COMPLEJO NORTE

DEPARTAMENTO DE OPERACIONES

“Exploración Mínimo Técnico Unidades 1 y 2 central Cochrane”

Diciembre 2022

Resumen Ejecutivo

Desde el miércoles 31 de octubre de 2018 a las 00:00, las Unidades 1 y 2 de la Central Térmica Cochrane operan con un mínimo técnico de 85 MW, el cual fue aprobado por el Coordinador Eléctrico Nacional (en adelante, "Coordinador") de acuerdo a lo establecido en el Anexo Técnico "Determinación de Mínimos Técnicos en Unidades Generadoras". En el informe entregado en dicha oportunidad, el Experto Técnico indicó que existían oportunidades de mejora, enfocadas en la temperatura de entrada en el equipo CDS (Circulating Dry Scrubber), que permitirían reducir el mínimo técnico determinado y aprobado por el Coordinador. En vista de lo anterior y en coordinación con el Coordinador, se elaboró un plan de trabajo, el cual tuvo por objetivo la exploración de mínimos técnicos en valores inferiores al ya determinado, lo anterior por medio de: análisis y estudios de expertos, modificaciones en los controles principales del sistema de caldera, sistema de turbina de vapor y sistema de equilibrio de planta en automático, pruebas y ajustes a los sistemas de control de combustión de la caldera y, posteriormente, la realización de pruebas que permitieran validar la correcta operación de las unidades.

Luego de trabajos en los sistemas de abatimiento de las unidades, se contrató al especialista Alex Kossack, para realizar las modificaciones en la lógica de control del sistema de combustión de caldera, de tal manera de asegurar una estabilidad de llama a menores cargas y así obtener mínimos técnicos inferiores que fueran capaces de operar de manera segura y estable, bajo los parámetros ambientales vigentes.

Debido a la pandemia y las restricciones sanitarias presentes en ese instante en el mundo, las coordinaciones para la ejecución de los trabajos por parte del especialista fueron complejas, resultando en varios ajustes y modificaciones en las fechas de ejecución. Finalmente, con la disminución en las restricciones sanitarias, a mediados del año 2022 fue posible llevar a cabo los trabajos, los cuales consistieron en evaluar y cambiar diferentes parámetros de componentes de la caldera y del control, a medida que se observaba la reacción del sistema de combustión. En base al comportamiento presentado, el experto fue determinando cambios en la lógica de control, cuyo proceso determinó la versión final de la parametrización, con lo cual se logró llevar a cabo la operación a menores cargas que el mínimo técnico vigente en ese instante. Este trabajo implicó un total de 225 sesiones de pruebas entre ambas unidades. Al mismo tiempo, fue necesario trabajar en la implementación de los cambios en la lógica del CDS, para que se permitiera la operación a los niveles de carga deseados, asegurando el cumplimiento en todo momento de la normativa ambiental en cuanto a mantener el cumplimiento de los límites de emisiones permitidas por la normativa correspondiente. Mayor detalle de los ajustes realizados, se encuentran en el informe elaborado por el especialista, el cual se encuentra anexo al presente.

Finalmente, y luego del todo el trabajo realizado, se determinó un nuevo mínimo técnico de operación para las unidades, el cual corresponde a 60 MW bruto, consiguiendo una

operación estable y continua, tanto en parámetros operativos como medioambientales.

1.- Introducción

Mediate la carta DE04974-18 de fecha 29 de octubre de 2018, el Coordinador aprobó el mínimo técnico vigente a la fecha para ambas unidades de Central Cochrane, el cual se encontraría vigente a partir de las 00:00 horas del miércoles 31 de octubre de 2018. En la carta antes indicada, se incluyó la siguiente información con respecto a los parámetros de mínimo técnico de las unidades 1 y 2 de la central Cochrane:

Unidad	Combustible	Mínimo Técnico (1) [MW]	Potencia Mínima con CPF activo [MW] (2)
CCR1	Carbón	85	90
CCR2	Carbón	85	90

(1) Los parámetros determinados cumplen la normativa ambiental aplicable a central Cochrane.

(2) Este valor corresponde a la potencia activa bruta mínima en la cual el control primario de frecuencia puede ser activado.

Tabla N°1: Parámetros mínimo técnico Cochrane.

AES Andes, luego de un extenso periodo de modificaciones, ajustes y ensayos sobre las unidades de la central Cochrane, desarrolló pruebas finales de exploración en niveles más bajos de operación al mínimo técnico vigente y aprobado por el Coordinador, para ambas unidades el día de la central Cochrane, el domingo 3 de Julio del 2022.

Las pruebas se desarrollaron en conjunto con el especialista en combustión y el equipo de Control e Instrumentación de planta, recopilándose datos de parámetros operacionales de proceso, a la vez, que fueron realizados ajustes en la lógica de control.

2.- Objetivo

Realizar exploración de un mínimo técnico que permita operar las unidades de central Cochrane de forma permanente, segura y estable, manteniendo el control de emisiones dentro del rango permitido el cual se encuentra establecido en la normativa ambiental correspondiente, cuyos parámetros monitoreados son:

Limitaciones por restricciones ambientales	NOx: menor a 200 mg/Nm3 So2: menor a 200 mg/Nm3 Material Particulado: menor a 30 mg/Nm3

3.- Condiciones operacionales durante las pruebas.

Bajo el mínimo técnico vigente (85 MW) se modificaron con el experto técnico los controles principales del sistema de caldera, sistema de turbina de vapor y sistema de equilibrio de planta en automático. Luego, durante la ejecución de las pruebas, se bajó carga en modo "Coordinado" hasta 70 MW; posteriormente desde 70 MW a 60 MW se cambia al modo de control a "Turbina Sigue", siendo este modo el que finalmente presentó mejor estabilidad en un nivel de 60 MW.

La mezcla de carbón utilizada en las unidades al momento de realizar los ensayos fue la siguiente:

CCR 1				Análisis inmediato						
Lote	Nave	Tipo	Mezcla %	Poder Calor. Sup. Kcal/Kg	Humedad Total %	Ceniza %	Materia Volátil %	Carbono Fijo %	Azufre %	HGI
2022E5918	CSSC BRIGHT	AUSTRALIAN	40%	5.849	10,50	18,30	29,00	42,20	0,64	50
2022E5933	APOLLON	DRUMMOND 2	60%	5.566	16,71	9,87	33,09	40,33	0,65	48
TOTALES			**100%**	**5.679**	**14,23**	**13,24**	**31,45**	**41,08**	**0,65**	
BASE 6000				**6.000**	**15,03**	**13,99**	**33,23**	**43,40**	**0,69**	

CCR 2				Análisis inmediato						
Lote	Nave	Tipo	Mezcla %	Poder Calor. Sup. Kcal/Kg	Humedad Total %	Ceniza %	Materia Volátil %	Carbono Fijo %	Azufre %	HGI
2022E5918	CSSC BRIGHT	AUSTRALIAN	40%	5.849	10,50	18,30	29,00	42,20	0,64	50
2022E5933	APOLLON	DRUMMOND 2	60%	5.566	16,71	9,87	33,09	40,33	0,65	48
TOTALES			**100%**	**5.679**	**14,23**	**13,24**	**31,45**	**41,08**	**0,65**	
BASE 6000				**6.000**	**15,03**	**13,99**	**33,23**	**43,40**	**0,69**	

Tabla N°2: Mezcla de carbón en las unidades 1 y 2 de Cochrane durante las pruebas.

4.- Validación de las pruebas

Se realizaron las siguientes pruebas de validación:

4.1) Desde 85 MW hasta llegar a 60 MW se trabajó con una tasa de carga de 27 MW/Min. El Control Primario de Frecuencia y Control Secundario de Frecuencia se mantuvieron desactivados en ambas unidades.

4.2) Se mantuvieron operando ambas unidades durante 7 horas en 60 MW con el fin de demostrar estabilidad.

Se realizaron mediciones en estado estacionario en 60 MW con los siguientes equipos en servicio:

- 2 molinos en servicio: CCR1 “A” y “C”, CCR2 “A” y “B”.
- 2 bombas agua de alimentación: CCR1 “A” y “C”, CCR2 “A” y “C”.
- 2 bombas de circulación agua de mar.

Estas pruebas se realizaron con el fin de observar el comportamiento de ambas unidades en estado estacionario e identificar posibles deficiencias o medidas de mejora. Las pruebas se desarrollaron durante un periodo de 7 horas, desde las 9:00 hasta las 16:00 horas.

Durante las pruebas, el sistema de sopladores de hollín se encontraba fuera de servicio. Para tener operativo este sistema se requiere un nivel de carga superior a 140 MW, por esta razón la tarea de soplado se realizó antes de comenzar las pruebas en ambas unidades.

Las temperaturas de vapor de Turbina de Alta Presión (en adelante HP) y Turbina de Presión Intermedia (en adelante IP) alcanzadas durante las pruebas fueron las siguientes:

HP: CCR1: 523 °C, CCR2: 489 °C

IP: CCR1: 538 °C, CCR2: 476 °C

Los parámetros medioambientales durante el desarrollo de las pruebas fueron los siguientes:

Fecha	Valor 1h NOx ($mg/Nm^3@O_2ref$)	Valor 1h SO_2 ($mg/Nm^3@O_2ref$)	Valor 1h MP ($mg/Nm^3@O_2ref$)
03-07-22 0.00	99,91	189,06	11,00
03-07-22 1.00	91,81	183,21	8,36
03-07-22 2.00	93,82	183,58	8,13
03-07-22 3.00	105,84	177,58	8,37
03-07-22 4.00	117,28	172,92	8,08
03-07-22 5.00	152,97	126,33	7,57
03-07-22 6.00	171,58	109,82	8,22
03-07-22 7.00	139,47	169,20	9,57
03-07-22 8.00	187,80	163,27	9,49
03-07-22 9.00	-	-	-
03-07-22 10.00	-	-	11,55
03-07-22 11.00	-	-	-
03-07-22 12.00	171,30	173,87	10,33
03-07-22 13.00	164,52	180,65	10,16
03-07-22 14.00	162,87	174,08	8,87
03-07-22 15.00	169,46	178,78	9,20
03-07-22 16.00	135,80	190,14	7,65
03-07-22 17.00	147,10	172,55	7,10
03-07-22 18.00	125,01	162,68	8,24
03-07-22 19.00	137,90	161,35	9,76
03-07-22 20.00	117,94	179,42	9,07
03-07-22 21.00	121,57	192,40	10,24
03-07-22 22.00	121,93	153,24	6,66
03-07-22 23.00	118,44	174,80	7,80

Tabla 3: Parámetros medioambientales a nivel horario correspondientes al día del 3 de julio del 2022.

La potencia bruta, neta y consumos auxiliares registrados durante las pruebas antes descritas fueron los siguientes:

HORA	COCHRANE 1				COCHRANE 2			
	Generación Bruta	Generación Bruta	Consumo Aux.	Generación Neta	Generación Bruta	Generación Bruta	Consumo Aux.	Generación Neta
	MWh	Mvarh	MWh	MWh	MWh	Mvarh	MWh	MWh
1	264,75	-16,86	23,95	240,80	266,12	-36,51	24,35	241,77
2	211,83	-29,17	22,26	189,57	253,01	-46,05	23,86	229,15
3	237,69	-23,85	23,10	214,59	247,36	-43,34	23,45	223,92
4	231,58	-26,31	22,84	208,74	231,82	-46,80	23,01	208,82
5	230,17	-24,32	22,77	207,40	235,33	-44,21	23,25	212,09
6	182,13	-35,21	21,61	160,52	164,13	-56,71	21,76	142,37
7	100,06	-42,66	20,19	79,87	90,35	-63,73	20,47	69,88
8	72,22	-45,64	19,53	52,69	71,47	-66,49	19,81	51,66
9	66,30	-45,28	19,37	46,93	63,18	-66,19	20,10	43,08
10	60,56	-41,61	19,14	41,42	60,38	-63,68	19,10	41,29
11	60,67	-42,65	19,07	41,60	62,03	-64,47	19,23	42,81
12	61,11	-41,84	19,06	42,05	60,63	-62,65	19,99	40,64
13	61,02	-42,99	19,04	41,98	60,76	-63,78	19,97	40,78
14	61,21	-37,49	19,02	42,18	60,47	-58,35	19,93	40,55
15	60,77	-39,86	19,10	41,68	60,33	-60,70	20,01	40,32
16	60,44	-38,92	19,13	41,32	60,80	-59,60	20,01	40,79
17	76,45	-37,83	19,71	56,74	82,17	-58,15	20,69	61,48
18	131,11	-31,84	21,35	109,76	154,27	-51,03	22,18	132,09
19	205,19	-20,85	22,56	182,63	214,03	-40,64	22,95	191,08
20	254,04	-10,10	23,74	230,30	263,91	-28,98	24,24	239,67
21	263,03	-10,92	23,74	239,28	259,83	-30,58	23,96	235,86
22	264,35	-5,64	23,64	240,71	263,21	-25,51	24,03	239,18
23	228,56	-15,94	22,57	205,99	234,76	-36,09	23,22	211,54
24	249,24	-12,26	23,37	225,87	257,40	-31,52	24,13	233,28

Tabla 4: Reporte horario de energía del 03 de julio del 2022.

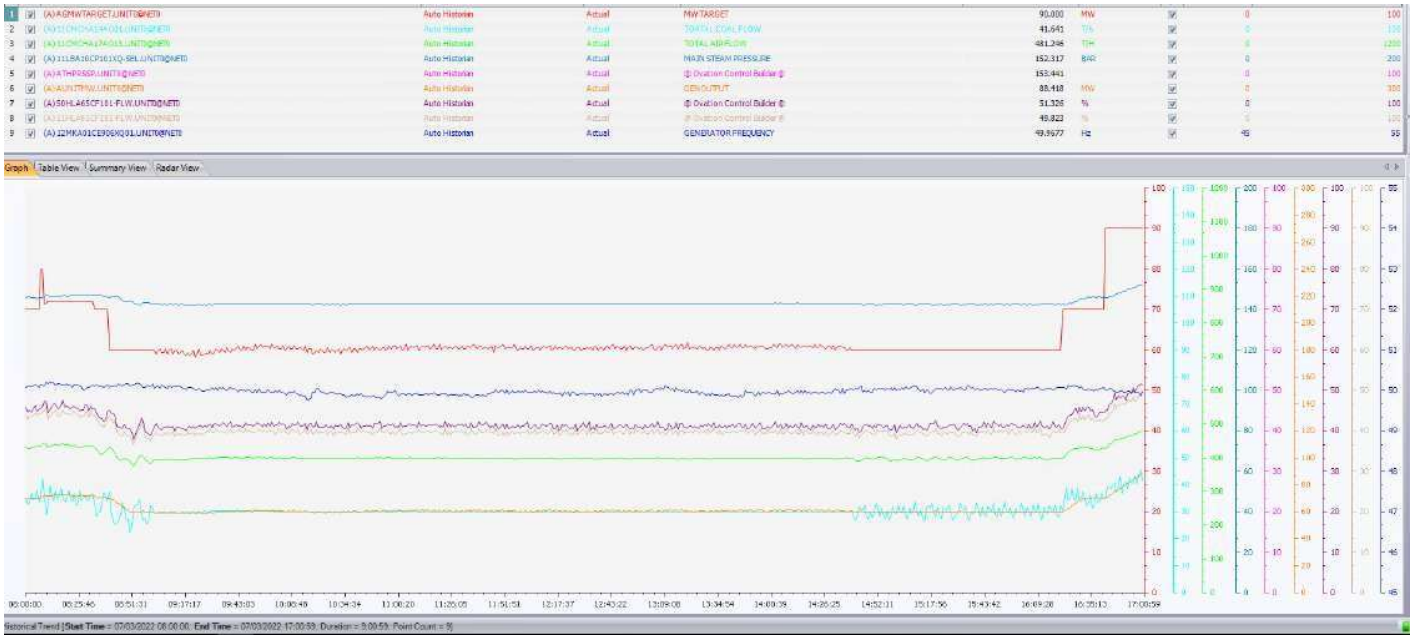
5.- Otras observaciones

Al igual que en la prueba de Mínimo Técnico del 2018, se realizaron pruebas de transición de suministro de vapor auxiliar, desde el vapor recalentado frio hacia el suministro de vapor sobrecalentado a baja temperatura, donde se continúa observando que no funciona de manera apropiada en control automático, por lo que debe ser realizada por el operador a través de una intervención manual desde los 110 MW.

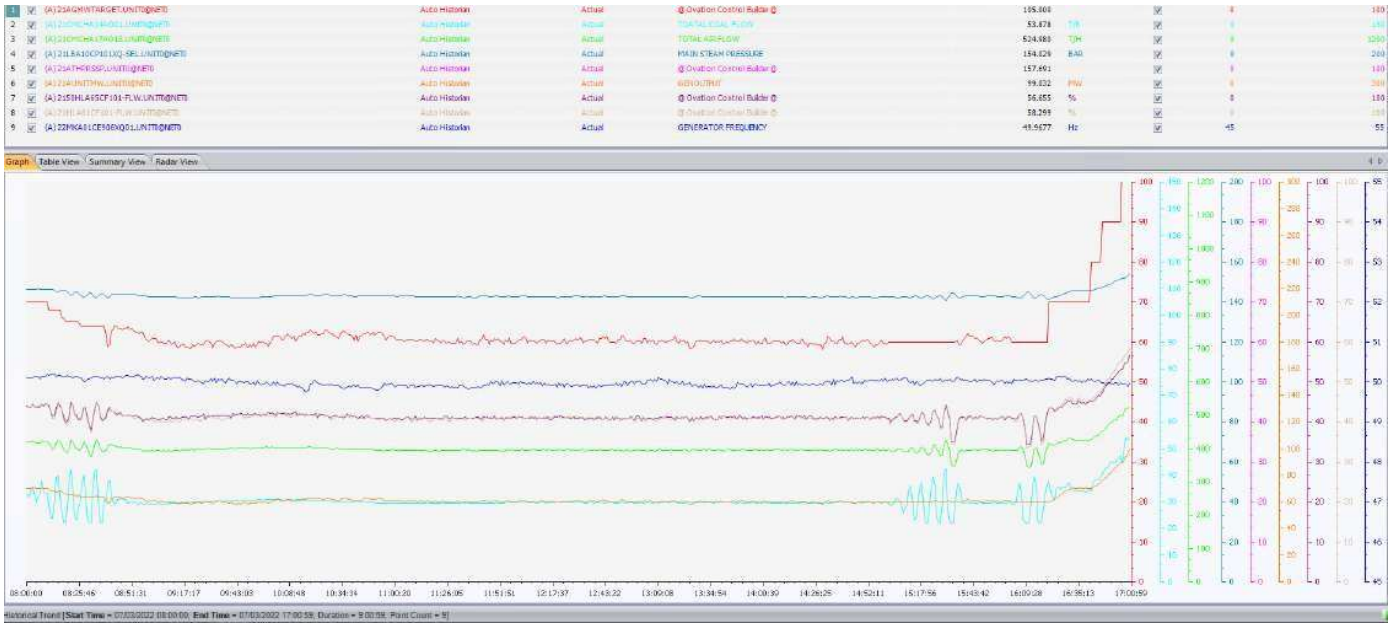
Es importante volver a mencionar que esta no es una forma adecuada de operar y, en algunas situaciones, incluso puede volverse crítica, debido a un posible trip de la unidad (por falta de vapor a los eyectores de vapor del condensador).

Por otra parte, para el correcto funcionamiento del CDS se debe procurar tener unas temperaturas de entrada dentro de los límites operacionales, por lo que se debe dejar en servicio el sistema de precalentamiento de aire de entrada de caldera llamado “Precalentadores de aire por vapor”. Esto levanta la limitación presentada por el experto técnico en el informe anterior, pero es importante mencionar que este sistema actualmente no tiene habilitado la recuperación del condensado de vapor, lo que produce ineficiencias por pérdidas en el ciclo operativo.

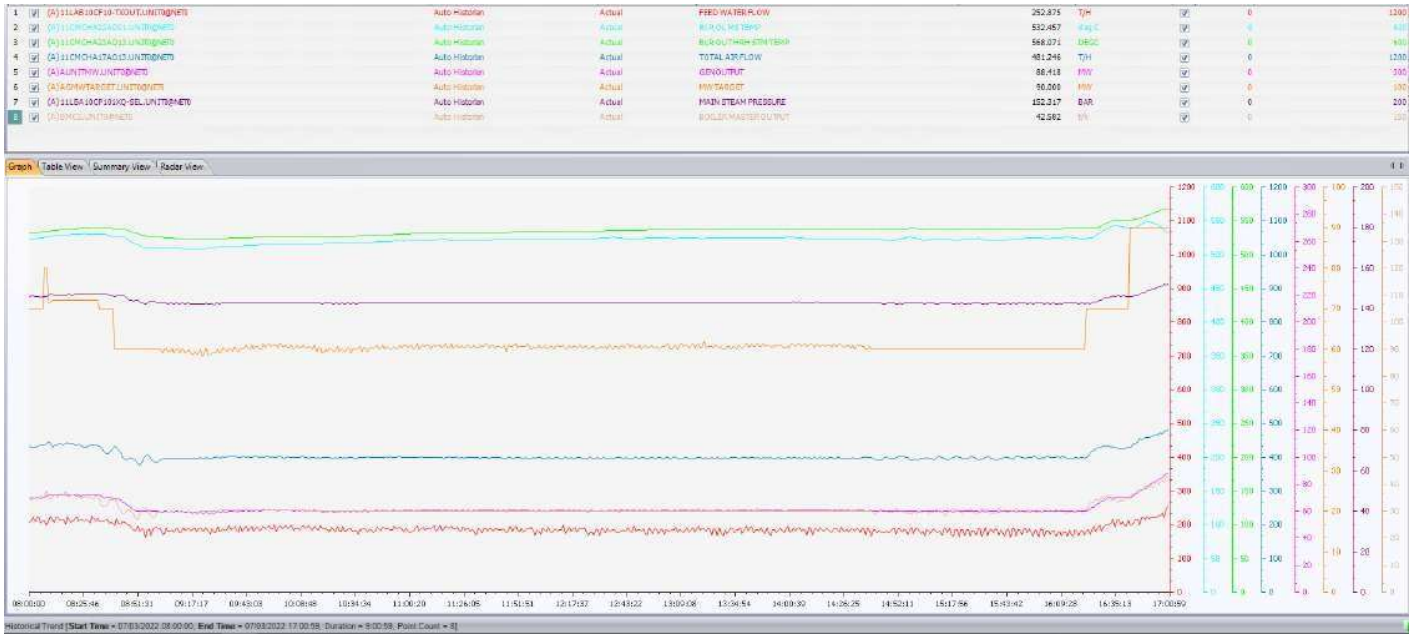
Tendencia 1: Unidad CCR1 en 60 MW estable (Control de parámetros)



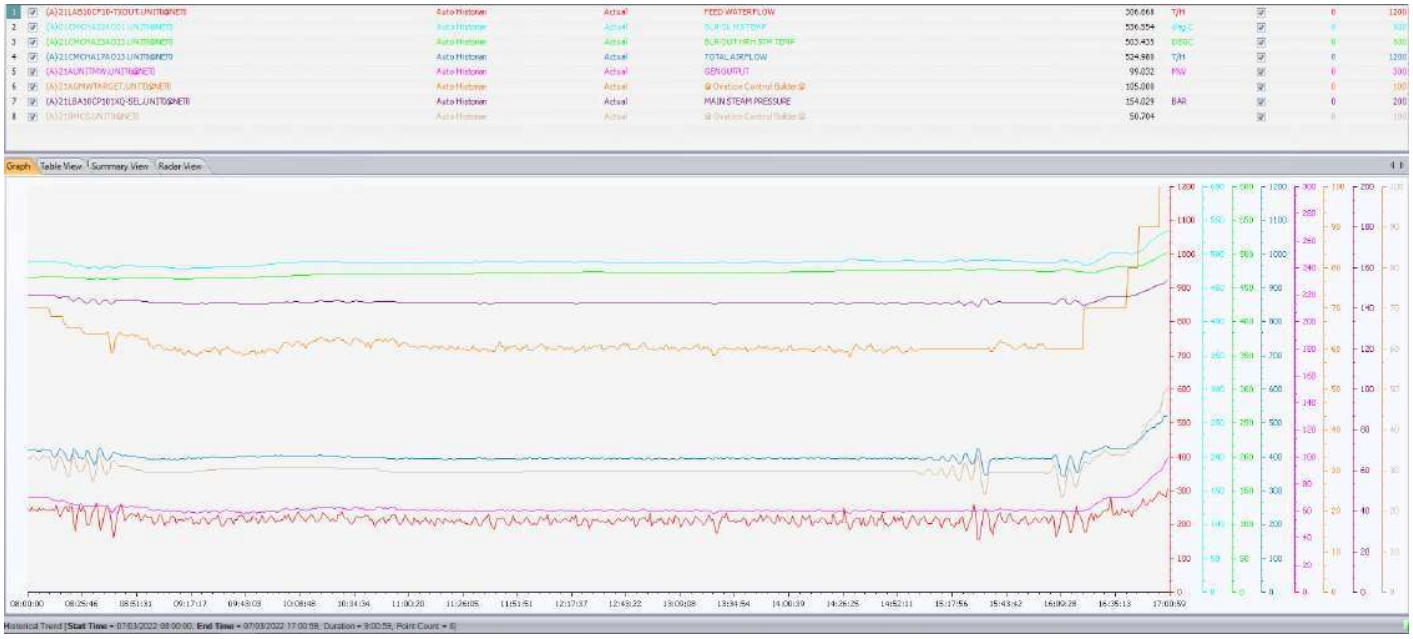
Tendencia 2: Unidad CCR2 en 60 MW estable (Control de parámetros)



Tendencia 3: Unidad CCR1 en 60 MW estable (parámetros de caldera)



Tendencia 4: Unidad CCR2 en 60 MW estable (parámetros de caldera)



6.- Conclusiones

Después de un extenso periodo en donde se ha debido estudiar y modificar los sistemas de control y parámetros asociados a la combustión de las unidades de manera sucesiva, así como la realización, por parte del equipo de planta y el especialista, de pruebas empíricas que han permitido verificar la operación segura y estable de las unidades, se ha logrado la obtención de un nuevo mínimo técnico para ambas unidades de 60 MW.

La estabilidad de los principales parámetros del proceso de ambas unidades en estado estacionario en 60 MW, cumple con los criterios esperados durante el periodo de pruebas de 7 horas. No se observó inestabilidad de llama de los quemadores.

El modo de control "coordinado" presenta desviación en el control de presión principal bajo los 70 MW. Lo anterior, se encuentra en proceso de análisis por parte del experto y se considera como trabajo futuro una optimización en la lógica de control que permita subsanar esta condición. Es así como, el modo que debe ser utilizado bajo 70 MW es el modo de control "Turbina Sigue", este cambio debe ser realizado por el Operador de sala de control, lo que conlleva una dificultad adicional a la hora de operar las unidades.

Durante el periodo de pruebas se observa que los parámetros ambientales aplicados a centrales térmicas, según el DS13, no se ven superados en ningún momento.

Se hace notar que las observaciones realizadas a las transiciones de vapor auxiliar en el cabezal se mantienen presentes tal como lo señala el informe de 85 MW, por lo que no se podrá operar con AGC ni CPF en estos rangos. Es decir, la disminución de mínimo técnico a 60 MW es posible de alcanzar en el momento que el CPF y el AGC no están activados.

Se observa que para condiciones de bajas cargas es necesario dejar en servicio el sistema de precalentamiento de aire de entrada de caldera llamado "Precalentadores de aire por vapor". Este sistema actualmente no tiene habilitado la recuperación del condensado de vapor.

Unidad	Combustible	Mínimo Técnico (1) [MW]	Potencia Mínima CPF activo [MW] (2)
CCR1	Carbón	60	90
CCR2	Carbón	60	90

(1) Los parámetros determinados cumplen la normativa ambiental aplicable a central Cochrane.

(2) Corresponde a la potencia activa bruta mínima en la cual el control primario de

frecuencia puede ser activado.

Anexos

Anexo 1: Tablas de parámetros operacionales durante las pruebas en 60 MW

CCR1

LOAD		G	MW	59,85
		Net	MW	51,59
PRESS	1st	STAGE	BARg	34,92
	THTL	PRESS	BARg	142,49
SH STEAM		FLOW	T/H	161,40
		PS E	F	400,09
		PS W	F	406,28
		SS E	F	474,90
		SS W	F	473,34
		SH FINAL	°C	523,51
RH STEAM	PRESS	COLD RH	BARg	9,83
	TEMP	COLD RH	°C	307,13
		HOT RH B	°C	538,50
SPRAY	PRIM SH	FLOW	T/H	24,64
		VALV	%	0,30
		VALV	%	1,26
	REHEATER	VALV	%	0,12
		VALV	%	0,12
ECO O/L RH SIDE				0,05
ECO O/L RH SIDE				-0,03
ECO O/L SH SIDE				98,00
ECO O/L SH SIDE				98,05
AIRFLOW		TOTAL	T/H	398,37
			%	33,20
		PA	%	7,38
MILL AIRFLOW	MILL 1		T/H	45,27
	MILL 2		T/H	0,00
	MILL 3		T/H	43,95
	MILL 4		T/H	0,00
	MILL 5		T/H	0,00
COAL FLOW	FLOW	TOTAL	T/H	30,64
	MILL 1	FEEDER	T/H	15,48
	MILL 2	FEEDER	T/H	-0,12
	MILL 3	FEEDER	T/H	15,55
	MILL 4	FEEDER	T/H	-0,10
	MILL 5	FEEDER	T/H	0,00
FURN. PRESS			MBAR	-0,60
		1	%	8,38

O2	Izquierda	2	%	8,42
	Derecha	1	%	8,42
		2	%	9,20
	CR	AVG	%	8,50
EMISSIONS	Nox			159,73
	OPAC.		%	6,54
FD FAN			%	10,69
		1	amps	70,94
			%	12,89
		2	amps	68,46
FD DUCT		DISCH PRESS	mBar	6,67
			mBar	6,78
PRIMARY AIR FANS			%	76,47
		PA 1	amps	60,38
			%	81,60
		PA 2	amps	59,03
ID FANS			%	40,40
		1	amps	246,96
			%	32,00
		2	amps	246,13
WINDBOX ELEVATION DAMPERS	FRONT WALL BURNER WINDBOX ELEVATION DAMPERS	D A		14,68
		D B		14,69
		B A		14,75
		B B		14,92
		C A		19,56
		C B		19,86
	REAR WALL BURNER WINDBOX ELEVATION DAMPERS	A A		19,62
		A B		19,65
		E A		14,80
		E B		14,73
	FRONT OFA	1 EAST		70,33
		1 WEST		70,25
	REAR OFA	2 EAST		70,71
		2 WEST		70,12
BNR D1 AIR REG POS				3,52
BNR D2 AIR REG POS				2,85
BNR D3 AIR REG POS				3,58
BNR B1 AIR REG POS				2,36
BNR B2 AIR REG POS				3,31
BNR B3 AIR REG POS				3,43
BNR C1 AIR REG POS				35,72
BNR C2 AIR REG POS				35,62
BNR C3 AIR REG POS				35,80
BNR A1 AIR REG POS				34,42
BNR A2 AIR REG POS				35,88
BNR A3 AIR REG POS				34,43

BNR E1 AIR REG POS				3,80
BNR E2 AIR REG POS				3,52
BNR E3 AIR REG POS				3,56
Ammonia Injection		V/V control		5,03
		Flow		6,08
		V/V control		5,14
		Flow		4,28
AIR HEATERS	AH 1	GAS IN		345,35
		GAS OUT		139,82
		AIR IN		47,06
		AIR OUT		292,70
	AH 2	GAS IN		345,89
		GAS OUT		143,12
		AIR IN		47,06
		AIR OUT		298,50
BLRFURN-WIND BOX DP		RIGHT		4,35
		LEFT		4,43
FRONT OFA		1 EAST		70,33
		1 WEST		70,25
REAR OFA		2 EAST		70,71
		2 WEST		70,12

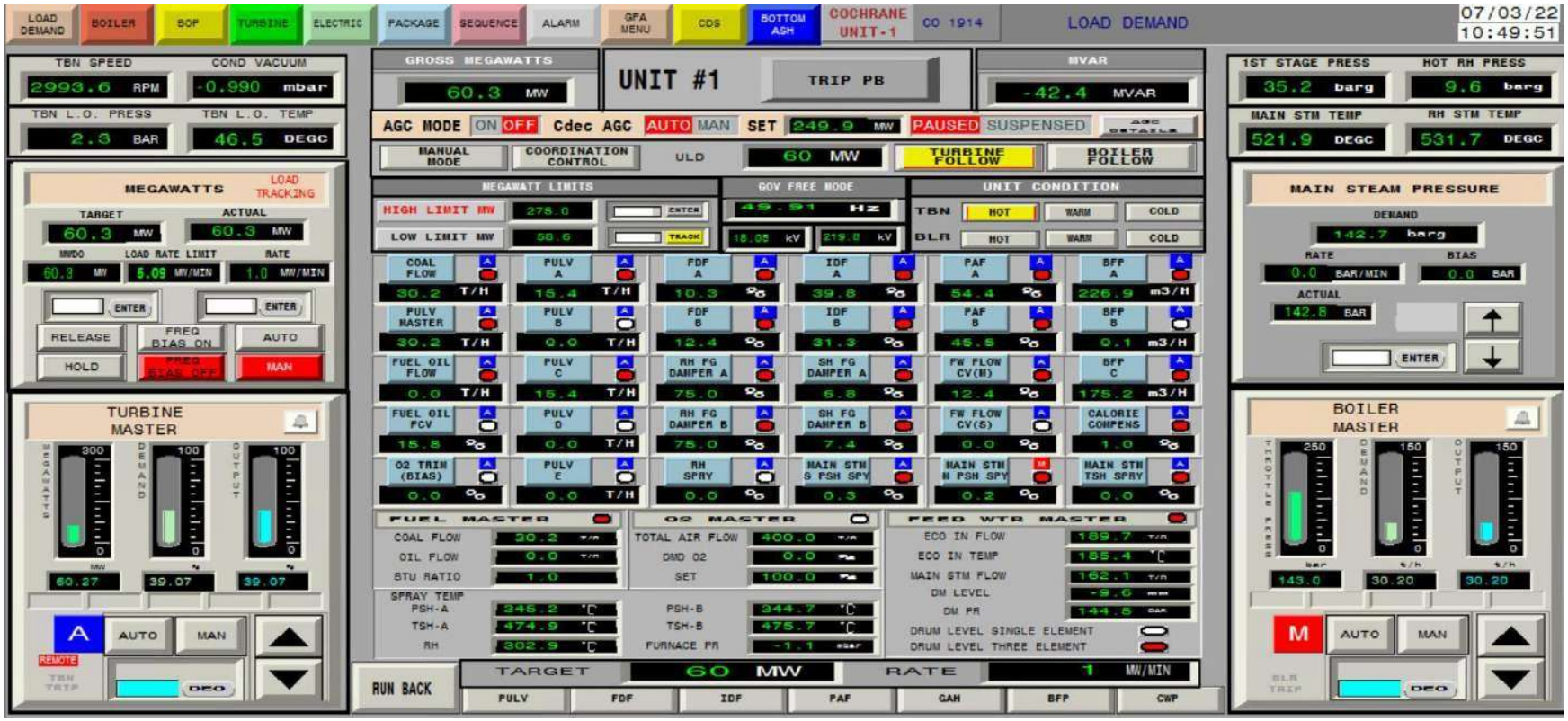
CCR2

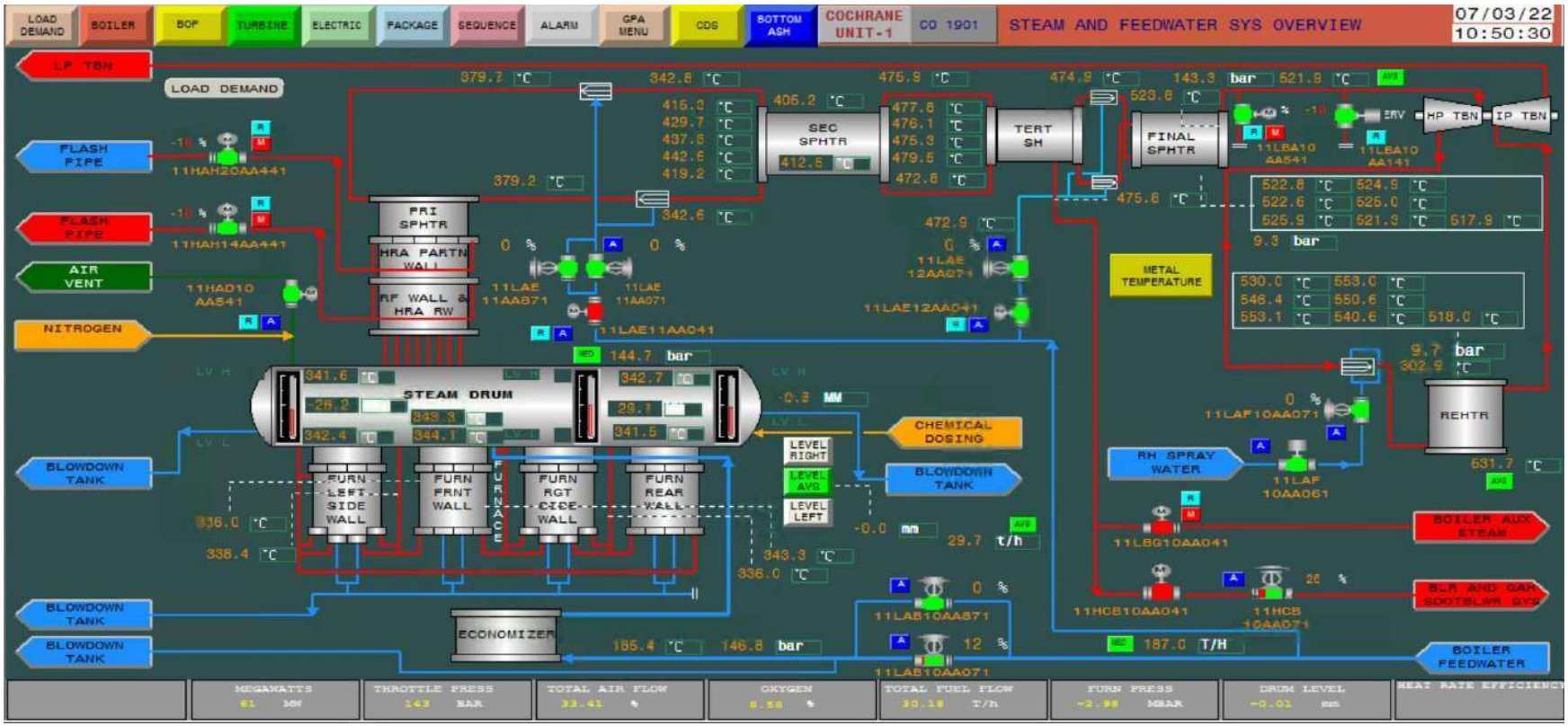
LOAD		G	MW	60,03
		Net	MW	45,59
PRESS	1st	STAGE	BARg	36,21
	THTL	PRESS	BARg	142,58
SH STEAM		FLOW	T/H	169,85
		PS E	F	423,64
		PS W	F	417,99
		SS E	F	451,64
		SS W	F	460,34
		SH FINAL	°C	489,58
RH STEAM	PRESS	COLD RH	BARg	9,88
	TEMP	COLD RH	°C	273,17
		HOT RH B	°C	476,90
SPRAY	PRIM SH	FLOW	T/H	0,00
		VALV	%	-0,01
		VALV	%	0,02
	REHEATER	VALV	%	0,09
		VALV	%	0,34
			T/H	393,08

