6000V Q=236400m ³ /h WITH MOTOR: 900KW 989r. p. m	台 SET	6	成都电力机械厂 SUPPLIED BY WORKS
14	电梯 ELEVATOR	1t 停靠层数: 8 8层8站 右开 FLOORS: THJ1000/0.5-JX	台 SET	2	苏州迅达电梯有限公司 SUPPLIED BY WORKS
15	冷渣器 SPENT COOLER	3.6t/h 配电机: WITH MOTOR: YCT225-4A 11KW	台 SET	18	锅炉本体辅机 SUPPLIED BY WORKS
16	增压风机 BOOSTER FAN	G4-73-11NO10D 风机进口风压=0.0196MPa; 风机出口风压=0.0227MPa HEAD AT FAN INLET HEAD AT FAN OUTLET 45294m ³ /h 配电机: WITH MOTOR: Y225M-4 380V 45KW 左旋 0°	台 SET	3	重鼓风机厂 SUPPLIED BY WORKS
17	连续排污扩容器 CONTINUOUS BLOWDOWN FLASH TANK	LP-1.5 0.686MPa V=1.5m ³	台 SET	3	东方锅炉厂 SUPPLIED BY WORKS
18	定期排污扩容器 PERIODIC BLOWDOWN FLASH TANK	DP-7.5 0.147MPa V=7.5m ³	台 SET	3	"
19	疏水箱 DRAIN TANK	V=30m ³	台 SET	2	自制 MADE ON-SITE

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29	锅炉点火排汽消声器 EXHAUST SILENCER FOR BOILER STARTUR	∅2KXP(G)-60A-1	台 SET	3	华东列车站基地 SUPPLIED BY WORKS
30	安全阀排汽消声器 SAFETY VALVE SILENCER	∅3KXA540/109-85A	台 SET	6	"
31	排气消声器 EXHAUST SILENCER	KJ-1型 (配3LE-10/8型空压机用)	台 SET	4	成都噪声控制设备厂 (空压机用) SUPPLIED BY WORKS
32	调节风门 REG. DAMPER	1200×1000 (450)	件 PCS	6	河南沁阳电力配件厂 SUPPLIED BY WORKS
	调节风机 REG. DAMPER	1200×1400 (450)	件 PCS	3	"
	调节风门 REG. DAMPER	1500×1600 (450)	件 PCS	3	"
33	关断风门 SHUT-OFF DAMPER	1000×800 (500)	件 PCS	6	"
	"	910×2500 (300)	件 PCS	3	"
	"	2600×1800 (1150)	件 PCS	6	"
	"	3600×2400 (400)	件 PCS	3	"

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	关断风门 DAMPER	Dg400	件 PCS	3	DD4107 河南沁阳电力配件厂 SUPPLIED BY WORKS
	"	Dg600	件 PCS	6	DD4110 河南沁阳电力配件厂 SUPPLIED BY WORKS
	"	Dg900	件 PCS	3	DD4113 河南沁阳电力配件厂 SUPPLIED BY WORKS
	"	Dg1300	件 PCS	3	DD4117 河南沁阳电力配件厂 SUPPLIED BY WORKS
	"	Dg150	件 PCS	3	DD4102 河南沁阳电力配件厂 SUPPLIED BY WORKS
34	煤闸门 COAL GATE	550×550	件 PCS	21	成都战旗电力设备厂 SUPPLIED BY WORKS
	煤闸门 COAL GATE	800×800	件 PCS	30	"
35	油雾器 OIL ATOMIZER	QYWA—L8 流量:390dm ³ /min (与A、B室移动门气缸配套) FLOW: (SUPPLIED WITH A.B CELL MOVABLE DOOR CYLINDER)	台 SET	3	订货,广东省肇庆气动元件 SUPPLIED BY WORKS
36	辅助锅炉 AUXILIARY BIOLER	WNS4—1.0—Q 14t	套 SET	1	无锡锅炉厂 SUPPLIED BY WORKS
37	埋刮板机 SCRAPER	SMS25 L=20m 电机 Y132M2—6 5.5KW	台 SET	3	江苏运输机械厂 SUPPLIED BY WORKS

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38	空气压缩机 AIR COMPRESSOR	L3.5-20/8 20m ³ /min 8kg/cm ²	台 SET	1	
39	后冷却器 REAR COOLER		台 SET	1	
40	储气罐 AIR STORAGE TANK	V=10m ³	台 SET	2	
41	液气分离器 WATER-GAS SEPARATOR		台 SET	1	
42	干燥器 DRIER	WZG20	台 SET	1	

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序号 ITEM	名 称 DISINATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
三	检修起吊设施 MAINTENANCE FACILITIES				
1	电动葫芦 MOTOR DRIVEN HOIST	CD1 起重量:5t 起吊高度:9m CAPACITY:5t ELEVATING HEIGHT:9m	台 SET	2	引风机用 USED FOR I. D. FAN
2	手动单梁悬挂起重机 MANUAL CRANE	LSX 起重量:2t 起吊高度:4m 跨度:6m CAPACITY:2t ELEVATING HEIGHT:4m SPAN:6m	台 SET	1	空压机房用 USED FOR AIR COM
3	手动葫芦 MANUAL HOIST	HS5 起重量:5t 起吊高度:3m CAPACITY:5t ELEVATING HEIGHT:3m	台 SET	1	除氧器用 USED FOR DEAERA
4	手动葫芦 DITTO	HS10 起重量:10t 起吊高度:8m CAPACITY:10t ELEVATING HEIGHT:8m	台 SET	1	送风机用 F. D. FAN
5	手动单轨小车 MANUAL SINGLE - RAIL HOIST	SG-10 起重量:10t 起吊高度:8m CAPACITY:10t ELEVATING HEIGHT:8m	台 SET	6	送风机用 DITTO
6	电动葫芦 MOTOR HOIST	CD1 起重量:3t 起吊高度:6m CAPACITY:3t ELEVATING HEIGHT:6m	台 SET	1	材料库底楼用 MATERIAL STO FLOOR
7	电动葫芦 DITTO	CD1 起重量:1t 起吊高度:12m CAPACITY:1t ELEVATING HEIGHT:12m	台 SET	2	材料库二楼用 MATERIAL STO FLOOR
8	手动单轨小车 MANUAL MONO - RAIL HOIST	SG-3 起重量:3t 起吊高度:4.5m CAPACITY:3t ELEVATING HEIGHT:4.5m	台 SET	2	柴油机房用 USED IN DIESEL GE HOUSE
9	手动葫芦 MANUAL HOIST	HS3 起重量:3t 起吊高度:4.5m CAPACITY:3t ELEVATING HEIGHT:	台 SET	1	

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四	修配场设备 MACHINE SHOP EQUIP- MENTS				
1	车床 LATHE	CW6163A 630×4500	台 SET	1	长沙第二机床 SUPPLIED BY WORKS
2	车床 LATHE	CD6140C 400×1500 7.84KW CDZ6140C/1500	台 SET	2	德州机床厂 SUPPLIED BY WORKS
3	车床 LATHE	C618K—2 360×880 4KW	台 SET	1	沈阳机床厂 SUPPLIED BY WORKS
4	牛头刨床 SHAPING MACHINE	B665 650×450 3KW	台 SET	1	重庆五一机床厂 SUPPLIED BY WORKS
5	插床 SLOTING MACHINE	B5032 400×1600	台 SET	1	抚顺机床厂 SUPPLIED BY WORKS
6	万能铣床 UNIVERSAL MILLING MA- CHINE	13.125KW XA6140A 400×1700	台 SET	1	北京第一机床进出口公司 SUPPLIED BY WORKS
7	摇臂钻床 RADIAL DRILL PRESS	Z35A Ø50 6.225KW	台 SET	1	桂林第二机床厂 SUPPLIED BY WORKS
8	立式钻床 VERTICAL DRILL PRESS	ZY5140Ø40 4.125KW	台 SET	1	四川自贡机床厂 SUPPLIED BY WORKS
9	万能工具磨床 TOOL GRINDING MACHINE	M6025K 250×650 0.75KW	台 SET	1	营口机床厂 SUPPLIED BY WORKS

