

Neptune Thermal Power Plant Trainer

TPP

ALARM LIST

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1 DIRECTORY LIST

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2 VARIABLE LIST PAGES

2.1 Page:0190 AG01** AUTO STAND BY START 1

A:					
B:					
C:	X13800	<0-2>	L=---	H=1.9	Auto start : FO supply pump 1
D:	X13801	<0-2>	L=---	H=1.9	Auto start : FO supply pump 2
E:					
F:	X13803	<0-2>	L=---	H=1.9	Auto start : Main coolw pump 1
G:	X13804	<0-2>	L=---	H=1.9	Auto start : Main coolw pump 2
H:					
I:	X13806	<0-2>	L=---	H=1.9	Auto start : Cold condensate pump 1
J:	X13807	<0-2>	L=---	H=1.9	Auto start : Cold condensate pump 2
K:	X13808	<0-2>	L=---	H=1.9	Auto start : Cold condensate pump 3
L:					
M:	X13820	<0-2>	L=---	H=1.9	Auto start : Feed water pump 1
N:	X13821	<0-2>	L=---	H=1.9	Auto start : Feed water pump 2
O:	X13822	<0-2>	L=---	H=1.9	Auto start : Feed water pump 3
P:					
Q:	X13816	<0-2>	L=---	H=1.9	Auto start : Main vacuum pump 1
R:	X13817	<0-2>	L=---	H=1.9	Auto start : Main vacuum pump 2
S:					
T:					

2.2 Page:0191 AG01** AUTO STAND BY START 2

A:					
B:					
C:	X13810	<0-2>	L=---	H=1.9	Auto start : Hot condensate pump 1
D:	X13811	<0-2>	L=---	H=1.9	Auto start : Hot condensate pump 2
E:	X13812	<0-2>	L=---	H=1.9	Auto start : Hot condensate pump 3
F:					
G:	X13813	<0-2>	L=---	H=1.9	Auto start : Main condensate pump 1
H:	X13814	<0-2>	L=---	H=1.9	Auto start : Main condensate pump 2
I:	X13815	<0-2>	L=---	H=1.9	Auto start : Main condensate pump 3
J:					
K:	X13823	<0-2>	L=---	H=1.9	Auto start : Condensate make up pump 1
L:	X13824	<0-2>	L=---	H=1.9	Auto start : Condensate make up pump 2
M:	X13825	<0-2>	L=---	H=1.9	Auto start : Condensate make up pump 3
N:					
O:	X13826	<0-2>	L=---	H=1.9	Auto start : Condensate transfer pump 1
P:	X13827	<0-2>	L=---	H=1.9	Auto start : Condensate transfer pump 2
Q:	X13828	<0-2>	L=---	H=1.9	Auto start : Condensate transfer pump 3
R:					
S:					
T:					

2.3 Page:0290 AG02** FUEL OIL SYSTEM

A:					
B:	T01019	dgrC	L=45.0	H=65.0	HFO service tank fuel oil temperature
C:	L01033	m	L=4.0	H=9.0	HFO service tank fuel oil level (total)
D:	L01034	m	L=---	H=0.6	HFO service tank water level (mass)
E:					
F:	P01039	bar	L=5.0	H=26.0	HFO supply flow pressure
G:	T01040	dgrC	L=100.0	H=130.0	HFO supply flow temperature
H:					
I:	P01059	bar	L=---	H=0.5	HFO supply final filter 1/2 dp
J:	P01072	bar	L=14.0	H=28.0	HFO supply pump discharge pressure
K:					
L:	G01002	ton/h	L=---	H=0.1	HFO service tank overflow
M:					
N:					
O:	P01080	bara	L=6.0	H=16.0	HFO heater steam supply pressure
P:					
Q:					
R:					
S:					
T:					

2.4 Page:0390 AG03** SECONDARY STEAM SYSTEM

A:					
B:	P01231	bara	L=7.5	H=14.0	LP stgen second. steam pressure
C:	L01236	m	L=0.7	H=1.1	LP stgen second. water level (drum)
D:	G01238	ton/h	L=---	H=0.1	LP stgen second. safety valve flow
E:					
F:	P01264	bara	L=9.0	H=18.0	Steam cooling tank steam pressure
G:	L01268	m	L=0.5	H=1.0	Steam cooling tank water level (drum)
H:	G01269	ton/h	L=---	H=0.1	Steam cooling tank safety valve flow
I:					
J:					
K:	P01293	baro	L=6.0	H=11.0	Atomizing steam supply pressure
L:	P01290	baro	L=8.0	H=16.0	Cleaning steam supply pressure
M:					
N:					
O:	L01254	m	L=0.4	H=1.0	LP stgen inspection tank water level
P:	X01255	ppm	L=---	H=20.0	LP stgen inspection tank oil detector
Q:					
R:	L01226	m	L=0.4	H=1.0	LP stgen primary water level (drain tank)
S:					
T:					