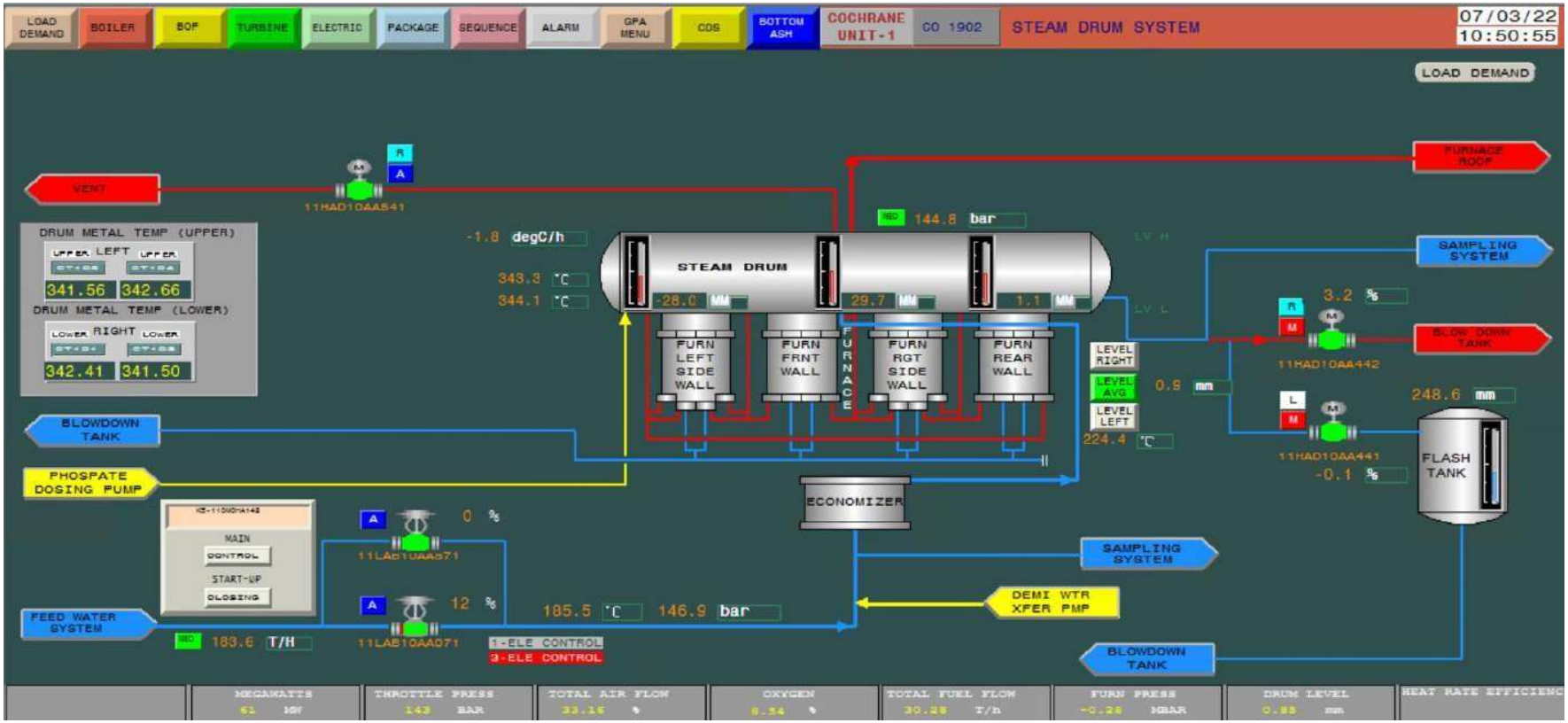
AIRFLOW		TOTAL	%	32,76
		PA	%	7,35
MILL AIRFLOW	MILL 1		T/H	43,48
	MILL 2		T/H	44,61
	MILL 3		T/H	0,00
	MILL 4		T/H	0,00
	MILL 5		T/H	0,00
COAL FLOW	FLOW	TOTAL	T/H	30,43
	MILL 1	FEEDER	T/H	14,85
	MILL 2	FEEDER	T/H	14,94
	MILL 3	FEEDER	T/H	-0,07
	MILL 4	FEEDER	T/H	-0,03
	MILL 5	FEEDER	T/H	-0,07
FURN. PRESS			MBAR	0,25
O2	Izquierda	1	%	9,27
		2	%	8,97
	Derecha	1	%	8,70
		2	%	9,06
	CR	AVG	%	8,98
EMISSIONS	Nox			159,73
	CO			
	OPAC.		%	6,54
FD FAN		1	%	2,06
			amps	70,18
		2	%	2,06
			amps	67,88
FD DUCT		DISCH PRESS	mBar	6,41
			mBar	6,31
PRIMARY AIR FANS		PA 1	%	86,57
			amps	55,51
		PA 2	%	31,70
			amps	56,15
ID FANS		1	%	31,14
			amps	250,03
		2	%	31,14
			amps	236,43
WINDBOX ELEVATION	FRONT WALL BURNER WINDBOX ELEVATION DAMPERS		D A	14,54
			D B	14,28
			B A	20,17
			B B	20,20
			C A	14,64
			C B	14,69

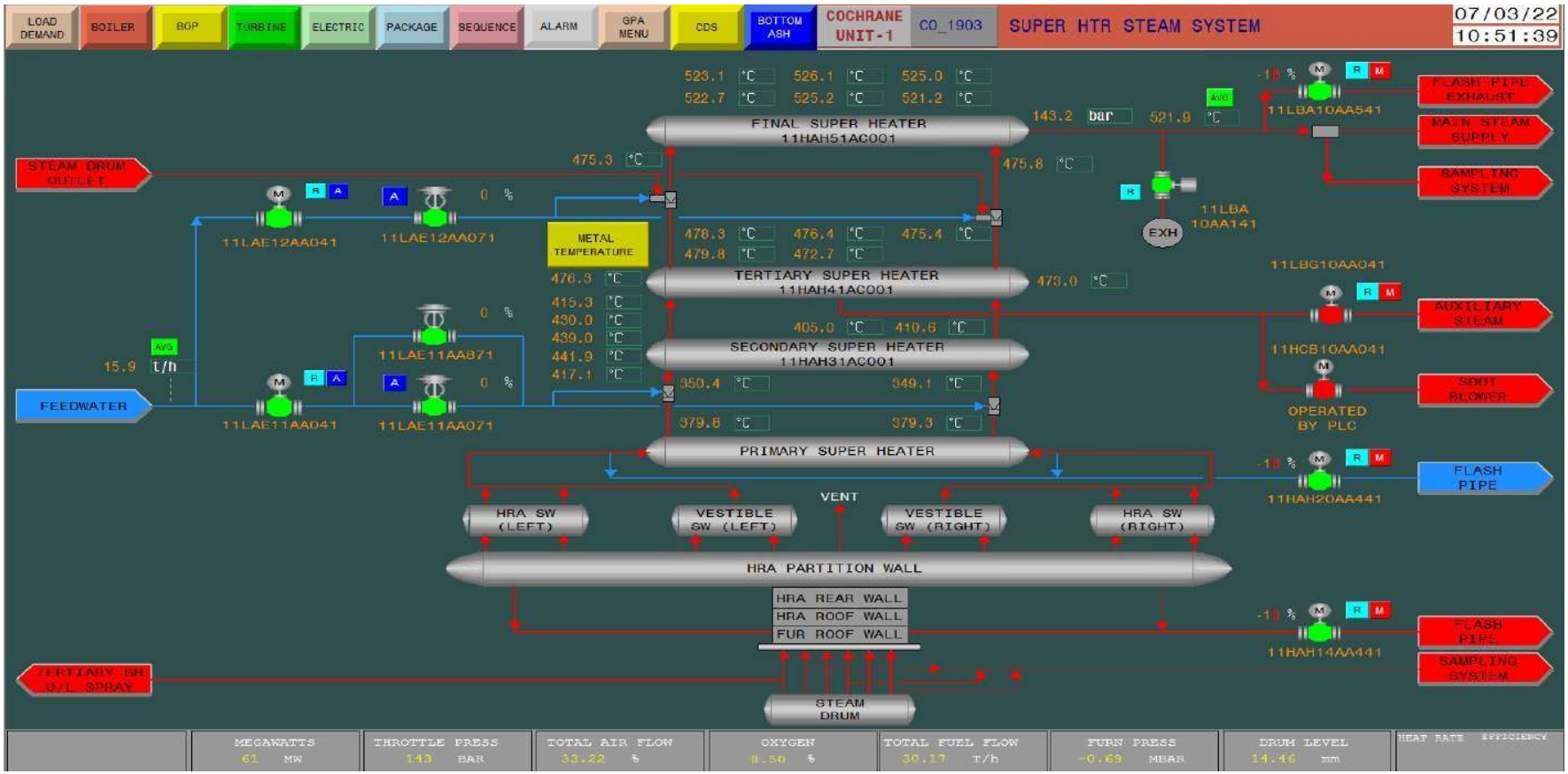
DAMPERS	REAR WALL BURNER WINDBOX ELEVATION DAMPERS	A A	20,31
		A B	20,34
		E A	14,84
		E B	14,46
BNR D1 AIR REG POS			1,89
BNR D2 AIR REG POS			3,57
BNR D3 AIR REG POS			3,70
BNR B1 AIR REG POS			27,40
BNR B2 AIR REG POS			27,10
BNR B3 AIR REG POS			27,20
BNR C1 AIR REG POS			3,62
BNR C2 AIR REG POS			3,66
BNR C3 AIR REG POS			3,41
BNR A1 AIR REG POS			26,82
BNR A2 AIR REG POS			28,07
BNR A3 AIR REG POS			27,21
BNR E1 AIR REG POS			3,33
BNR E2 AIR REG POS			3,49
BNR E3 AIR REG POS			3,52
FRONT OFA		1 EAST	64,57
		1 WEST	64,79
REAR OFA		2 EAST	64,49
		2 WEST	64,60
Ammonia Injection		V/V control	2,51
		Flow	0,00
		V/V control	1,99
		Flow	0,55
AIR HEATERS	AH 1	GAS IN	320,94
		GAS OUT	126,54
		AIR IN	52,56
		AIR OUT	275,70
	AH 2	GAS IN	328,76
		GAS OUT	129,53
		AIR IN	57,18
		AIR OUT	277,78
BLRFURN-WIND BOX DP		RIGHT	4,12
		LEFT	4,69

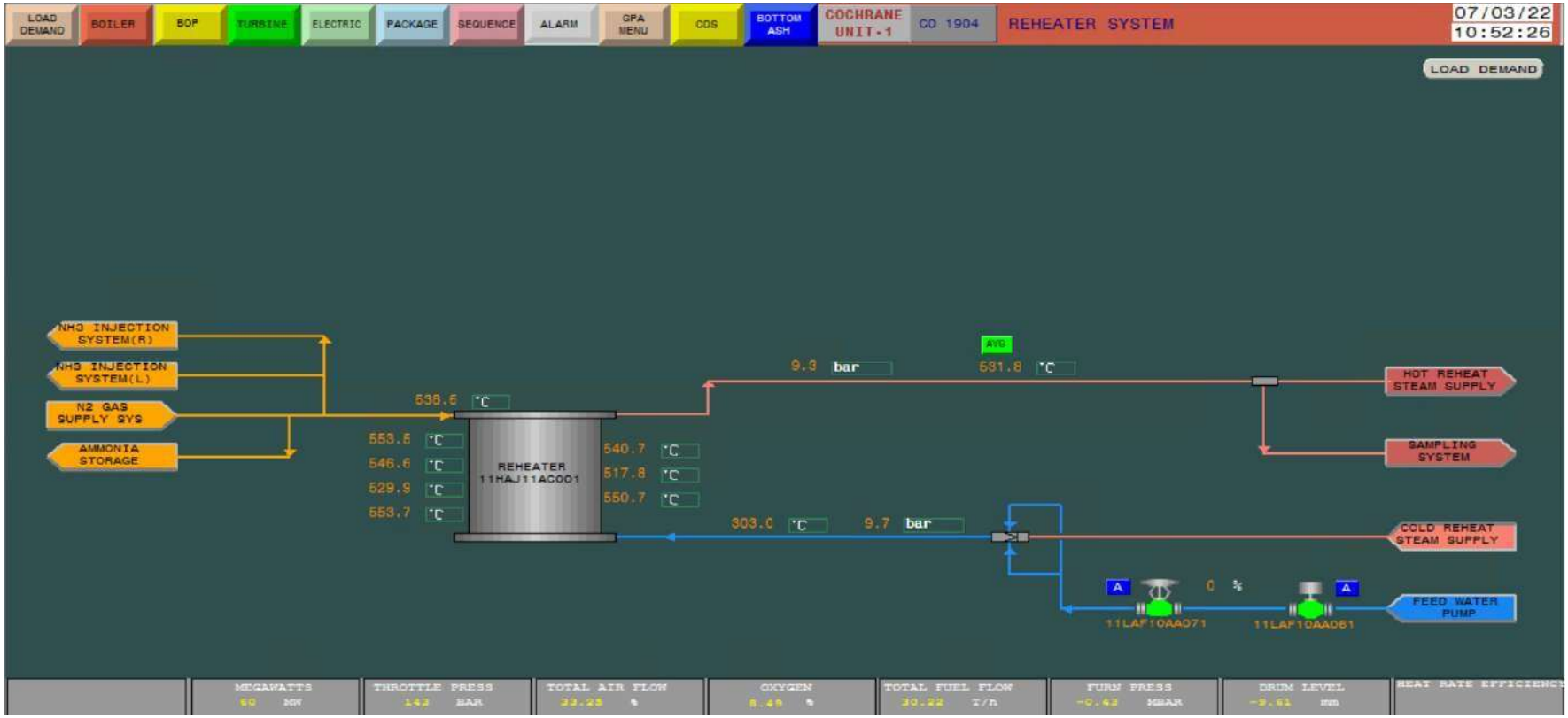
Anexo 2: Capturas de DCS CCR1 y equipos **comunes en 60 MW**

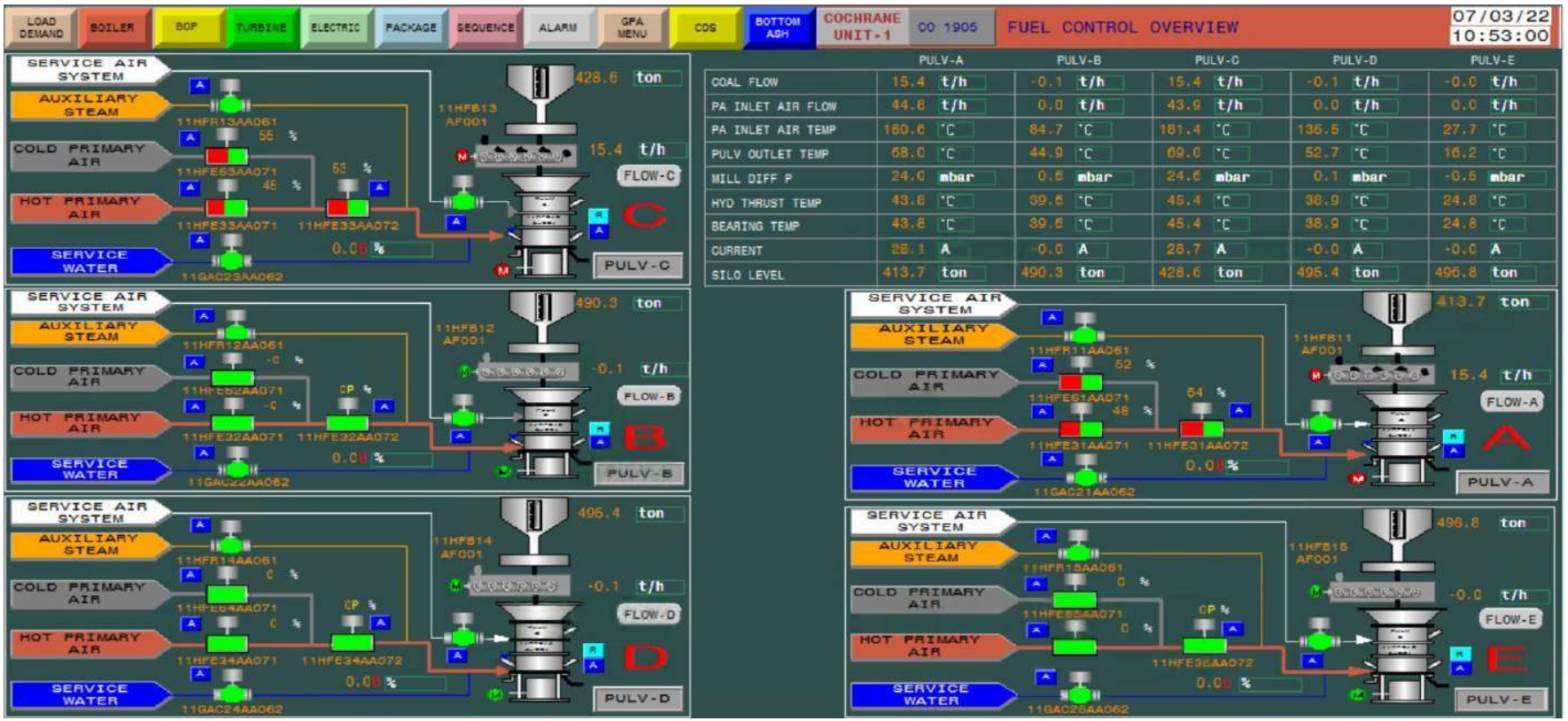


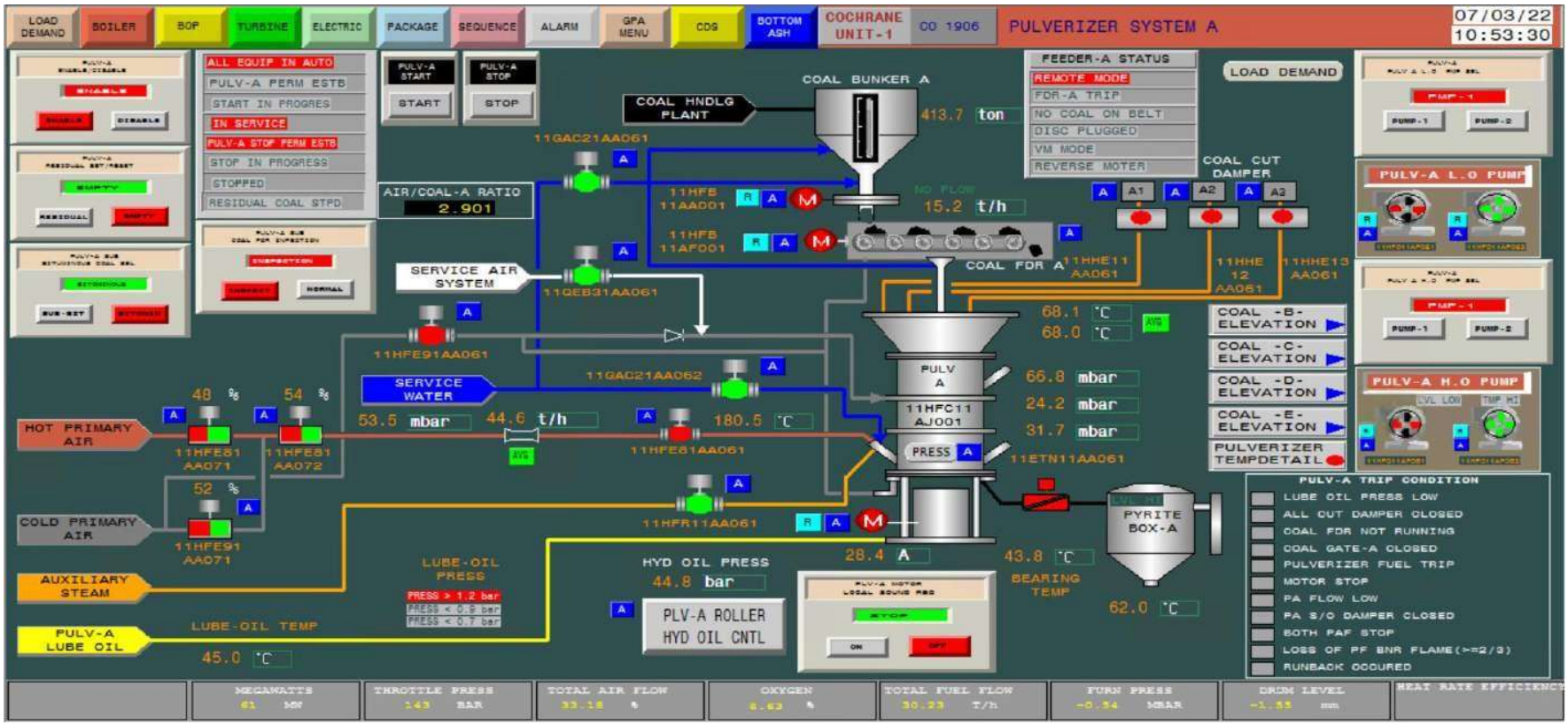

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDG
BOTTOM ASH
COCHRANE UNIT-1
CO 1901
STEAM AND FEEDWATER SYS OVERVIEW
07/03/22
10:50:30
LP TBN
LOAD DEMAND
FLASH PIPE
FLASH PIPE
AIR VENT
NITROGEN
BLOWDOWN TANK
BLOWDOWN TANK
BLOWDOWN TANK
PRI SPHTR
HRA PARTN WALL
RF WALL & HRA RW
SEC SPHTR
TERT SH
FINAL SPHTR
HP TBN
IP TBN
METAL TEMPERATURE
REHTR
STEAM DRUM
FURN LEFT SIDE WALL
FURN FRNT WALL
FURNACE
FURN RGT SIDE WALL
FURN REAR WALL
CHEMICAL DOSING
BLOWDOWN TANK
LEVEL RIGHT
LEVEL AVG
LEVEL LEFT
RH SPRAY WATER
BOILER AUX STEAM
BLR AND GAS BOOTBLWR SYS
BOILER FEEDWATER
ECONOMIZER
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

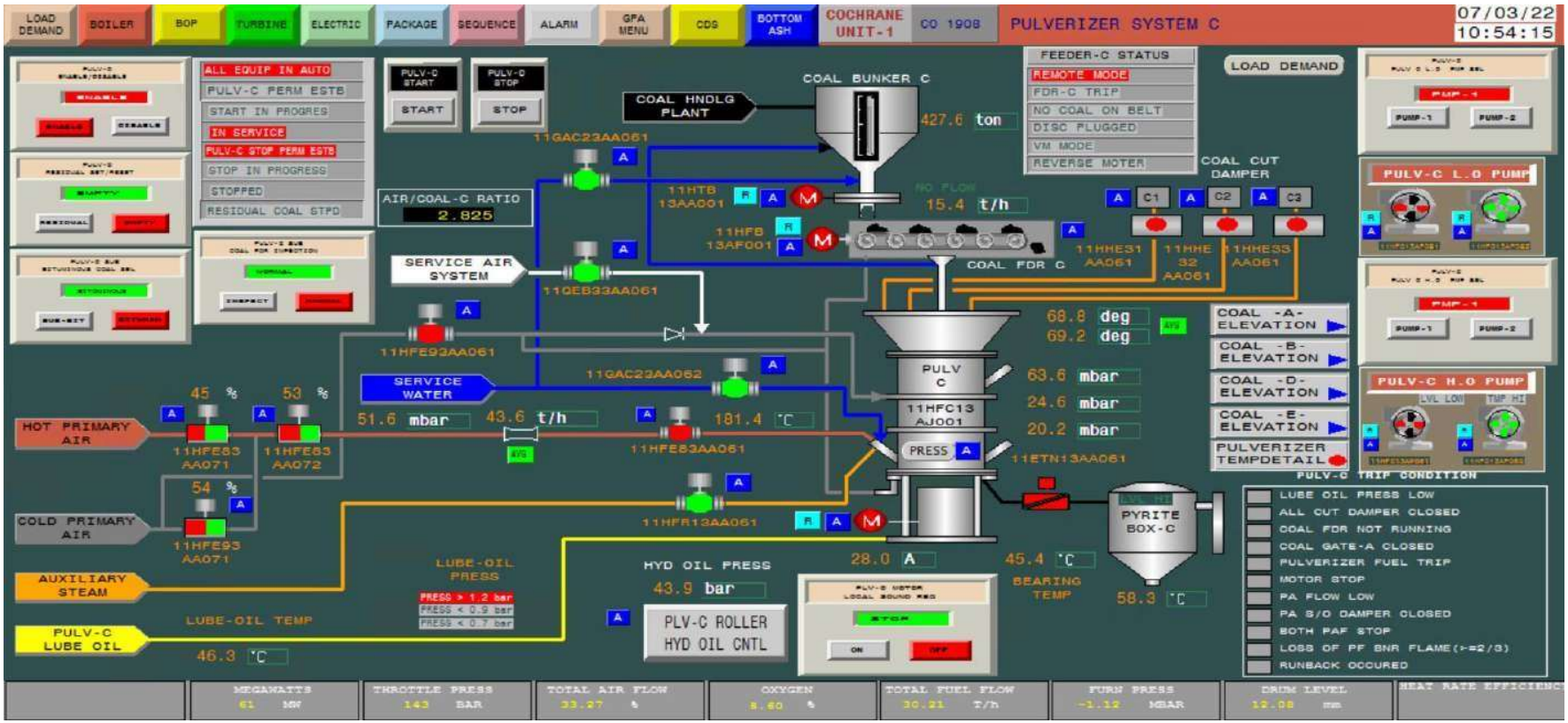

LOAD DEMAND
BOILER
BOF
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1902
STEAM DRUM SYSTEM
07/03/22
10:50:55
LOAD DEMAND
VENT
11HAD10AA541
DRUM METAL TEMP (UPPER)
341.56
342.66
DRUM METAL TEMP (LOWER)
342.41
341.50
-1.8 degC/h
343.3 °C
344.1 °C
144.8 bar
STEAM DRUM
-28.0 MM
29.7 MM
1.1 MM
FURN LEFT SIDE WALL
FURN FRNT WALL
FURN RGT SIDE WALL
FURN REAR WALL
FURNACE
FURNACE ROOF
SAMPLING SYSTEM
BLOW DOWN TANK
3.2 %
11HAD10AA442
LEVEL RIGHT
LEVEL AVG
LEVEL LEFT
0.9 mm
224.4 °C
11HAD10AA441
-0.1 %
248.6 mm
FLASH TANK
BLOWDOWN TANK
PHOSPATE DOSING PUMP
ECONOMIZER
MAIN CONTROL
START-UP CLOSING
0 %
11LAB10AA071
12 %
185.5 °C
146.9 bar
SAMPLING SYSTEM
DEMI WTR XFER PMP
FEED WATER SYSTEM
183.6 T/H
1-ELE CONTROL
3-ELE CONTROL
BLOWDOWN TANK
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENC

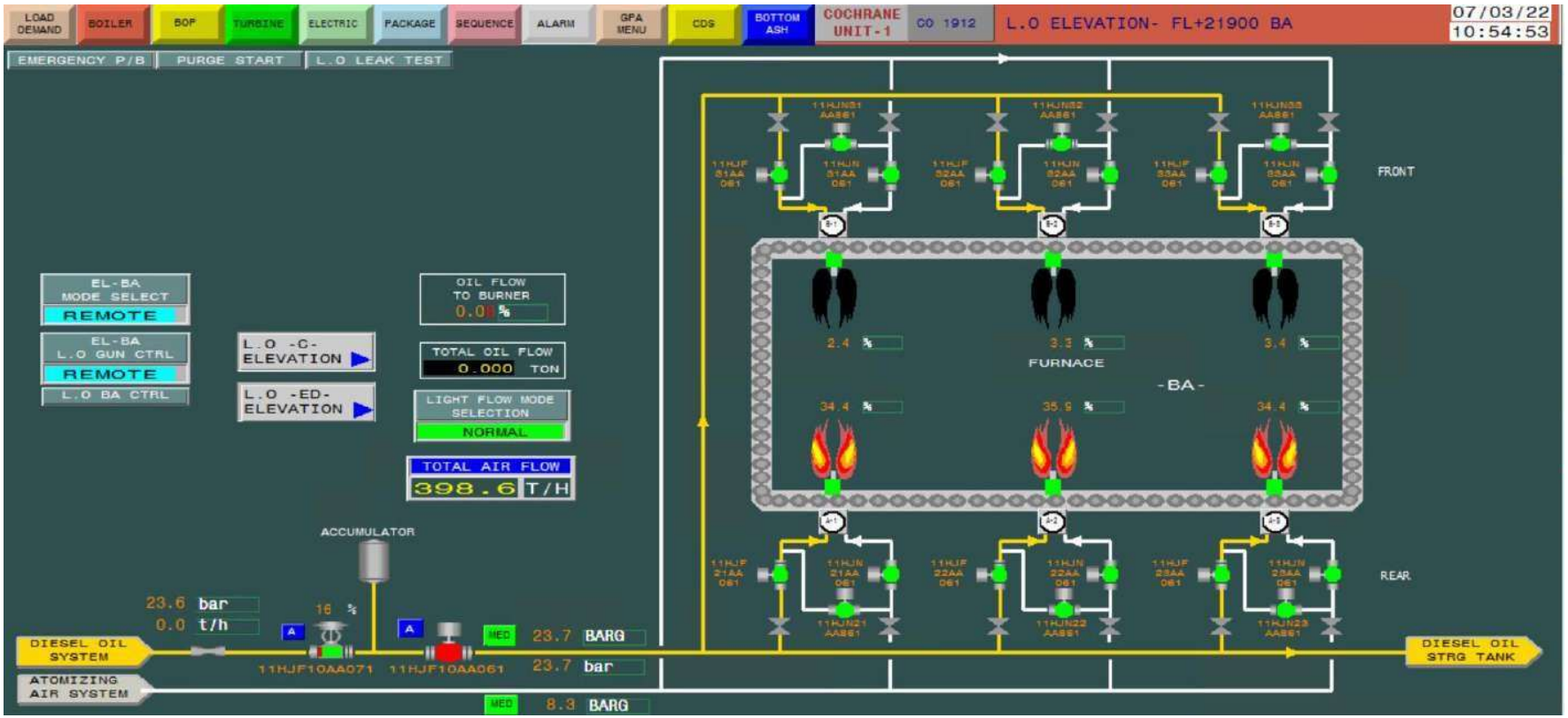

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO_1903
SUPER HTR STEAM SYSTEM
07/03/22
10:51:39
FINAL SUPER HEATER
11HAH51AC001
TERTIARY SUPER HEATER
11HAH41AC001
SECONDARY SUPER HEATER
11HAH31AC001
PRIMARY SUPER HEATER
STEAM DRUM OUTLET
FEEDWATER
METAL TEMPERATURE
11LAE12AA041
11LAE12AA071
11LAE11AA871
11LAE11AA041
11LAE11AA071
11LBA10AA541
11LBA 10AA141
11LBG10AA041
11HCB10AA041
11HAH20AA441
11HAH14AA441
FLASH PIPE EXHAUST
MAIN STEAM SUPPLY
SAMPLING SYSTEM
AUXILIARY STEAM
SOOT BLOWER
OPERATED BY PLC
FLASH PIPE
SAMPLING SYSTEM
EXH
VENT
HRA SW (LEFT)
VESTIBLE SW (LEFT)
VESTIBLE SW (RIGHT)
HRA SW (RIGHT)
HRA PARTITION WALL
HRA REAR WALL
HRA ROOF WALL
FUR ROOF WALL
STEAM DRUM
143.2 bar
15.9 t/h
MEGAWATTS 61 MW
THROTTLE PRESS 143 BAR
TOTAL AIR FLOW 33.22 %
OXYGEN 8.50 %
TOTAL FUEL FLOW 30.17 T/h
FURN PRESS -0.69 MBAR
DRUM LEVEL 14.46 mm
HEAT RATE
EFFICIENCY

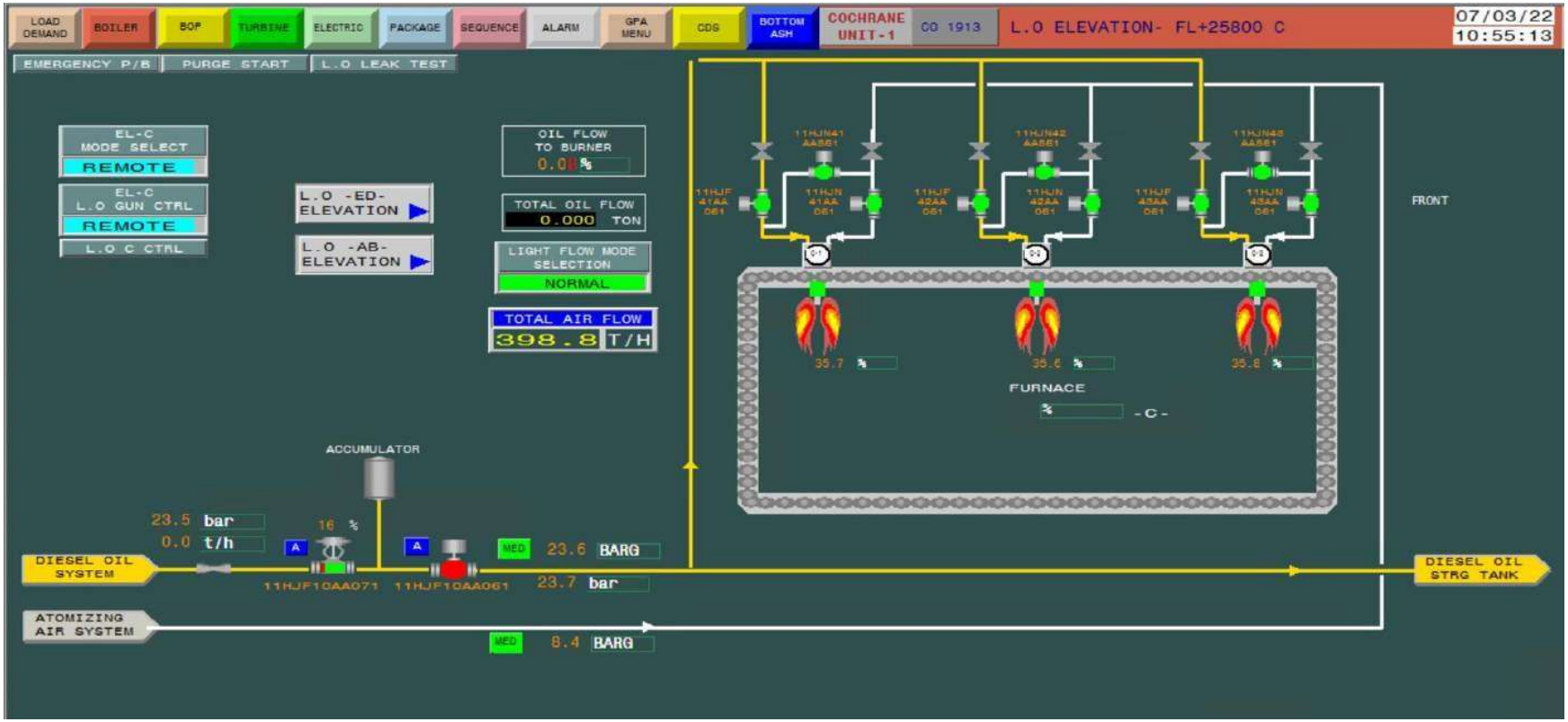

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1904
REHEATER SYSTEM
07/03/22
10:52:26
LOAD DEMAND
NH3 INJECTION SYSTEM(R)
NH3 INJECTION SYSTEM(L)
N2 GAS SUPPLY SYS
AMMONIA STORAGE
538.6 °C
553.5 °C
546.6 °C
529.9 °C
553.7 °C
REHEATER 11HAJ11AC001
540.7 °C
517.8 °C
550.7 °C
9.3 bar
AVG
531.8 °C
HOT REHEAT STEAM SUPPLY
SAMPLING SYSTEM
303.0 °C
9.7 bar
COLD REHEAT STEAM SUPPLY
A
0 %
A
FEED WATER PUMP
11LAF10AA071
11LAF10AA061
MEGAWATTS
60 MW
THROTTLE PRESS
142 BAR
TOTAL AIR FLOW
33.25 %
OXYGEN
8.49 %
TOTAL FUEL FLOW
30.22 T/h
FURN PRESS
-0.42 MBAR
DRUM LEVEL
-9.61 mm
HEAT RATE EFFICIENCY