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10	砂轮机 GRINDING WHEEL	S3SL-250 M3025	台 SET	1	重庆砂轮机厂 SUPPLIED BY WORK
11	锯床 SAWING MACHINE	G7025 \varnothing 250 1.5KW	台 SET	1	汕头机械厂 SUPPLIED BY WORK
12	电动单梁悬挂吊车 M. D. SINGLE-BEAM CRANE TRAVELLING CRANE	LX型 起重量:3t 起吊高度:6m 跨度:8m CAPACITY:3t ELEVATING HEIGHT:6m SPAN:8m	台 SET	1	上海起重运输机械厂 SUPPLIED BY WORK
13	硅整流电焊机 WELDER D. C. WELDER	ZxG1-500 35.5KW 移动式 PORTABLE	台 SET	2	浙江电焊机厂 SUPPLIED BY WORK
14	交流电焊机 A. C. WELDER	BX3-300-3 24KV 移动式 PORTABLE	台 SET	2	浙江电焊机厂 SUPPLIED BY WORK
15	砂轮机 GRINDING WHEEL	M3035 1.5KW	台 SET	1	重庆砂轮机厂 SUPPLIED BY WORK

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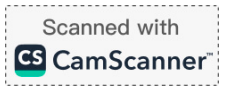
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机炉输煤检修设备 T/B & COAL HANDLING MAINTENANCE EQUIP- MENTS				
车床 LATHE	CDZ614C/1500 400×1500	台 SET	1	德州机床厂 SUPPLIED BY WORKS
立式钻床 DRILL PRESS	ZY5140∅40	台 SET	1	四川自贡机床厂 SUPPLIED BY WORKS
台钻 DRILL TABLE PRESS	Z512	台 SET	3	四川省机械工业供销总公司
砂轮机 GRINDING WHEEL	M3035 1.5KW	台 SET	5	重庆砂轮机厂 SUPPLIED BY WORKS
手提砂轮机 DITTO	S3S150	台 SET	2	"
电动水压泵 MOTOR DRIVEN PUMP	SY350	台 SET	1	简阳试压泵厂 SUPPLIED BY WORKS
交流电焊机 A. C. WELDER	移动式 BX3 300—3 PORTABLE	台 SET	6	浙江电焊机厂 SUPPLIED BY WORKS
电动卷扬机 MOTOR DRIVEN HOIST	JM3A 3t	台 SET	2	南通市矿山机械厂 SUPPLIED BY WORKS

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六	金属试验室设备 METAL TESTING UI. EQUIPMENTS				
1	超起波探伤仪 ULTRASONIC FLAW DE- TECTOR	CTS-22	台 SET	1	
2	X光探伤仪 X-RAY FLAW DETECTOR	TX-1505	台 SET	1	
3	磁性探伤 MAGNETIC FLAW DETEC- TOR	TC-500	台 SET	1	四川省仪表公 司常州探伤器厂 SUPPLIED BY
4	大型工件金相检查仪 METALLOGRAPHIC INSPEC- TOR	601-Z	台 SET	1	配放大冲洗箱 上海科艺厂 WITH ENLAF ING DARKR
5	台式金相显微镜 METALLOGRAPH	XJG-05	台 SET	1	配制片设备一 江南光学仪器 WITH 1 SET ING & ETCH
6	便携式光谱仪 SPECTRUM ANALYZER	WX-4	台 SET	1	配电弧发生器 WITH ARCC
7	布氏硬度计 BRINELL HARDNESS ME- TER	HB-3000	台 SET	1	山东掖县材料 SUPPLIED BY
8	洛氏硬度计 ROCKWELL HARDNESS ME- TER	HR-150	台 SET	1	吴忠材料机厂 SUPPLIED BY
9	锤式布袋硬度计 HAMMER TYPE BRINELL HARDNESS METER	HB-2	台 SET	1	吴忠材料机厂 SUPPLIED BY

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10	体现显微镜 MEASURING MICROSCOPE	XTD-1	台 SET	1	芜湖 SUPE
11	超声波测厚仪 ULTRASONIC MEASURER	UTM110	台 SET	1	日本



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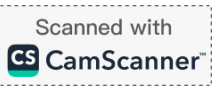
序号 ITEM	名 称 DISIFNATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARK
七	泵的进、出口阀及止回阀清册 INLET & OUTLET VALVES OF PUMPS AND NON-RE- TURN VALVES				
1	电动闸阀 MOTOR DRIVEN GATE VALVE	Pg200(Pg19.6MPa)Dg175 Z962D-200	件 PCS	5	给水泵出口 随设备 FEED WATER PUM
2	止回阀 NON-RETURN VALVE	Pg200(Pg19.6MPa)Dg175 H48H-200	件 PCS	5	给水泵出口 随设备 DITTO
3	闸阀 GATE VALVE	Pg16(Pg1.57MPa)Dg250 Z41H-16C	件 PCS	5	给水泵进口 随设备 FEED WATER PUM
4	闸阀 DITTO	Pg16(Pg1.57MPa)Dg80 Z41H-16C	件 PCS	4	疏水泵进出口 INLET & OU DRAINAGE PUMP
5	止回阀 NON-RETURN VALVE	Pg16(Pg1.57MPa)Dg80 H41H-16	件 PCS	2	疏水泵出口 OUTLET OF DRAIN
6	水封闸阀 WATER SEALING GATE VALVE	Pg16(Pg1.57MPa)Dg350 DS/Z64H-16C	件 PCS	6	凝结水泵进口, 郑州地 CONDENSATE PUM
7	闸阀 GATE VALVE	Pg25(Pg2.45MPa)Dg100 Z41H-25	件 PCS	6	凝结水泵出口 CONDENSATE PUM
8	止回阀 NON-RETURN VALVE	Pg25(Pg2.45MPa)Dg100 H44H-25	件 PCS	6	
9	闸阀 GATE VALVE	Pg25(Pg2.45MPa)Dg125 Z41H-25	件 PCS	3	低压润滑油泵出口 OUTLET OF L.O. PUMP