2.5 Page:0490 AG04** BURNER PLANE A

A:					
B:					
C:	X01472	<0-1>	L=---	H=0.9	Plane A coal mill trip
D:					
E:					
F:	X11480	<0-1>	L=---	H=0.9	Plane A burner 1 flame failure
G:	X21480	<0-1>	L=---	H=0.9	Plane A burner 2 flame failure
H:	X31480	<0-1>	L=---	H=0.9	Plane A burner 3 flame failure
I:	X41480	<0-1>	L=---	H=0.9	Plane A burner 4 flame failure
J:					
K:	T01426	dgrC	L=70.0	H=100.0	Plane A prim air temp outlet coal mill
L:	P01422	mmH2O	L=250.0	H=1200.0	Plane A prim air fan discharge pressure
M:	G01413	ton/h	L=17.0	H=---	Plane A prim air fan flow
N:					
O:					
P:	P01440	bar	L=2.9	H=22.0	Plane A fuel oil press at burners
Q:					
R:					
S:					
T:					

2.6 Page:0491 AG04** BURNER PLANE B

A:					
B:					
C:	X01572	<0-1>	L=---	H=0.9	Plane B coal mill trip
D:					
E:					
F:	X11580	<0-1>	L=---	H=0.9	Plane B burner 1 flame failure
G:	X21580	<0-1>	L=---	H=0.9	Plane B burner 2 flame failure
H:	X31580	<0-1>	L=---	H=0.9	Plane B burner 3 flame failure
I:	X41580	<0-1>	L=---	H=0.9	Plane B burner 4 flame failure
J:					
K:	T01526	dgrC	L=70.0	H=100.0	Plane B prim air temp outlet coal mill
L:	P01522	mmH2O	L=250.0	H=1200.0	Plane B prim air fan discharge pressure
M:	G01513	ton/h	L=17.0	H=---	Plane B prim air fan flow
N:					
O:					
P:	P01540	bar	L=2.9	H=22.0	Plane B fuel oil press at burners
Q:					
R:					
S:					
T:					

2.7 Page:0492 AG04** BURNER PLANE C

A:
B:
C: X01672 <0-1> L=--- H=0.9 Plane C coal mill trip
D:
E:
F: X11680 <0-1> L=--- H=0.9 Plane C burner 1 flame failure
G: X21680 <0-1> L=--- H=0.9 Plane C burner 2 flame failure
H: X31680 <0-1> L=--- H=0.9 Plane C burner 3 flame failure
I: X41680 <0-1> L=--- H=0.9 Plane C burner 4 flame failure
J:
K: T01626 dgrC L=70.0 H=100.0 Plane C prim air temp outlet coal mill
L: P01622 mmH2O L=250.0 H=1200.0 Plane C prim air fan discharge pressure
M: G01613 ton/h L=17.0 H=--- Plane C prim air fan flow
N:
O:
P: P01640 bar L=2.9 H=22.0 Plane C fuel oil press at burners
Q:
R:
S:
T:

2.8 Page:0493 AG04** BURNER PLANE D

A:
B:
C: X01772 <0-1> L=--- H=0.9 Plane D coal mill trip
D:
E:
F: X11780 <0-1> L=--- H=0.9 Plane D burner 1 flame failure
G: X21780 <0-1> L=--- H=0.9 Plane D burner 2 flame failure
H: X31780 <0-1> L=--- H=0.9 Plane D burner 3 flame failure
I: X41780 <0-1> L=--- H=0.9 Plane D burner 4 flame failure
J:
K: T01726 dgrC L=70.0 H=100.0 Plane D prim air temp outlet coal mill
L: P01722 mmH2O L=250.0 H=1200.0 Plane D prim air fan discharge pressure
M: G01713 ton/h L=17.0 H=--- Plane D prim air fan flow
N:
O:
P: P01740 bar L=2.9 H=22.0 Plane D fuel oil press at burners
Q:
R:
S:
T:

**2.9 Page:0590 AG05** BOILER COMBUSTION SYSTEM**

A:					
B:					
C:	X01870	<0-1>	L=---	H=0.9	Boiler trip
D:					
E:	X01963	<0-1>	L=---	H=0.9	BLR : block load reduction
F:					
G:	X02419	vol%	L=0.7	H=8.0	Oxygen content in flue gas
H:	X32419	ppm	L=---	H=75.0	CO content in flue gas
I:					
J:	P02180	mmH2O	L=-45.0	H=40.0	Flue gas press in furnace
K:	P02240	mmH2O	L=-670.0	H=---	Flue gas fan suction pressure
L:					
M:	P02200	mmH2O	L=150.0	H=500.0	Ring channel air pressure
N:	T02201	dgrC	L=80.0	H=400.0	Ring channel air temp
O:					
P:	P02210	mmH2O	L=150.0	H=---	Cold air box air pressure
Q:					
R:	G02195	ton/h	L=5.0	H=100.0	Furnace OFA flow
S:					
T:					

2.10 Page:0690 AG06 COMBUSTION AIR PREHEATERS**

A:					
B:	N02121	rpm	L=4.0	H=---	Rotary air preheater 1 rotor speed
C:	T02123	dgrC	L=---	H=85.0	Rotary air preheater 1 bearing temp
D:	T02114	dgrC	L=100.0	H=200.0	Rotary air preheater 1 gas outlet temp
E:	T02104	dgrC	L=---	H=350.0	Rotary air preheater 1 air outlet temp
F:					
G:	N02151	rpm	L=4.0	H=---	Rotary air preheater 2 rotor speed
H:	T02153	dgrC	L=---	H=85.0	Rotary air preheater 2 bearing temp
I:	T02144	dgrC	L=100.0	H=200.0	Rotary air preheater 2 gas outlet temp
J:	T02134	dgrC	L=---	H=350.0	Rotary air preheater 2 air outlet temp
K:					
L:					
M:					
N:					
O:	T02072	dgrC	L=---	H=150.0	Steam air preheater 1 air outlet temp
P:	T02082	dgrC	L=---	H=150.0	Steam air preheater 2 air outlet temp
Q:					
R:					
S:					
T:					

2.11 Page:0790 AG07* * BOILER WATER SYSTEM

A:					
B:					
C:	G02431	ton/h	L=190.0	H=920.0	Boiler feedw control valve flow
D:					
E:	T02406	dgrC	L=16.0	H=---	Economizer water boiling temp margin
F:					
G:	T02474	dgrC	L=---	H=410.0	Boiler EVA section mean tube metal temp
H:	T02475	dgrC	L=---	H=440.0	Boiler SH1 section mean tube metal temp
I:					
J:	P02490	bara	L=---	H=210.0	Separator steam pressure
K:	L02495	m	L=---	H=9.0	Separator water level
L:					
M:	G02542	ton/h	L=---	H=1.0	Bottom blow tank over flow
N:	L02544	m	L=---	H=3.0	Bottom blow tank level
O:					
P:					
Q:					
R:					
S:					
T:					

2.12 Page:0890 AG08* * BOILER STEAM SYSTEM

A:					
B:					
C:	T02344	dgrC	L=---	H=550.0	Superheater 3 steam outlet temp
D:	T02324	dgrC	L=---	H=480.0	Superheater 2 steam outlet temp
E:					
F:	T02382	dgrC	L=---	H=390.0	Reheater 1 steam inlet temp
G:	T02384	dgrC	L=---	H=520.0	Reheater 1 steam outlet temp
H:	T02364	dgrC	L=---	H=550.0	Reheater 2 steam outlet temp
I:					
J:	T02456	dgrC	L=---	H=480.0	Boiler steam temperature (outlet SH1)
K:					
L:					
M:	T02492	dgrC	L=---	H=430.0	Separator steam temp
N:	T02481	dgrC	L=---	H=45.0	Separator steam inlet super temp
O:					
P:	G02499	ton/h	L=---	H=5.0	Separator vent flow
Q:					
R:					
S:					
T:					