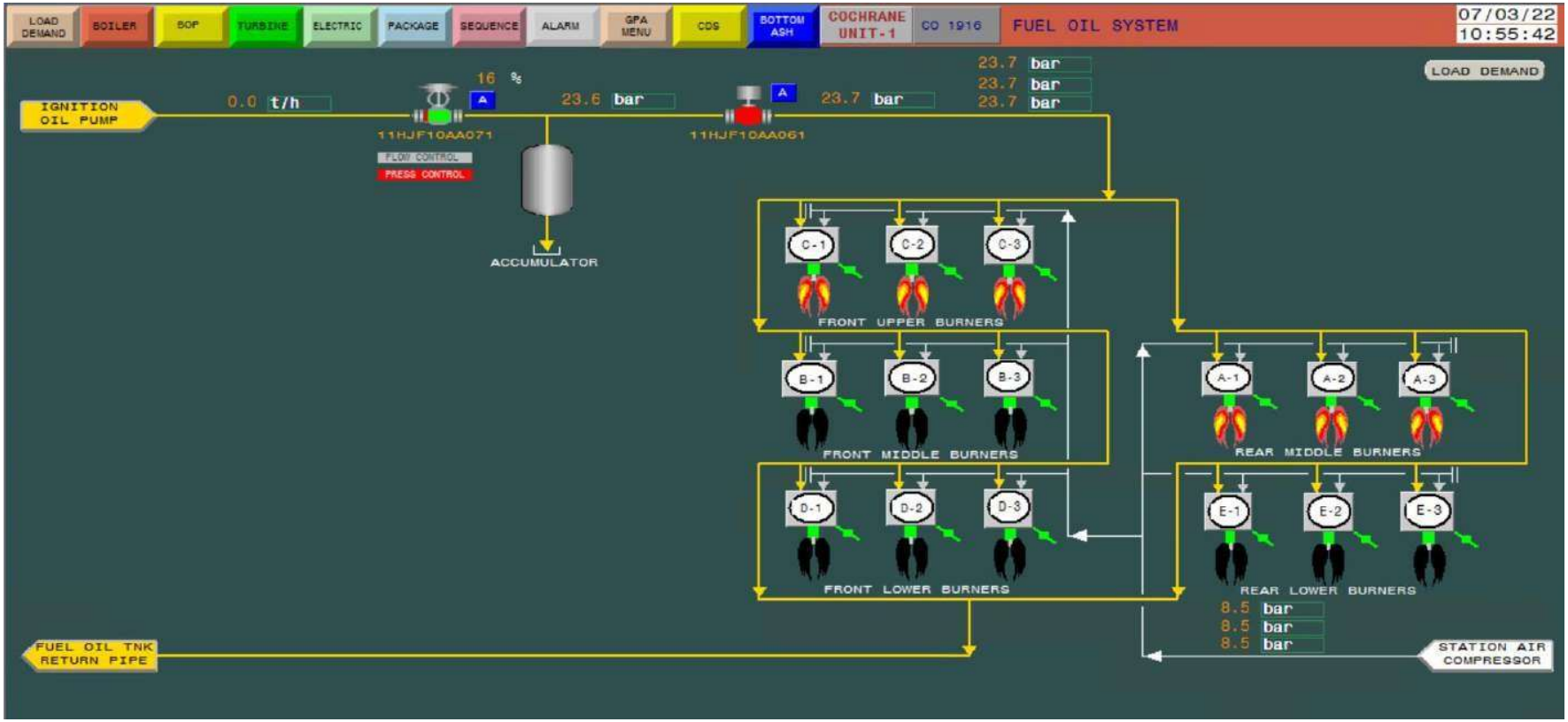

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1905
FUEL CONTROL OVERVIEW
07/03/22
10:53:00
PULV-A PULV-B PULV-C PULV-D PULV-E
COAL FLOW 15.4 t/h -0.1 t/h 15.4 t/h -0.1 t/h -0.0 t/h
PA INLET AIR FLOW 44.8 t/h 0.0 t/h 43.9 t/h 0.0 t/h 0.0 t/h
PA INLET AIR TEMP 180.6 °C 84.7 °C 181.4 °C 136.5 °C 27.7 °C
PULV OUTLET TEMP 68.0 °C 44.9 °C 69.0 °C 52.7 °C 16.2 °C
MILL DIFF P 24.0 mbar 0.6 mbar 24.6 mbar 0.1 mbar -0.6 mbar
HYD THRUST TEMP 43.8 °C 39.6 °C 45.4 °C 38.9 °C 24.8 °C
BEARING TEMP 43.8 °C 39.6 °C 45.4 °C 38.9 °C 24.8 °C
CURRENT 28.1 A -0.0 A 28.7 A -0.0 A -0.0 A
SILO LEVEL 413.7 ton 490.3 ton 428.6 ton 496.4 ton 496.8 ton
SERVICE AIR SYSTEM
AUXILIARY STEAM
COLD PRIMARY AIR
HOT PRIMARY AIR
SERVICE WATER
428.6 ton
15.4 t/h
FLOW-C
PULV-C
490.3 ton
-0.1 t/h
FLOW-B
PULV-B
496.4 ton
-0.1 t/h
FLOW-D
PULV-D
413.7 ton
15.4 t/h
FLOW-A
PULV-A
496.8 ton
-0.0 t/h
FLOW-E
PULV-E

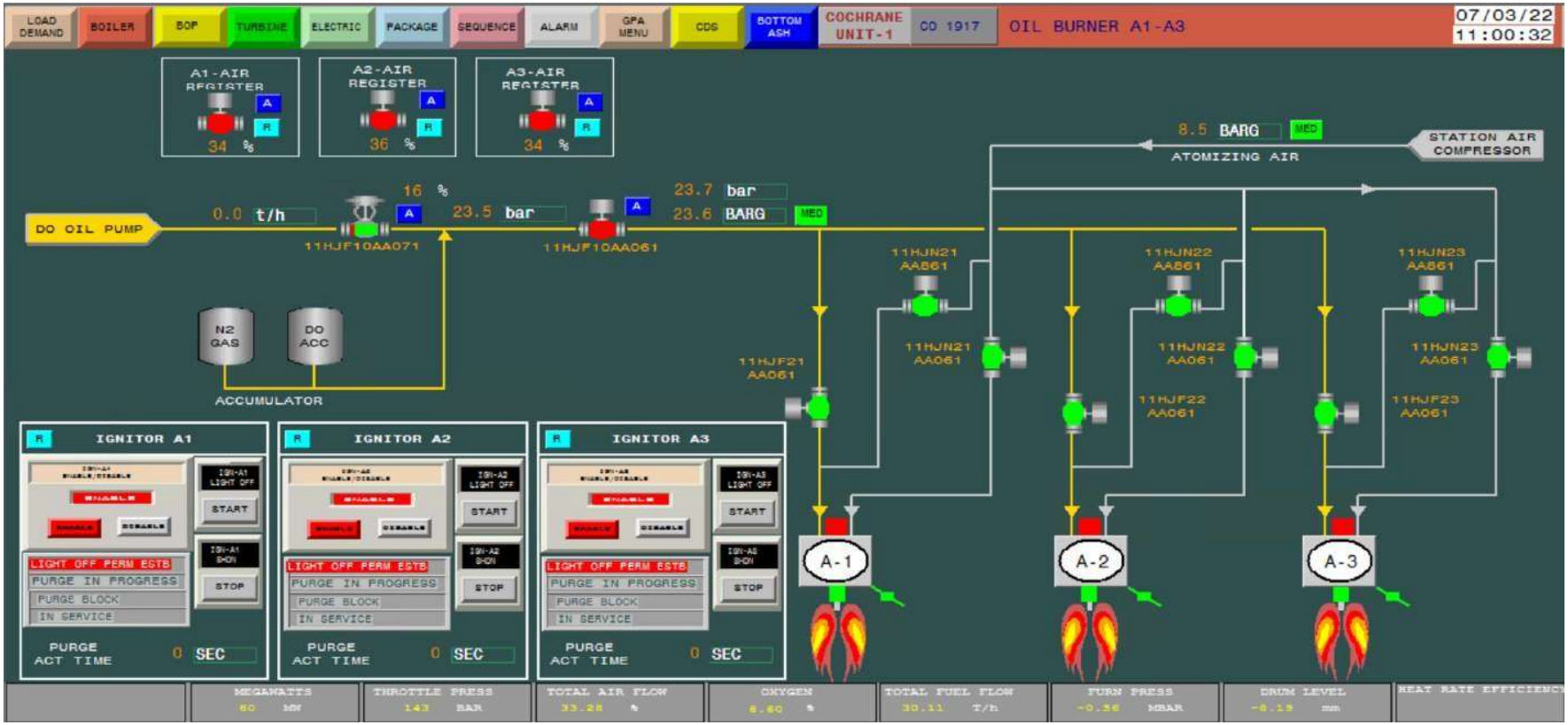

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1906
PULVERIZER SYSTEM A
07/03/22
10:53:30
ALL EQUIP IN AUTO
PULV-A PERM ESTB
START IN PROGRES
IN SERVICE
PULV-A STOP PERM ESTB
STOP IN PROGRESS
STOPPED
RESIDUAL COAL STPD
PULV-A START
START
PULV-A STOP
STOP
COAL HNDLG PLANT
COAL BUNKER A
413.7 ton
11GAC21AA061
AIR/COAL-A RATIO
2.901
11HFB 11AA001
NO FLOW
15.2 t/h
11HFB 11AF001
SERVICE AIR SYSTEM
11GEB31AA061
11HFE91AA061
SERVICE WATER
11GAC21AA062
48 %
54 %
HOT PRIMARY AIR
11HFE81 AA071
11HFE81 AA072
53.5 mbar
44.6 t/h
180.5 °C
11HFE81AA061
52 %
COLD PRIMARY AIR
11HFE91 AA071
11HFR11AA061
AUXILIARY STEAM
PULV-A LUBE OIL
LUBE-OIL TEMP
45.0 °C
LUBE-OIL PRESS
PRESS > 1.2 bar
PRESS < 0.9 bar
PRESS < 0.7 bar
HYD OIL PRESS
44.8 bar
PLV-A ROLLER HYD OIL CNTL
28.4 A
43.8 °C
BEARING TEMP
62.0 °C
PULV A
11HFC11 AJ001
PRESS
11ETN11AA061
66.8 mbar
24.2 mbar
31.7 mbar
68.1 °C
68.0 °C
AVG
COAL FDR A
11HHE11 AA061
11HHE 12 AA061
11HHE13 AA061
COAL CUT DAMPER
A1
A2
A3
FEEDER-A STATUS
REMOTE MODE
FDR-A TRIP
NO COAL ON BELT
DISC PLUGGED
VM MODE
REVERSE MOTER
LOAD DEMAND
COAL -B- ELEVATION
COAL -C- ELEVATION
COAL -D- ELEVATION
COAL -E- ELEVATION
PULVERIZER TEMPDETAIL
PYRITE BOX-A
PULV-A L.O PUMP
PULV-A H.O PUMP
PULV-A TRIP CONDITION
LUBE OIL PRESS LOW
ALL CUT DAMPER CLOSED
COAL FDR NOT RUNNING
COAL GATE-A CLOSED
PULVERIZER FUEL TRIP
MOTOR STOP
PA FLOW LOW
PA S/O DAMPER CLOSED
BOTH PAF STOP
LOSS OF PF BNR FLAME(>=2/3)
RUNBACK OCCURED
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.18 %
OXYGEN
8.63 %
TOTAL FUEL FLOW
30.23 T/h
FURN PRESS
-0.54 MBAR
DRUM LEVEL
-1.55 mm
HEAT RATE EFFICIENCY

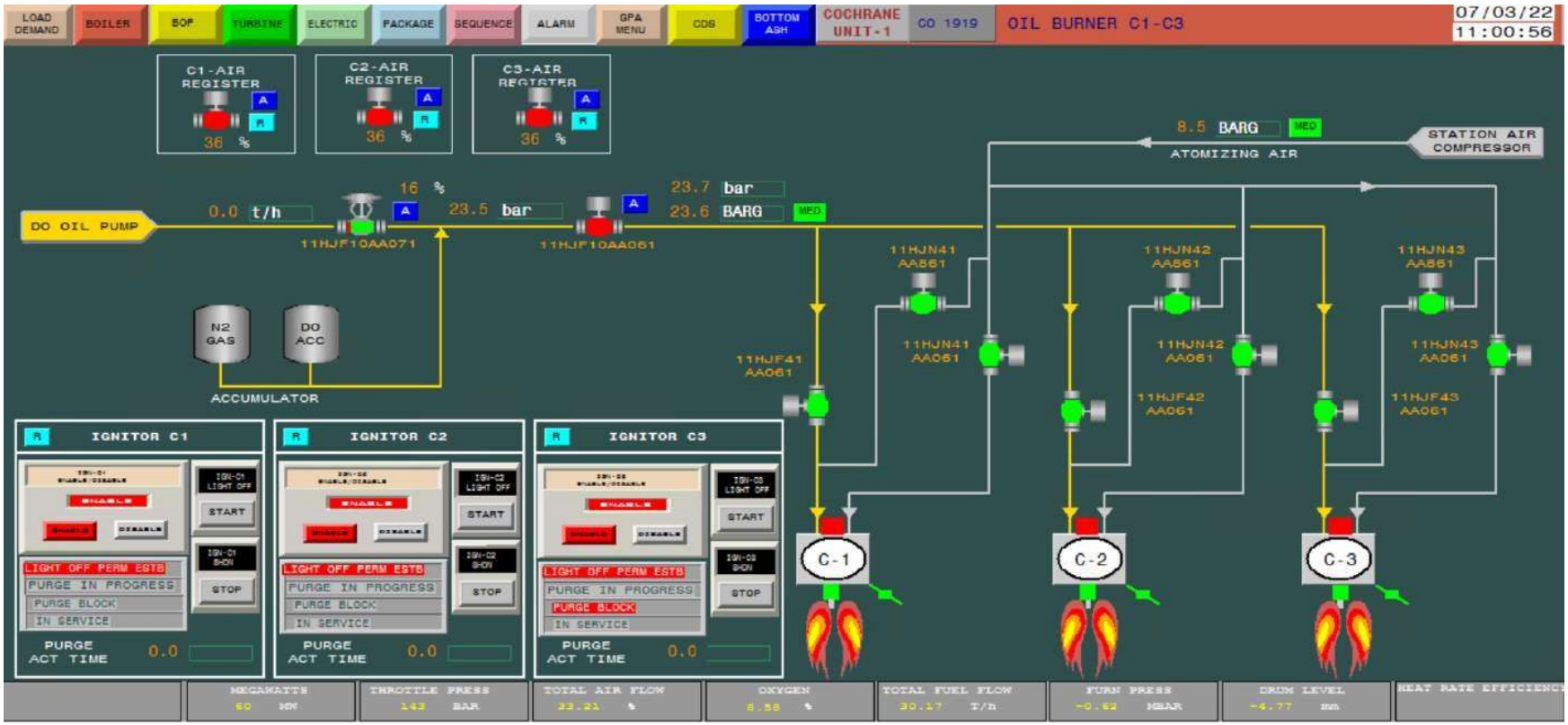

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1908
PULVERIZER SYSTEM C
07/03/22
10:54:15
ALL EQUIP IN AUTO
PULV-C PERM ESTB
START IN PROGRES
IN SERVICE
PULV-C STOP PERM ESTB
STOP IN PROGRESS
STOPPED
RESIDUAL COAL STPD
PULV-C START
START
PULV-C STOP
STOP
AIR/COAL-C RATIO
2.825
SERVICE AIR SYSTEM
SERVICE WATER
COAL BUNKER C
COAL HNDLG PLANT
427.6 ton
11GAC23AA061
11HTB 13AA001
11HFB 13AF001
NO FLOW
15.4 t/h
COAL FDR C
FEEDER-C STATUS
REMOTE MODE
FDR-C TRIP
NO COAL ON BELT
DISC PLUGGED
VM MODE
REVERSE MOTER
LOAD DEMAND
COAL CUT DAMPER
C1
C2
C3
11HHE31 AA061
11HHE 32 AA061
11HHE33 AA061
11QEB33AA061
11HFE93AA061
11GAC23AA062
11HFE83AA061
11HFR13AA061
11ETN13AA061
PULV C
11HFC13 AJ001
PRESS
68.8 deg
69.2 deg
63.6 mbar
24.6 mbar
20.2 mbar
COAL -A- ELEVATION
COAL -B- ELEVATION
COAL -D- ELEVATION
COAL -E- ELEVATION
PULVERIZER TEMPDETAIL
PULV-C L.O PUMP
PUMP-1
PUMP-2
PULV-C H.O PUMP
LVL LOW
TRIP HI
PULV-C TRIP CONDITION
LUBE OIL PRESS LOW
ALL CUT DAMPER CLOSED
COAL FDR NOT RUNNING
COAL GATE-A CLOSED
PULVERIZER FUEL TRIP
MOTOR STOP
PA FLOW LOW
PA S/O DAMPER CLOSED
BOTH PAF STOP
LOSS OF PF BNR FLAME(>=2/3)
RUNBACK OCCURED
HOT PRIMARY AIR
45 %
53 %
11HFE83 AA071
11HFE83 AA072
51.6 mbar
43.6 t/h
181.4 °C
COLD PRIMARY AIR
54 %
11HFE93 AA071
AUXILIARY STEAM
PULV-C LUBE OIL
LUBE-OIL TEMP
46.3 °C
LUBE-OIL PRESS
PRESS > 1.2 bar
PRESS < 0.9 bar
PRESS < 0.7 bar
HYD OIL PRESS
43.9 bar
PLV-C ROLLER HYD OIL CNTL
28.0 A
45.4 °C
BEARING TEMP
58.3 °C
PYRITE BOX-C
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.27 %
OXYGEN
8.60 %
TOTAL FUEL FLOW
30.21 T/h
FURN PRESS
-1.12 MBAR
DRUM LEVEL
12.08 mm
HEAT RATE EFFICIENCY

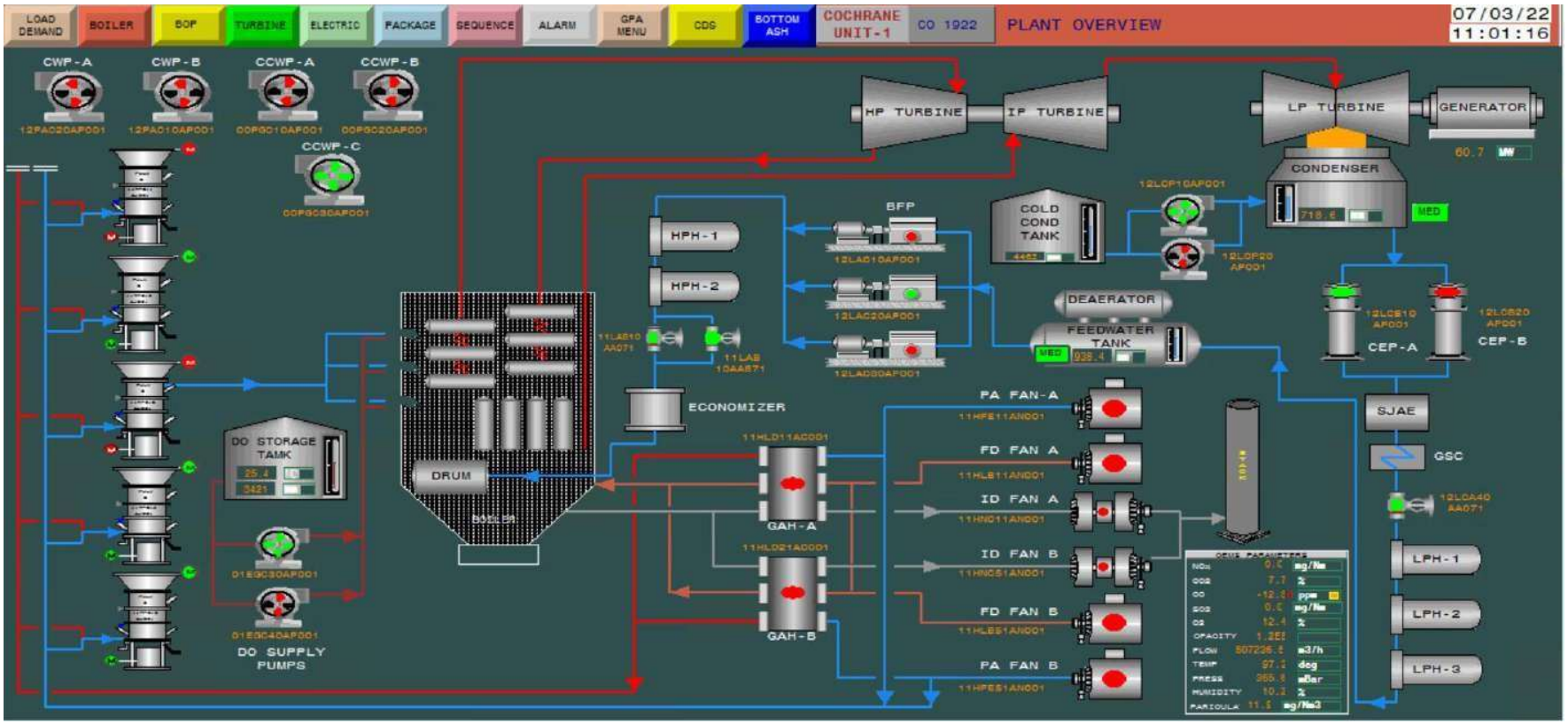

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1912
L.O ELEVATION- FL+21900 BA
07/03/22
10:54:53
EMERGENCY P/B
PURGE START
L.O LEAK TEST
EL-BA MODE SELECT
REMOTE
EL-BA L.O GUN CTRL
REMOTE
L.O BA CTRL
L.O -C- ELEVATION
L.O -ED- ELEVATION
OIL FLOW TO BURNER
0.0 %
TOTAL OIL FLOW
0.000 TON
LIGHT FLOW MODE SELECTION
NORMAL
TOTAL AIR FLOW
398.6 T/H
ACCUMULATOR
23.6 bar
0.0 t/h
16 %
DIESEL OIL SYSTEM
ATOMIZING AIR SYSTEM
11HJF10AA071
11HJF10AA061
23.7 BARG
23.7 bar
8.3 BARG
FRONT
REAR
FURNACE
-BA-
2.4 %
3.3 %
3.4 %
34.4 %
35.9 %
34.4 %
DIESEL OIL STRG TANK

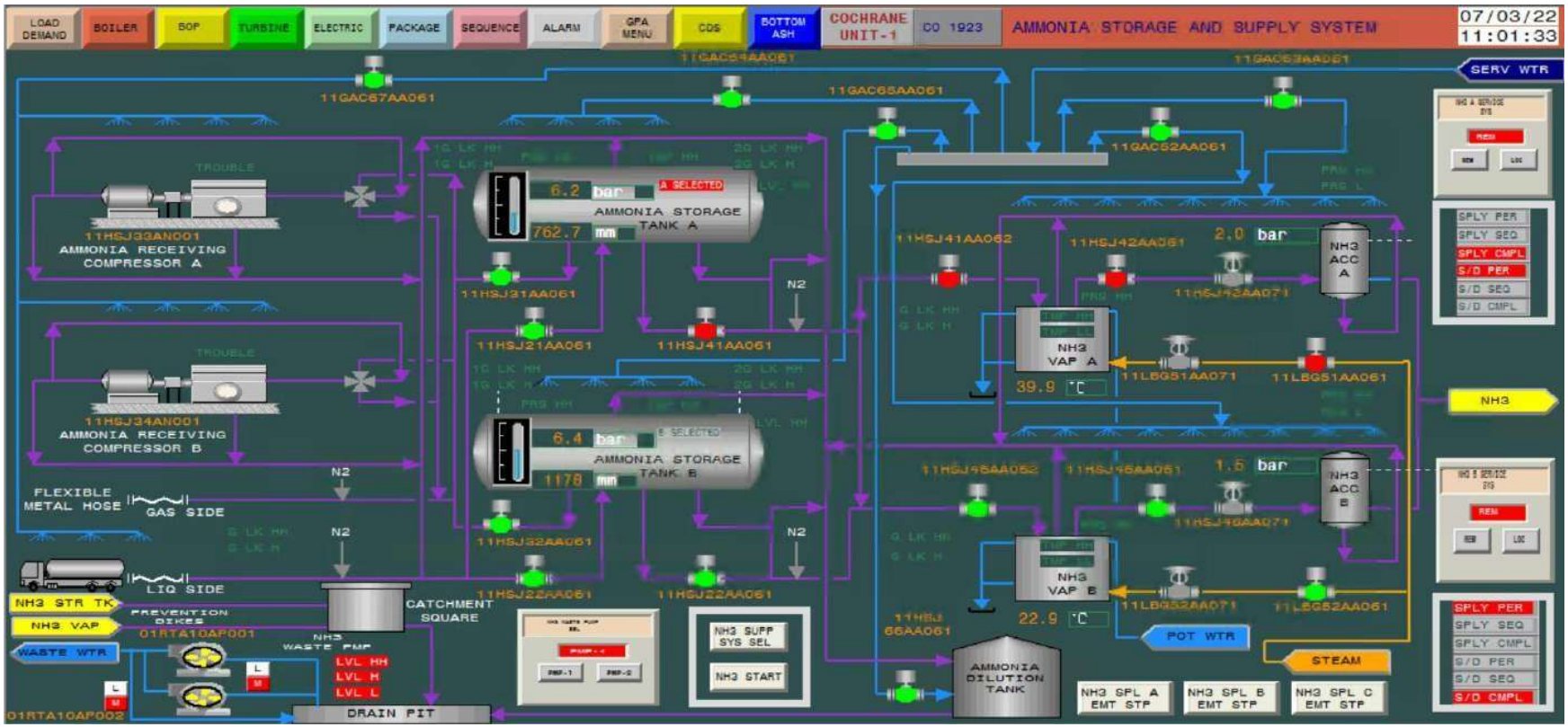

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1913
L.O ELEVATION- FL+25800 C
07/03/22
10:55:13
EMERGENCY P/B
PURGE START
L.O LEAK TEST
EL-C MODE SELECT
REMOTE
EL-C L.O GUN CTRL
REMOTE
L.O C CTRL
L.O -ED- ELEVATION
L.O -AB- ELEVATION
OIL FLOW TO BURNER
0.0 %
TOTAL OIL FLOW
0.000 TON
LIGHT FLOW MODE SELECTION
NORMAL
TOTAL AIR FLOW
398.8 T/H
11HJN41 AA561
11HJN42 AA561
11HJN43 AA561
11HJF 41AA 061
11HJN 41AA 061
11HJF 42AA 061
11HJN 42AA 061
11HJF 43AA 061
11HJN 43AA 061
FRONT
35.7 %
35.6 %
35.8 %
FURNACE
% -C-
ACCUMULATOR
23.5 bar
0.0 t/h
16 %
A
A
MED
23.6 BARG
23.7 bar
11HJF10AA071
11HJF10AA061
DIESEL OIL SYSTEM
DIESEL OIL STRG TANK
ATOMIZING AIR SYSTEM
MED
8.4 BARG

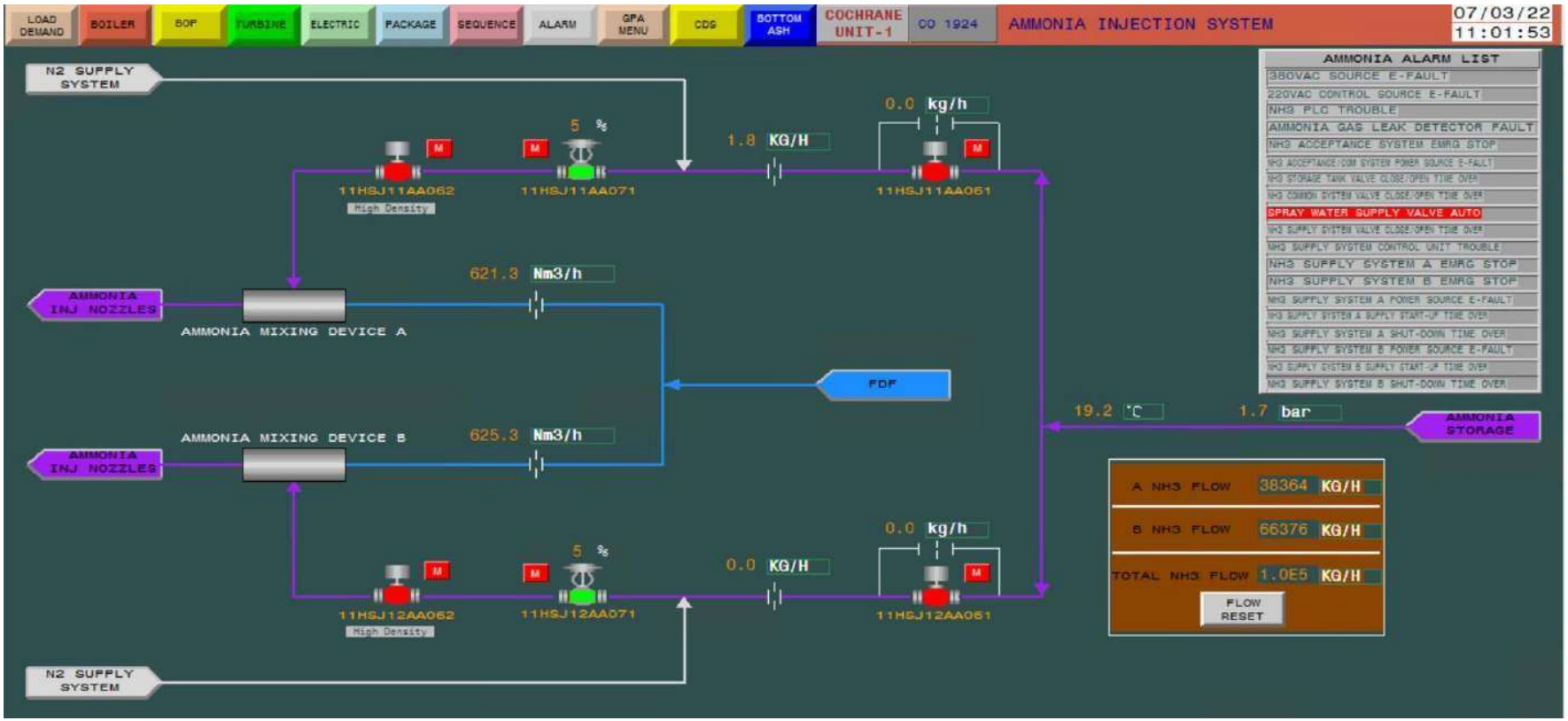

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1916
FUEL OIL SYSTEM
07/03/22
10:55:42
LOAD DEMAND
IGNITION OIL PUMP
0.0 t/h
16 %
A
11HJF10AA071
FLOW CONTROL
PRESS CONTROL
23.6 bar
A
11HJF10AA061
23.7 bar
23.7 bar
23.7 bar
23.7 bar
ACCUMULATOR
C-1
C-2
C-3
FRONT UPPER BURNERS
B-1
B-2
B-3
FRONT MIDDLE BURNERS
A-1
A-2
A-3
REAR MIDDLE BURNERS
D-1
D-2
D-3
FRONT LOWER BURNERS
E-1
E-2
E-3
REAR LOWER BURNERS
8.5 bar
8.5 bar
8.5 bar
FUEL OIL TNK RETURN PIPE
STATION AIR COMPRESSOR

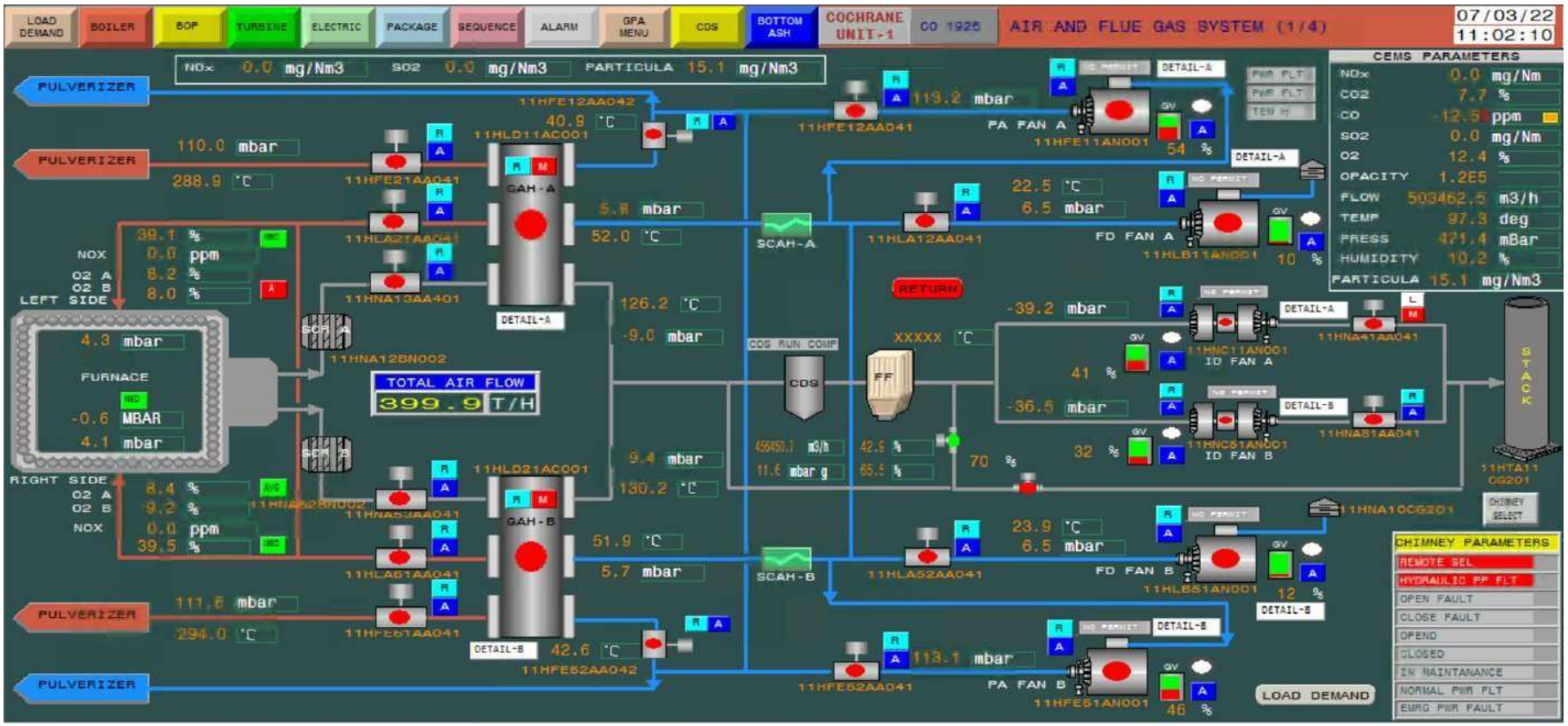

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1917
OIL BURNER A1-A3
07/03/22
11:00:32
A1-AIR REGISTER
34 %
A2-AIR REGISTER
36 %
A3-AIR REGISTER
34 %
8.5 BARG
MED
STATION AIR COMPRESSOR
ATOMIZING AIR
DO OIL PUMP
0.0 t/h
16 %
23.5 bar
23.7 bar
23.6 BARG
11HJF10AA071
11HJF10AA061
N2 GAS
DO ACC
ACCUMULATOR
11HJN21 AA861
11HJN22 AA861
11HJN23 AA861
11HJN21 AA061
11HJN22 AA061
11HJN23 AA061
11HJF21 AA061
11HJF22 AA061
11HJF23 AA061
IGNITOR A1
IGNITOR A2
IGNITOR A3
ENABLE
DISABLE
START
STOP
LIGHT OFF PERM ESTB
PURGE IN PROGRESS
PURGE BLOCK
IN SERVICE
PURGE ACT TIME
0 SEC
A-1
A-2
A-3
MEGAWATTS
60 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.28 %
OXYGEN
6.60 %
TOTAL FUEL FLOW
30.11 T/h
FURN PRESS
-0.56 MBAR
DRUM LEVEL
-8.15 mm
HEAT RATE EFFICIENCY