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EQUIPMENT & MATERIAL LIST

序号 ITEM	名 称 DISINATION	型 号 及 规 范 DESCRIPTIONS		单 位 UNIT	数 量 QT	备 注 REMARKS
10	止回阀 NON-RETURN VALVE	Pg25(Pg2.45MPa)Dg125	Z44H-25	件 PCS	3	低压润滑油泵出口 OUTLET OF L. P. LU PUMP
11	闸阀 GATE VALVE	Pg10(Pg0.98MPa)Dg150	Z45W-10	件 PCS	3	"
12	闸阀 DITTO	Pg25(Pg2.45MPa)Dg120	Z41H-25	件 PCS	3	高压调速油泵出口 OITLET OF H. P. R TION OIL PUMP
13	止回阀 NON-RETURN VALVE	Pg25(Pg2.45MPa)Dg125	Z44H-25	件 PCS	3	"
14	闸阀 GATE VALVE	Pg10(Pg0.98MPa)Dg150	Z45W-10	件 PCS	3	高压调速油泵进口 INLET OF H. P. CC LING OIL PUMP
15	截止阀 STOP VALVE	Pg16(Pg1.57MPa)Dg50	J41W-16	件 PCS	12	氢侧密封油泵出口、进口 INLET & OUTLET OF GEN SIDE SEALING O
16	止回阀 NON-RETURN VALVE	Pg10(Pg0.98MPa)Dg50	H44W-10	件 PCS	6	氢侧密封油泵出口 OUTLET OF HYDROC SEALING OIL PUMP
17	截止阀 STOP VALVE	Pg16(Pg1.57MPa)Dg50	J41W-16	件 PCS	12	空侧密封油泵进、出口 INLET & OUTLET SIDE SEALING OIL F
18	止回阀 NON-RETURN VALVE	Pg10(Pg0.98MPa)Dg50	H44W-10	件 PCS	6	空侧密封油泵出口 OUTLET OF AIR S ING OIL PUMP
19	止回阀 DITTO	Pg10(Pg0.98MPa)Dg80	H44W-10	件 PCS	3	直流事故油泵出口 EMERGENCY D. C. OUTLET

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EQUIPMENT & MATERIAL LIST

序号 ITEM	名 称 DISIFNATION	型 号 及 规 范 DESCRIPTIONS	单 位 UNIT	数 量 QT	备 注 REMARKS
20	闸阀 GATE VALVE	Pg25(Pg2.45MPa)Dg50 Z41H-25	件 PCS	6	低加疏水泵出口 OUTLET OF L. P. RAINAGE PUMP
21	止回阀 NON-RETURN VALVE	Pg25(Pg2.45MPa)Dg50 H44H-25	件 PCS	6	"
22	水封闸阀 WATER SEALING GATE VALVE	Pg16(Pg1.57MPa)Dg100 Ds/Z64H-16C	件 PCS	6	低加疏水泵进口·郑州电 INLET OF L. P. DRAINAGE PUMP



1.8	screw coal feeder	model: GX250-LA rated capacity: 1.67-10 t/h number of cell A: 7 number of cell B: 3	10
1.9	screw lime stone feeder	model: GX250-LA rated capacity: 1.43-8.6 t/h number of cell A: 5 number of cell B: 2	7
1.10	cinder cooler	rated capacity: 3.6 t /h number of cell A: 4 number of cell B: 2	6
1.11	elevator	model: THJ1000/0.5-JX	2
1.12	phosphate solution tank	rated capacity: 1 cu.m	2
1.13	phosphate injection pump	model: J-Z20/160-III rated capacity: 20 l/h	4
1.14	hydrazine and ammonia injection pump	model: ZJ2-40/25/II rated capacity: 40 l/h	4
1.15	steam and water sampling device		1

2. Main Specification for Turbine No.1 and its Main Auxiliaries

No.	Designation	Model/Specification	Quantity
2.1	steam turbine	Model: N50-8.83/535 type: high pressure single cylinder condensing steam turbine rated capacity: 50MW rated speed: 3000 rpm rotor rotating direction: clockwise facing to the high pressure end rated steam pressure: 8.83 MPa rated steam temperature: 535 deg.C	1
2.2	condenser	model: N4340 rated cooling surface: 4,340 sq.m rated cooling water temperature: 31 deg.C rated steam pressure: 8,041.5 Pa cooling water pressure: 0.196MPa rated steam flow: 140t/h rated cooling water flow: 9,850t/h	1
2.3	feedwater pump	model: 2DG-10 rated flow: 270 cu.m /h rated pressure head: 14 MPa rated speed: 2,850 rpm	2
2.4	deaerator	model: YC-225 rated capacity: 225t/h rated working pressure: 0.59MPa	1

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2.5	condensate pump	model: 8NL-130 rated flow: 160 cu.m/h rated pressure head: 1.323MPa	2
2.6	main ejector	model: C-7.5-60 rated suction pressure: 0.0075MPa rated steam pressure: 0.49MPa rated ejection flow: 60kg/h	2
2.7	No.1 L.P.heater	model: DR-120-1 rated heating area: 120 squ.m	1
	No.2 L.P.heater	model: DR-120-2 rated heating area: 120 squ. m	1
	No.3 L.P.heater	model: DR-120-3 rated heating area: 120 squ.m	1
2.8	No.1 H.P.heater	model: JG-170-1-1 rated heating area: 170 squ.m	1
	No.2 H.P.heater	model: JG-170-1-2 rated heating area: 170 squ.m	1
2.9	feed water tank	model: YS-70 rated water tank volume: 70 cu.m	
2.10	oil purifier	model: YJ-3000	1
	oil purifier pump	model: CB-B63	1
	fume exhauster of oil purifier	model: CQ2-J	1
2.11	condenser rubber ball cleaner		1
2.12	drainage pump	model: IS80-50-315 rated capacity: 60 cu.m/h	2
2.13	crane	model: 50/10 t	1

3. Main Specification for Major Equipment of Generator-Transformer Set No.1

No.	Designation	Model/Specification	Quantity
3.1	generator	model: QFQ-50-2-B hydrogen cooled rated capacity: 50 MW rated voltage: 10.5 KV rated current: 3,440A rated power factor: 0.8 rated frequency: 50HZ	1
3.2	exciter	model: DQLT-10 rated output voltage: 250V rated output current: 527A	1
3.3	exciter transformer	rated capacity: 450KVA	1
3.4	magnetic breaker	model: DM-600	1
3.5	rectifier box	rated voltage: 500V	2
3.6	high voltage standby transformer	model: SFZ-12500/132TA rated capacity: 12.5 MVA	1





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3.7	main transformer	model: SF-63000/132TA rated capacity: 63 MVA	1
3.8	high voltage auxiliary transformer	model: SFZ-12500/10TA rated capacity: 12.5 MVA	1
3.9	low voltage auxiliary transformer	model: S-1000/6TA rated capacity: 1 MVA	11
3.10	low voltage auxiliary transformer	model: S-500/6TA rated capacity: 500 KVA	2

4. Main Specification for Major Equipment of Water Purification System

No.	Designation	Model/Specification	Quantity
4.1	slant tube precipitation pond	mixing pond reaction pond condensing cell water-distributing zone inclined tube zone clarified water zone mud discharging zone	1
4.2	gravity valveless filtering pond	rated output: 120 t/h	2
4.3	domestic fire-fighting clarified water pond	rated capacity: 800 cu.m	2
4.4	industrial clarified water pond	rated capacity: 1,000 cu.m	1
4.5	chemical feeding pump	model: J-Z800/4 rated capacity: 800 l/h rated pressure: 0.4 MPa	2
4.6	chlorine feeder	model: V-100 rated capacity: 1 kg/h	2

5. Main Specification for Major Equipment of Demineralized Water System

No.	Designation	Model/Specification	Quantity
5.1	anthracite filter	model: O 2000 anthracite height: 1.20m	3
5.2	cation exchanger	model: O 1600 resin layer height: 1.60m	2
5.3	degasifier(CO2)	model: O 1000 packing layer height: 2.50m	2
5.4	fan	model: CQ19-J rated capacity: 2,000 cu.m/h	2
5.5	intermediate water tank	rated capacity: 6.3 cu.m	2
5.6	intermediate water pump	model: 80F-38I rated capacity: 32.4-60 cu.m/h	2