**2.13 Page:0990 AG09** MAIN STEAM LINES**

A:					
B:	P02601	bara	L=---	H=200.0	HP line steam pressure
C:	P02631	bara	L=---	H=55.0	IPC line steam pressure
D:	P02641	bara	L=---	H=47.0	IPH line steam pressure
E:					
F:	T02611	dgrC	L=---	H=420.0	HP bypass control steam temp (after mix)
G:	T02632	dgrC	L=---	H=400.0	IPC line steam temperature
H:					
I:	X22618	<0-2>	L=---	H=1.9	LP bypass steam controller stby
J:					
K:	G02662	ton/h	L=---	H=0.1	HP safety valve steam flow
L:	G02667	ton/h	L=---	H=0.1	IP safety valve steam flow
M:					
N:	X22648	<0-2>	L=---	H=1.9	LP steam dump controller stby
O:					
P:	P22645	bara	L=0.5	H=---	LP steam dump coolw pressure
Q:	T22646	dgrC	L=---	H=130.0	LP steam dump temp (after mix)
R:					
S:	X22650	<0-3>	L=---	H=0.9	LP steam dump trip
T:					

2.14 Page:1090 AG10 STEAM TURBINES**

A:					
B:					
C:	X13080	<0-1>	L=---	H=0.9	Turbine trip
D:					
E:	X02673	<0-1>	L=---	H=0.9	HP turbine high temp protect trip
F:					
G:					
H:	T03015	dgrC	L=---	H=420.0	HP turbine steam outlet temp
I:					
J:	N03350	rpm	L=---	H=3200.0	Turbine shaft speed
K:					
L:	T03246	dgrC	L=---	H=150.0	LP turbine casing temperature
M:					
N:	Z03361	um	L=---	H=20.0	Turbine vibration
O:					
P:	T03283	dgrC	L=---	H=200.0	Extraction 2 steam temp
Q:					
R:	P13075	bara	L=3.0	H=---	Turbine sealing steam supply pressure
S:					
T:					

2.15 Page:1190 AG11** ELECTRIC GENERATOR SYSTEM

A:					
B:					
C:	X03831	<0-1>	L=---	H=0.9	Main circuit breaker trip
D:					
E:	V03800	kV	L=200.0	H=240.0	Line voltage
F:	F03801	Hz	L=48.0	H=52.0	Line frequency
G:					
H:	I03804	A	L=---	H=710.0	Line current
I:	Z03805	<0-1>	L=0.8	H=---	Line current cos(phi)
J:					
K:					
L:	V03810	kV	L=17.0	H=18.5	Generator voltage
M:	F03811	Hz	L=47.0	H=53.0	Generator frequency
N:					
O:	V03860	kV	L=9.5	H=11.5	Bus 1 voltage
P:	V03864	kV	L=9.5	H=11.5	Bus 2 voltage
Q:					
R:	Z03850	%	L=75.0	H=---	Generator field excitation
S:					
T:					

2.16 Page:1290 AG12** COLD CONDENSER SYSTEM

A:					
B:					
C:	P04020	mbar	L=---	H=100.0	Cold condenser pressure
D:					
E:	L04024	m	L=0.3	H=0.8	Cold condenser hotwell water level
F:					
G:	X04065	<0-1>	L=---	H=0.9	Cold condenser vacuum breaker trip
H:					
I:	X04028	micS/m	L=---	H=70.0	Cold condenser hotwell conductivity
J:					
K:	P04029	bar	L=0.4	H=---	Cold condenser coolw inlet pressure
L:					
M:					
N:	P14070	bara	L=1.4	H=---	Cold condensate line pressure
O:					
P:	L14063	m	L=0.2	H=0.7	LP feed heater 0 drain level
Q:					
R:					
S:					
T:					



2.17 Page:1390 AG13** MAIN CONDENSATE SYSTEM

A:					
B:					
C:	L04145	m	L=1.0	H=2.0	Condensate tank water level
D:					
E:	P04140	bara	L=---	H=0.9	Condensate tank pressure
F:					
G:	G04149	ton/h	L=---	H=0.1	Condensate tank safety valve flow
H:					
I:					
J:					
K:	P04160	bara	L=18.0	H=---	Main condensate pump discharge pressure
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.18 Page:1490 AG14** LOW PRESSURE FEED HEATERS