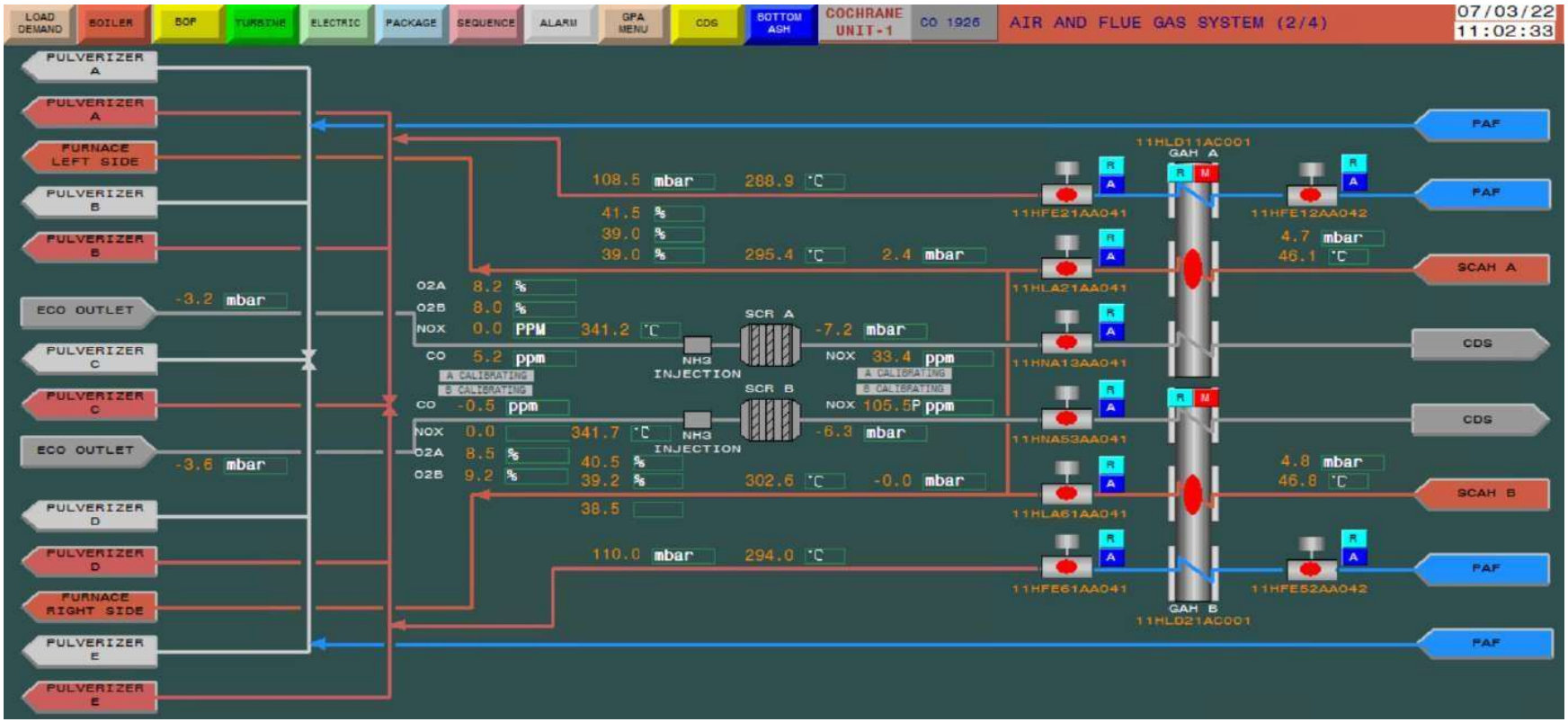

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1919
OIL BURNER C1-C3
07/03/22
11:00:56
C1-AIR REGISTER
C2-AIR REGISTER
C3-AIR REGISTER
36 %
8.5 BARG
MED
ATOMIZING AIR
STATION AIR COMPRESSOR
DO OIL PUMP
0.0 t/h
16 %
23.5 bar
23.7 bar
23.6 BARG
11HJF10AA071
11HJF10AA061
N2 GAS
DO ACC
ACCUMULATOR
11HJN41 AA861
11HJN42 AA861
11HJN43 AA861
11HJF41 AA061
11HJN41 AA061
11HJN42 AA061
11HJN43 AA061
11HJF42 AA061
11HJF43 AA061
IGNITOR C1
IGNITOR C2
IGNITOR C3
ENABLE
DISABLE
START
STOP
LIGHT OFF PERM ESTB
PURGE IN PROGRESS
PURGE BLOCK
IN SERVICE
PURGE ACT TIME
0.0
C-1
C-2
C-3
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

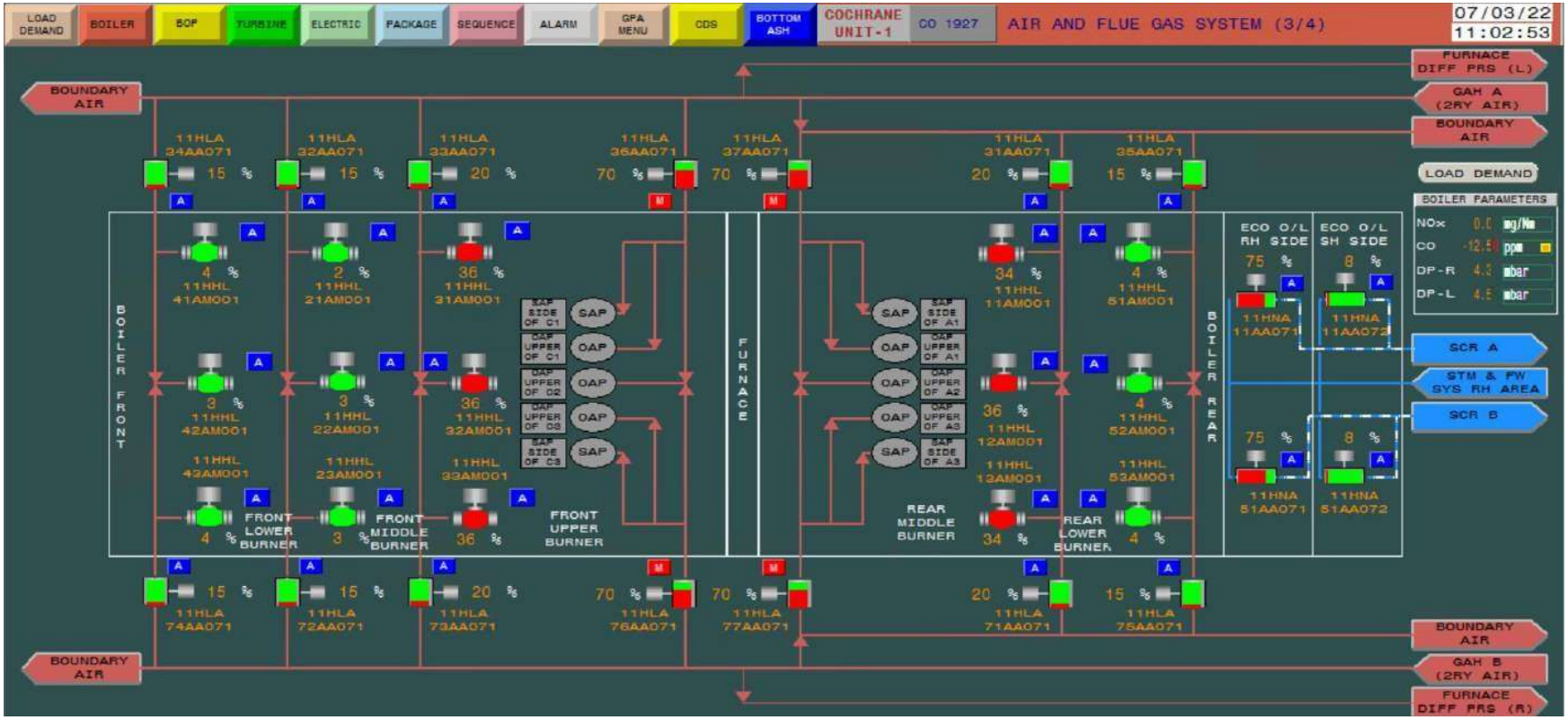

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1922
PLANT OVERVIEW
07/03/22
11:01:16
CWP-A
CWP-B
CCWP-A
CCWP-B
CCWP-C
HP TURBINE
IP TURBINE
LP TURBINE
GENERATOR
CONDENSER
COLD COND TANK
BFP
HPH-1
HPH-2
DEAERATOR
FEEDWATER TANK
CEP-A
CEP-B
SJAE
GSC
LPH-1
LPH-2
LPH-3
ECONOMIZER
DRUM
GAH-A
GAH-B
PA FAN-A
FD FAN A
ID FAN A
ID FAN B
FD FAN B
PA FAN B
DO STORAGE TANK
DO SUPPLY PUMPS

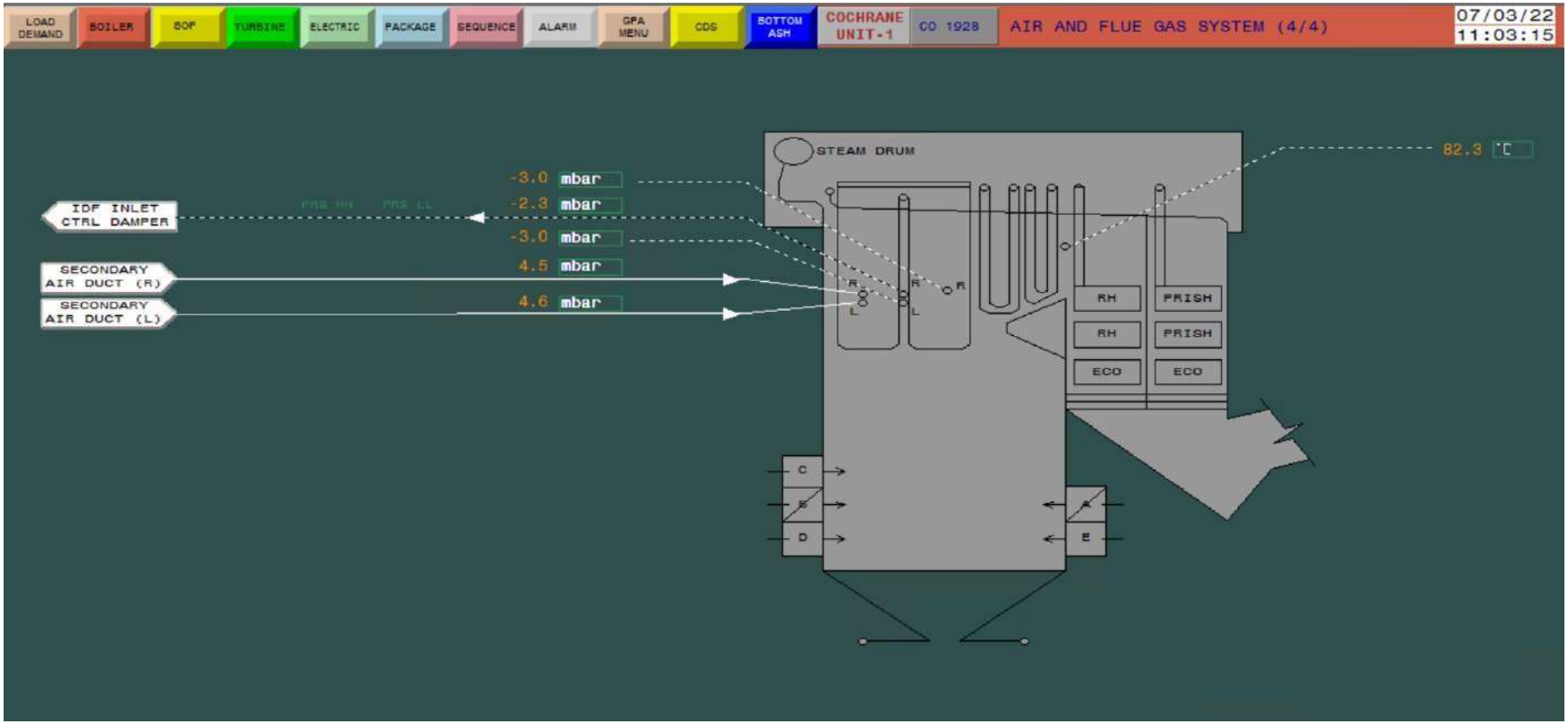

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1923
AMMONIA STORAGE AND SUPPLY SYSTEM
07/03/22
11:01:33
SERV WTR
11GAC67AA061
11GAC65AA061
11GAC52AA061
11HSJ33AN001
AMMONIA RECEIVING COMPRESSOR A
11HSJ34AN001
AMMONIA RECEIVING COMPRESSOR B
6.2 bar
762.7 mm
AMMONIA STORAGE TANK A
6.4 bar
1178 mm
AMMONIA STORAGE TANK B
11HSJ31AA061
11HSJ21AA061
11HSJ41AA061
11HSJ32AA061
11HSJ22AA061
11HSJ42AA061
11HSJ46AA061
2.0 bar
1.6 bar
NH3 ACC A
NH3 ACC B
NH3 VAP A
NH3 VAP B
39.9 °C
22.9 °C
11LBG51AA071
11LBG51AA061
11LBG52AA071
11LBG52AA061
N2
FLEXIBLE METAL HOSE
GAS SIDE
LIQ SIDE
NH3 STR TK
NH3 VAP
WASTE WTR
CATCHMENT SQUARE
PREVENTION DIKES
01RTA10AP001
01RTA10AP002
NH3 WASTE PMP
LVL HH
LVL H
LVL L
DRAIN PIT
NH3 SUPP SYS SEL
NH3 START
AMMONIA DILUTION TANK
NH3 SPL A EMT STP
NH3 SPL B EMT STP
NH3 SPL C EMT STP
POT WTR
STEAM
NH3
SPLY PER
SPLY SEQ
SPLY CMPL
S/D PER
S/D SEQ
S/D CMPL

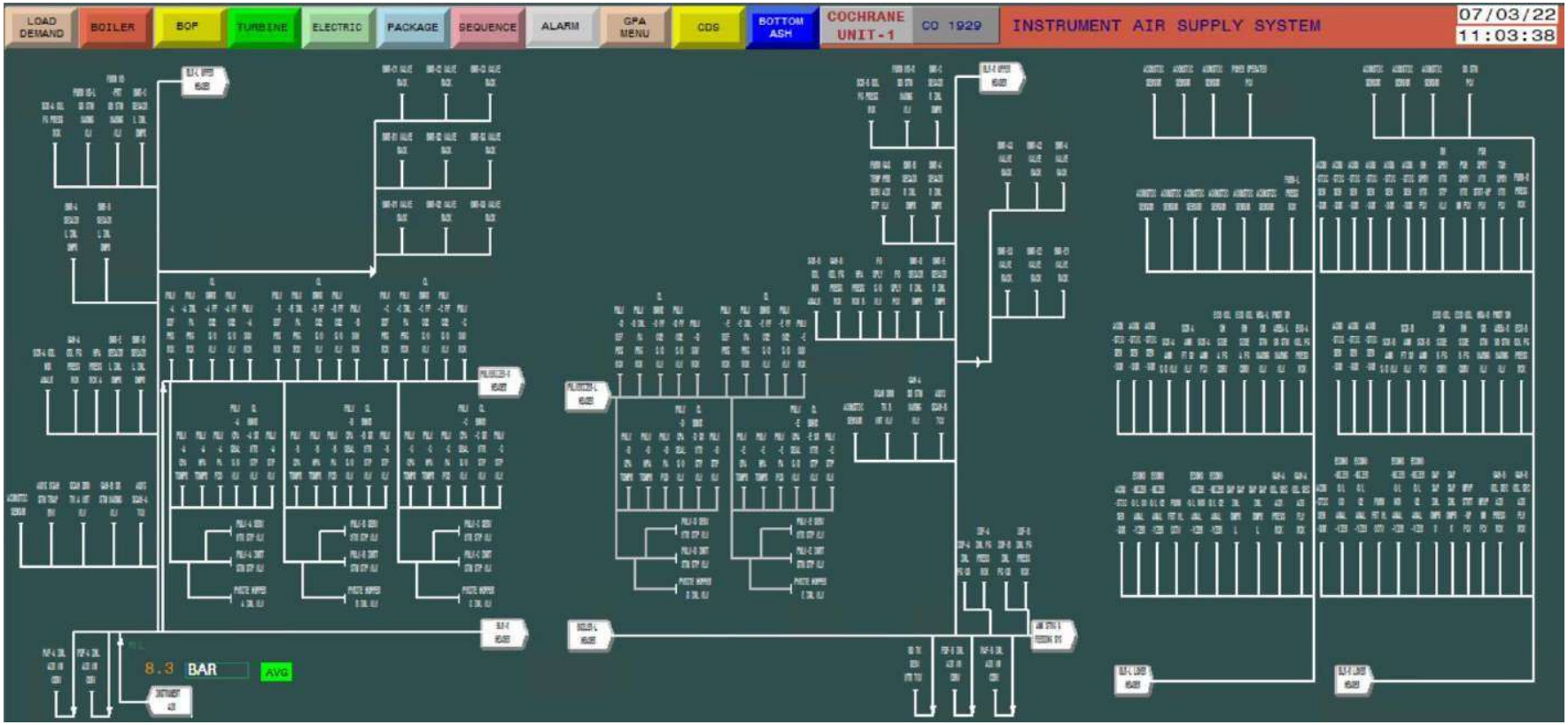

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1924
AMMONIA INJECTION SYSTEM
07/03/22
11:01:53
AMMONIA ALARM LIST
380VAC SOURCE E-FAULT
220VAC CONTROL SOURCE E-FAULT
NH3 PLC TROUBLE
AMMONIA GAS LEAK DETECTOR FAULT
NH3 ACCEPTANCE SYSTEM EMRG STOP
SPRAY WATER SUPPLY VALVE AUTO
NH3 SUPPLY SYSTEM A EMRG STOP
NH3 SUPPLY SYSTEM B EMRG STOP
N2 SUPPLY SYSTEM
5 %
1.8 KG/H
0.0 kg/h
11HSJ11AA062
High Density
11HSJ11AA071
11HSJ11AA061
621.3 Nm3/h
AMMONIA INJ NOZZLES
AMMONIA MIXING DEVICE A
FDF
AMMONIA MIXING DEVICE B
625.3 Nm3/h
19.2 °C
1.7 bar
AMMONIA STORAGE
A NH3 FLOW 38364 KG/H
B NH3 FLOW 66376 KG/H
TOTAL NH3 FLOW 1.0E5 KG/H
FLOW RESET
0.0 KG/H
11HSJ12AA062
11HSJ12AA071
11HSJ12AA061
N2 SUPPLY SYSTEM

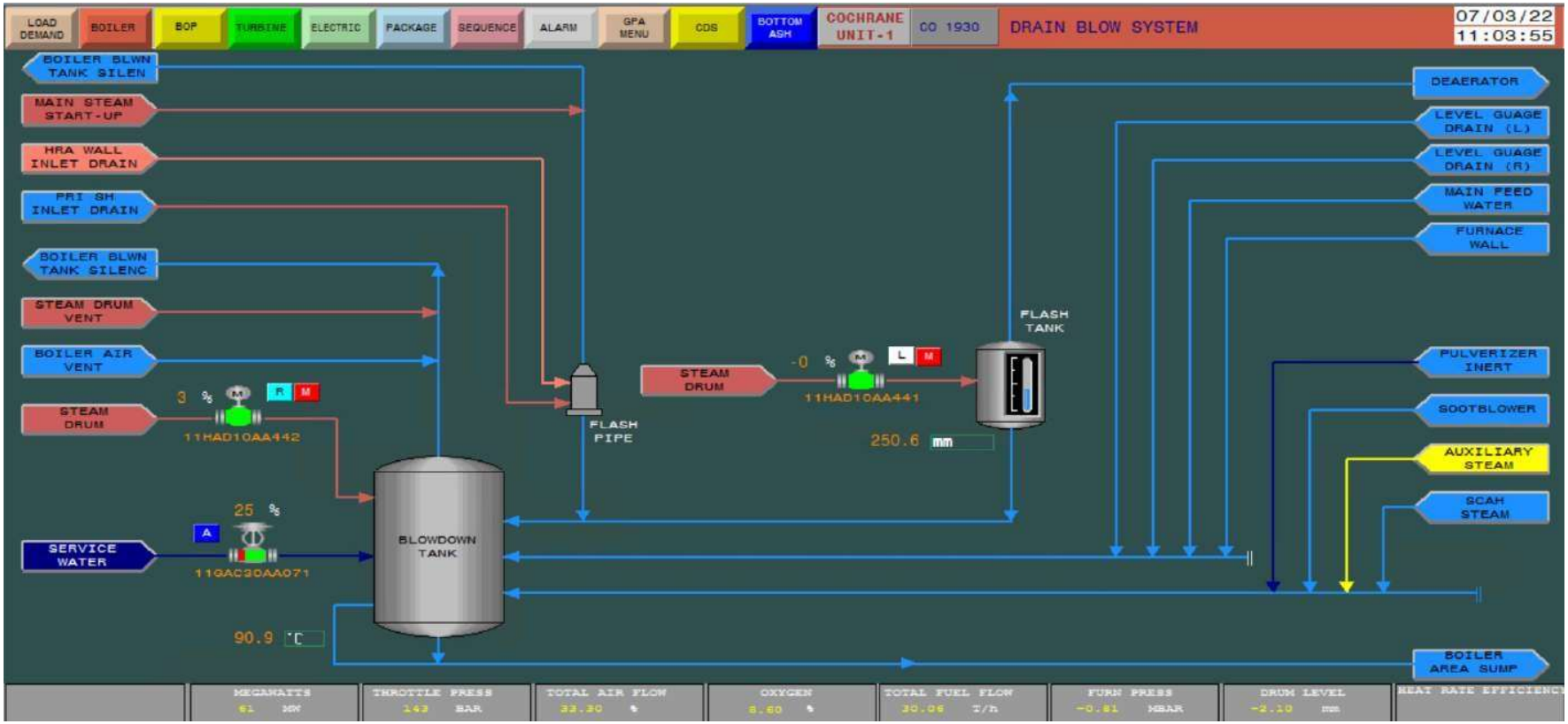

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1926
AIR AND FLUE GAS SYSTEM (1/4)
07/03/22
11:02:10
NOx 0.0 mg/Nm3
SO2 0.0 mg/Nm3
PARTICULA 15.1 mg/Nm3
CEMS PARAMETERS
NOx 0.0 mg/Nm
CO2 7.7 %
CO -12.5 ppm
SO2 0.0 mg/Nm
O2 12.4 %
OPACITY 1.2E5
FLOW 503462.5 m3/h
TEMP 97.3 deg
PRESS 421.4 mBar
HUMIDITY 10.2 %
PARTICULA 15.1 mg/Nm3
PULVERIZER
PULVERIZER
PULVERIZER
PULVERIZER
110.0 mbar
288.9 °C
111.6 mbar
294.0 °C
11HFE12AA042
40.9 °C
11HLD11AC001
11HFE21AA041
11HLA21AA041
11HNA13AA401
GAH-A
DETAIL-A
5.8 mbar
52.0 °C
126.2 °C
-9.0 mbar
11HNA12BN002
11HLD21AC001
11HFE51AA041
11HLA51AA041
11HNA53AA041
GAH-B
DETAIL-B
9.4 mbar
130.2 °C
51.9 °C
5.7 mbar
42.6 °C
11HFE52AA042
39.1 %
0.0 ppm
8.2 %
8.0 %
LEFT SIDE
NOX
O2 A
O2 B
4.3 mbar
FURNACE
-0.6 MBAR
4.1 mbar
RIGHT SIDE
8.4 %
9.2 %
0.0 ppm
39.5 %
O2 A
O2 B
NOX
TOTAL AIR FLOW
399.9 T/H
SCAH-A
SCAH-B
CDS RUN COMP
CDS
FF
RETURN
XXXXX °C
11HFE12AA041
119.2 mbar
PA FAN A
11HFE11AN001
54 %
DETAIL-A
22.5 °C
6.5 mbar
11HLA12AA041
FD FAN A
11HLB11AN001
10 %
-39.2 mbar
11HNC11AN001
ID FAN A
41 %
11HNA41AA041
-36.5 mbar
11HNC51AN001
ID FAN B
32 %
11HNA51AA041
70 %
11HTA11 CG201
STACK
11HNA10CG201
CHIMNEY SELECT
23.9 °C
6.5 mbar
11HLA52AA041
FD FAN B
11HLB51AN001
12 %
DETAIL-B
11HFE52AA041
113.1 mbar
PA FAN B
11HFE51AN001
46 %
LOAD DEMAND
CHIMNEY PARAMETERS
REMOTE SEL
HYDRAULIC PP FLT
OPEN FAULT
CLOSE FAULT
OPEND
CLOSED
IN MAINTANANCE
NORMAL PWR FLT
EMRG PWR FAULT

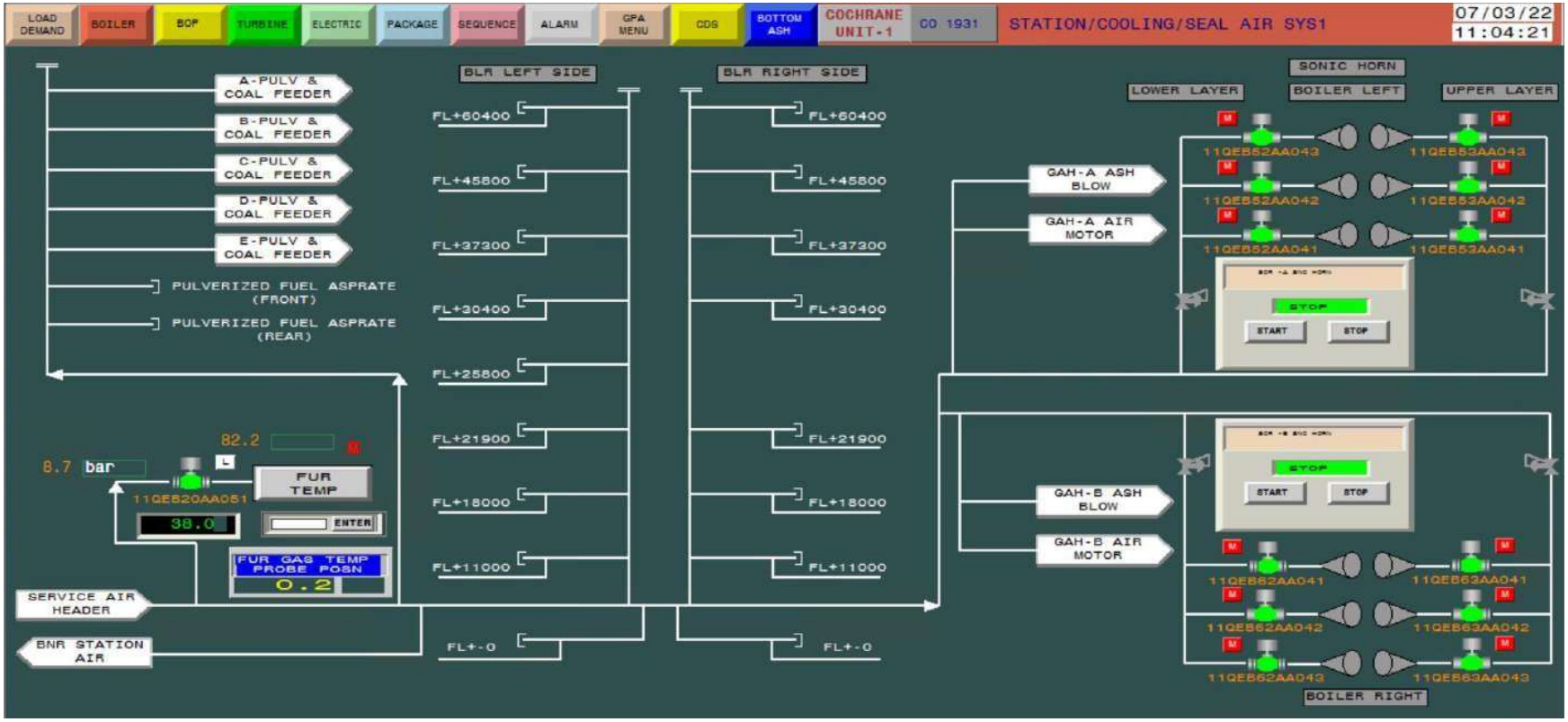

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1926
AIR AND FLUE GAS SYSTEM (2/4)
07/03/22
11:02:33
PULVERIZER A
PULVERIZER A
FURNACE LEFT SIDE
PULVERIZER B
PULVERIZER B
ECO OUTLET
-3.2 mbar
PULVERIZER C
PULVERIZER C
ECO OUTLET
-3.6 mbar
PULVERIZER D
PULVERIZER D
FURNACE RIGHT SIDE
PULVERIZER E
PULVERIZER E
PAF
PAF
SCAH A
CDS
CDS
SCAH B
PAF
PAF
11HLD11AC001
GAH A
11HLD21AC001
GAH B
11HFE21AA041
11HFE12AA042
11HLA21AA041
11HNA13AA041
11HNA53AA041
11HLA61AA041
11HFE61AA041
11HFE52AA042
108.5 mbar
288.9 °C
41.5 %
39.0 %
39.0 %
295.4 °C
2.4 mbar
4.7 mbar
46.1 °C
4.8 mbar
46.8 °C
110.0 mbar
294.0 °C
O2A 8.2 %
O2B 8.0 %
NOX 0.0 PPM
341.2 °C
CO 5.2 ppm
A CALIBRATING
B CALIBRATING
CO -0.5 ppm
NOX 0.0
341.7 °C
O2A 8.5 %
O2B 9.2 %
40.5 %
39.2 %
38.5
302.6 °C
-0.0 mbar
NH3 INJECTION
NH3 INJECTION
SCR A
SCR B
-7.2 mbar
NOX 33.4 ppm
A CALIBRATING
B CALIBRATING
NOX 105.5P ppm
-6.3 mbar

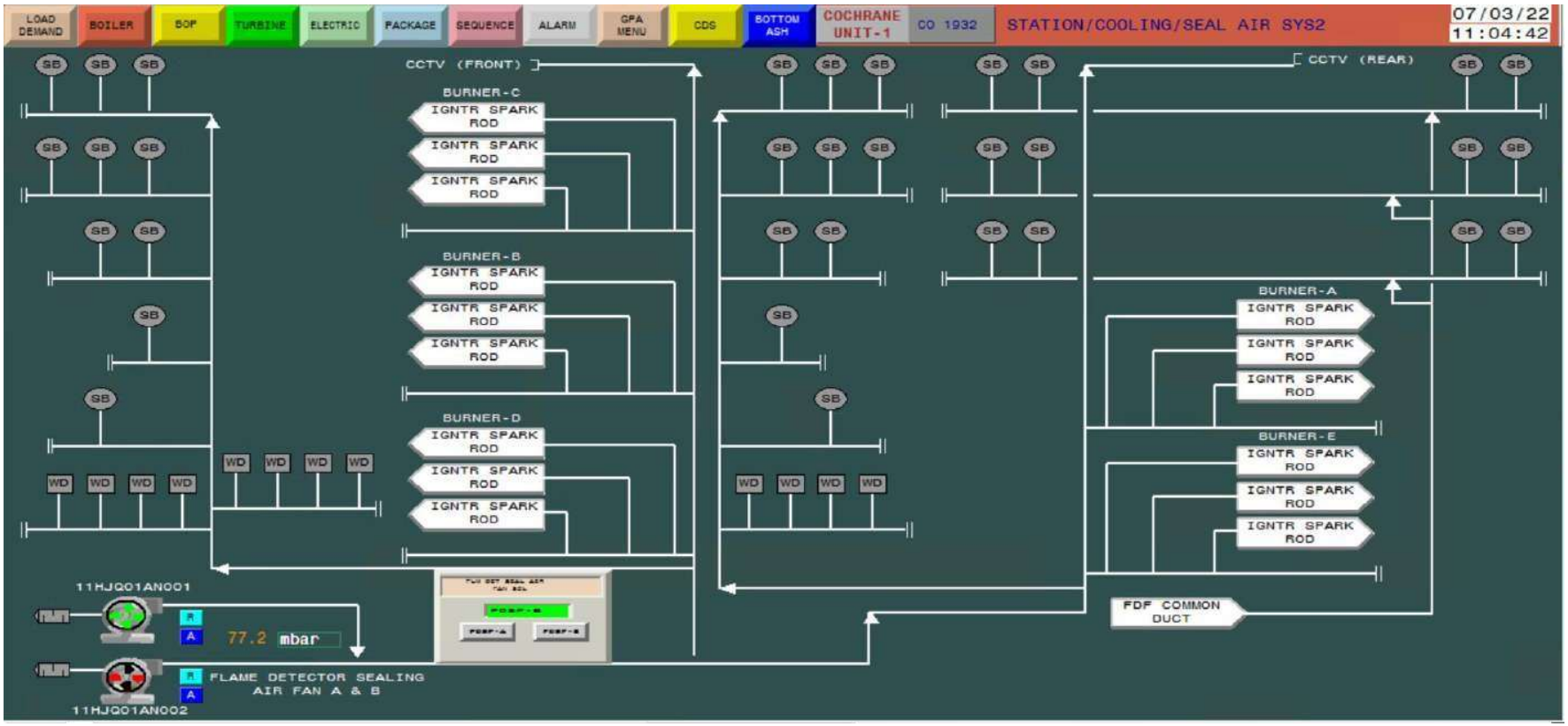

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1927
AIR AND FLUE GAS SYSTEM (3/4)
07/03/22
11:02:53
BOUNDARY AIR
FURNACE DIFF PRS (L)
GAH A (2RY AIR)
LOAD DEMAND
BOILER PARAMETERS
NOx
CO
DP-R
DP-L
ECO O/L RH SIDE
ECO O/L SH SIDE
SCR A
STM & FW SYS RH AREA
SCR B
BOILER FRONT
FURNACE
BOILER REAR
FRONT LOWER BURNER
FRONT MIDDLE BURNER
FRONT UPPER BURNER
REAR MIDDLE BURNER
REAR LOWER BURNER
SAP
OAP
GAH B (2RY AIR)
FURNACE DIFF PRS (R)

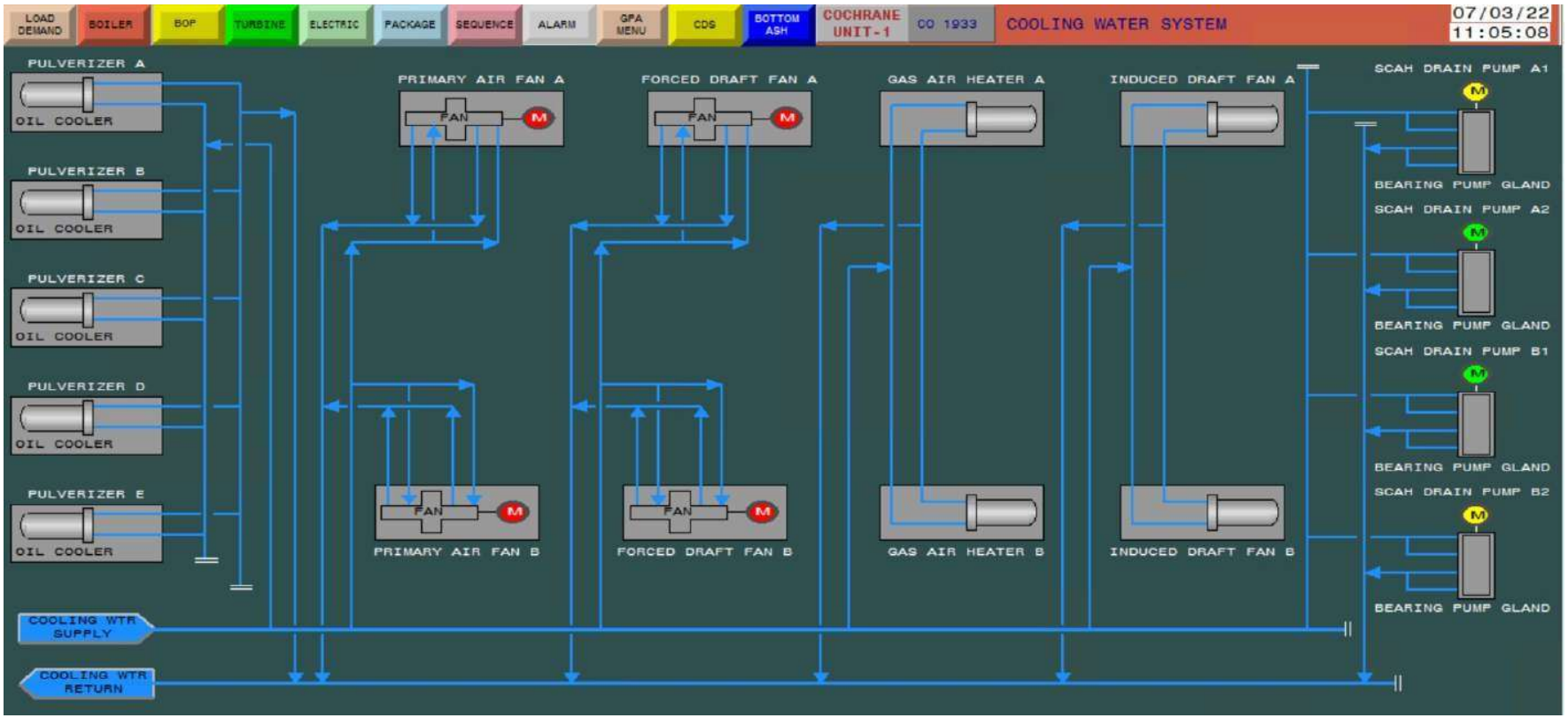

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1928
AIR AND FLUE GAS SYSTEM (4/4)
07/03/22
11:03:15
STEAM DRUM
82.3 °C
-3.0 mbar
-2.3 mbar
-3.0 mbar
4.5 mbar
4.6 mbar
IDF INLET CTRL DAMPER
SECONDARY AIR DUCT (R)
SECONDARY AIR DUCT (L)
RH
PRISH
RH
PRISH
ECO
ECO
C
B
D
A
E