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5.7	anion exchanger	model: O 1800 resin layer height: 2.50m	2
5.8	mixed ion exchanger	model: O 1250 resin layer height anion: 700mm cation: 500mm	2
5.9	demiwater tank	rated capacity: 300 cu.m	2
5.10	demiwater pump	model: 80F-38I rated capacity: 32.4-60 cu.m/h	2
5.11	regenerative pump	model: BF25-40 rated capacity: 15-30 cu.m/h	1
5.12	cation resin pot	model: O 1600	1
5.13	anion resin pot	model: O 1800	1
5.14	acid storage tank	rated capacity: 20 cu.m	2
5.15	alkali storage tank	rated capacity: 20 cu.m	2

6. Main Specification for Major Equipment of Softening Water System ✓

No.	Designation	Model/Specification	Quantity
6.1	anthracite filter	model: O 2000	3
6.2	sodium ion exchanger	model: O 1600 height of resin layer : 1,600	2
6.3	compressed air tank	rated capacity: 6 cu.m	1
6.4	concentrated salting liquid pond	rated capacity: 28 cu.m	1
6.5	salting liquid pump	model: 50FS-25 rated capacity: 7.92-19.8 cu.m/h	2
6.6	salting liquid filter	model: O 1000	1
6.7	soft water tank	rated capacity: 150 cu.m	1
6.8	service C.W.pump	model: ZOSA-ZZB rated pressure head: 0.13MPa rated capacity: 1,440t/h	2
6.9	booster pump	model: S300-58A rated pressure head: 0.54-0.41 MPa rated capacity: 529-893 t/h	2
6.10	glass-fiber cooling tower	model: DBNL3-700 rated capacity: 523 t/h	3

7. Main Specification for Major Equipment of Coal and Limestone Handling System(Excluding Slot Coal Bunker and Belt No.1) ✓

No.	Designation	Model/Specification	Quantity
7.1	travelling gantry grab crane(coal)	rated capacity: 160 t/h	3
7.2	bulldozer	model: 120	3
7.3	reciprocating coal feeder	rated capacity: 260t /h	2





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7.4	electromagnetic vibrating feeder	model: GZZ 125/135F rated capacity: 260t /h	2
7.5	belt type iron separator(coal)	model: RCDF-8, oil cooling	4
7.6	electronic belt scale(coal)	model: ICS-3000WH	2
7.7	coal sampling device(coal)	model: B=800; ZJQY-1	3
7.8	ring-hammer crusher(coal)	model: PCH-1016 rated capacity: 260t /h	2
7.9	travelling gantry grab crane(limestone)	rated capacity: 154t /h	2
7.10	reciprocating limestone feeder	rated capacity: 90t /h	8
7.11	reciprocating feeder	rated capacity: 70t/h	4
7.12	belt type iron separator(limestone)	model: RCDF-6, oil cooling	4
7.13	ring hammer crusher(limestone)	model: PCH-1016 rated capacity: 50t/h	4
7.14	electronic belt scale(limestone)	model: ICS-3000WH	1
7.15	coal conveyor system		
	coal conveyor belt 2*a+b	width: 0.8m; length: 78m	2
	coal conveyor belt 3*a+b	width: 0.8m; length: 171m, 174m	2
	coal conveyor belt 4*a+b	width: 0.8m; length: 123m, 127m	2
7.16	limestone conveyor system		
	limestone conveyor belt 5*a+b	width: 0.5m; length: 74m	2
	limestone conveyor belt 6*a+b	width: 0.5m; length: 74m	2
	limestone conveyor belt 7*a+b	width: 0.5m; length: 99m, 102m	2
	limestone conveyor belt 8*a+b	width: 0.5m; length: 24m, 26m	2
	limestone conveyor belt 9*a+b	width: 0.65m; length: 30m, 33m	2
	limestone conveyor belt 10*a+b	width: 0.65m; length: 65.5m	2
	limestone conveyor belt 3*c	width: 0.65m; length: 170m	1
	limestone conveyor belt 4*c	width: 0.65m; length: 124m	1

8. Main Specification for Major Equipment of Oil Ignition System ✓

No.	Designation	Model/Specification	Quantity
8.1	oil storage tank	rated capacity: 100 cu.m	2
8.2	oil unloading tank	rated capacity: 10 cu.m	1
8.3	oil unloading pump	model: 65Y-60B rated capacity: 20 cu.m/h	1
8.4	oil supplying pump	model: 40YB40x8 rated capacity: 10 cu.m/h	2
8.5	drain oil pump	model: 5/3.3-1 rated capacity: 5 cu.m/h	1

9. Main Specification for Major Equipment of C.W. Pump House and C.W. System(Including the Chemical Injection System) ✓

No.	Designation	Model/Specification	Quantity
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9.1	ferrous sulphate dissolving tank	rated capacity: 4 cu.m	2
9.2	ferrous sulphate injecting pump	model: 25FB-ii rated capacity: 2.16-3.96 cu.m/h	2
9.3	chlorine injecting water pump	model: IS65-50-160 rated capacity: 15-30 cu.m/h	2
9.4	water quality-stablizing agent dissolution tank	rated capacity: 1 cu.m	2
9.5	water quality-stablizing agent (chemicals) injecting pump	model: J-Z200/16-III	2
9.6	rotor chlorine feeder	model: ZJ-1	2
9.7	air fan in C.W. cooling tower	model: LF80-B blade diameter: 3,400mm rated blade speed: 149 rpm number of blades: 4	5
9.8	circulating water pump	model: 32SH-19 rated flow: 4,700-6,400 t/h pressure head: 0.34-0.24 MPa rated speed: 730 rpm	3
9.9	flush pump	model: IS80-50-200 rated capacity: 31-61 t/h rated pressure head: 0.45-0.54 MPa rated speed: 2,950 rpm	1
9.10	glass-fiber cooling tower	model: BLSJ(II) rated cooling waterflow: 2,400 cu.m/h diameter: 5,200 mm height: 5,500 mm	5

10. Main Specification for Major Equipment of Negative Pressure Ash Disposal System ✓

No.	Designation	Model/Specification	Quantity
10.1	negative pressure fan	model: 1016 rated capacity: 51.34 cu.m/min	2
10.2	cyclone collector	model: B60 rated capacity: 54.5 t/h	2
10.3	screw ash conveyor	model: 380-4500 rated capacity: 30-35 t/h	2
10.4	hopper fluidizing blower	model: RD-100 rated capacity: 4.04 - 14.4 cu.m/min	2
10.5	silo fluidizing blower	model: TRC-100 rated capacity: 3.4 - 10.9 cu.m/min	2
10.6	bag filter	model: D2100mm; A=90 squ.m	2

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11. Main Specification for Major Equipment of Cinder Disposal System (Excluding Submerged Scraper Conveyor No.1 and 2)

No.	Designation	Model/Specification	Quantity
11.1	submerged scraper 3*a+b	model: DMS63 length: 41m width: 0.63m rated capacity: 60 t/h	2
11.2	submerged scraper 4*a+b	model: DMC63 length: 41m width: 0.63m rated capacity: 60 t/h	2
11.3	submerged scraper 5*a+b	model: DMC63 length: 39m width: 0.63m rated capacity: 60 t/h	2
11.4	submerged scraper 6*a+b	model: DMC63 length: 39m width: 0.63m rated capacity: 60 t/h	2
11.5	submerged scraper 7*a+b	model: DMS length: 36m width: 0.63m	2