A:					
B:					
C:	L14219	m	L=0.1	H=1.0	LP feed heater 1 drain level
D:					
E:	L24219	m	L=0.1	H=1.1	LP feed heater 2 drain level
F:					
G:	L34219	m	L=0.1	H=1.2	LP feed heater 3 drain level
H:					
I:	P34224	bara	L=---	H=10.0	LP feed heater 3 pressure
J:					
K:					
L:	X34254	<0-1>	L=---	H=0.9	LP feed heater 3 trip
M:					
N:					
O:	G34253	ton/h	L=---	H=0.1	LP feed heater 3 safety valve flow
P:					
Q:					
R:					
S:	P04208	bar	L=---	H=1.5	Condensate filter diff pressure
T:					

2.19 Page:1590 AG15** FEED WATER DEAERATOR

A:					
B:					
C:	P04370	bara	L=2.3	H=9.8	Feedw deaerator pressure
D:					
E:	L04374	m	L=1.5	H=3.0	Feedw deaerator water level
F:					
G:	G04368	ton/h	L=---	H=0.1	Feedw deaerator safety valve flow
H:					
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.20 Page:1690 AG16** FEED WATER PUMPS (1)

A:					
B:					
C:					
D:					
E:	P04380	bara	L=85.0	H=290.0	Feedw line pressure (after FW pumps)
F:					
G:	R04390	<0-1>	L=0.1	H=---	Feedw pump system sealing water pump
H:	R04391	<0-1>	L=0.1	H=---	Feedw pump system LO coolw pump
I:					
J:					
K:	P14367	bara	L=80.0	H=---	Feedw pump 1 discharge pressure
L:	I14392	A	L=---	H=400.0	Feedw pump 1 el motor line current
M:					
N:	P24367	bara	L=80.0	H=---	Feedw pump 2 discharge pressure
O:	I24392	A	L=---	H=400.0	Feedw pump 2 el motor line current
P:					
Q:	P34367	bara	L=80.0	H=---	Feedw pump 3 discharge pressure
R:	I34392	A	L=---	H=400.0	Feedw pump 3 el motor line current
S:					
T:					

**2.21 Page:1691 AG16** FEED WATER PUMPS (2)**

A:					
B:	X44300	<0-1>	L=---	H=0.9	Feedw pump 1 trip
C:	X44330	<0-1>	L=---	H=0.9	Feedw pump 2 trip
D:	X44360	<0-1>	L=---	H=0.9	Feedw pump 3 trip
E:					
F:	T44303	dgrC	L=---	H=70.0	Feedw pump 1 LO temp
G:	P44304	bar	L=1.5	H=---	Feedw pump 1 LO press
H:	X44305	mm	L=---	H=1.2	Feedw pump 1 axial displacement
I:	E44306	W	L=---	H=30.0	Feedw pump 1 slip ring light arc
J:					
K:	T44333	dgrC	L=---	H=70.0	Feedw pump 2 LO temp
L:	P44334	bar	L=1.5	H=---	Feedw pump 2 LO press
M:	X44335	mm	L=---	H=1.2	Feedw pump 2 axial displacement
N:	E44336	W	L=---	H=30.0	Feedw pump 2 slip ring light arc
O:					
P:	T44363	dgrC	L=---	H=70.0	Feedw pump 3 LO temp
Q:	P44364	bar	L=1.5	H=---	Feedw pump 3 LO press
R:	X44365	mm	L=---	H=1.2	Feedw pump 3 axial displacement
S:	E44366	W	L=---	H=30.0	Feedw pump 3 slip ring light arc
T:					

2.22 Page:1790 AG17 HIGH PRESSURE FEED HEATERS**

A:					
B:					
C:	L14419	m	L=0.1	H=1.2	HP feed heater 1 drain level
D:	P14424	bara	L=---	H=23.0	HP feed heater 1 pressure
E:	G14407	ton/h	L=---	H=0.1	HP feed heater 1 safety valve flow
F:					
G:	L24419	m	L=0.1	H=1.2	HP feed heater 2 drain level
H:	P24424	bara	L=---	H=50.0	HP feed heater 2 pressure
I:	G24407	ton/h	L=---	H=0.1	HP feed heater 2 safety valve flow
J:					
K:	L34419	m	L=---	H=0.6	HP feed heater 3 drain level
L:	P34424	bara	L=---	H=30.0	HP feed heater 3 pressure
M:	G34407	ton/h	L=---	H=0.1	HP feed heater 3 safety valve flow
N:					
O:	X14454	<0-1>	L=---	H=0.9	HP feed heater 1 trip
P:	X24454	<0-1>	L=---	H=0.9	HP feed heater 2 trip
Q:					
R:	X14456	<0-1>	L=---	H=0.9	HP feed heater FW trip
S:					
T:					