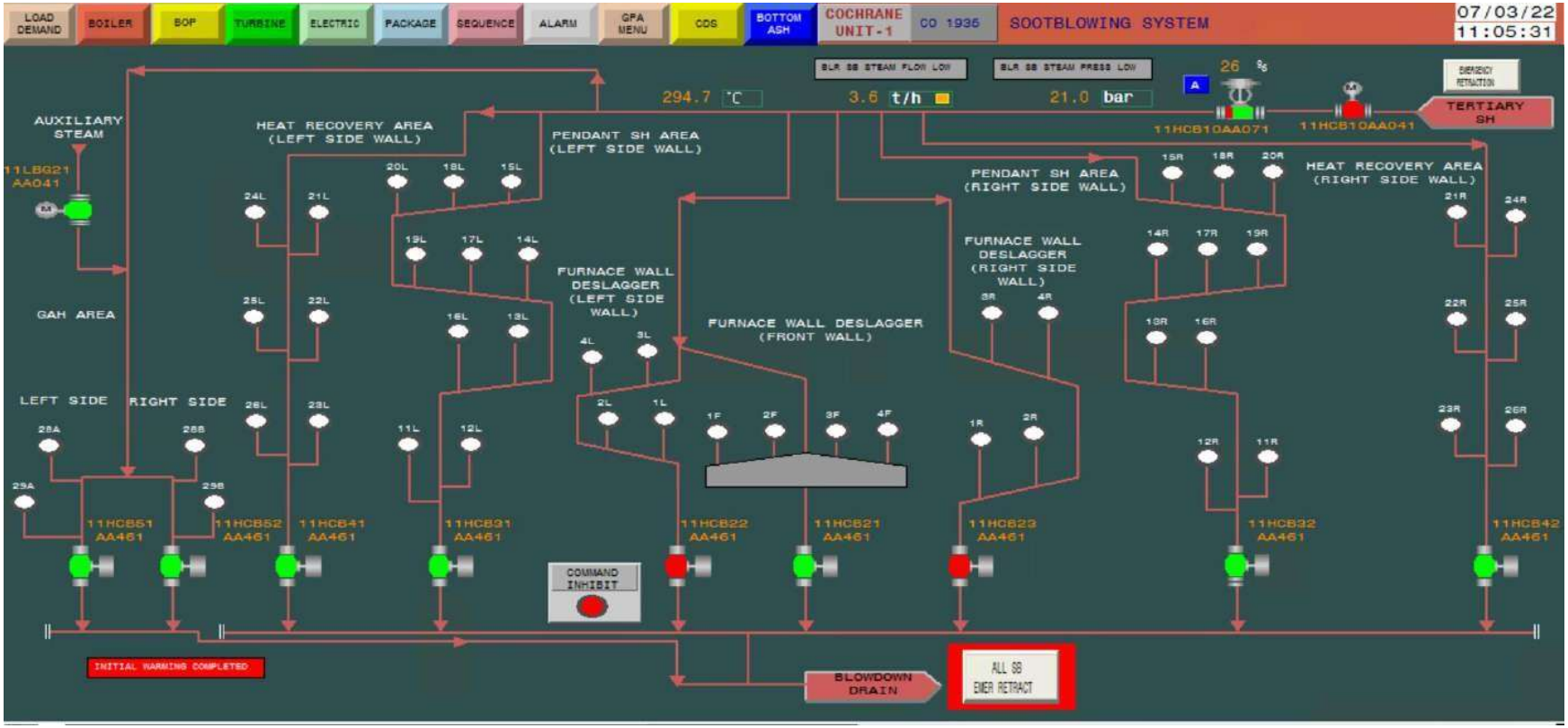

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1929
INSTRUMENT AIR SUPPLY SYSTEM
07/03/22
11:03:38
8.3 BAR
AVG

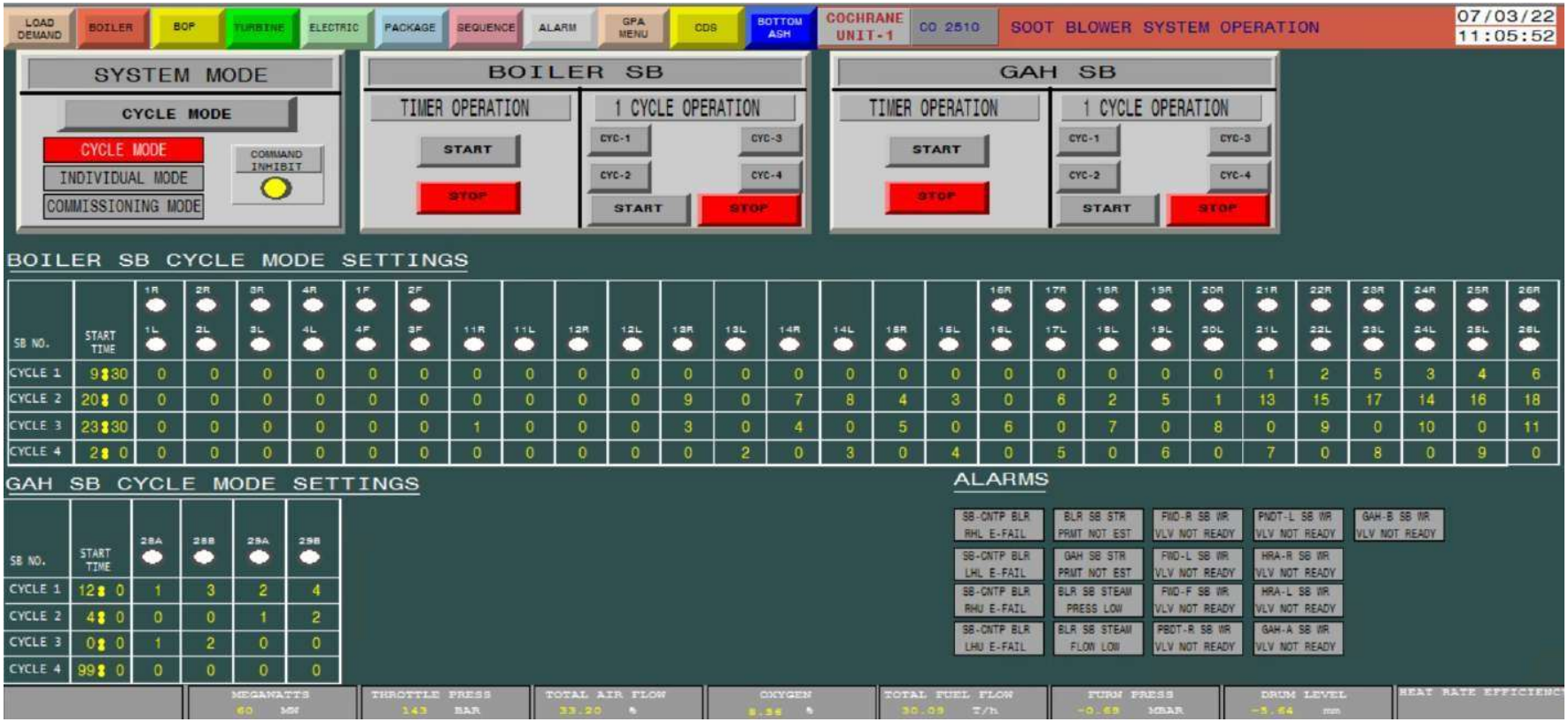

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1930
DRAIN BLOW SYSTEM
07/03/22
11:03:55
BOILER BLWN TANK SILEN
MAIN STEAM START-UP
HRA WALL INLET DRAIN
PRI SH INLET DRAIN
BOILER BLWN TANK SILENC
STEAM DRUM VENT
BOILER AIR VENT
STEAM DRUM
3 %
11HAD10AA442
SERVICE WATER
25 %
11GAC30AA071
BLOWDOWN TANK
90.9 °C
FLASH PIPE
STEAM DRUM
-0 %
11HAD10AA441
FLASH TANK
250.6 mm
DEAERATOR
LEVEL GUAGE DRAIN (L)
LEVEL GUAGE DRAIN (R)
MAIN FEED WATER
FURNACE WALL
PULVERIZER INERT
SOOTBLOWER
AUXILIARY STEAM
SCAH STEAM
BOILER AREA SUMP
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.30 %
OXYGEN
6.60 %
TOTAL FUEL FLOW
30.06 T/h
FURN PRESS
-0.81 MBAR
DRUM LEVEL
-2.10 mm
HEAT RATE EFFICIENCY

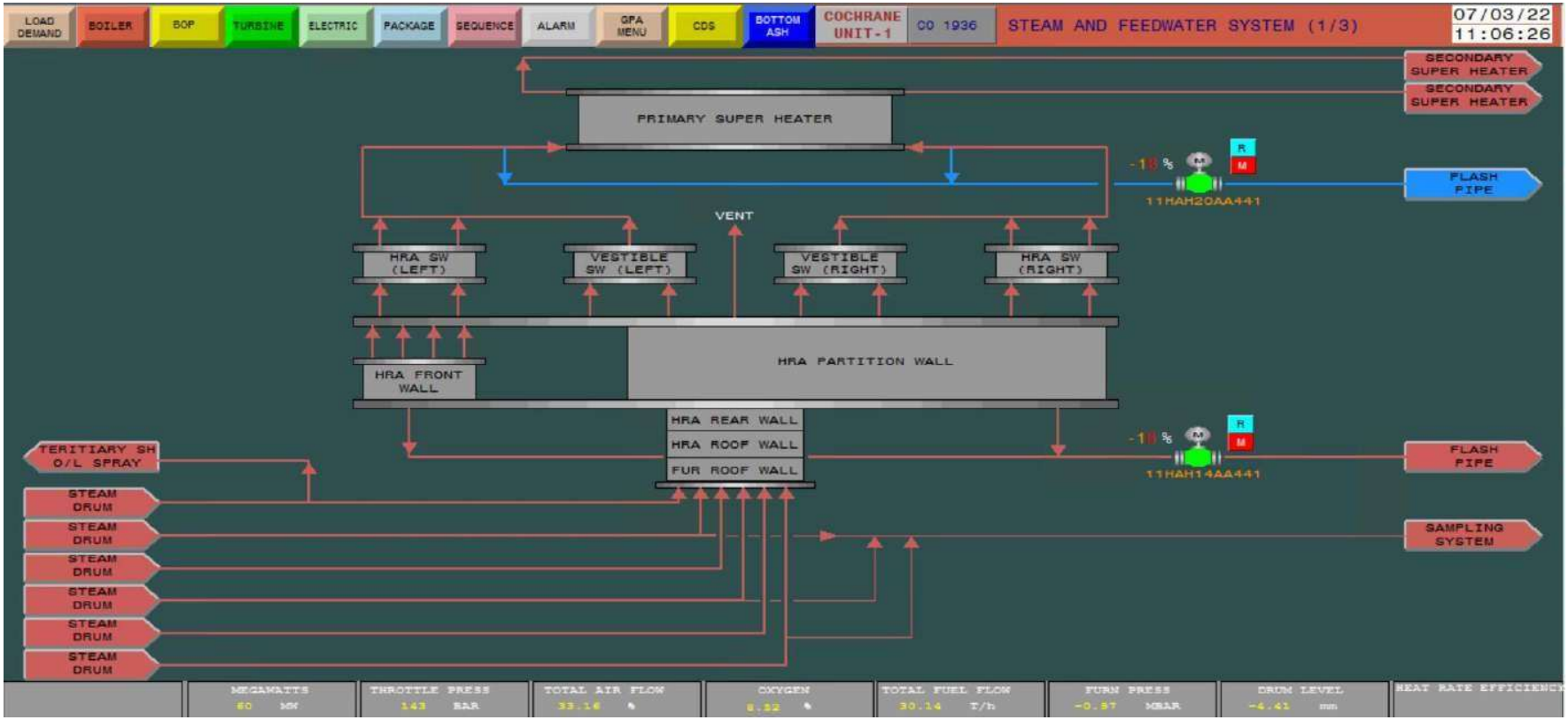

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1931
STATION/COOLING/SEAL AIR SYS1
07/03/22
11:04:21
A-PULV & COAL FEEDER
B-PULV & COAL FEEDER
C-PULV & COAL FEEDER
D-PULV & COAL FEEDER
E-PULV & COAL FEEDER
PULVERIZED FUEL ASPRATE (FRONT)
PULVERIZED FUEL ASPRATE (REAR)
BLR LEFT SIDE
BLR RIGHT SIDE
FL+60400
FL+45800
FL+37300
FL+30400
FL+25800
FL+21900
FL+18000
FL+11000
FL+-0
82.2
8.7 bar
11QEB20AA051
FUR TEMP
38.0
ENTER
FUR GAS TEMP PROBE POSN
0.2
SERVICE AIR HEADER
BNR STATION AIR
SONIC HORN
LOWER LAYER
BOILER LEFT
UPPER LAYER
GAH-A ASH BLOW
GAH-A AIR MOTOR
11QEB52AA043
11QEB53AA043
11QEB52AA042
11QEB53AA042
11QEB52AA041
11QEB53AA041
STOP
START
STOP
GAH-B ASH BLOW
GAH-B AIR MOTOR
11QEB62AA041
11QEB63AA041
11QEB62AA042
11QEB63AA042
11QEB62AA043
11QEB63AA043
BOILER RIGHT

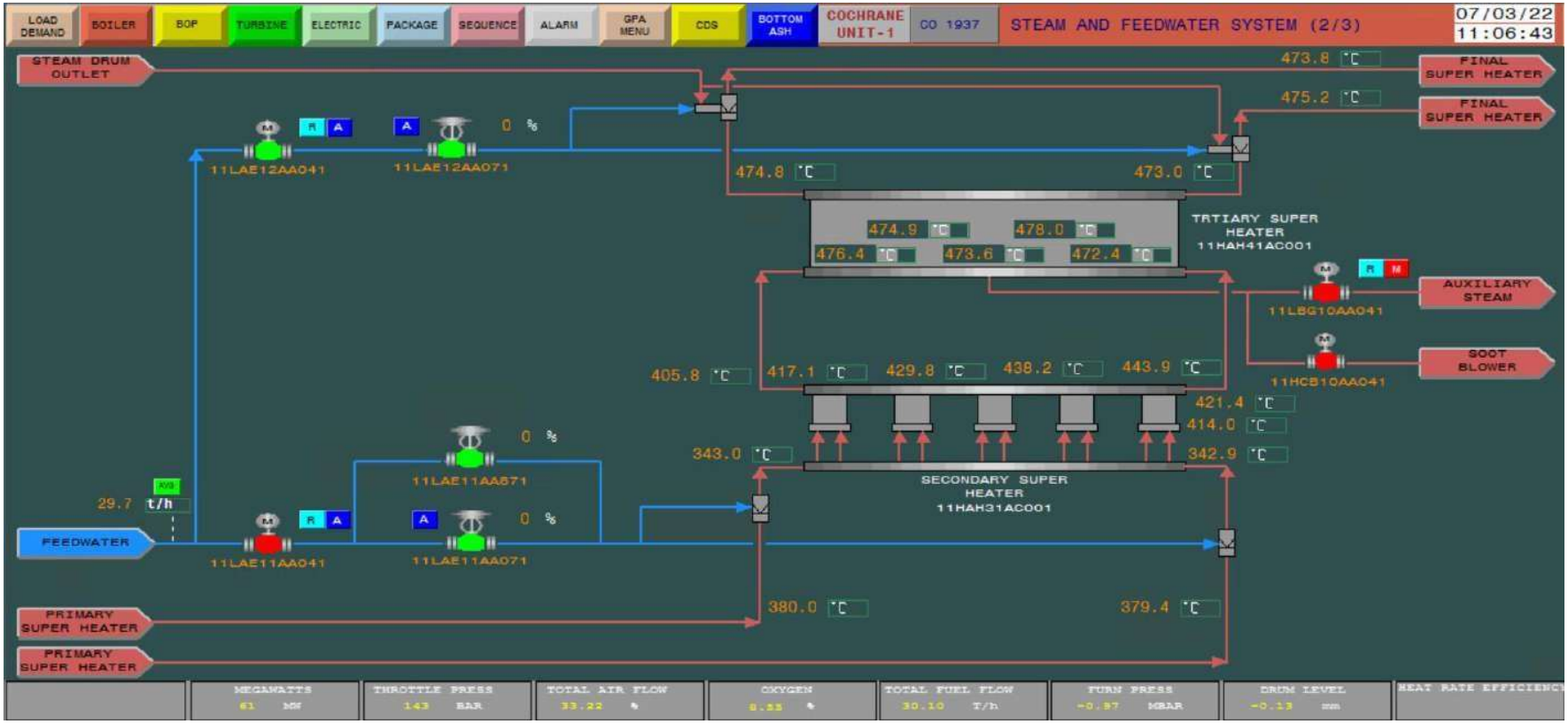

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1932
STATION/COOLING/SEAL AIR SYS2
07/03/22
11:04:42
CCTV (FRONT)
CCTV (REAR)
BURNER-C
BURNER-B
BURNER-D
BURNER-A
BURNER-E
IGNTR SPARK ROD
SB
WD
11HJQ01AN001
77.2 mbar
FLAME DETECTOR SEALING AIR FAN A & B
11HJQ01AN002
FDF COMMON DUCT

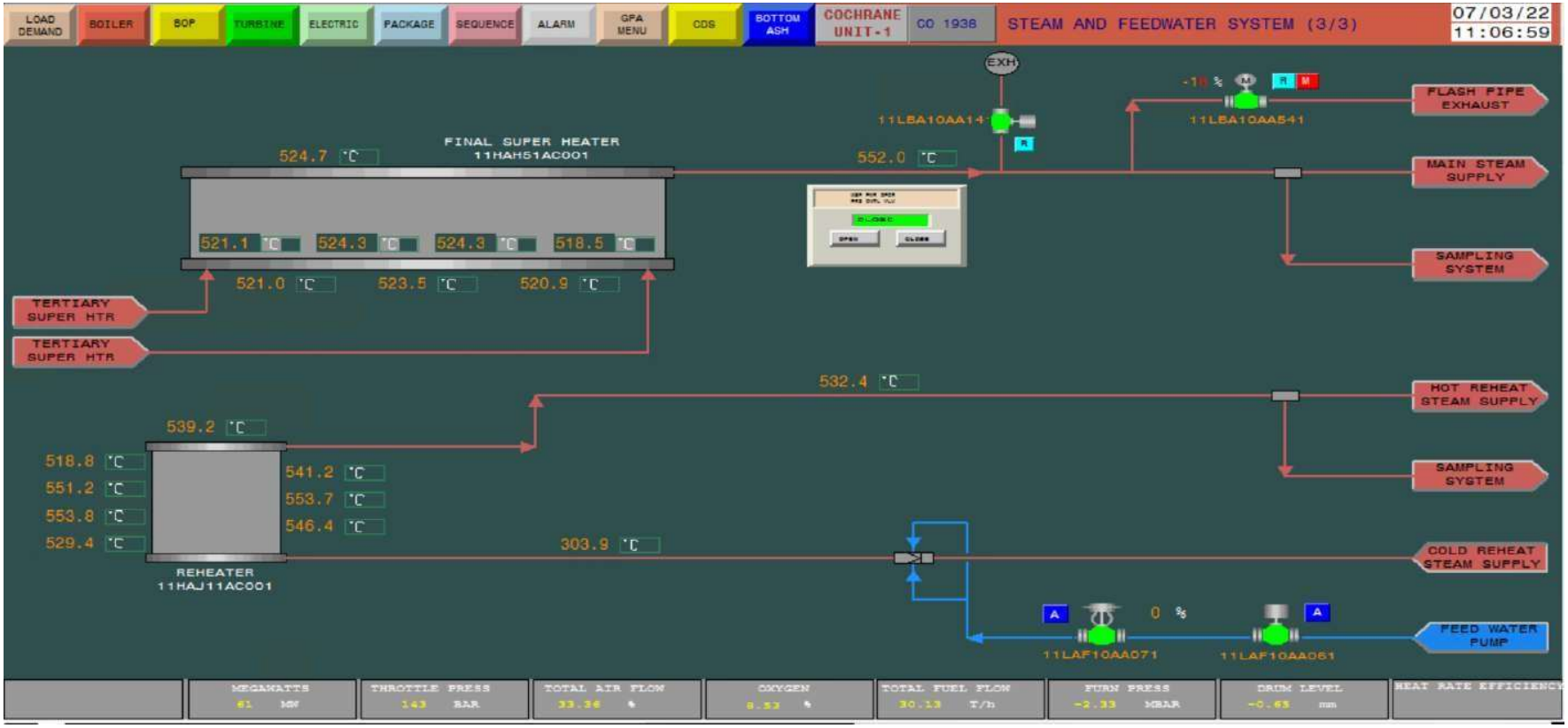

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1933
COOLING WATER SYSTEM
07/03/22
11:05:08
PULVERIZER A
OIL COOLER
PULVERIZER B
OIL COOLER
PULVERIZER C
OIL COOLER
PULVERIZER D
OIL COOLER
PULVERIZER E
OIL COOLER
PRIMARY AIR FAN A
FAN
M
FORCED DRAFT FAN A
FAN
M
GAS AIR HEATER A
INDUCED DRAFT FAN A
SCAH DRAIN PUMP A1
M
BEARING PUMP GLAND
SCAH DRAIN PUMP A2
M
BEARING PUMP GLAND
SCAH DRAIN PUMP B1
M
BEARING PUMP GLAND
SCAH DRAIN PUMP B2
M
BEARING PUMP GLAND
PRIMARY AIR FAN B
FAN
M
FORCED DRAFT FAN B
FAN
M
GAS AIR HEATER B
INDUCED DRAFT FAN B
COOLING WTR SUPPLY
COOLING WTR RETURN

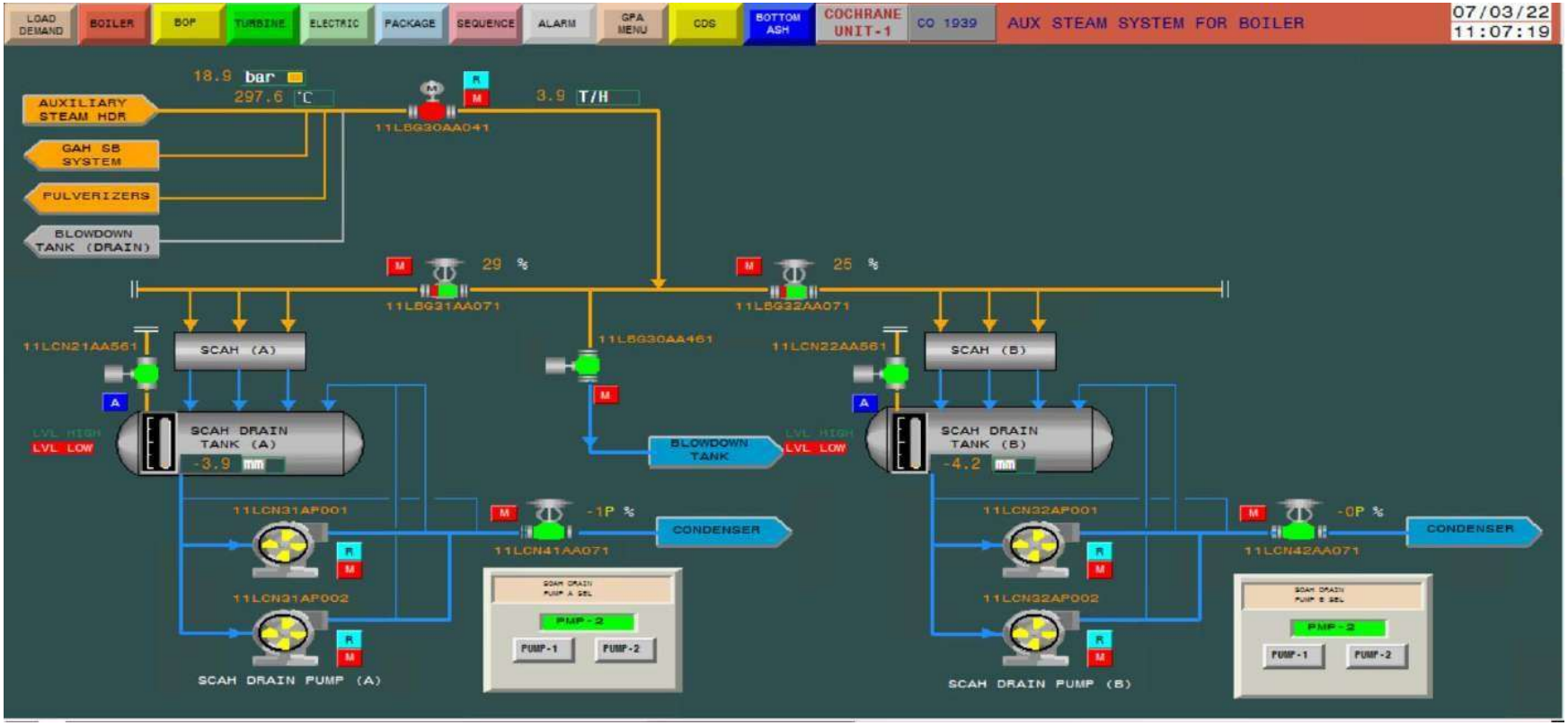

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1936
SOOTBLOWING SYSTEM
07/03/22
11:05:31
294.7 °C
3.6 t/h
21.0 bar
26 %
TERTIARY SH
AUXILIARY STEAM
11LBG21 AA041
HEAT RECOVERY AREA (LEFT SIDE WALL)
PENDANT SH AREA (LEFT SIDE WALL)
PENDANT SH AREA (RIGHT SIDE WALL)
HEAT RECOVERY AREA (RIGHT SIDE WALL)
FURNACE WALL DESLAGGER (LEFT SIDE WALL)
FURNACE WALL DESLAGGER (FRONT WALL)
FURNACE WALL DESLAGGER (RIGHT SIDE WALL)
GAH AREA
LEFT SIDE
RIGHT SIDE
11HCB10AA071
11HCB10AA041
11HCB51 AA461
11HCB52 AA461
11HCB41 AA461
11HCB31 AA461
11HCB22 AA461
11HCB21 AA461
11HCB23 AA461
11HCB32 AA461
11HCB42 AA461
COMMAND INHIBIT
INITIAL WARMING COMPLETED
BLOWDOWN DRAIN
ALL SB EMER RETRACT

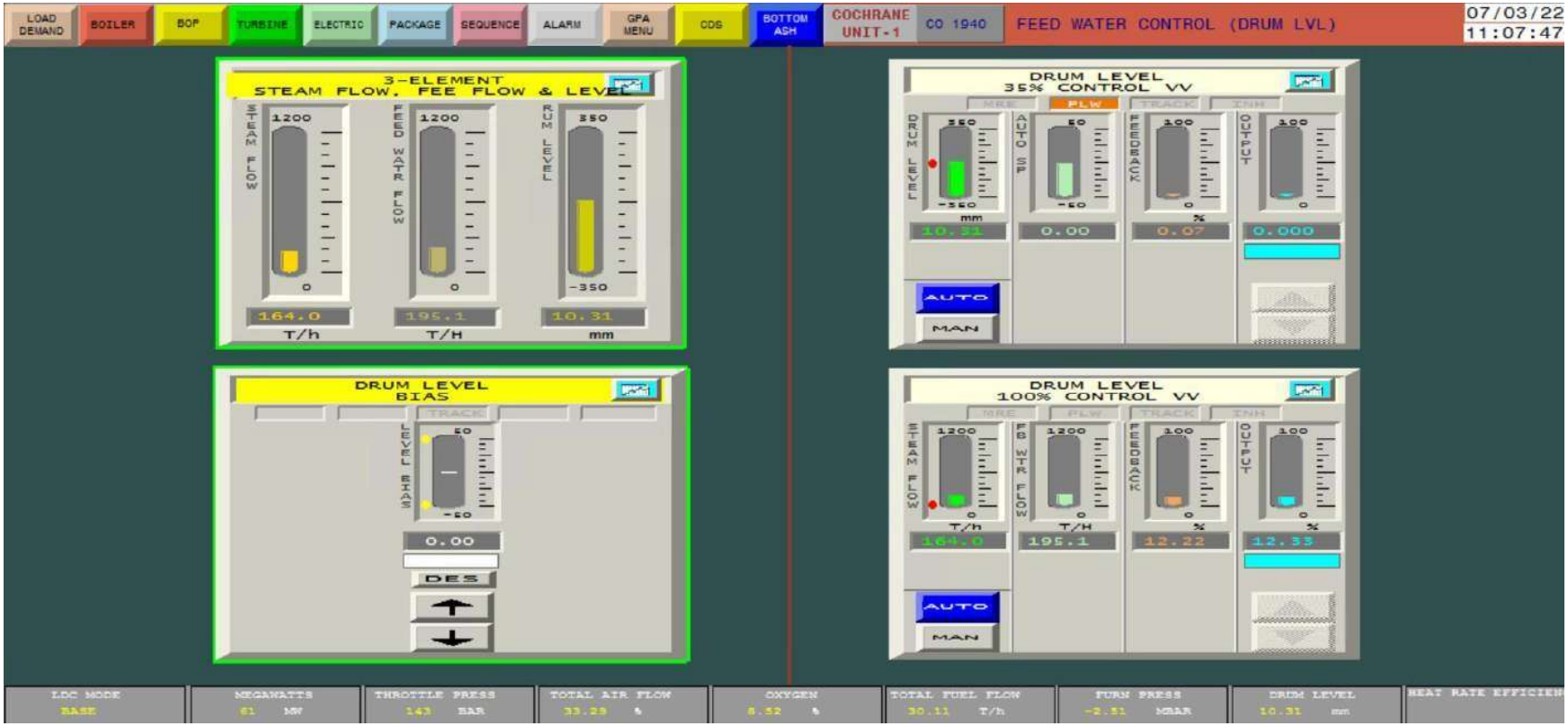

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2510
SOOT BLOWER SYSTEM OPERATION
07/03/22
11:05:52
SYSTEM MODE
CYCLE MODE
CYCLE MODE
INDIVIDUAL MODE
COMMISSIONING MODE
COMMAND INHIBIT
BOILER SB
TIMER OPERATION
START
STOP
1 CYCLE OPERATION
CYC-1
CYC-2
CYC-3
CYC-4
START
STOP
GAH SB
TIMER OPERATION
START
STOP
1 CYCLE OPERATION
CYC-1
CYC-2
CYC-3
CYC-4
START
STOP
BOILER SB CYCLE MODE SETTINGS
SB NO.
START TIME
1R 1L 2R 2L 3R 3L 4R 4L 1F 4F 2F 3F 11R 11L 12R 12L 13R 13L 14R 14L 15R 15L 16R 16L 17R 17L 18R 18L 19R 19L 20R 20L 21R 21L 22R 22L 23R 23L 24R 24L 25R 25L 26R 26L
CYCLE 1 9:30 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 2 5 3 4 6
CYCLE 2 20: 0 0 0 0 0 0 0 0 0 0 0 0 9 0 7 8 4 3 0 6 2 5 1 13 15 17 14 16 18
CYCLE 3 23:30 0 0 0 0 0 0 1 0 0 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0 10 0 11
CYCLE 4 2: 0 0 0 0 0 0 0 0 0 0 0 0 2 0 3 0 4 0 5 0 6 0 7 0 8 0 9 0
GAH SB CYCLE MODE SETTINGS
SB NO.
START TIME
28A 28B 29A 29B
CYCLE 1 12: 0 1 3 2 4
CYCLE 2 4: 0 0 0 1 2
CYCLE 3 0: 0 1 2 0 0
CYCLE 4 99: 0 0 0 0 0
ALARMS
SB-CNTR BLR RHL E-FAIL
BLR SB STR PRMT NOT EST
FWD-R SB WR VLV NOT READY
PNDT-L SB WR VLV NOT READY
GAH-B SB WR VLV NOT READY
SB-CNTR BLR LHL E-FAIL
GAH SB STR PRMT NOT EST
FWD-L SB WR VLV NOT READY
HRA-R SB WR VLV NOT READY
SB-CNTR BLR RHU E-FAIL
BLR SB STEAM PRESS LOW
FWD-F SB WR VLV NOT READY
HRA-L SB WR VLV NOT READY
SB-CNTR BLR LHU E-FAIL
BLR SB STEAM FLOW LOW
PBDT-R SB WR VLV NOT READY
GAH-A SB WR VLV NOT READY
MEGAWATTS 60 MW
THROTTLE PRESS 143 BAR
TOTAL AIR FLOW 33.20 %
OXYGEN 8.36 %
TOTAL FUEL FLOW 30.09 T/h
FURN PRESS -0.65 MBAR
DRUM LEVEL -5.64 mm
HEAT RATE EFFICIENCY

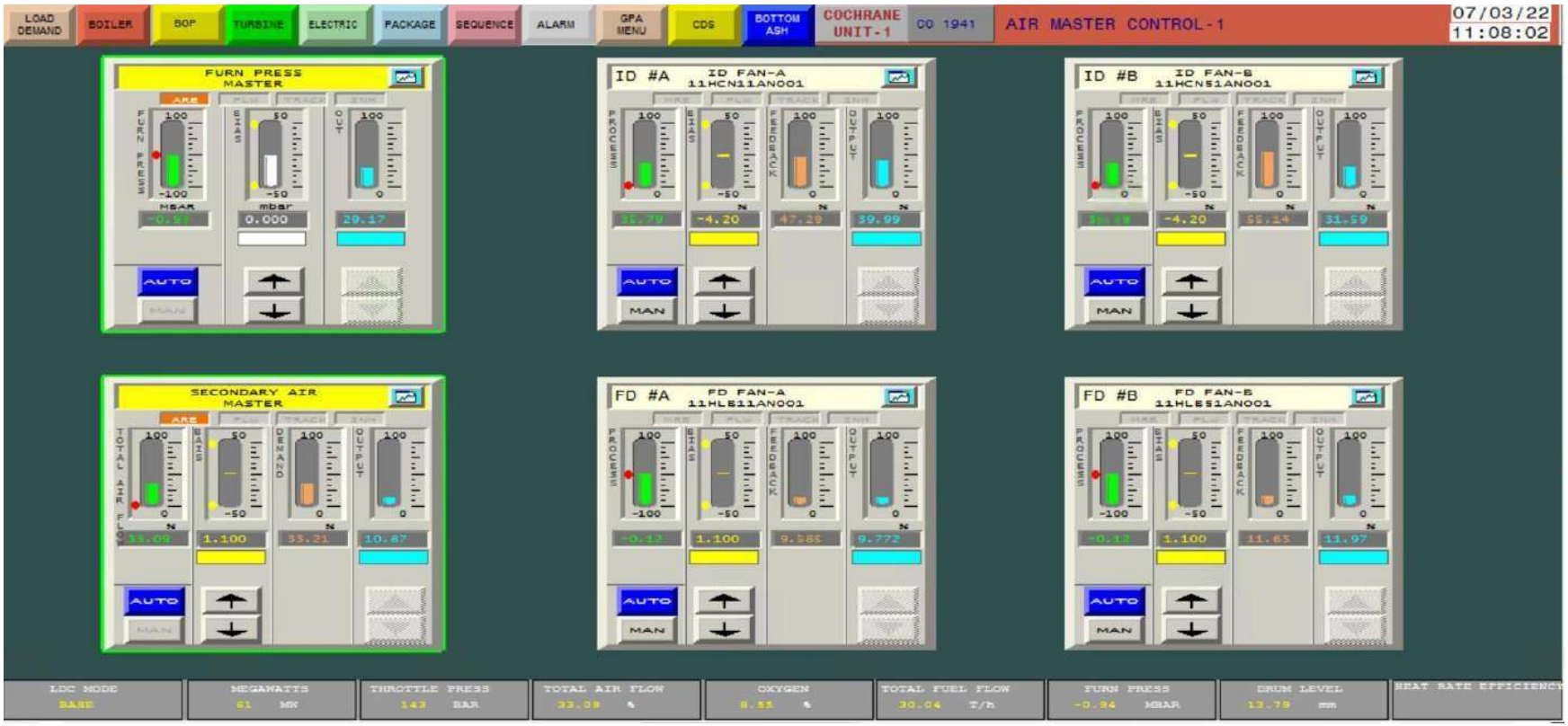

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1936
STEAM AND FEEDWATER SYSTEM (1/3)
07/03/22
11:06:26
SECONDARY SUPER HEATER
SECONDARY SUPER HEATER
PRIMARY SUPER HEATER
-10 %
11HAH20AA441
FLASH PIPE
VENT
HRA SW (LEFT)
VESTIBLE SW (LEFT)
VESTIBLE SW (RIGHT)
HRA SW (RIGHT)
HRA PARTITION WALL
HRA FRONT WALL
HRA REAR WALL
HRA ROOF WALL
FUR ROOF WALL
-10 %
11HAH14AA441
FLASH PIPE
TERITIARY SH O/L SPRAY
STEAM DRUM
STEAM DRUM
STEAM DRUM
STEAM DRUM
STEAM DRUM
STEAM DRUM
SAMPLING SYSTEM
MEGAWATTS
60 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.16 %
OXYGEN
8.52 %
TOTAL FUEL FLOW
30.14 T/h
FURN PRESS
-0.97 MBAR
DRUM LEVEL
-4.41 mm
HEAT RATE EFFICIENCY