12. Main Specification for Major Equipment of Compressed Air Station and Compressed Air System

No.	Designation	Model/Specification	Quantity
12.1	air compressor	model: 3LE-10/8T rated capacity: 10 cu.m/min	4
12.2	gas holder	rated capacity: 5 cu.m	4
12.3	rear cooler	model: HL-5.2	4
12.4	drier	model: W2G-10/8 rated capacity: 10 cu.m/min	2

13. Main Specification for Major Equipment of Hydrogen Station

No.	Designation	Model/Specification	Quantity
13.1	hydrogen producing station	model: DQ-4	2
13.2	electrolyzer	model: DQ-4	2
13.3	hydrogen separator		2
13.4	oxygen separator		2
13.5	hydrogen washer		2
13.6	oxygen washer		2
13.7	hydrogen gas holder	rated capacity: 10 cu.m	4
13.8	oxygen gas holder	rated capacity: 5 cu.m	2

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14. Main Specification for Major Equipment of 132KV Step-up Transformer Station And System Protection Device

No.	Designation	Model/Specification	Quantity
14.1	low-oil-content circuit breaker	model: SW6-145I	7
14.2	disconnecter	model: GW4-145 GW4-145ID GW4-145IID	
14.3	current transducer	model: LB-145	18
14.4	potential transducer	model: JCC5-145	9
14.5	zinc oxide surge arrester	model: Y10W5-126/2.40	18
14.6	line trap	model: XZK-630-0.2/16	4
14.7	coupling capacitor	model: OWF-132/3-0.015	4
14.8	current transducer	model: LB-145, 2x150/5A	3

15. Main Specification for Major Equipment of Service Power Supply System(Including D.C. System And The Cables)

No.	Designation	Model/Specification	Quantity
15.1	HV trolley type switchgear cubicle	model: GC5-10(F)-32 GC5-10(F)-31 GC5-10(F)-75 GC5-10(F)-76	39 15 4 3
15.2	switch	model: HD10-60/2 HK2-60/2 HK2-30/2 HK2-30/3	12 7 6 3
15.3	chargeable battery	model: GF-800	
15.4	rectifying charging device	model: KVA41-160/315	
15.5	voltage reducing box	rated voltage: 220V	
15.6	D.C monitoring device		

16. Specification for Diesel Generator Set

No.	Designation	Model/Specification	Quantity
16.1	diesel engine	model: 6250Z-1 rated capacity: 331KW rated speed: 600rpm	1
16.2	generator	model: TF-X560-10-TA rated capacity: 300KW (25 deg.c) 247KW (50 deg.c) rated frequency: 50 Hz power factor: 0.8 rated current: 541A	1

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17. Main Specification for Major Equipment of Illumination System of Power Plant Area and Equipments

No.	Designation	Model/Specification	Quantity
17.1	lighting box		
17.2	emergency lighting box		
17.3	distribution emission lamp		
17.4	wide angle lamp		
17.5	deep emission lamp		
17.6	local lighting transformer		

18. Main Specification for Major Equipment of Service Communication Inside The Power Plant

No.	Designation	Model/Specification	Quantity
18.1	SPC PABX	model: MD110/40	1
18.2	PABX operator console	supplied with MA110	1
18.3	dispatching exchanger	model: ZDH-2A-40	3
18.4	charger	model: GCA-15/0-72	1
18.5	double circuit repeater	model: 380x220x580	
18.6	loudspeaker	model: YH25-9B	2
18.7	public address amplifier	model: TF-1002	
18.8	soundproof cabin	model: GYDS-3B	4
18.9	distribution box	model: MXR1-103	4
18.10	distribution frame	model: HPK-14(300)	1

19. Main Specification for Major Equipment of PLC Communication System

No.	Designation	Model/Specification	Quantity
19.1	PLC terminal	model: ESB-500	2
19.2	line trap	model: XZK-630-0.2/16-B3	1
19.3	coupling capacitor	model: DWF 132/3-0.01H	1
19.4	coupling filter	model: JL-400-10-B2	1
19.5	single-pole disconnecter	model: GN5-6/200	1
19.7	distribution box	model: MXR1-103	1
19.8	selective level meter	model: JH501B	1
19.9	level oscillator	model: JH5067	1

20. Main Specification for Major Equipmetn of Fire Fighting Water System and Fire Alarm System

No.	Designation	Model/Specification	Quantity
20.1	fire fighting pumps	model: S150-28 rated capacity: 162-198 t/h; rated pressure head: 0.32-0.61 MPa	1

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20.2	gasoline engine driven fire pump	model: ED50 rated pressure head: 0.8MPa	1
20.3	fire fighting alarm devices	model: JB-TG model: JB-QG	
20.4	tank fire truck	model: SXF5091GXFPM35	2
20.5	dry power fire truck	model: CF10	1

21. Main Specification for Major Equipment of Refrigeration Station and System ✓

No.	Designation	Model/Specification	Quantity
21.1	Li-Br absorption refrig. machine	model: XZ-1160 rated capacity: 1,160KW	2
21.2	centrifugal water pump	model: S200-63	3
21.2	glass fiber cooling tower	model: BLSJ(II)-300 rated capacity: 300 t/h	3
21.3	condensate water pump	model: ISR50-32-160 rated capacity: 7.5-15 cu.m/h	2
21.4	cooling water pump	model: S200-63A	3

22. Main Specification for Major Equipment of Auxiliary Boiler ✓

No.	Designation	Model/Specification	Quantity
22.1	auxiliary boiler	rated capacity: 4t/h rated steam pressure: 1.0MPa rated steam temperature: 183 deg.c	1

23. Main Specification for Major Equipment of Permeant Make-up Water In-take Pump Tower And Receiving Ponds Outside The Power Plant ✓

No.	Designation	Model/Specification	Quantity
23.1	make-up water pump	model: 350HBRC vertical flow rated capacity: 600-900 cu.m/h pressure head: 0.45-0.53MPa rated speed: 1475 rpm	4
23.2	lubricate pump	model: IS65-40-250A rated capacity: 15-20 t/h pressure head: 0.65-0.56 MPa	2
23.3	crane sludge scraper	model: HJG18-06	1



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24. Main Specification for Major Equipment of Natural Gas Ignition Pipe Lines System

25. Main Specification for Major Equipment of Weigh Bridge ✓

No.	Designation	Model/Specification	Quantity
25.1	weigh bridge	model: SCU-5012D	1
25.2	PS2 computer		1
25.3	MWS-1 type weighing system		1
25.4	external display		

26. Main Specification for Major Equipment of Main Control Room(ECR) ✓

No.	Designation	Model/Specification	Quantity
26.1	control console	model: JTC-2/2(G)	1
26.2	control panel	model: JPM-30/1	12
26.3	protection panel	model: JGE-31 GXW11-107	12
26.4	fault oscillograph recorder panel	model: JGE-31	2
26.5	KWH recording instrument panel	model: JGE-31	3
26.6	emergency lighting switch-over panel	model: BZ-1	2
26.7	D.C. panel	model: BZF	7
26.8	voltage drop panel	model: BJY1-100A	2
26.9	system protection device	model: WXB-11	