2.23 Page:1890 AG18** MAKE UP DEAERATOR SYSTEM

A:					
B:					
C:	L05055	m	L=1.0	H=2.0	Make up deaerator water level
D:					
E:	T05056	dgrC	L=35.0	H=110.0	Make up deaerator water temp
F:					
G:					
H:	G05059	ton/h	L=---	H=0.1	Make up deaerator safety valve flow
I:					
J:					
K:	P05080	bara	L=1.7	H=---	Condensate transfer line pressure
L:					
M:					
N:	L05011	m	L=1.0	H=2.0	Condensate make up tank water level
O:					
P:					
Q:					
R:					
S:					
T:					

2.24 Page:1990 AG19** HOT CONDENSERS

A:					
B:					
C:	P06060	bara	L=0.2	H=1.3	Hot condenser 1 pressure
D:	L06062	m	L=0.1	H=0.8	Hot condenser 1 hotwell level
E:					
F:	P06090	bara	L=0.4	H=2.0	Hot condenser 2 pressure
G:	L06092	m	L=0.1	H=0.7	Hot condenser 2 hotwell level
H:					
I:					
J:					
K:	T06098	dgrC	L=65.0	H=120.0	Hot condenser 2 DHW outlet temp
L:					
M:	P16070	bara	L=1.8	H=---	Hot condensate pump discharge pressure
N:					
O:					
P:	X16081	<0-1>	L=---	H=0.9	Hot condenser 1/2 level trip
Q:					
R:					
S:					
T:					



2.25 Page:1991 AG19** DISTRICT HEAT WATER

A:					
B:					
C:	T06007	dgrC	L=70.0	H=116.0	DHW supply line temp
D:					
E:					
F:	P06200	bar	L=4.0	H=8.0	DHW supply/return line diff press
G:					
H:					
I:	P06010	bar	L=2.0	H=---	DHW return pump suction pressure
J:					
K:	P06015	bar	L=7.3	H=8.7	DHW supply pump suction pressure
L:					
M:	P06017	bar	L=---	H=20.0	DHW supply pump discharge pressure
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.26 Page:2090 AG20** DIRECT HEATER 1

A:					
B:					
C:	X16171	<0-1>	L=---	H=0.9	Direct heater 1 trip
D:					
E:	G16121	ton/h	L=120.0	H=7000.0	Direct heater 1 DHW inlet flow
F:					
G:	T16126	dgrC	L=---	H=130.0	Direct heater 1 DHW outlet temp
H:					
I:	L16141	m	L=0.6	H=2.8	Direct heater 1 water level
J:					
K:	T16152	dgrC	L=---	H=240.0	Subcooler 1 condensate inlet temp
L:	T16154	dgrC	L=---	H=110.0	Subcooler 1 condensate outlet temp
M:					
N:	G16161	ton/h	L=40.0	H=800.0	Subcooler 1 DHW inlet flow
O:					
P:					
Q:					
R:					
S:					
T:					

2.27 Page:2091 AG20** DIRECT HEATER 2

A:					
B:					
C:	X26171	<0-1>	L=---	H=0.9	Direct heater 2 trip
D:					
E:	G26121	ton/h	L=120.0	H=7000.0	Direct heater 2 DHW inlet flow
F:					
G:	T26126	dgrC	L=---	H=130.0	Direct heater 2 DHW outlet temp
H:					
I:	L26141	m	L=0.6	H=2.8	Direct heater 2 water level
J:					
K:	T26152	dgrC	L=---	H=240.0	Subcooler 2 condensate inlet temp
L:	T26154	dgrC	L=---	H=110.0	Subcooler 2 condensate outlet temp
M:					
N:	G26161	ton/h	L=80.0	H=720.0	Subcooler 2 DHW inlet flow
O:					
P:					
Q:					
R:					
S:					
T:					