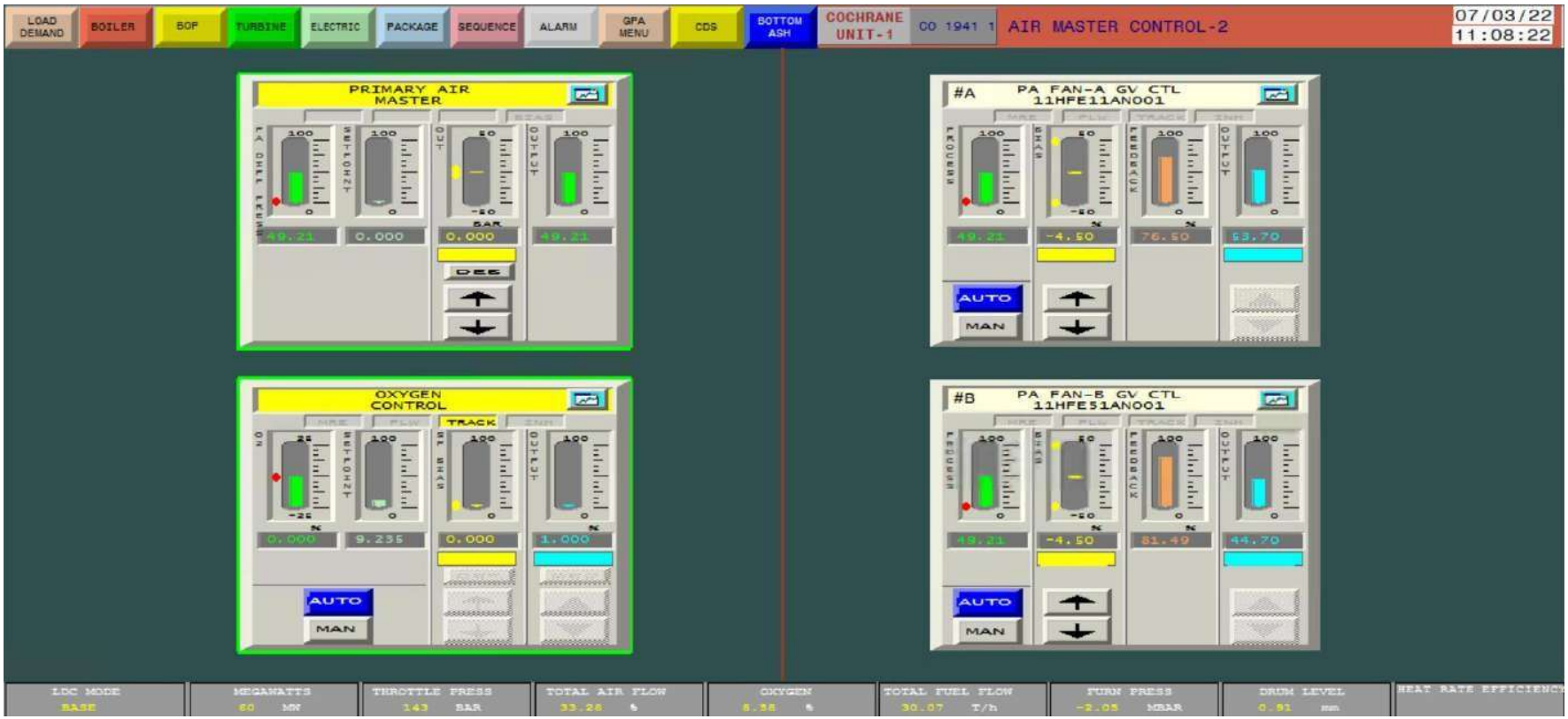

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1937
STEAM AND FEEDWATER SYSTEM (2/3)
07/03/22
11:06:43
STEAM DRUM OUTLET
473.8 °C
FINAL SUPER HEATER
475.2 °C
FINAL SUPER HEATER
11LAE12AA041
11LAE12AA071
0 %
474.8 °C
473.0 °C
TRTIARY SUPER HEATER
11HAH41AC001
474.9 °C
478.0 °C
476.4 °C
473.6 °C
472.4 °C
11LBG10AA041
AUXILIARY STEAM
11HCB10AA041
SOOT BLOWER
405.8 °C
417.1 °C
429.8 °C
438.2 °C
443.9 °C
421.4 °C
414.0 °C
342.9 °C
343.0 °C
SECONDARY SUPER HEATER
11HAH31AC001
11LAE11AA871
0 %
29.7 t/h
FEEDWATER
11LAE11AA041
11LAE11AA071
0 %
380.0 °C
379.4 °C
PRIMARY SUPER HEATER
PRIMARY SUPER HEATER
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.22 %
OXYGEN
8.55 %
TOTAL FUEL FLOW
30.10 T/h
FURN PRESS
-0.97 MBAR
DRUM LEVEL
-0.13 mm
HEAT RATE EFFICIENCY

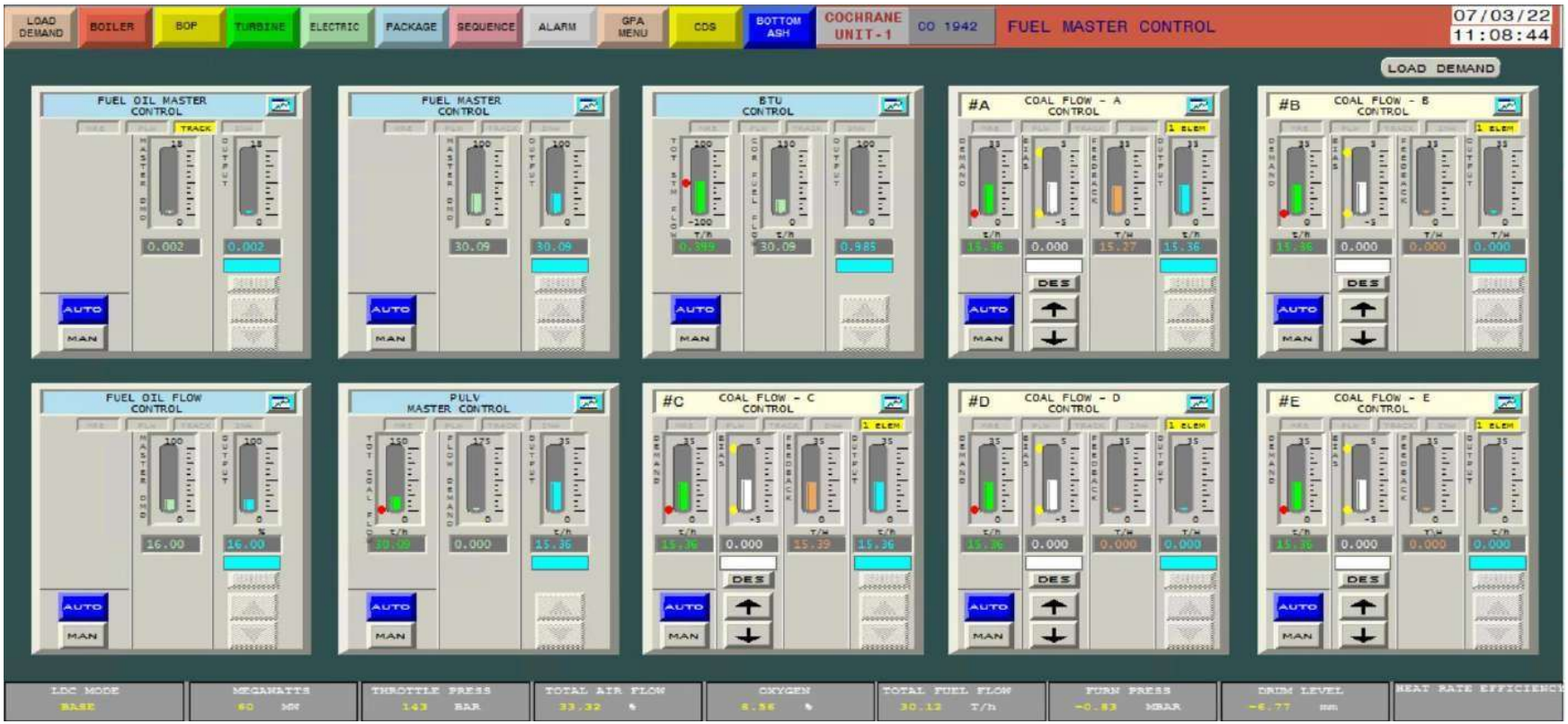

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1938
STEAM AND FEEDWATER SYSTEM (3/3)
07/03/22
11:06:59
EXH
11LBA10AA14
11LBA10AA541
FLASH PIPE EXHAUST
MAIN STEAM SUPPLY
SAMPLING SYSTEM
FINAL SUPER HEATER
11HAH51AC001
524.7 °C
552.0 °C
521.1 °C
524.3 °C
524.3 °C
518.5 °C
521.0 °C
523.5 °C
520.9 °C
TERTIARY SUPER HTR
TERTIARY SUPER HTR
532.4 °C
HOT REHEAT STEAM SUPPLY
SAMPLING SYSTEM
539.2 °C
518.8 °C
551.2 °C
553.8 °C
529.4 °C
541.2 °C
553.7 °C
546.4 °C
303.9 °C
REHEATER
11HAJ11AC001
COLD REHEAT STEAM SUPPLY
0 %
11LAF10AA071
11LAF10AA061
FEED WATER PUMP
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.36 %
OXYGEN
8.53 %
TOTAL FUEL FLOW
30.13 T/h
FURN PRESS
-2.33 MBAR
DRUM LEVEL
-0.65 mm
HEAT RATE EFFICIENCY

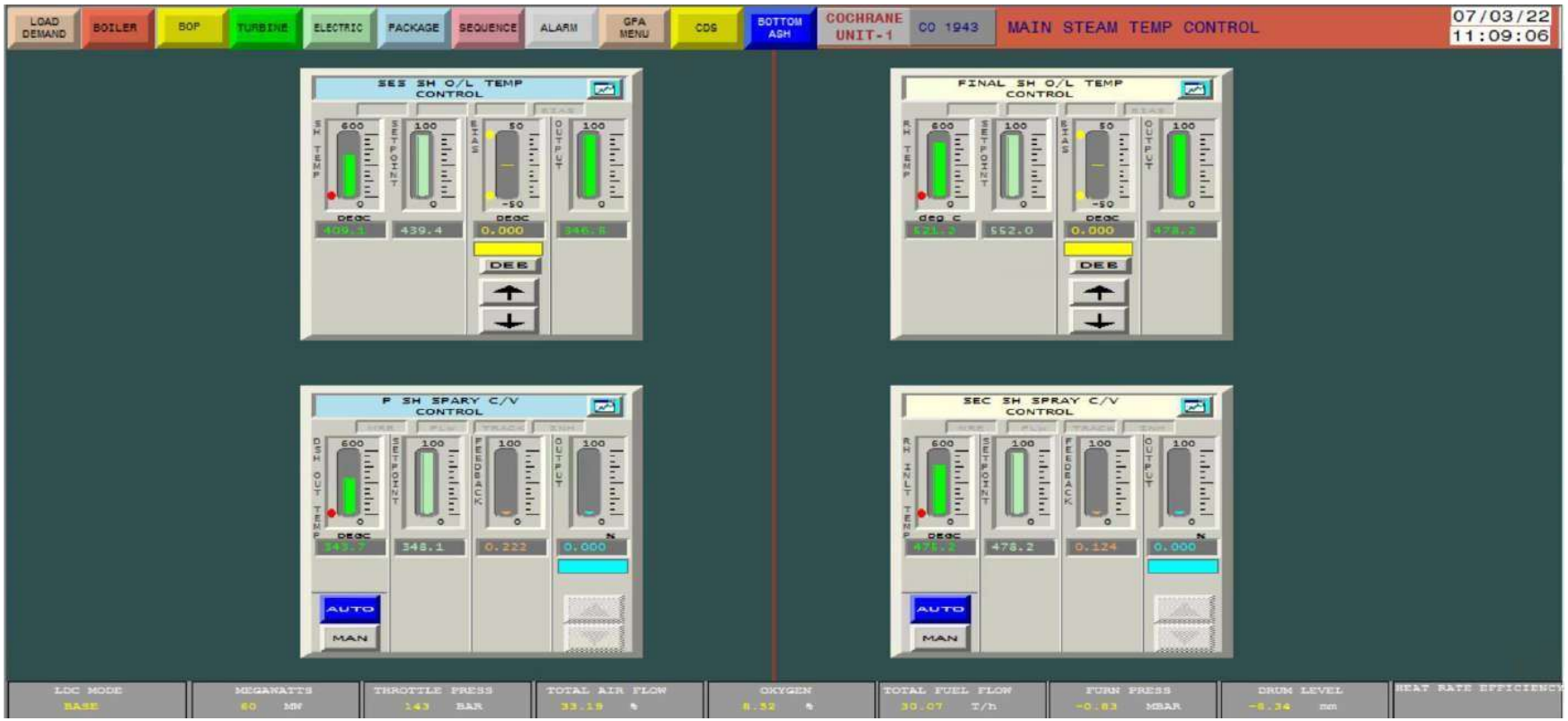

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1939
AUX STEAM SYSTEM FOR BOILER
07/03/22
11:07:19
18.9 bar
297.6 °C
3.9 T/H
AUXILIARY STEAM HDR
GAH SB SYSTEM
PULVERIZERS
BLOWDOWN TANK (DRAIN)
11LBG30AA041
29 %
25 %
11LBG31AA071
11LBG32AA071
11LBG30AA461
11LCN21AA561
11LCN22AA561
SCAH (A)
SCAH (B)
SCAH DRAIN TANK (A)
-3.9 mm
SCAH DRAIN TANK (B)
-4.2 mm
LVL HIGH
LVL LOW
BLOWDOWN TANK
11LCN31AP001
11LCN31AP002
11LCN32AP001
11LCN32AP002
-1P %
-0P %
11LCN41AA071
11LCN42AA071
CONDENSER
SCAH DRAIN PUMP (A)
SCAH DRAIN PUMP (B)
PUMP-1
PUMP-2


LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1940
FEED WATER CONTROL (DRUM LVL)
07/03/22
11:07:47
3-ELEMENT
STEAM FLOW, FEE FLOW & LEVEL
STEAM FLOW
FEED WATR FLOW
DRUM LEVEL
1200
350
0
-350
164.0
T/h
195.1
T/H
10.31
mm
DRUM LEVEL
35% CONTROL VV
MRE
PLW
TRACK
INH
DRUM LEVEL
AUTO SP
FEEDBACK
OUTPUT
-350
mm
-50
%
10.31
0.00
0.07
0.000
AUTO
MAN
DRUM LEVEL
BIAS
TRACK
LEVEL BIAS
50
-50
0.00
DES
DRUM LEVEL
100% CONTROL VV
MRE
PLW
TRACK
INH
STEAM FLOW
FD WTR FLOW
FEEDBACK
OUTPUT
T/h
T/H
%
164.0
195.1
12.22
12.33
AUTO
MAN
LDC MODE
BASE
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.25 %
OXYGEN
8.52 %
TOTAL FUEL FLOW
30.11 T/h
FURN PRESS
-2.51 MBAR
DRUM LEVEL
10.31 mm
HEAT RATE EFFICIEN

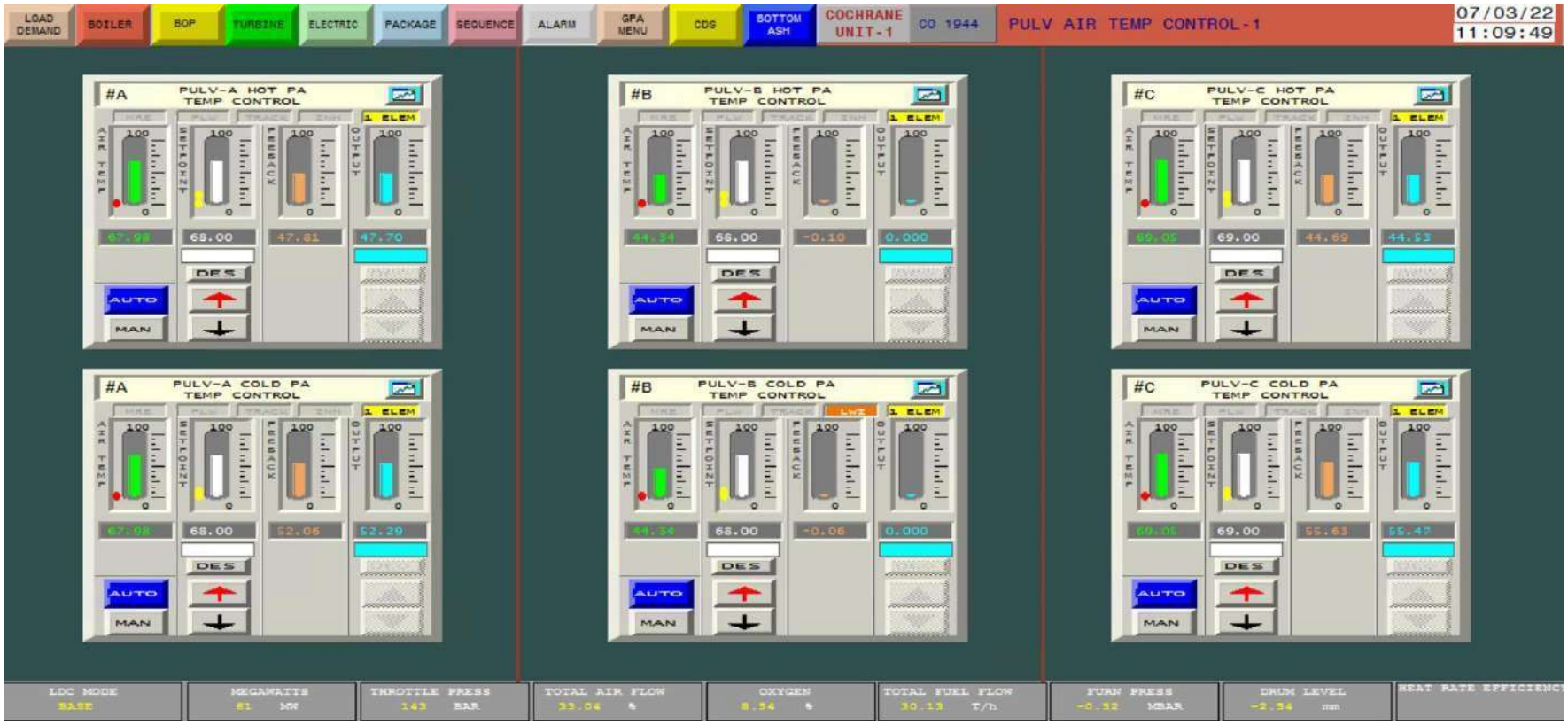

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1941
AIR MASTER CONTROL-1
07/03/22
11:08:02
FURN PRESS MASTER
ID #A
ID FAN-A
11HCN11AN001
ID #B
ID FAN-B
11HCN51AN001
SECONDARY AIR MASTER
FD #A
FD FAN-A
11HLS11AN001
FD #B
FD FAN-B
11HLS51AN001
AUTO
MAN
LDC MODE
BASE
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.09 %
OXYGEN
8.55 %
TOTAL FUEL FLOW
30.04 T/h
FURN PRESS
-0.94 MBAR
DRUM LEVEL
13.79 mm
HEAT RATE EFFICIENCY

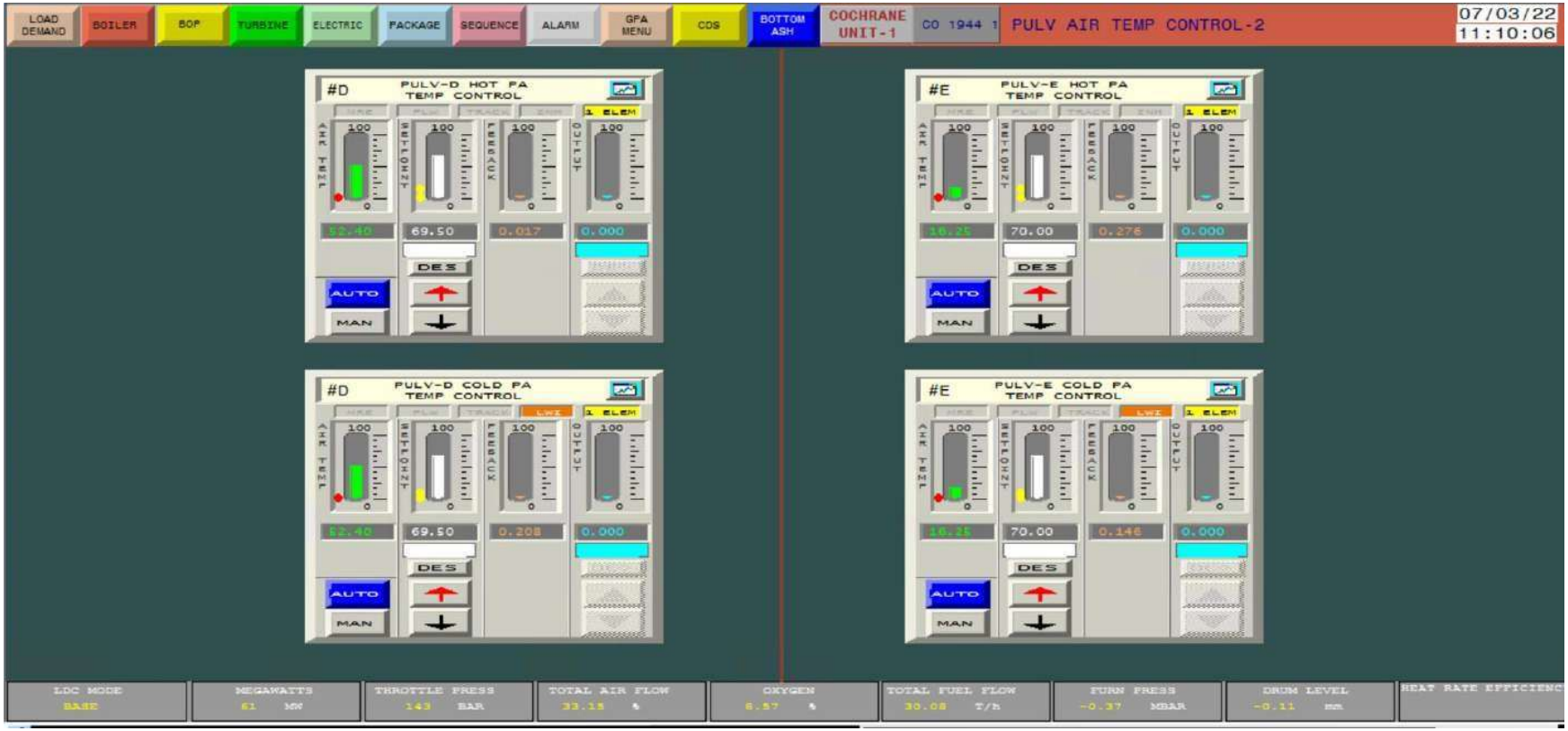

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1941 1
AIR MASTER CONTROL-2
07/03/22
11:08:22
PRIMARY AIR MASTER
OXYGEN CONTROL
TRACK
#A PA FAN-A GV CTL 11HFE11AN001
#B PA FAN-B GV CTL 11HFE51AN001
AUTO
MAN
LDC MODE
BASE
MEGAWATTS
60 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.28 %
OXYGEN
8.58 %
TOTAL FUEL FLOW
30.07 T/h
FURN PRESS
-2.05 MBAR
DRUM LEVEL
0.91 mm
HEAT RATE EFFICIENCY


LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1942
FUEL MASTER CONTROL
07/03/22
11:08:44
LOAD DEMAND
FUEL OIL MASTER CONTROL
FUEL MASTER CONTROL
BTU CONTROL
#A COAL FLOW - A CONTROL
#B COAL FLOW - B CONTROL
FUEL OIL FLOW CONTROL
PULV MASTER CONTROL
#C COAL FLOW - C CONTROL
#D COAL FLOW - D CONTROL
#E COAL FLOW - E CONTROL
AUTO
MAN
DES
LDC MODE
BASE
MEGAWATTS
60 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.32 %
OXYGEN
6.56 %
TOTAL FUEL FLOW
30.12 T/h
FURN PRESS
-0.83 MBAR
DRUM LEVEL
-6.77 mm
HEAT RATE EFFICIENCY

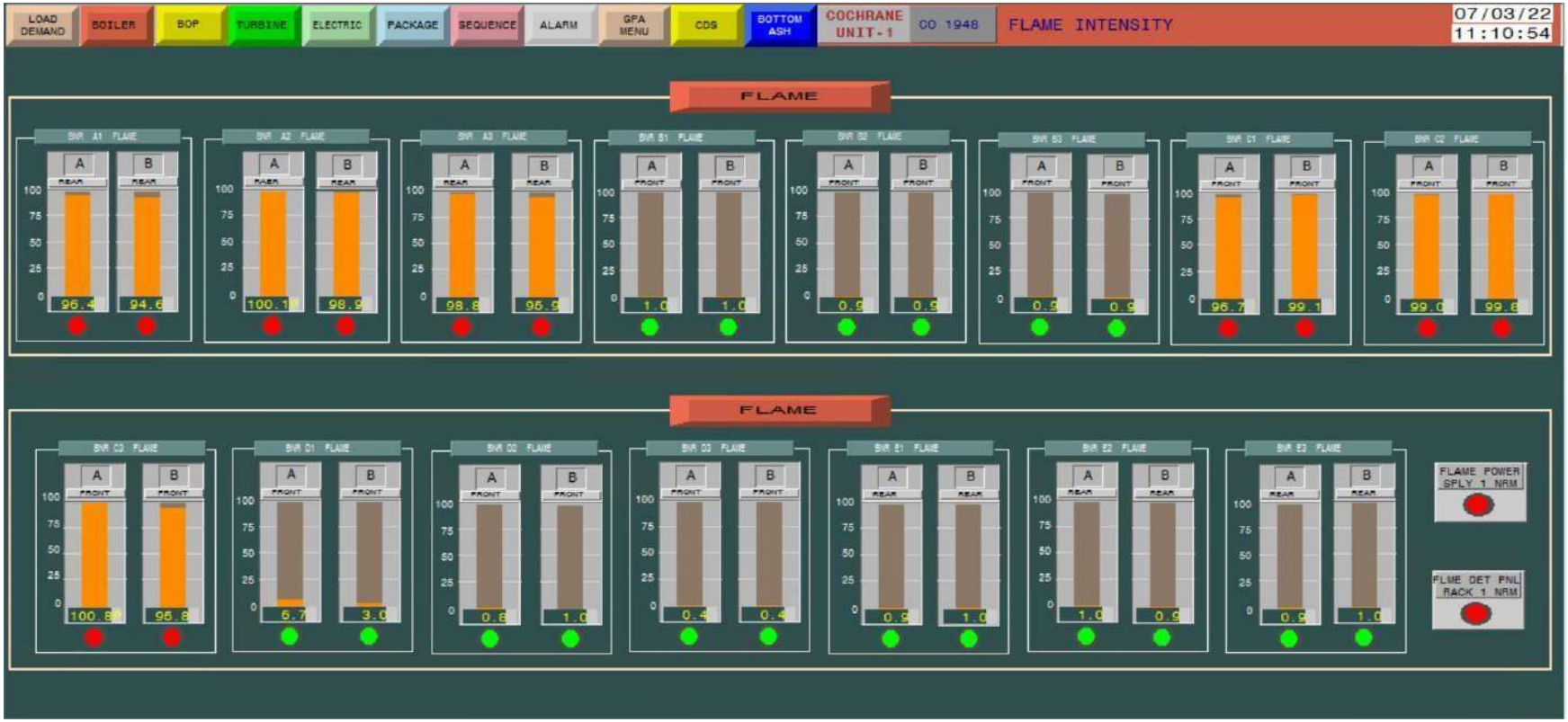

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1943
MAIN STEAM TEMP CONTROL
07/03/22
11:09:06
SES SH O/L TEMP CONTROL
FINAL SH O/L TEMP CONTROL
P SH SPARY C/V CONTROL
SEC SH SPRAY C/V CONTROL
AUTO
MAN
LDC MODE
BASE
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

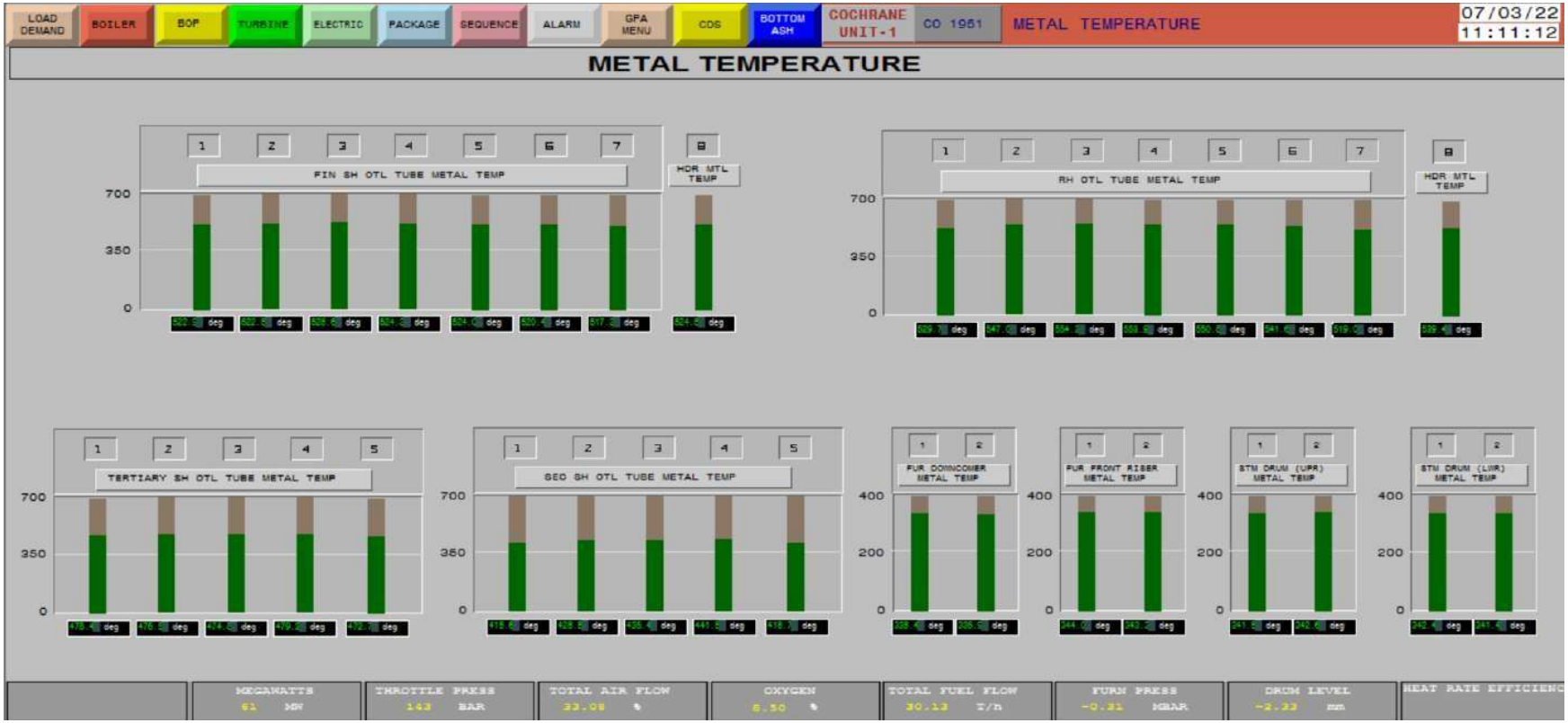

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1943-2
RH OUTLET STEAM TEMP CONTROL
07/03/22
11:09:27
RH O/L TEMP CONTROL RH/SH GAS DAMPER
RH O/L TEMP CONTROL RH SPRAY C/V
RH GAS DAMPER B SIDE CONTROL
RH/SH GAS DAMPER POSITION BIAS
SH GAS DAMPER A SIDE CONTROL
SH GAS DAMPER B SIDE CONTROL
RH O/L TEMP CONTROL RH SPRAY C/V
AUTO
MAN
DES
LDC MODE
BASE
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENC

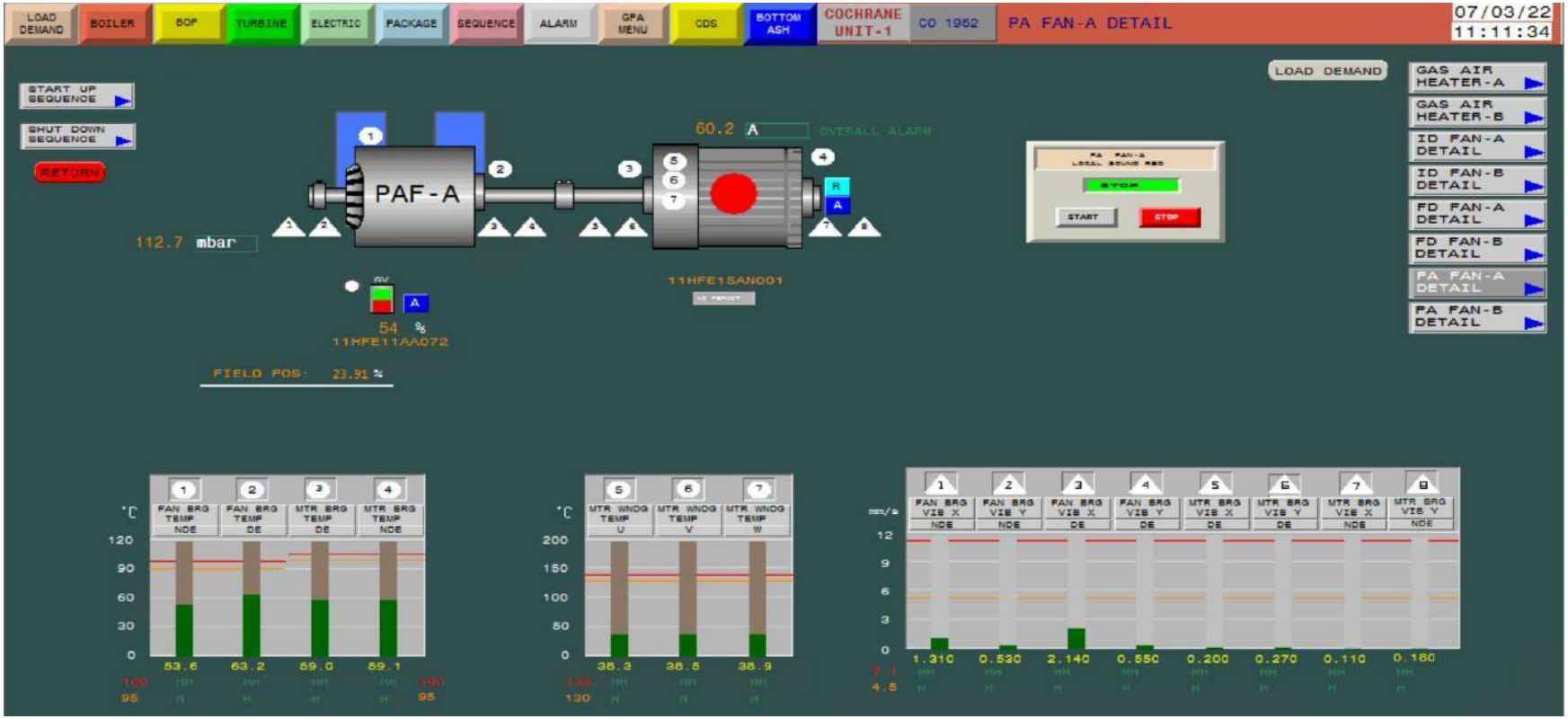

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1944
PULV AIR TEMP CONTROL-1
07/03/22
11:09:49
#A PULV-A HOT PA TEMP CONTROL
#B PULV-B HOT PA TEMP CONTROL
#C PULV-C HOT PA TEMP CONTROL
#A PULV-A COLD PA TEMP CONTROL
#B PULV-B COLD PA TEMP CONTROL
#C PULV-C COLD PA TEMP CONTROL
AUTO
MAN
DES
LDC MODE
BASE
MEGAWATTS
81 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.04 %
OXYGEN
8.54 %
TOTAL FUEL FLOW
30.13 T/h
FURN PRESS
-0.52 MBAR
DRUM LEVEL
-2.54 mm
HEAT RATE EFFICIENCY