27. Main Specification for Major Equipment of I&C System ✓

No.	Designation	Model/Specification	Quantity
27.1	spring tube pressure gauges	model: Y-150	
27.2	pressure transducers	model: 1151 model: DDZ-III model: DBC; DBY	
27.3	bi-metallic thermometers	model: WSS	
27.4	thermal couples	model: WRE; WRN	
27.5	recorder	model: ER180	
27.6	scanner	model: SZR	
27.7	standard orifice flow meter		
27.8	oxygen analyzer	model: MAGNOS	
27.9	SO2 analyzer	model: RADAS	
27.10	regulator	model: KMM; KMS	
27.11	programmable controller	model: OMRON C2000H	
27.12	unterminated power sources(UPS)	model: SANTAK, 5KVA	
27.13	turbine protection device	model: BENTLY, 3300	

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28. Main Specification for Major Equipment of Service Water System ✓

No.	Designation	Model/Specification	Quantity
28.1	plant service water pump	model: S300-58 rated pressure head: 0.63-0.49 MPa rated speed: 1,450 rpm rated capacity: 576-972 t/h	2
28.2	chemical clarified water pump	model: IS100-65-200 rated pressure head: 0.54-0.44 MPa rated capacity: 65-125 t/h	2
28.3	chemical water counter flush pump	model: IS150-125-315A rated pressure head: 0.26-0.22 MPa rated capacity: 115-200t/h	1
28.4	potable water pump	model: IS125-100-250A rated capacity: 115-220 t/h rated pressure head: 0.65-0.55 MPa	2

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Attachment 4:

Main Specification for Major Equipment of the System to be Handed Over as Mentioned in the Acceptance report

Note: In this Attachment, only the Main Specification for Major Equipment of the System to be Handed Over as Mentioned in the Acceptance Report (hereinafter called MAIN SPECIFICATION) has been listed. For more details, please refer to the approved final design drawings & the CONTRACT documents. If there is any discrepancy between this MAIN SPECIFICATION and the approved final design drawings & CONTRACT documents, the approved final design drawings & CONTRACT document shall govern.

1. Main Specification for Boiler No.2 and its Main Auxiliaries

No.	Designation	Model/Specification	Quantity
1.1	fluidized bed combustion boiler	model: DG220/9.8-5 maximum main steam flow: 220 t/h rated steam flow: 200 t/h rated main steam pressure: 9.8 MPa rated temperature of feed water: 215 C	1
1.2	bag house filter	model: HJL-16000 rated flue gas flow: 442,800 cu.m/h rated inlet gas temperature: 150 C total filtered area: 15,912 squ.m total cells: 8 total bags: 1,632	1
1.3	forced draft fan	model: G9-26-11 NO.18D rated pressure head: 0.0179MPa rated air flow: 126,000 cu.m/h	2
1.4	induced draft fan	model: Y5-47-11 NO.24.5 rated pressure head: 0.0057MPa rated air flow: 236,400 cu.m/h	2
1.5	booster fan	model: G4-73-NO.10D rated pressure head: 0.0227MPa rated air flow: 45,051 cu.m/h	1
1.6	seal pot blower	model: RD-125 rated air flow: 364.2-1242 cu.m/h	2
1.7	coal flipper	number of cell A: 7 number of cell B: 3	10

A:2-11+

1.8	screw coal feeder	model: GX250-LA rated capacity: 1.67-10 t/h number of cell A: 7 number of cell B: 3	10
1.9	screw limestone feeder	model: GX250-LA rated capacity: 1.43-8.6 t/h number of cell A: 5 number of cell B: 2	7
1.10	cinder cooler	rated capacity: 3.6 t/h number of cell A: 4 number of cell B: 2	6
1.11	steam and water sampling device		1

2. Main Specification for Turbine No.2 and its Main Auxiliaries

No.	Designation	Model/Specification	Quantity
2.1	steam turbine	model: N50-8.83/535 type: high pressure single cylinder condensing steam turbine rated capacity: 50MW rated speed:3000 rpm rotor rotating direction: clockwise facing to the high pressure end rated steam pressure:8.83 MPa rated steam temperature:535 deg. C	1
2.2	condenser	model: N4340 rated cooling surface: 4.340 sq.m rated cooling water temperature: 31 deg.C rated steam pressure: 8,041.5 Pa cooling water pressure: 0.196 MPa rated steam flow:140 t/h rated cooling water flow: 9.850 t/h	1
2.3	feed water pump	model: 2DG-10 rated flow: 270 cu.m /h rated pressure head: 14 MPa rated speed:2,850 rpm	2
2.4	deaerator	model: YC-225 rated capacity:270 cu.m /h rated working pressure: 0.59 MPa	1
2.5	condensate pump	model: 8NL-130 rated flow: 160 cu.m/h rated pressure head: 1.323MPa	2

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2.6	main ejector	model: C-7.5-60 rated suction pressure: 0.0075MPa rated steam pressure: 0.49MPa rated ejection flow: 60kg/h	2
2.7	No.1 L.P. heater	model: DR-120-1 rated heating area: 120squ.m	1
	No.2 L.P. heater	model: DR-120-2 rated heating area: 120squ.m	1
	No.3 L.P. heater	model: DR-120-3 rated heating area: 120squ.m	1
2.8	No.1 H.P. heater	model: JG-170-1-1 rated heating area: 170squ.m	1
	No.2 H.P. heater	model: JG-170-1-2 rated heating area: 170 <i>sqm</i>	1
2.9	Feed water tank	model: YS-70 rated water tank volume: 70cu.m	1
2.10	Oil purifier	model: YJ-3000	1
	Oil purifier pump	model: CB-B63	1
	Fume exhauster of oil purifier	model: CQ2-J	1
2.11	Condenser rubber ball cleaner		1
2.12	Drainage pump	model: IS80-50-315 rated capacity: 60cu.m/h	2

3. Main Specification for Major Equipment of Generator-Transformer Set No.2

No.	Designation	Model/Specification	Quantity
3.1	Generator	model: QFQ-50-2-B hydrogen cooled rated capacity: 50MW rated voltage: 10.5KV rated current: 3,440A rated power factor: 0.8 rated frequency: 50HZ	1
3.2	Exciter	model: DQLT-10 rated output voltage: 250V rated output current: 527A	1
3.3	Exciter transformer	rated capacity: 450KVA	1
3.4	Magnetic breaker	model: DM-600	1
3.5	Rectifier box	rated voltage: 500V	2
3.6	Main transformer	model: SF-63000/132TA rated capacity: 63MVA	1
3.7	High voltage auxiliary transformer	model: SFZ-12500/10TA rated capacity: 12.5MVA	1
3.8	Low voltage auxiliary transformer	model: S-1000/6TA rated capacity: 1MVA	1

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4. Main Specification for Major Equipment of C.W. System for Unit No.2

No.	Designation	Model/Specification	Quantity
41	C.W. cooling tower	model : BLSJ(II) rated cooling water flow : 2,400cu.m/h diameter : 5,200mm height : 5,500mm	5
42	Air fan in C.W. cooling tower	model : LF80-B blade diameter : 3,400mm rated blade speed : 149rpm number of blades : 4	5
43	Circulating water pump	model : 32SH-19 rated flow : 4,700-6,400t/h pressure head : 0.34-0.24MPa rated speed : 730rpm	3
44	Flush pump	model : IS80-50-200 rated capacity : 31-61t/h rated pressure head : 0.45-0.54MPa rated speed : 2,950rpm	1

5. Main Specification for Major Equipment of Cinder Disposal System (Submerged Scraper Conveyor No.2)

No.	Designation	Model/Specification	Quantity
51	Submerged scraper 2*a+b	model : DMS63 length : 42.5m width : 0.63m rated capacity : 40t/h	2