2.28 Page:2190 AG21** ACCUMULATOR SYSTEM

A:					
B:	L06306	m	L=15.7	H=17.3	Accumulator water level
C:	P06310	mmWL	L=5.0	H=55.0	Accumulator top pressure
D:					
E:	L06370	m	L=16.1	H=22.0	Expansion tank level
F:					
G:	G06360	ton/h	L=-250.0	H=250.0	turbine / pump flow deviation
H:					
I:	T06320	dgrC	L=---	H=115.0	Francis turbine supply temp
J:	T06321	dgrC	L=---	H=99.0	Francis turbine discharge temp
K:					
L:	G06373	ton/h	L=---	H=150.0	DHW make up pump discharge flow
M:					
N:					
O:	X16300	<0-1>	L=---	H=0.9	Francis turbine trip
P:					
Q:	N06325	rpm	L=---	H=970.0	Francis turbine speed
R:	P06329	bar	L=1.4	H=---	Francis turbine bearing LO pressure
S:					
T:					



2.29 Page:2290 AG22 SPARE**

- A:
- B:
- C:
- D:
- E:
- F:
- G:
- H:
- I:
- J:
- K:
- L:
- M:
- N:
- O:
- P:
- Q:
- R:
- S:
- T:

2.30 Page:2390 AG23 SPARE**

- A:
- B:
- C:
- D:
- E:
- F:
- G:
- H:
- I:
- J:
- K:
- L:
- M:
- N:
- O:
- P:
- Q:
- R:
- S:
- T:

2.31 Page:2790 AG27** SCR1 OPERATIONAL DATA

A:	E17101	%	L=70.0	H=99.5	SCR 1 Efficiency
B:	T17103	dgrC	L=---	H=420.0	SCR 1 Temp out
C:	D17104	mmH2O	L=---	H=76.5	SCR 1 Diff press
D:	X17106	ppm	L=---	H=130.0	SCR 1 NOx out
E:	G17107	kg/h	L=1.0	H=170.0	SCR 1 NH3 in
F:	X17821	%	L=---	H=7.0	SCR 1 NH3 content in NH3/Air flow
G:					
H:					
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.32 Page:2791 AG27** SCR2 OPERATIONAL DATA

A:	E27101	%	L=70.0	H=99.5	SCR 2 Efficiency
B:	T27103	dgrC	L=---	H=420.0	SCR 2 Temp out
C:	D27104	mmH2O	L=---	H=76.5	SCR 2 Diff press
D:	X27106	ppm	L=---	H=130.0	SCR 2 NOx out
E:	G27107	kg/h	L=1.0	H=170.0	SCR 2 NH3 in
F:	X27821	%	L=---	H=7.0	SCR 2 NH3 content in NH3/Air flow
G:					
H:					
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					



2.33 Page:2792 AG27** OTHER DENOX PROCESS DATA

A:	G17201	ton/h	L=---	H=500.0	Boiler outlet 1 Flue gas flow
B:	T17202	dgrC	L=---	H=420.0	SCR 1 Flue gas temperature
C:	L17600	m	L=---	H=2.0	SCR 1 product level
D:	G27201	ton/h	L=---	H=500.0	Boiler outlet 2 Flue gas flow
E:	T27202	dgrC	L=---	H=420.0	SCR 2 Flue gas temperature
F:	L27600	m	L=---	H=2.0	SCR 2 product level
G:					
H:					
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.34 Page:2793 AG27** SUMMARY OF SEQUENCE ALARMS

A:	A07901	<0-1>	L=---	H=1.0	S701 Alarm
B:	A07902	<0-1>	L=---	H=1.0	S702 Alarm
C:	A07903	<0-1>	L=---	H=1.0	S703 Alarm
D:	A07904	<0-1>	L=---	H=1.0	S704 Alarm
E:	A07905	<0-1>	L=---	H=1.0	S705 Alarm
F:	A07906	<0-1>	L=---	H=1.0	S706 Alarm
G:	A07907	<0-1>	L=---	H=1.0	S707 Alarm
H:	A07908	<0-1>	L=---	H=1.0	S708 Alarm
I:	A07909	<0-1>	L=---	H=1.0	S709 Alarm
J:	A07910	<0-1>	L=---	H=1.0	S710 Alarm
K:	A07911	<0-1>	L=---	H=1.0	S711 Alarm
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.35 Page:2890 AG28** LIME SYSTEM

A:	L08152	%	L=30.0	H=80.0	Lime silo level
B:	G08153	ton/h	L=-100.0	H=100.0	Lime to Lime day silo flow
C:	L08162	%	L=15.0	H=95.0	Lime day silo level
D:					
E:					
F:					
G:					
H:					
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.36 Page:2891 AG28** SLAKE SYSTEM