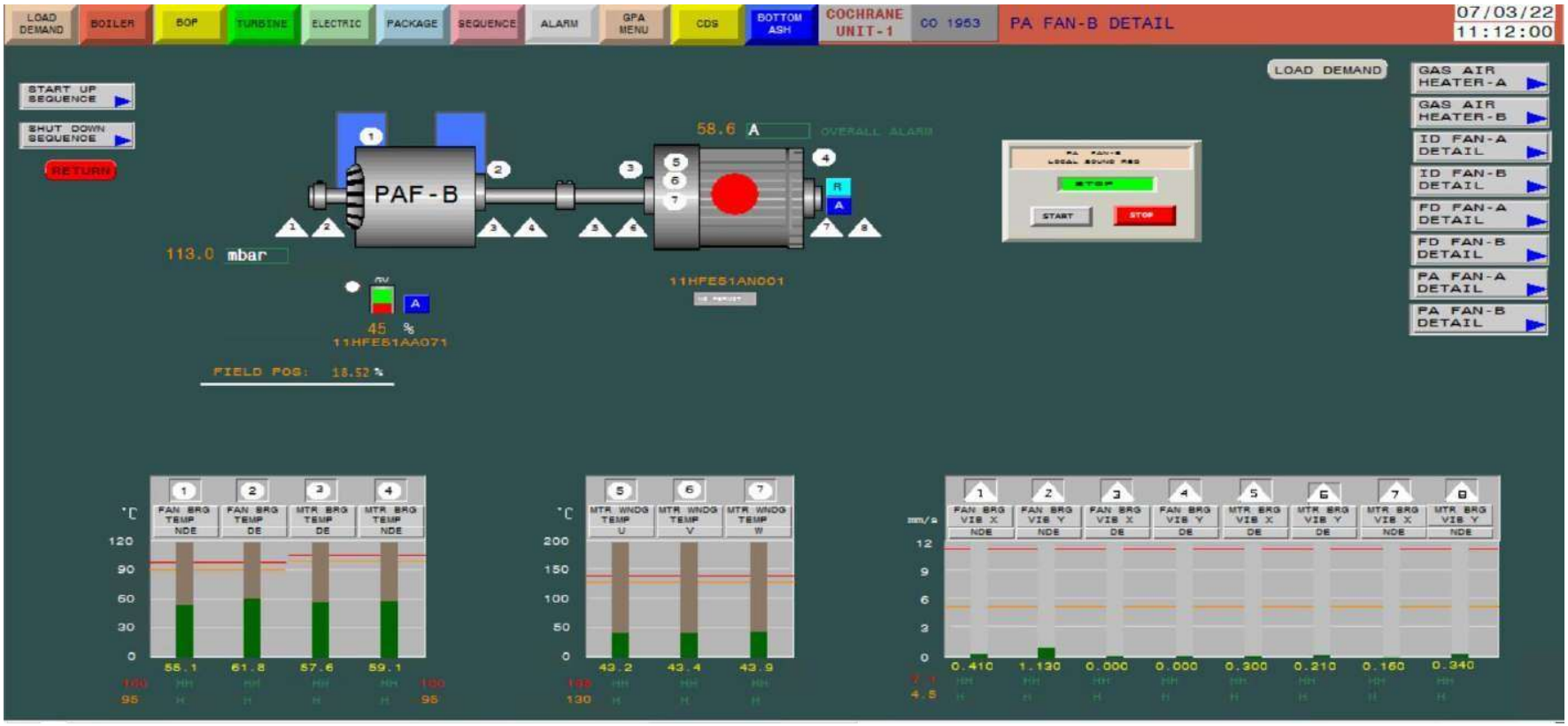

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1944 1
PULV AIR TEMP CONTROL-2
07/03/22
11:10:06
#D
PULV-D HOT PA TEMP CONTROL
#E
PULV-E HOT PA TEMP CONTROL
#D
PULV-D COLD PA TEMP CONTROL
#E
PULV-E COLD PA TEMP CONTROL
AUTO
MAN
DES
LDC MODE
BASE
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.15 %
OXYGEN
6.57 %
TOTAL FUEL FLOW
30.08 T/h
FURN PRESS
-0.37 MBAR
DRUM LEVEL
-0.11 mm
HEAT RATE EFFICIENC

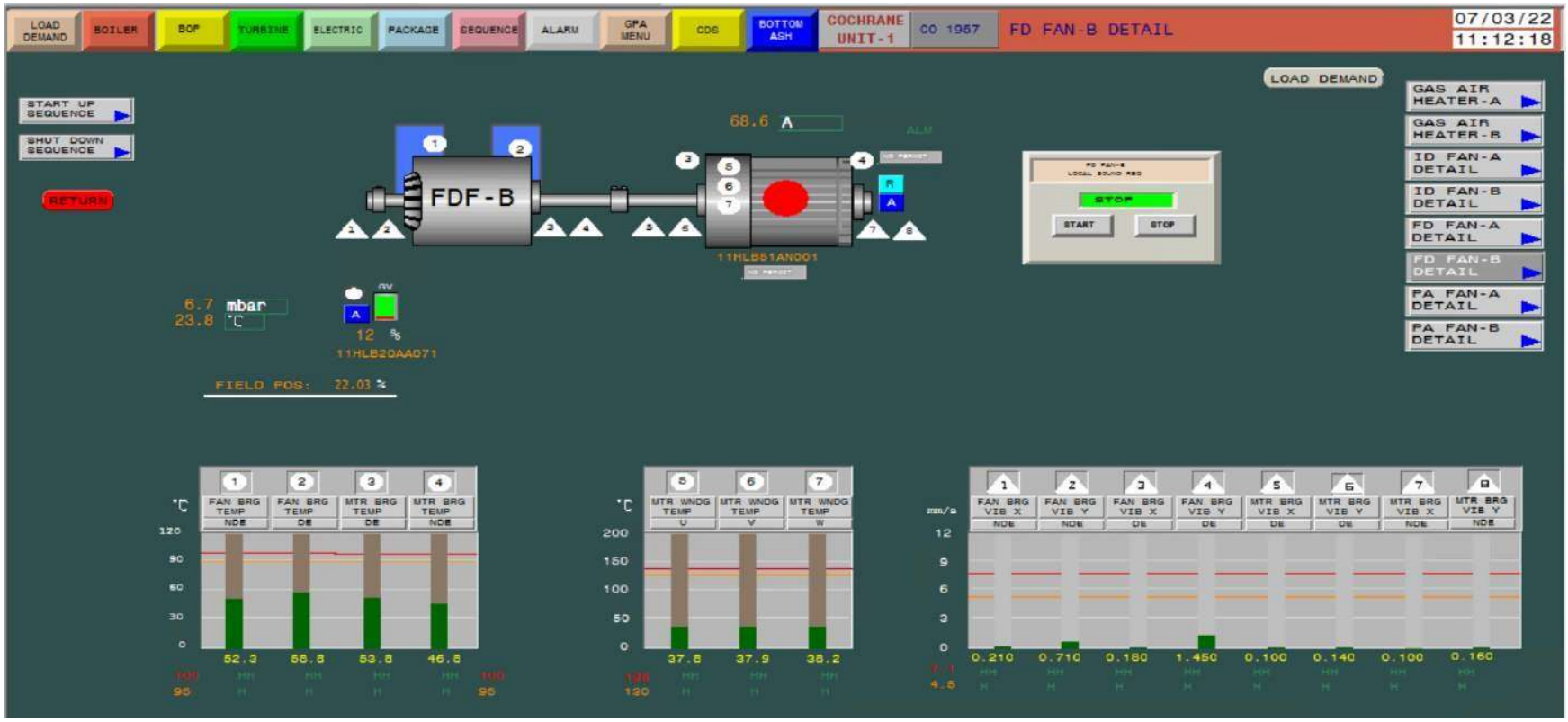

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1947
PULV MOTOR BRG & WIDING TEMP
07/03/22
11:10:30
PULVERIZER -A
32.7
29.2
45.4
45.9
45.4
PULVERIZER -B
24.4
27.7
33.3
33.4
33.1
PULVERIZER -C
33.7
29.2
45.6
46.1
46.3
PULVERIZER -D
29.5
23.9
27.0
27.1
27.2
PULVERIZER -E
22.4
15.7
17.5
17.5
17.0
COAL -A- ELEVATION
COAL -B- ELEVATION
COAL -C- ELEVATION
COAL -D- ELEVATION
COAL -E- ELEVATION

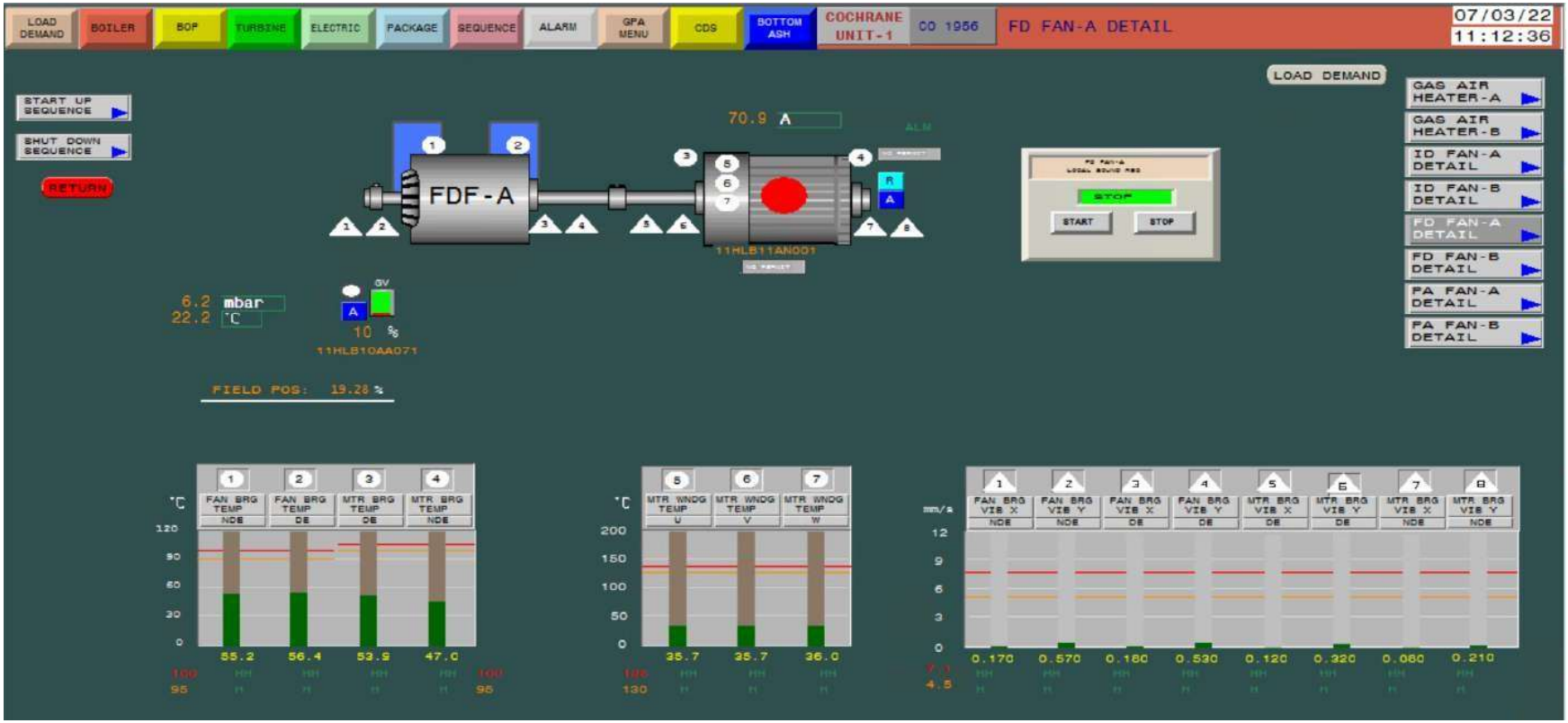

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1948
FLAME INTENSITY
07/03/22
11:10:54
FLAME
FLAME
FLAME POWER SPLY 1 NRM
FLME DET PNL RACK 1 NRM

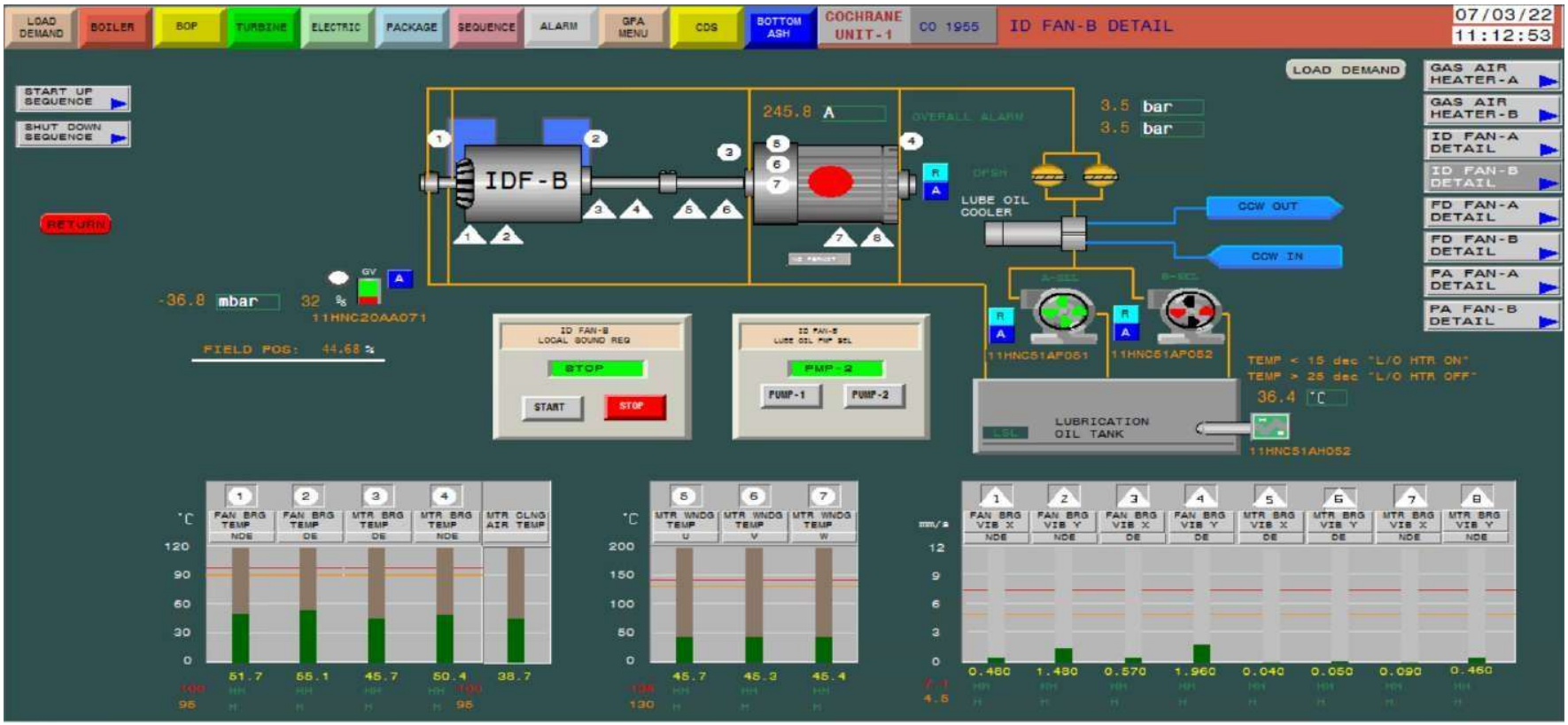

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1951
METAL TEMPERATURE
07/03/22
11:11:12
METAL TEMPERATURE
FIN SH OTL TUBE METAL TEMP
HDR MTL TEMP
RH OTL TUBE METAL TEMP
TERTIARY SH OTL TUBE METAL TEMP
SEC SH OTL TUBE METAL TEMP
FUR DOWNCOMER METAL TEMP
FUR FRONT RISER METAL TEMP
STM DRUM (UPR) METAL TEMP
STM DRUM (LWR) METAL TEMP
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENC

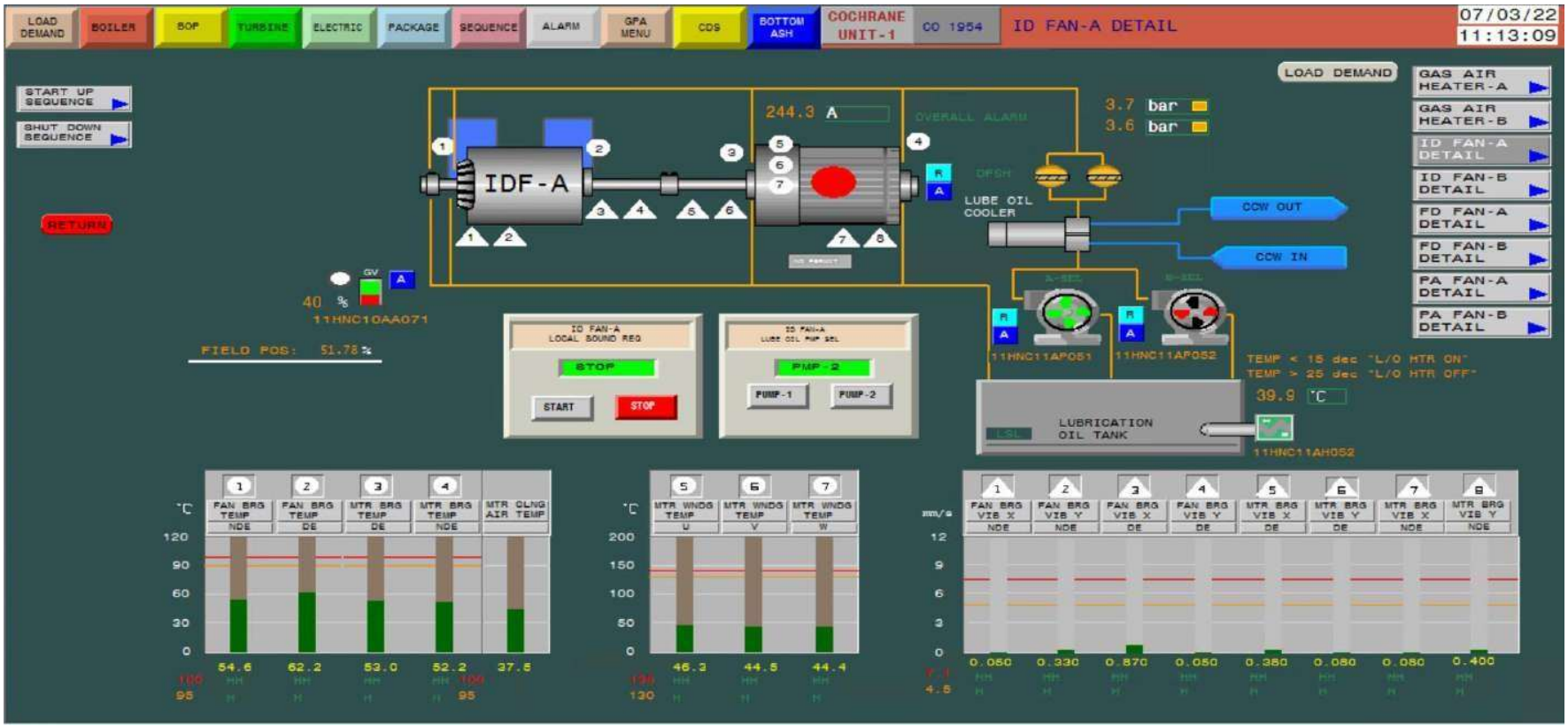

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1952
PA FAN-A DETAIL
07/03/22
11:11:34
START UP SEQUENCE
SHUT DOWN SEQUENCE
RETURN
LOAD DEMAND
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
PAF-A
60.2 A
OVERALL ALARM
112.7 mbar
54 %
11HFE11AA072
11HFE1SAN001
START
STOP
FIELD POS: 23.91 %
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
53.6
63.2
59.0
59.1
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
38.3
38.5
38.9
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
1.310
0.530
2.140
0.550
0.200
0.270
0.110
0.180

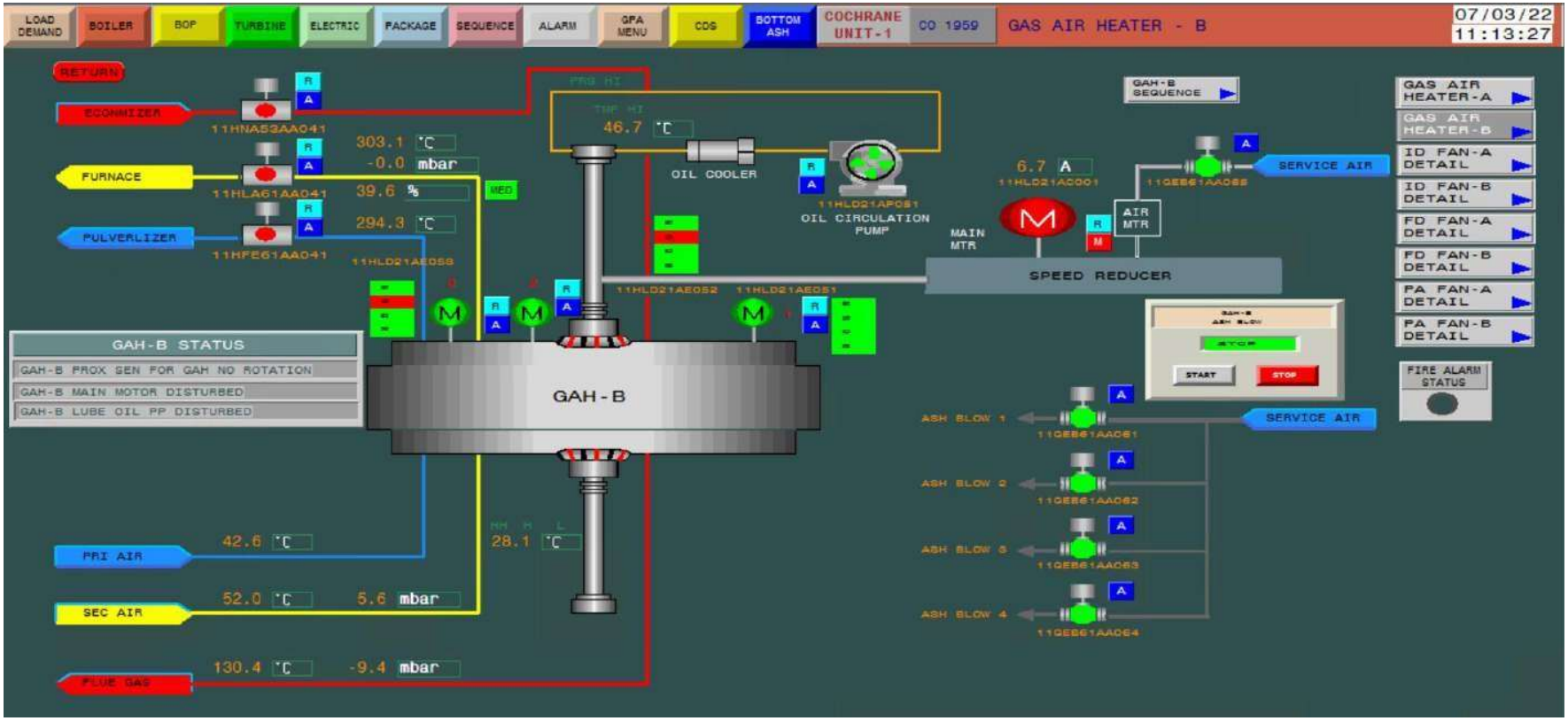

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1953
PA FAN-B DETAIL
07/03/22
11:12:00
START UP SEQUENCE
SHUT DOWN SEQUENCE
RETURN
LOAD DEMAND
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
PAF-B
58.6 A
OVERALL ALARM
113.0 mbar
11HFE61AN001
45 %
11HFE61AA071
FIELD POS: 18.52 %
START
STOP
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
55.1
61.8
57.6
59.1
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
43.2
43.4
43.9
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.410
1.130
0.000
0.000
0.300
0.210
0.160
0.340

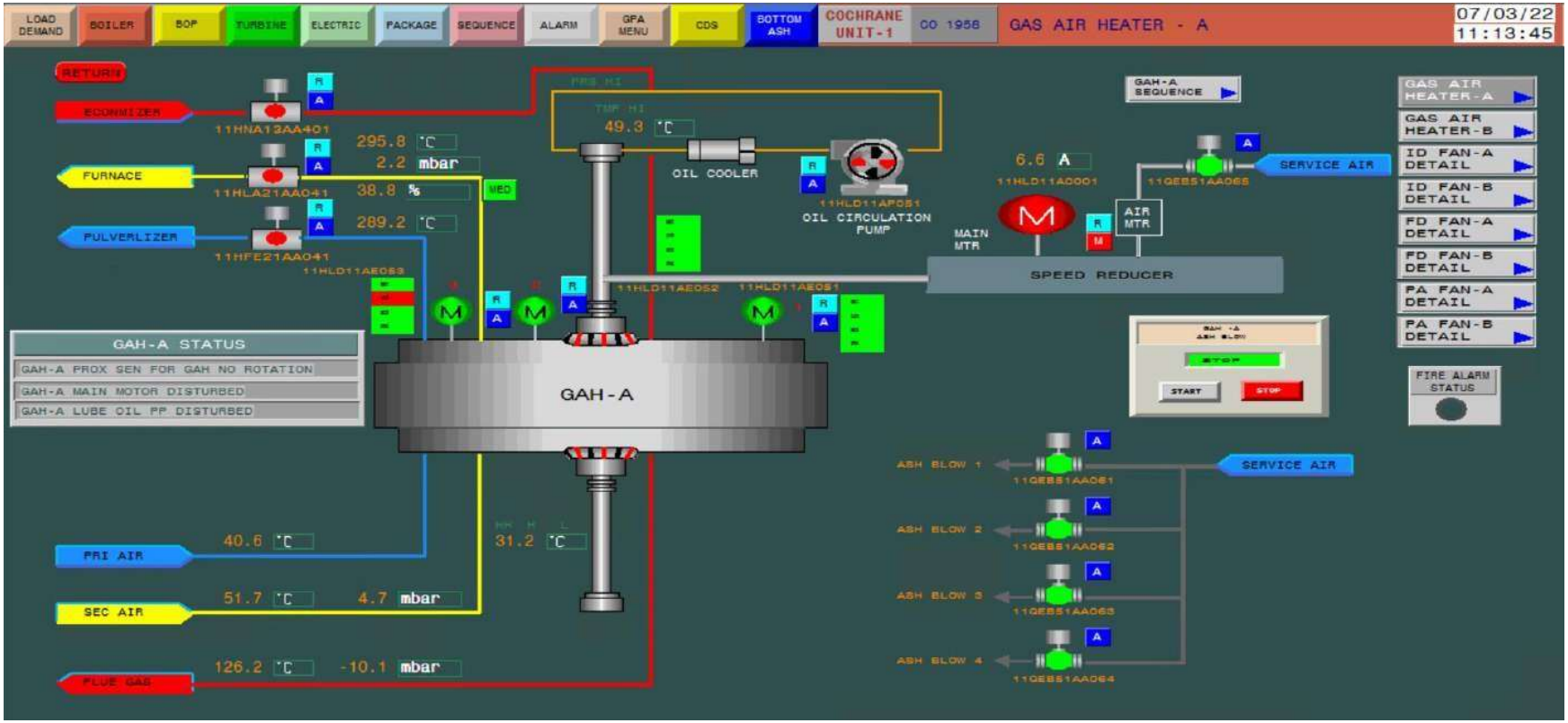

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1957
FD FAN-B DETAIL
07/03/22
11:12:18
START UP SEQUENCE
SHUT DOWN SEQUENCE
RETURN
LOAD DEMAND
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
68.6 A
FDF-B
11HLB51AN001
STOP
START
STOP
6.7 mbar
23.8 °C
12 %
11HLB20AA071
FIELD POS: 22.03 %
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
52.3
58.8
53.8
46.8
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
37.8
37.9
38.2
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.210
0.710
0.160
1.450
0.100
0.140
0.100
0.160

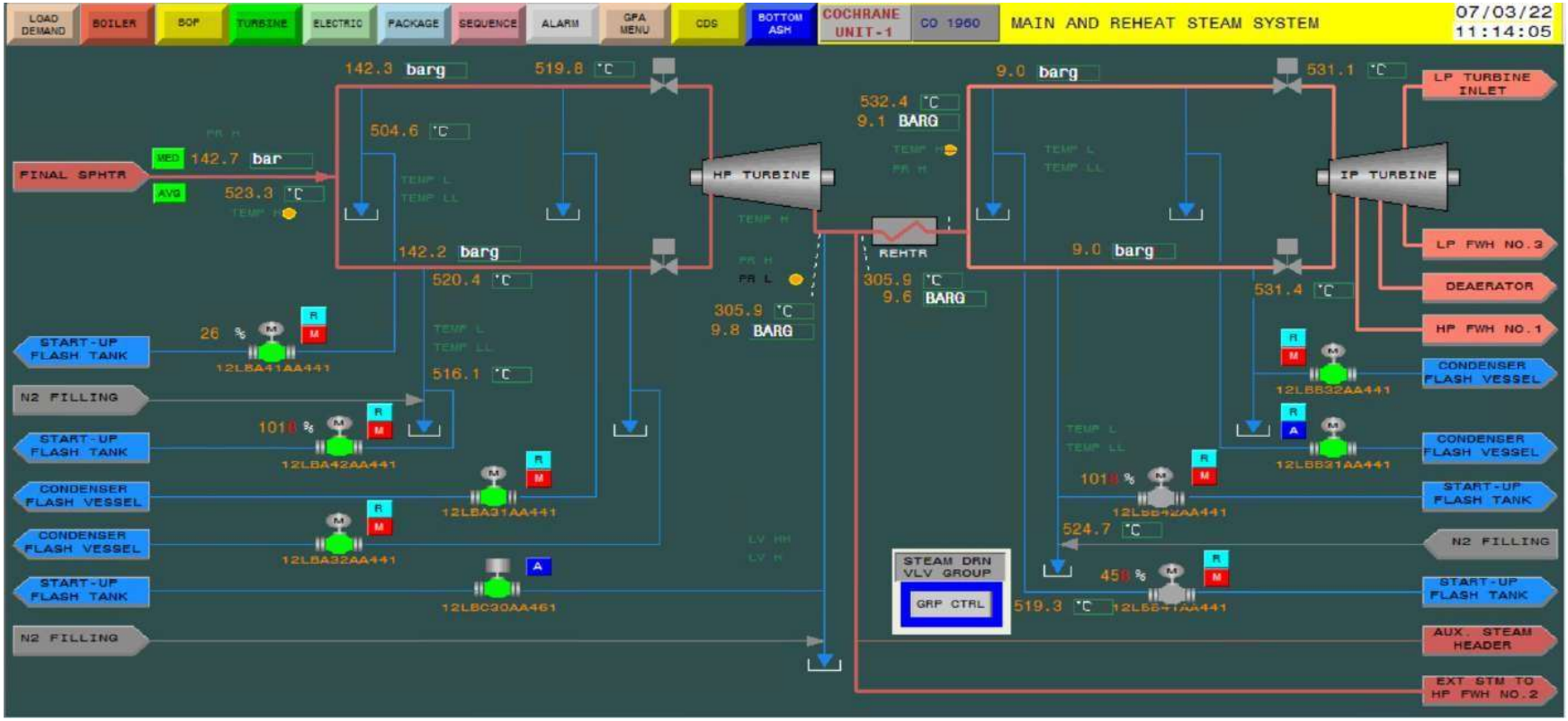

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1956
FD FAN-A DETAIL
07/03/22
11:12:36
START UP SEQUENCE
SHUT DOWN SEQUENCE
RETURN
LOAD DEMAND
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
70.9 A
FDF-A
11HLB11AN001
START
STOP
6.2 mbar
22.2 °C
10 %
11HLB10AA071
FIELD POS: 19.28 %
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
55.2
56.4
53.9
47.0
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
35.7
35.7
36.0
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.170
0.570
0.180
0.530
0.120
0.320
0.080
0.210

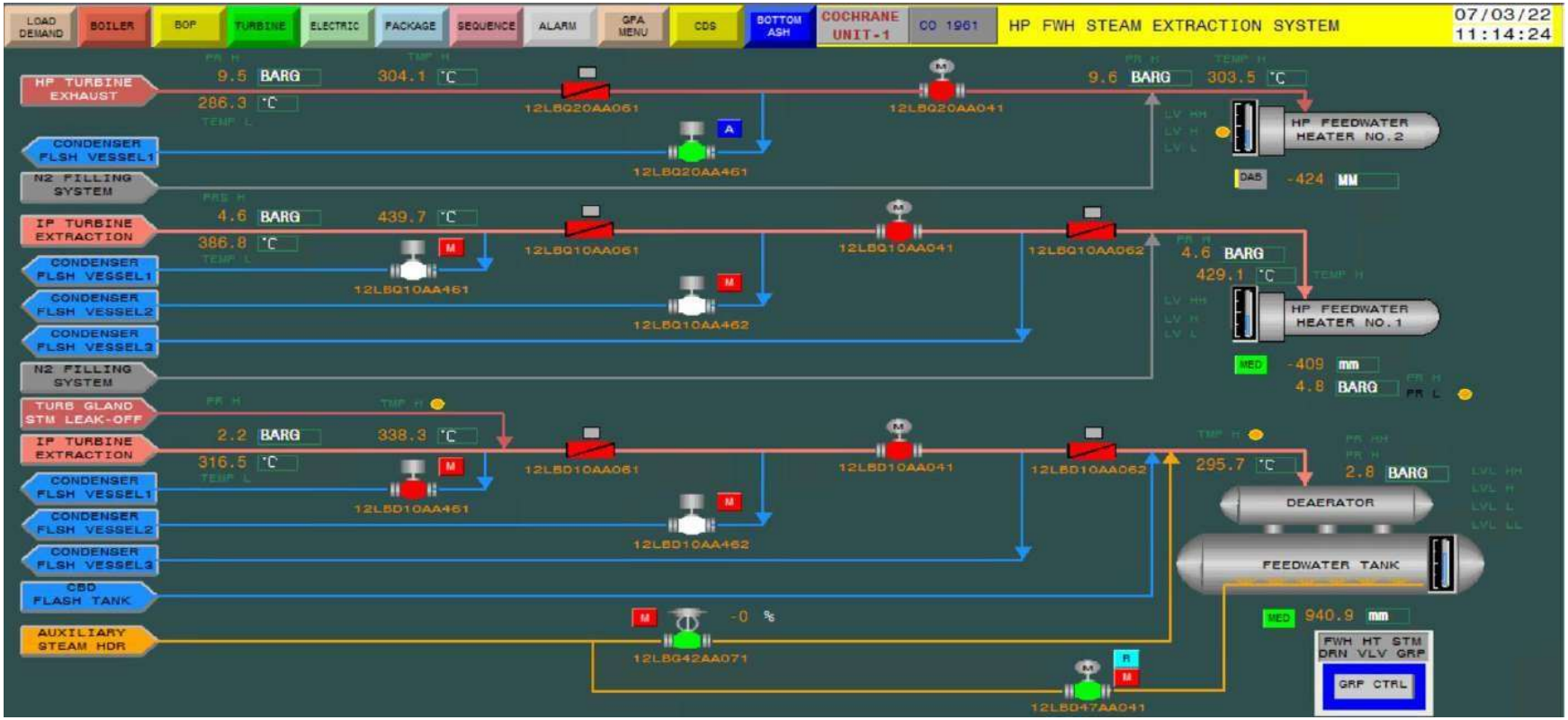

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1955
ID FAN-B DETAIL
07/03/22
11:12:53
START UP SEQUENCE
SHUT DOWN SEQUENCE
RETURN
LOAD DEMAND
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
IDF-B
245.8 A
OVERALL ALARM
3.5 bar
3.5 bar
LUBE OIL COOLER
CCW OUT
CCW IN
-36.8 mbar
32 %
11HNC20AA071
FIELD POS: 44.68 %
ID FAN-B LOCAL SOUND REQ
STOP
START
STOP
ID FAN-B LUBE OIL PUMP SEL
PUMP-2
PUMP-1
PUMP-2
11HNC51AP051
11HNC51AP052
TEMP < 15 dec "L/O HTR ON"
TEMP > 25 dec "L/O HTR OFF"
36.4 °C
LUBRICATION OIL TANK
LSL
11HNC51AH052
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR CLNG AIR TEMP
51.7
55.1
45.7
50.4
38.7
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
45.7
45.3
45.4
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.480
1.480
0.570
1.960
0.040
0.050
0.090
0.460