6. Main Specification for Major Equipment of Ash Disposal System for Unit No.2

No.	Designation	Model/Specification	Quantity
61	Negative pressure fan	model : 1016 rated capacity : 51.34cu.m/min	2
62	Cyclone collector	model : B60 rated capacity : 54.5t/h	2
63	Screw ash conveyor	model : 380-4500 rated capacity : 30-35t/h	2
64	Hopper fluidizing blower	model : RD-100 rated capacity : 4.04-14.4cu.m/min	2
65	Silo fluidizing blower	model : TRC-100 rated capacity : 3.4-10.9cu.m/min	2
66	Bag filter	model : D2100mm; A=90sq.m	2

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7. Main Specification for Major Equipment of Main Control Room (ECR)

No.	Designation	Model/Specification	Quantity
7.1	Control console related to Unit No.2	model : JTC-2/2(G)	1
7.2	Control panel	model : JPM-30/1	1
7.3	Protection panel related to Unit No.2	model : JGE-31	4

8. Main Specification for Major Equipment of I&C System

No.	Designation	Model/Specification	Quantity
8.1	Spring tube pressure gauges	model : Y-150	1
8.2	Pressure transducers	model : 1151	1
		model : DDZ-III	
		model : DBC,DBY	
8.3	Bi-metallic thermometers	model : WSS	
8.4	Thermal-couples	model : WRE,WRN	
8.5	Recorder	model : ER180	
8.6	Scanner	model : SZR	
8.7	Standard orifice flow meter		
8.8	Oxygen analyzer	model : MAGNOS	
8.9	Regulator	model : KMM,KMS	
8.10	Programmable controller	model : OMRON C2000H	
8.11	Unterminated power sources (UPS)	model : SANTAK,5KVA	
8.12	Turbine protection device	model : BENTLY,3300	



Attachment 4:

Main Specification for Major Equipment of the System to be Handed Over as Mentioned in the Acceptance report

Note: In this Attachment, only the Main Specification for Major Equipment of the System to be Handed Over as Mentioned in the Acceptance Report (hereinafter called MAIN SPECIFICATION) has been listed. For more details, please refer to the approved final design drawings & the CONTRACT documents. If there is any discrepancy between this MAIN SPECIFICATION and the approved final design drawings & CONTRACT documents, the approved final design drawings & CONTRACT document shall govern.

1. Main Specification for Boiler No.3 and its Main Auxillaries

No.	Designation	Model/Specification	Quantity
1.1	fluidized bed combustion boiler	model: DG220/9.8-5 maximum main steam flow: 220 t/h rated steam flow: 200 t/h rated main steam pressure: 9.8 MPa rated temperature of feed water: 215 C	1
1.2	bag house filter	model: HJL-16000 rated flue gas flow: 442,800 cu.m/h rated inlet gas temperature: 150 C total filtered area: 15,912 squ.m total cells: 8 total bags: 1,632	1
1.3	forced draft fan	model: G9-26-11 NO.18D rated pressure head: 0.0179MPa rated air flow: 126,000 cu.m/h	2
1.4	induced draft fan	model: Y5-47-11 NO.24.5 rated pressure head: 0.0057MPa rated air flow: 236,400 cu.m/h	2
1.5	booster fan	model: G1 73-NO.10D rated pressure head: 0.0227MPa rated air flow: 45,051 cu m/h	1
1.6	seal pot blower	model: RD-125 rated air flow: 364.2-1242 cu.m/h	2
1.7	coal flipper	number of cell A: 7 number of cell B: 3	10

1.8	screw coal feeder	model: GX250-I.A rated capacity: 1.67-10 t/h number of cell A: 7 number of cell B: 3	10
1.9	screw limestone feeder	model: GX250-I.A rated capacity: 1.43-8.6 t/h number of cell A : 5 number of cell B: 2	7
1.10	cinder cooler	rated capacity: 3.6 t/h number of cell A: 4 number of cell B: 2	6
1.11	steam and water sampling device		1



2. Main Specification for Turbine No.3 and its Main Auxiliaries

No.	Designation	Model/Specification	Quantity
2.1	steam turbine	model: N50-8.83/535 type: high pressure single cylinder condensing steam turbine rated capacity: 50MW rated speed:3000 rpm rotor rotating direction: clockwise facing to the high pressure end rated steam pressure:8.83 MPa rated steam temperature:535 deg. C	1
2.2	condenser	model: N4340 rated cooling surface: 4,340 squ.m rated cooling water temperature: 31 deg.C rated steam pressure: 8,041.5 Pa cooling water pressure: 0.196 MPa rated steam flow:140 t/h rated cooling water flow: 9.850 t/h	1
2.3	feed water pump	model: 2DG-10 rated flow: 270 cu.m /h rated pressure head: 14 MPa rated speed:2,850 rpm	2
2.4	deaerator	model: YC-225 rated capacity:270 cu.m /h rated working pressure: 0.59 MPa	1
2.5	condensate pump	model: 8NL-130 rated flow: 160 cu.m/h rated pressure head: 1.323MPa	2

2.6	main ejector	model: C-7.5-60 rated suction pressure: 0.0075MPa rated steam pressure : 0.49MPa rated ejection flow : 60kg/h	2
2.7	No.1 L.P. heater	model : DR-120-1 rated heating area:120squ.m	1
	No.2 L.P. heater	model : DR-120-2 rated heating area : 120squ.m	1
	No.3 L.P. heater	model : DR-120-3 rated heating area : 120squ.m	1
2.8	No.1 H.P. heater	model : JG-170-1--1 rated heating area : 170squ.m	1
	No.2 H.P. heater	model : JG-170-1-2 rated heating area : 170squ.m	1
2.9	Feed water tank	model : YS-70 rated water tank volume : 70cu m	1
2.10	Oil purifier	model : YJ-3000	1
	Oil purifier pump	model : CB-B63	1
	Furne exhauster of oil purifier	model : CQ2-J	1
2.11	Condenser rubber ball cleaner		1
2.12	Drainage pump	model : IS80-50-315 rated capacity : 60cu.m/h	2

3. Main Specification for Major Equipment of Generator-Transformer Set No.3

No.	Designation	Model/Specification	Quantity
3.1	Generator	model : QFQ-50-2-B hydrogen cooled rated capacity : 50MW rated voltage : 10.5KV rated current : 3,440A rated power factor : 0.8 rated frequency : 50HZ	1
3.2	Exciter	model : DQLT-10 rated output voltage : 250V rated output current : 527A	1
3.3	Exciter transformer	rated capacity : 450KVA	1
3.4	Magnetic breaker	model : DM-600	1
3.5	Rectifier box	rated voltage : 500V	2
3.6	Main transformer	model : SF-63000/132TA rated capacity : 63MVA	1
3.7	High voltage auxiliary transformer	model : SFZ-12500/10TA rated capacity : 12.5MVA	1
3.8	Low voltage auxiliary transformer	model : S-1000/6TA rated capacity : 1MVA	1

4. Main Specification for Major Equipment of C.W. System for Unit No.3

No.	Designation	Model/Specification	Quantity
4.1	C.W. cooling tower	model : BLSJ(II) rated cooling water flow : 2,400cu.m/h diameter : 5,200mm height : 5,500mm	5
4.2	Air fan in C.W. cooling tower	model : LF80-B blade diameter : 3,400mm rated blade speed : 149rpm number of blades : 4	5
4.3	Circulating water pump	model : 32SH-19 rated flow : 4,700-6,400t/h pressure head : 0.34-0.24MPa rated speed : 730rpm	3
4.4	Flush pump	model : JS80-50-200 rated capacity : 31-61t/h rated pressure head : 0.45-0.54MPa rated speed : 2,950rpm	1