A:	G18236	kg/h	L=0.0	H=---	Lime flow to Slake tank 1
B:	T18242	dgrC	L=---	H=93.0	Slake tank 1 Temperature
C:	G28236	kg/h	L=0.0	H=---	Lime flow to Slake tank 2
D:	T28242	dgrC	L=---	H=93.0	Slake tank 2 Temperature
E:	L08262	%	L=25.0	H=90.0	Slake suspension tank level
F:					
G:					
H:					
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

**2.37 Page:2892 AG28** FEEDER SYSTEM**

A:	G08355	m3/h	L=-1.0	H=30.0	Slake suspension flow to feeder tank
B:	G18385	m3/h	L=-1.0	H=30.0	Product Slurry flow from mix tank 1
C:	G28385	m3/h	L=-1.0	H=30.0	Product Slurry flow from mix tank 2
D:	L08362	%	L=25.0	H=90.0	Feeder tank level
E:	Z08347	%	L=20.0	H=60.0	Feeder tank Pulp Fraction
F:					
G:					
H:					
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.38 Page:2893 AG28 ABSORBER**

A:	G82171	kNm3/h	L=-100.0	H=900.0	Absorber flue gas inlet flow
B:	T82178	dgrC	L=105.0	H=155.0	Absorber flue gas inlet temp
C:	T82179	dgrC	L=65.0	H=---	Absorber flue gas outlet temp
D:	G08434	m3/h	L=-100.0	H=40.0	Absorber Slurry flow
E:	P08429	mmH2O	L=-100.0	H=180.0	Absorber Diff Pressure
F:	N08461	rpm	L=---	H=12000.0	Absorber Spreader Speed
G:	E08471	kW	L=-100.0	H=530.0	Absorber Spreader Power
H:	L08472	mym	L=---	H=40.0	Absorber Spreader Vibration
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.39 Page:2894 AG28** STACK DATA

A: C08407 mg/Nm3 L=--- H=45.0 SO2 concentration in Stack (mg/Nm3)
B:
C:
D:
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

2.40 Page:2895 AG28** PRODUCT SYSTEM

A: L08580 % L=--- H=85.0 Ash silo level
B: L08562 % L=12.0 H=--- Product silo level
C:
D:
E:
F:
G:
H:
I:
J:
K:
L:
M:
N:
O:
P:
Q:
R:
S:
T:

**2.41 Page:2896 AG28** MIXING SYSTEM**

A:	L18662	%	L=25.0	H=90.0	Mixer tank 1 level
B:	Z18647	%	L=30.0	H=60.0	Mixer tank 1 outlet pulp fraction
C:	L28662	%	L=25.0	H=90.0	Mixer tank 2 level
D:	Z28647	%	L=30.0	H=60.0	Mixer tank 2 outlet pulp fraction
E:					
F:					
G:					
H:					
I:					
J:					
K:					
L:					
M:					
N:					
O:					
P:					
Q:					
R:					
S:					
T:					

2.42 Page:2897 AG28 SUMMARY OF SEQUENCE ALARMS**

A:	A08901	<0-1>	L=---	H=1.0	S801 Alarm
B:	A08902	<0-1>	L=---	H=1.0	S802 Alarm
C:	A08903	<0-1>	L=---	H=1.0	S803 Alarm
D:	A08904	<0-1>	L=---	H=1.0	S804 Alarm
E:	A08905	<0-1>	L=---	H=1.0	S805 Alarm
F:	A08906	<0-1>	L=---	H=1.0	S806 Alarm
G:	A08907	<0-1>	L=---	H=1.0	S807 Alarm
H:	A08908	<0-1>	L=---	H=1.0	S808 Alarm
I:	A08909	<0-1>	L=---	H=1.0	S809 Alarm
J:	A08910	<0-1>	L=---	H=1.0	S810 Alarm
K:	A08911	<0-1>	L=---	H=1.0	S811 Alarm
L:	A08912	<0-1>	L=---	H=1.0	S812 Alarm
M:	A08913	<0-1>	L=---	H=1.0	S813 Alarm
N:	A08914	<0-1>	L=---	H=1.0	S814 Alarm
O:	A08915	<0-1>	L=---	H=1.0	S815 Alarm
P:	A08916	<0-1>	L=---	H=1.0	S816 Alarm
Q:	A08920	<0-1>	L=---	H=1.0	S820 Alarm
R:					
S:					
T:					