5. Main Specification for Major Equipment of Cinder Disposal System (Submerged Scraper Conveyor No.3)

No.	Designation	Model/Specification	Quantity
5.1	Submerged scraper 1*a+b	model : DMS63 length : 40.4m width : 0.63m rated capacity : 20t/h	2

6. Main Specification for Major Equipment of Ash Disposal System for Unit No.3

No.	Designation	Model/Specification	Quantity
6.1	Negative pressure fan	model : 1016 rated capacity : 51.34cu.m/min	2
6.2	Cyclone collector	model : B60 rated capacity : 54.5t/h	2
6.3	Screw ash conveyor	model : 380-4500 rated capacity : 30-35t/h	2
6.4	Hopper fluidizing blower	model : RD-100 rated capacity : 4.04-14.4cu.m/min	2
6.5	Silo fluidizing blower	model : TRC-100 rated capacity : 3.4-10.9cu.m/min	2
6.6	Bag filter	model : D2100mm; A=90sq.m	2

7. Main Specification for Major Equipment of Main Control Room (ECR)

No.	Designation	Model/Specification	Quantity
7.1	Control console related to Unit No.3	model : JTC-2/2(G)	1
7.2	Control panel related to Unit No.3	model : JPM-30/1	1
7.3	Protection panel related to Unit No.3	model : JGE-31	4

8. Main Specification for Major Equipment of I&C System

No.	Designation	Model/Specification	Quantity
8.1	Spring tube pressure gauges	model : Y-150	
8.2	Pressure transducers	model : 1151 model : DDZ-III model : DBC,DBY	
8.3	Bi-metallic thermometers	model : WSS	
8.4	Thermal-couples	model : WRE,WRN	
8.5	Recorder	model : ER180	
8.6	Scanner	model : SZR	
8.7	Standard orifice flow meter		
8.8	Oxygen analyzer	model : MAGNOS	
8.9	Regulator	model : KMM,KMS	
8.10	Programmable controller	model : OMRON C2000H	
8.11	Unterminated power sources (UPS)	model : SANTAK,5KVA	
8.12	Turbine protection device	model : BENTLY,3300	

9. Main Specification for Major Equipment of Fire Fighting Water System and Fire Alarm System

No.	Designation	Model/Specification	Quantity
9.1	Fire fighting Pumps	model: S150-78 rated capacity: 162-198 t/h rated pressure head: 0.82-0.61 MPa	1
9.2	Gasoline engine driven fire pump	model: ED50; rated capacity: 180 t/s rated pressure head: 0.8 MPa	1
9.3	Fire fighting alarm system		each 1
9.3.1	Fire alarm controllers	model: JB-TG-250; model: JB-QG-250	
9.3.2	Infrared smoke sensing detector	model: JTY-HS	
9.3.3	Air tube differential temperature detector	model: JTW-GC	
9.3.4	Photoelectric smoke sensing detector	model: JTY-GD	
9.3.5	Manually operated alarm button	model: JB-SB	2
9.4	Tank fire truck	model: SXF 5091 GXFPM 35	1
9.5	Dry powder fire truck	model: CF10	1

10. Main Specification for Major Equipment of slot coal bunker and Belt Conveyor No.1a and b

No.	Designation	Model/specification	Quantity
10.1	Belt conveyor No.1a and b	width: 0.8m; length: 78.4m	2

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10.2	Impeller coal feeder	model: QYG-300A; capacity: 260-312 t/h	2
10.3	Iron-removing equipment	model: RCDF-8	2

11. Main Specification for Major Equipment of Sewage Treatment System

No.	Designation	Model/Specification	Quantity
11.1	Sewage pump	model: 80WG; capacity: 25-70 t/h; pressure head: 0.18-0.16MPa	2
11.2	Sewage treatment installation	model: WSZ-10; rated capacity: 10 t/h	2

12. Main Specification for Elevator

No.	Designation	Model/Specification	Quantity
12.1	Elevator	model: THJ1000/0.5-JX	2

13. Main Specification for Auxiliary Boiler

No.	Designation	Model/Specification	Quantity
13.1	Auxiliary boiler	rated capacity: 4 t/h rated steam pressure: 1.0 MPa rated steam temperature: 183°C	1

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Chemical LAB Equipments		
SR No.	DESCRIPTION	QUANTITY
1	Balance Meter	2
2	Spectro Photo Meter	3
3	Water Bath Analyzer	1
4	Conductivity Meter	3
5	Electric Ovan	3
6	Sulpher Analyzer	1
7	BOM Chairi Meter	2
8	Hard grow Index	1
9	Furnace (Store)	1
10	Stabilizer (Store)	1
11	Coal Sample Vibrator (Store)	1
12	Coal Sample Maker (Store)	1
13	Silca Analyzer	1
14	Fuel moisture Director	1
15	DEC Analyzer	1
16	Thermo Electric Cooling Testor	1

Mechanical Workshop Equipment

SR No.	DESCRIPTION	QUANTITY
1	Lathe C618k-2	1
2	Lathe CD 6140C	2
3	Lathe CW6163A	1
4	Shaper B665	1
5	Universal Grinding Machine M6025C	1
6	Universal Milling Machine X6142	1
7	Radial Drill Press Z35A	1
8	Vertical Drill Press Z5140	1
9	Sloting Machine B 5032A	1
10	Sawing Machine G 7025	1
11	Tool Grinder M 3025 N=0.75 KW	1
12	Tool Grinder M 3025 N=1.5 KW	1
13	Air Compressor	1

Coal Workshop Equipment

SR No.	DESCRIPTION	QUANTITY
1	Lathe CDZ6140 C 400*1500	1
2	Driller ZY5140	1
3	Desk Driller Z512	2
4	Grinder M3035	3
5	Portable Grinder S3S 150	2

Water Treatment Workshop Equipment

SR No.	DESCRIPTION	QUANTITY
1	Bench Drilling Machine Z4025	1
2	Bench Drilling Machine Z512 A	1
3	Tool Grinder M 3025	1
4	Bench Wise	1
5	Manual Lifter	1
6	Diesel Engin Champion Engine No. 5051324	1

Carpentor Workshop Equipment

SR No.	DESCRIPTION	QUANTITY
1	Universal Wooden Machine	1
2	Gauges Machine	1
3	Wooden Wise	1

Electrical Workshop Equipment

SR No.	DESCRIPTION	QUANTITY
1	Testing Panel	2
2	30KV Transformer	2
3	Disc Testing Transformer	1
4	Dehydration Plant	1
5	Oil Testing Panel	2
6	Air Compressor	1
7	50KVA Testing Transformer	1
8	Testing Meter	1
9	Insulation Testor	1
10	Bench Driller Z4016	1
11	Grinder M3035	1
12	Electric Oven	1

Instrument Workshop Equipment

SR No.	DESCRIPTION	QUANTITY
1	Bench Driller Z4112	1
2	Drill Machine Z406	1
3	Horizontal Knee Column Type Milling I6012	1
4	Hydraulic Pressure Unit	1
5	Lath Machine C0630	1
6	Small Lath Machine	1

Transport WorkShop

SR No.	DESCRIPTION	QUANTITY
1	Air Compressor	1
2	Manual Lifter	1