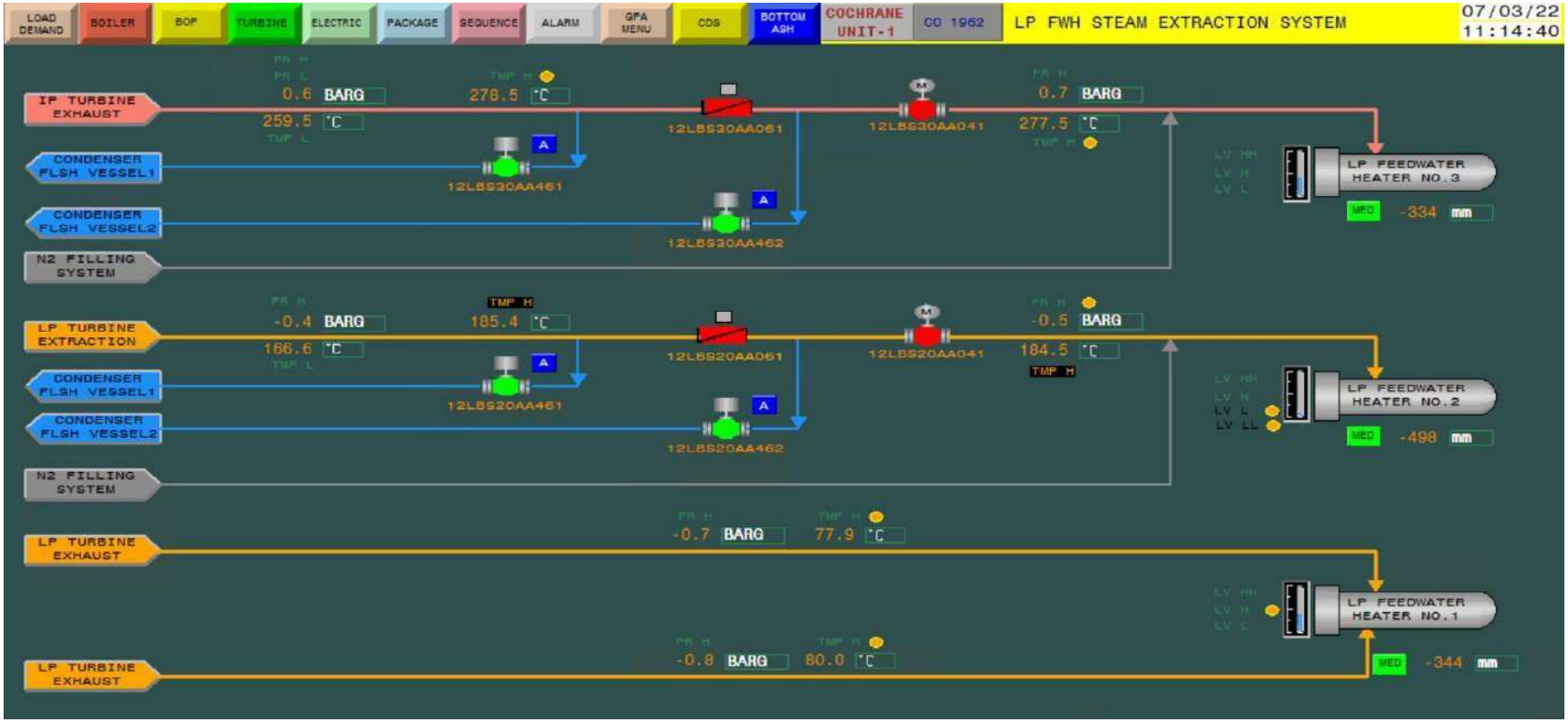

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1954
ID FAN-A DETAIL
07/03/22
11:13:09
START UP SEQUENCE
SHUT DOWN SEQUENCE
RETURN
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
IDF-A
244.3 A
OVERALL ALARM
3.7 bar
3.6 bar
LUBE OIL COOLER
CCW OUT
CCW IN
40 %
11HNC10AA071
FIELD POS: 51.78 %
ID FAN-A LOCAL SOUND REQ
STOP
START
STOP
PUMP-2
PUMP-1
PUMP-2
11HNC11AP051
11HNC11AP052
TEMP < 15 dec "L/O HTR ON"
TEMP > 25 dec "L/O HTR OFF"
39.9 °C
LUBRICATION OIL TANK
11HNC11AH052
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR CLNG AIR TEMP
54.6
62.2
53.0
52.2
37.5
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
46.3
44.5
44.4
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.050
0.330
0.870
0.050
0.380
0.080
0.080
0.400

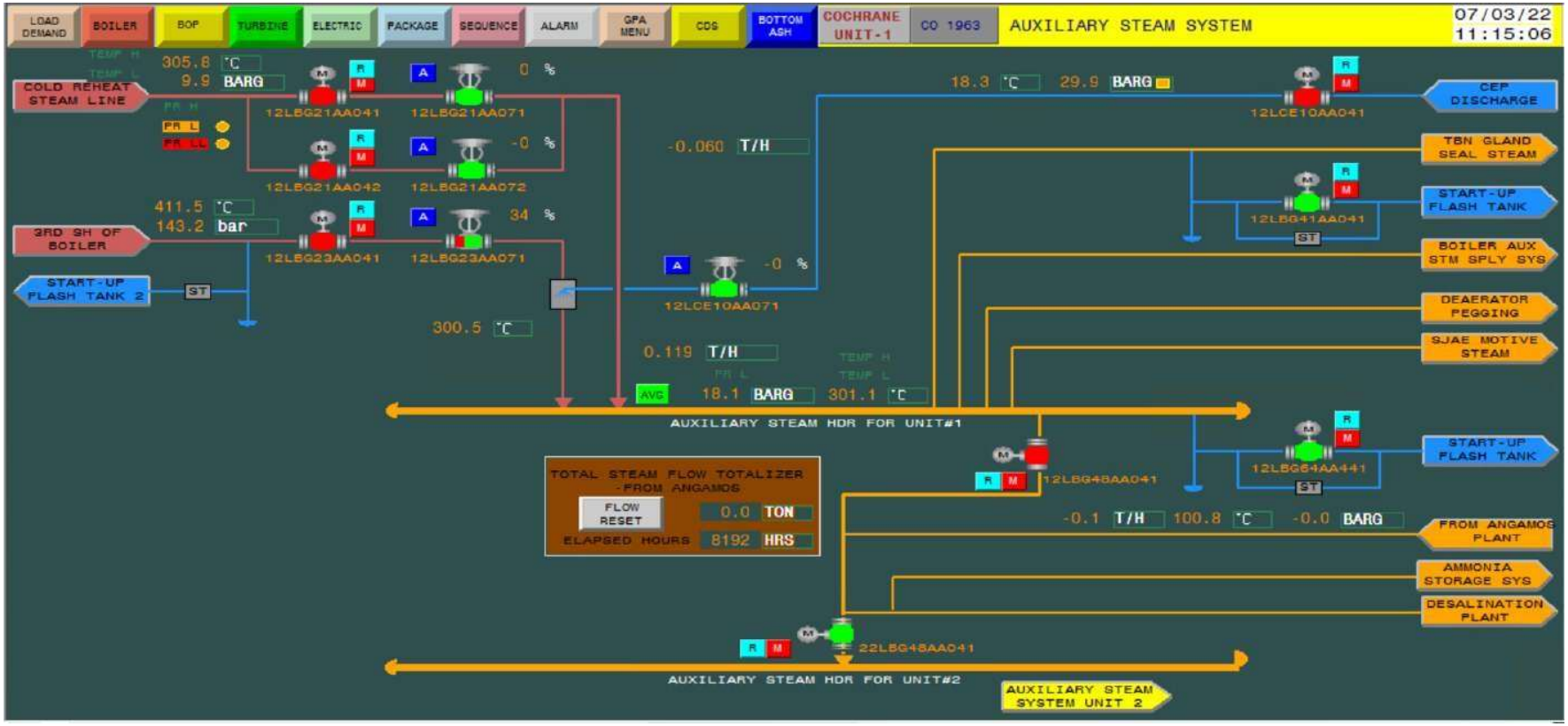

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1959
GAS AIR HEATER - B
07/03/22
11:13:27
RETURN
ECONMIZER
11HNA53AA041
303.1 °C
-0.0 mbar
FURNACE
11HLA61AA041
39.6 %
PULVERLIZER
11HFE61AA041
294.3 °C
11HLD21AE058
PRG HI
TMP HI
46.7 °C
OIL COOLER
11HLD21AP051
OIL CIRCULATION PUMP
11HLD21AE052
11HLD21AE051
GAH-B STATUS
GAH-B PROX SEN FOR GAH NO ROTATION
GAH-B MAIN MOTOR DISTURBED
GAH-B LUBE OIL PP DISTURBED
GAH-B
PRI AIR
42.6 °C
28.1 °C
SEC AIR
52.0 °C
5.6 mbar
FLUE GAS
130.4 °C
-9.4 mbar
6.7 A
11HLD21AC001
MAIN MTR
AIR MTR
SPEED REDUCER
GAH-B SEQUENCE
SERVICE AIR
11GEB61AA088
GAH-B ASH BLOW
STOP
START
STOP
ASH BLOW 1
11GEB61AA061
ASH BLOW 2
11GEB61AA062
ASH BLOW 3
11GEB61AA063
ASH BLOW 4
11GEB61AA064
SERVICE AIR
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
FIRE ALARM STATUS

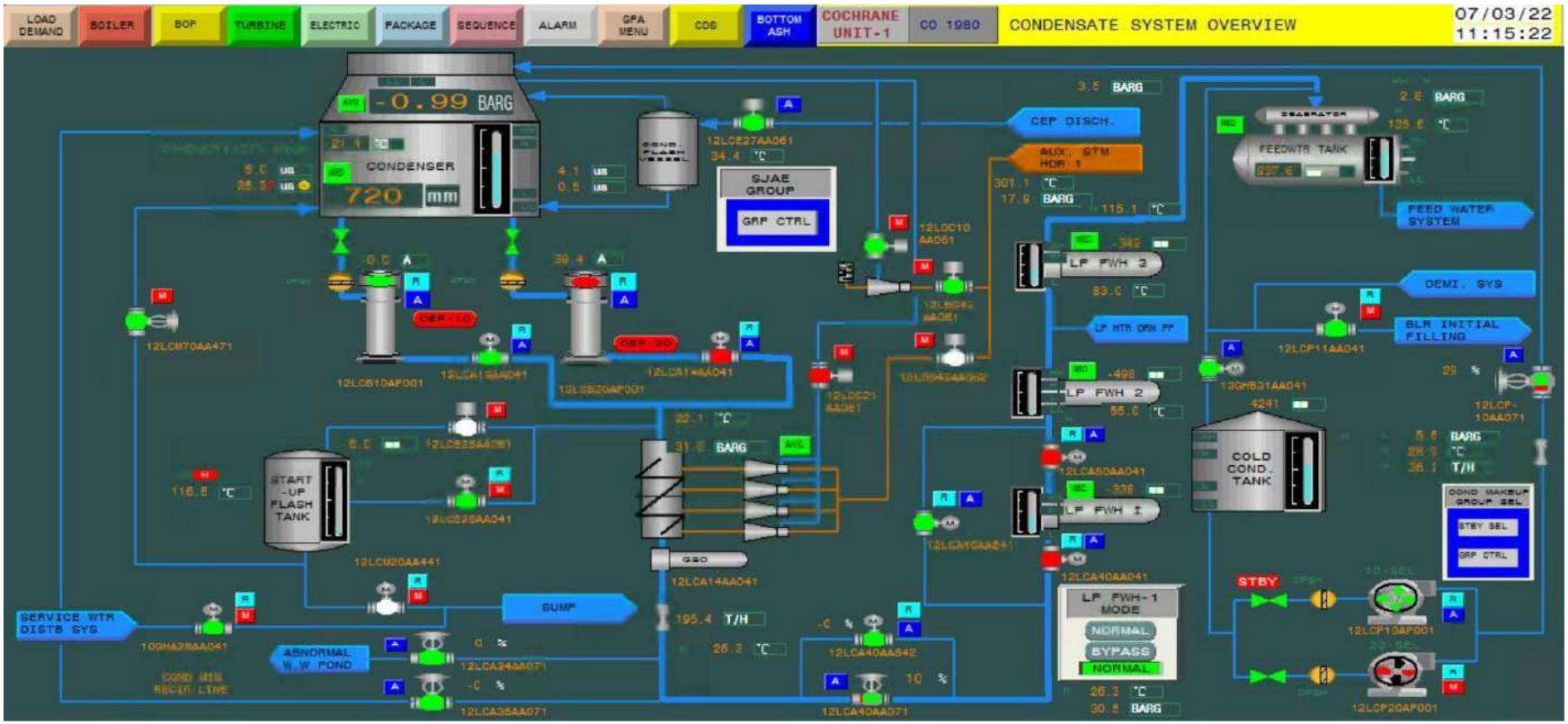

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1956
GAS AIR HEATER - A
07/03/22
11:13:45
RETURN
ECONMIZER
11HNA13AA401
295.8 °C
2.2 mbar
FURNACE
11HLA21AA041
38.8 %
PULVERLIZER
11HFE21AA041
289.2 °C
11HLD11AE063
49.3 °C
OIL COOLER
11HLD11AP051
OIL CIRCULATION PUMP
11HLD11AE052
11HLD11AE051
GAH-A SEQUENCE
6.6 A
11HLD11AC001
MAIN MTR
AIR MTR
SPEED REDUCER
11GEB51AA065
SERVICE AIR
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
FIRE ALARM STATUS
GAH-A STATUS
GAH-A PROX SEN FOR GAH NO ROTATION
GAH-A MAIN MOTOR DISTURBED
GAH-A LUBE OIL PP DISTURBED
GAH-A
START
STOP
ASH BLOW 1
ASH BLOW 2
ASH BLOW 3
ASH BLOW 4
11GEB51AA061
11GEB51AA062
11GEB51AA063
11GEB51AA064
SERVICE AIR
40.6 °C
PRI AIR
31.2 °C
51.7 °C
4.7 mbar
SEC AIR
126.2 °C
-10.1 mbar
FLUE GAS

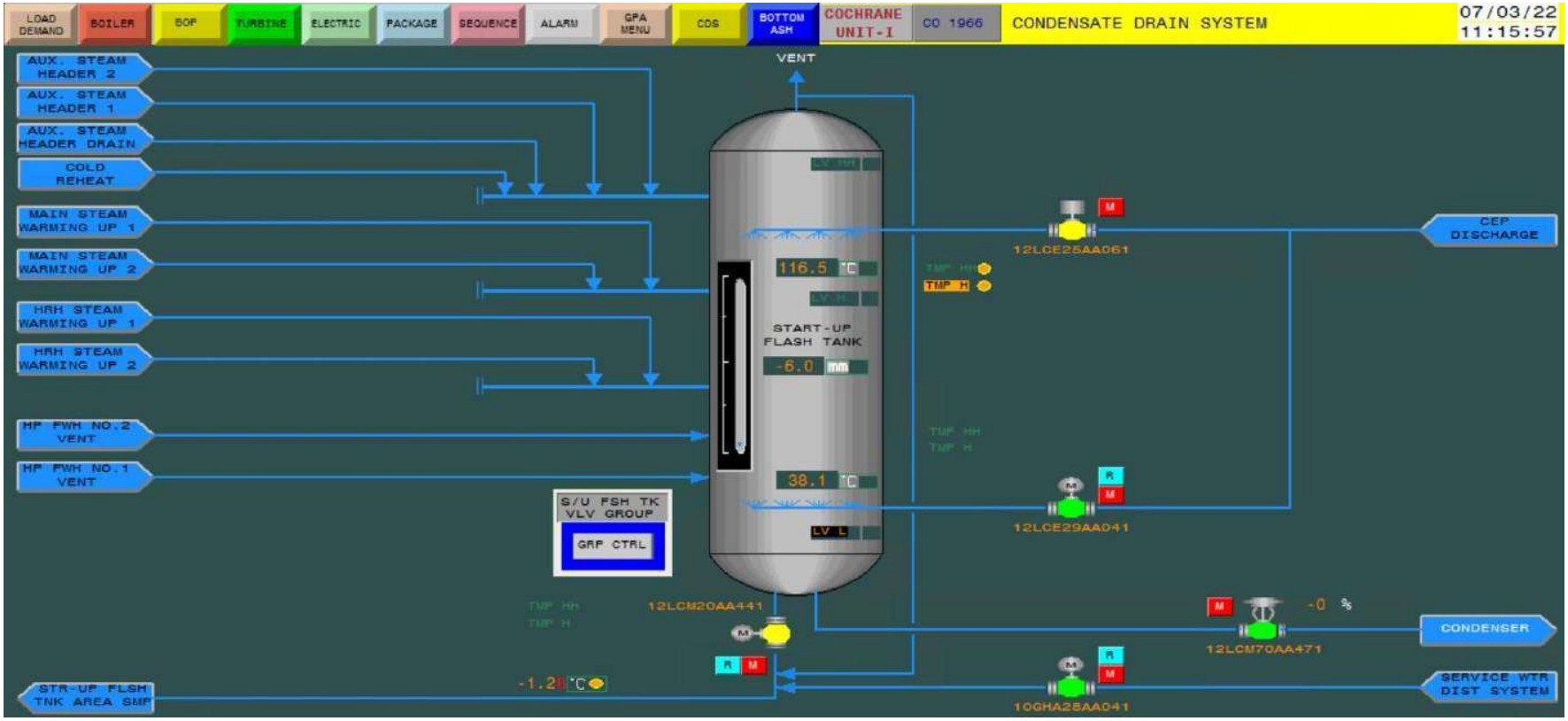

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1960
MAIN AND REHEAT STEAM SYSTEM
07/03/22
11:14:05
142.3 barg
519.8 °C
504.6 °C
142.2 barg
520.4 °C
516.1 °C
FINAL SPHTR
MED
142.7 bar
AVG
523.3 °C
HP TURBINE
305.9 °C
9.8 BARG
532.4 °C
9.1 BARG
REHTR
305.9 °C
9.6 BARG
9.0 barg
531.1 °C
9.0 barg
531.4 °C
IP TURBINE
LP TURBINE INLET
LP FWH NO.3
DEAERATOR
HP FWH NO.1
CONDENSER FLASH VESSEL
START-UP FLASH TANK
26 %
12LBA41AA441
N2 FILLING
101.8 %
12LBA42AA441
CONDENSER FLASH VESSEL
12LBA31AA441
CONDENSER FLASH VESSEL
12LBA32AA441
START-UP FLASH TANK
12LBC30AA461
N2 FILLING
12LBB32AA441
12LBB31AA441
CONDENSER FLASH VESSEL
START-UP FLASH TANK
101.8 %
12LBB42AA441
524.7 °C
N2 FILLING
45.8 %
519.3 °C
START-UP FLASH TANK
AUX. STEAM HEADER
EXT STM TO HP FWH NO.2
STEAM DRN VLV GROUP
GRP CTRL

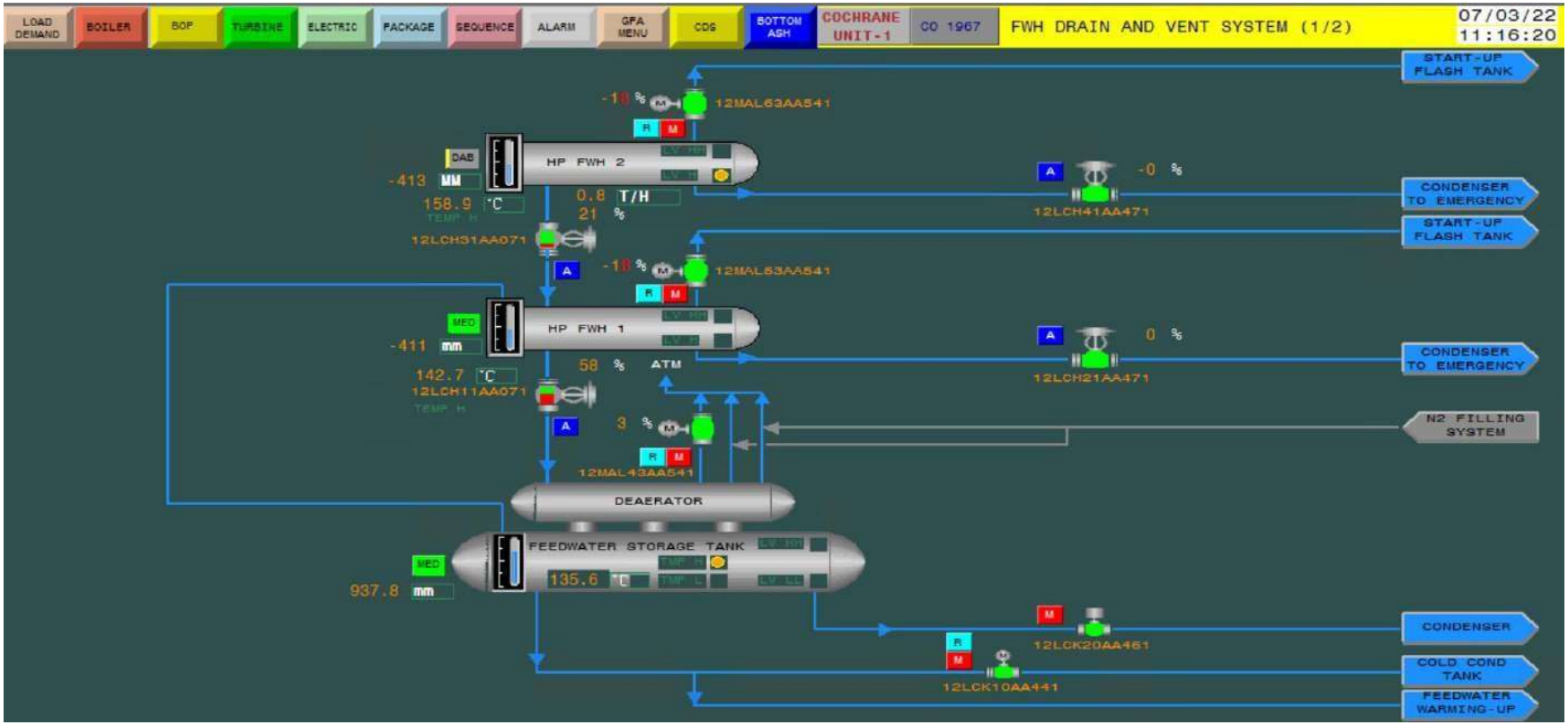

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1961
HP FWH STEAM EXTRACTION SYSTEM
07/03/22
11:14:24
HP TURBINE EXHAUST
9.5 BARG
286.3 °C
304.1 °C
12LBQ20AA061
12LBQ20AA041
9.6 BARG
303.5 °C
CONDENSER FLSH VESSEL1
N2 FILLING SYSTEM
12LBQ20AA461
HP FEEDWATER HEATER NO.2
-424 MM
IP TURBINE EXTRACTION
4.6 BARG
386.8 °C
439.7 °C
12LBQ10AA061
12LBQ10AA041
12LBQ10AA062
12LBQ10AA461
12LBQ10AA462
4.6 BARG
429.1 °C
HP FEEDWATER HEATER NO.1
-409 mm
4.8 BARG
CONDENSER FLSH VESSEL2
CONDENSER FLSH VESSEL3
TURB GLAND STM LEAK-OFF
2.2 BARG
316.5 °C
338.3 °C
12LBD10AA061
12LBD10AA041
12LBD10AA062
295.7 °C
2.8 BARG
12LBD10AA461
12LBD10AA462
DEAERATOR
FEEDWATER TANK
CBD FLASH TANK
AUXILIARY STEAM HDR
-0 %
940.9 mm
12LBG42AA071
12LBD47AA041
FWH HT STM DRN VLV GRP
GRP CTRL

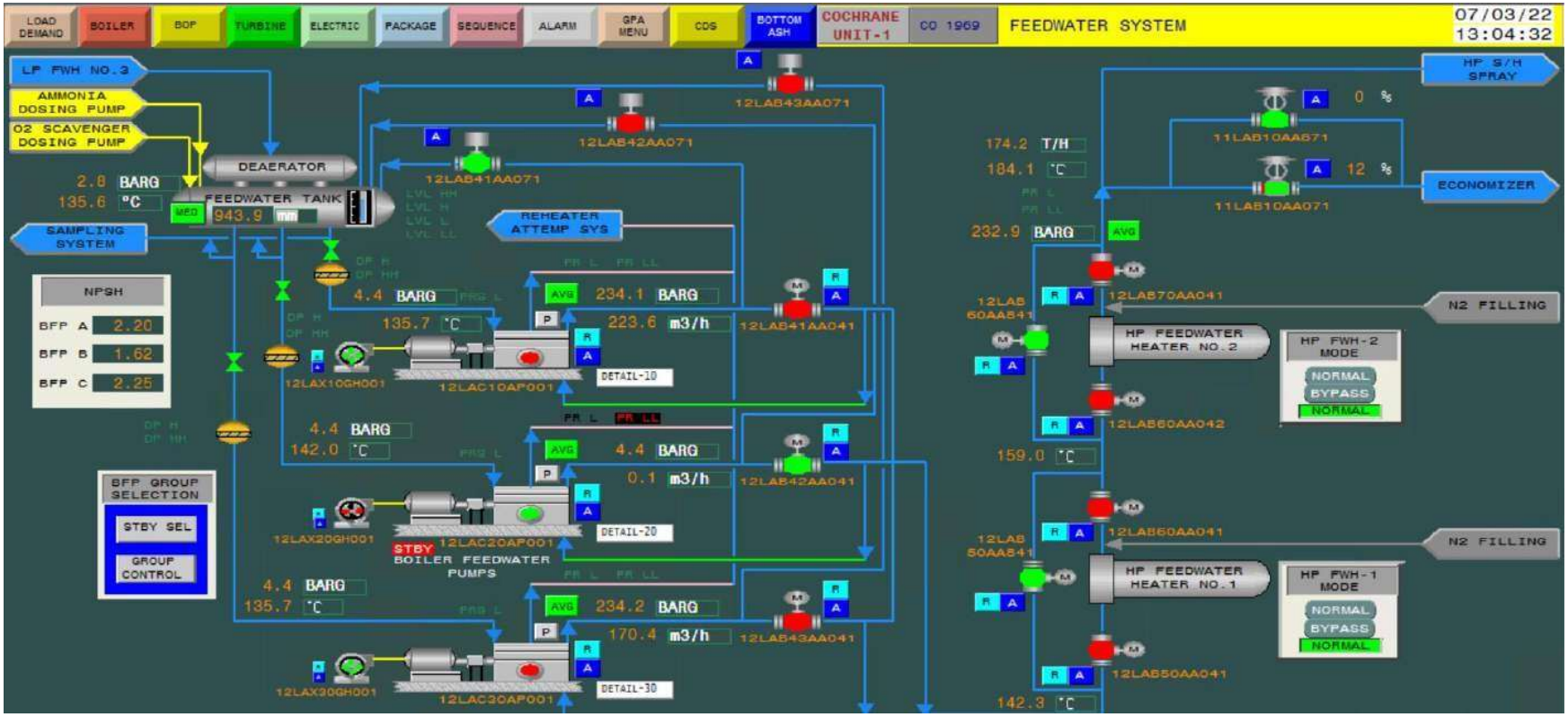

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1962
LP FWH STEAM EXTRACTION SYSTEM
07/03/22
11:14:40
IP TURBINE EXHAUST
0.6 BARG
259.5 °C
278.5 °C
12LBS30AA061
12LBS30AA041
0.7 BARG
277.5 °C
CONDENSER FLSH VESSEL1
12LBS30AA461
CONDENSER FLSH VESSEL2
12LBS30AA462
N2 FILLING SYSTEM
LP FEEDWATER HEATER NO.3
-334 mm
LP TURBINE EXTRACTION
-0.4 BARG
166.6 °C
185.4 °C
12LBS20AA061
12LBS20AA041
-0.5 BARG
184.5 °C
12LBS20AA461
12LBS20AA462
LP FEEDWATER HEATER NO.2
-498 mm
LP TURBINE EXHAUST
-0.7 BARG
77.9 °C
LP FEEDWATER HEATER NO.1
-0.8 BARG
80.0 °C
-344 mm

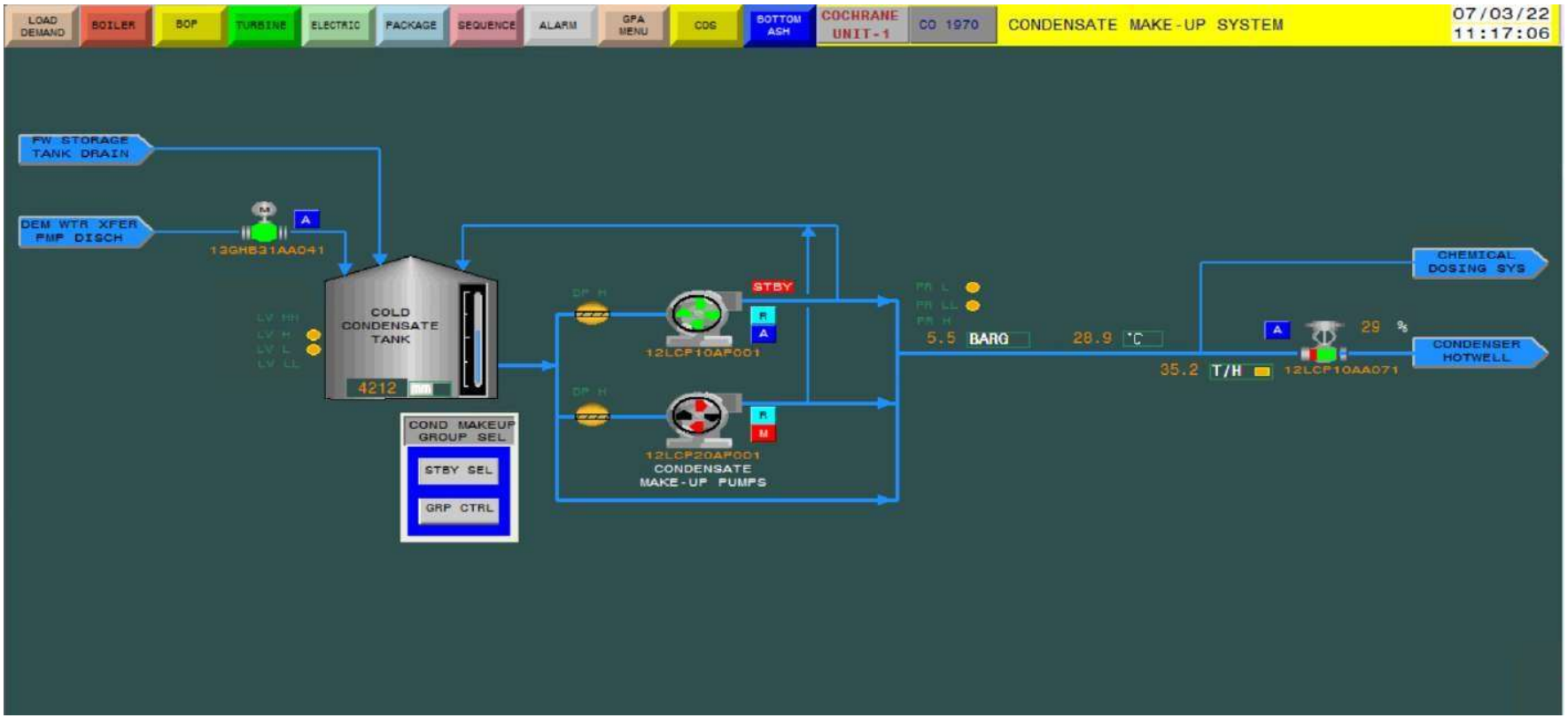

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1963
AUXILIARY STEAM SYSTEM
07/03/22
11:15:06
COLD REHEAT STEAM LINE
305.8 °C
9.9 BARG
12LBG21AA041
12LBG21AA071
0 %
12LBG21AA042
12LBG21AA072
-0 %
411.5 °C
143.2 bar
3RD SH OF BOILER
12LBG23AA041
12LBG23AA071
34 %
START-UP FLASH TANK 2
ST
300.5 °C
-0.060 T/H
12LCE10AA071
-0 %
0.119 T/H
AVG
18.1 BARG
301.1 °C
AUXILIARY STEAM HDR FOR UNIT#1
18.3 °C
29.9 BARG
12LCE10AA041
CEP DISCHARGE
TBN GLAND SEAL STEAM
12LBG41AA041
START-UP FLASH TANK
BOILER AUX STM SPLY SYS
DEAERATOR PEGGING
SJAE MOTIVE STEAM
TOTAL STEAM FLOW TOTALIZER -FROM ANGAMOS
FLOW RESET
0.0 TON
ELAPSED HOURS 8192 HRS
12LBG48AA041
12LBG64AA441
START-UP FLASH TANK
-0.1 T/H
100.8 °C
-0.0 BARG
FROM ANGAMOS PLANT
AMMONIA STORAGE SYS
DESALINATION PLANT
22LBG48AA041
AUXILIARY STEAM HDR FOR UNIT#2
AUXILIARY STEAM SYSTEM UNIT 2

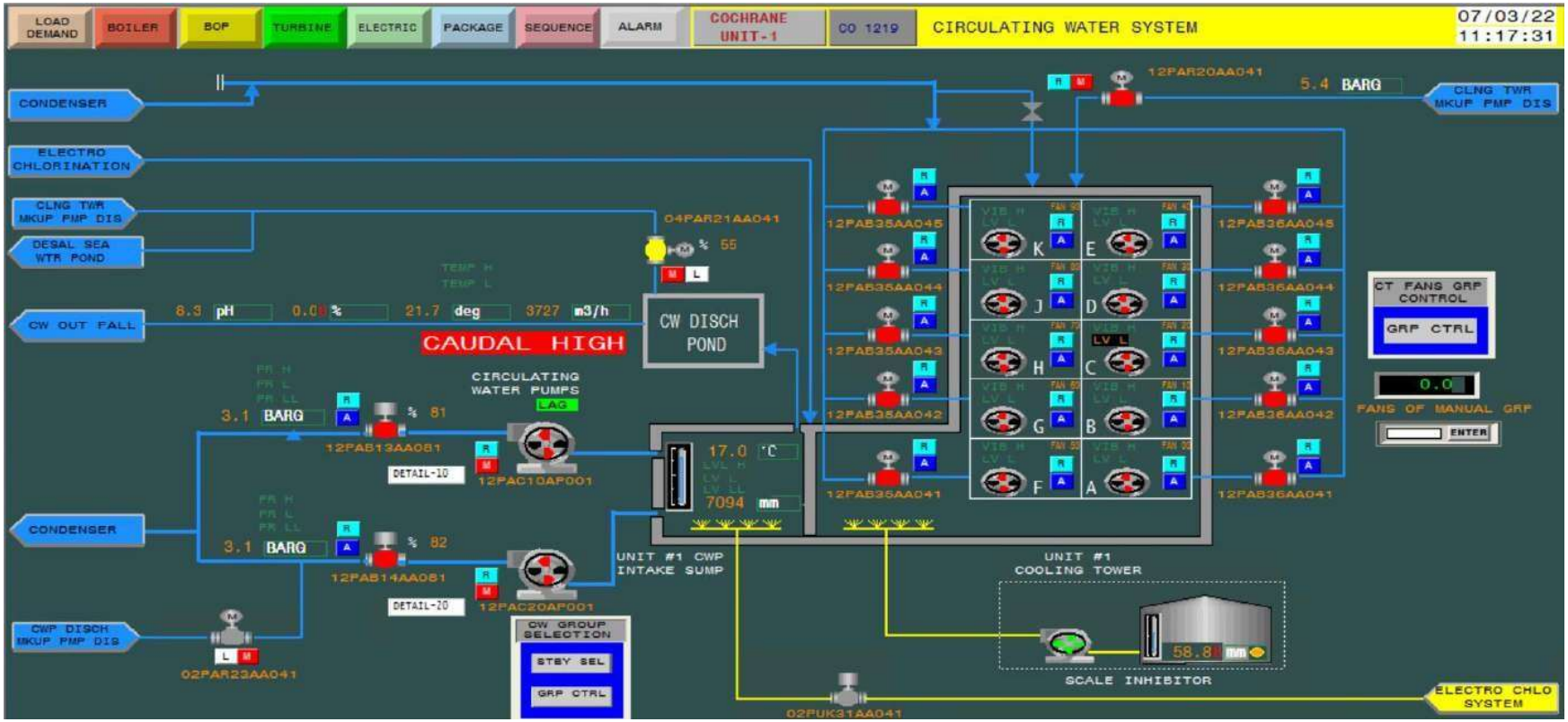

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1980
CONDENSATE SYSTEM OVERVIEW
07/03/22
11:15:22
-0.99 BARG
CONDENSER
720 mm
SJAE GROUP
GRP CTRL
CEP DISCH.
AUX. STM HDR 1
FEEDWTR TANK
FEED WATER SYSTEM
LP FWH 3
LP FWH 2
LP FWH 1
LP HTR DRN FP
DEMI. SYS
BLR INITIAL FILLING
START-UP FLASH TANK
COLD COND. TANK
COND MAKEUP GROUP SEL
STBY SEL
GRP CTRL
LP FWH-1 MODE
NORMAL
BYPASS
NORMAL
STBY
SERVICE WTR DISTB SYS
SUMP
ABNORMAL W.W POND
COND MIN RECIR LINE
12LCE27AA061
12LCM70AA471
12LCB10AP001
12LCA12AA041
12LCB20AP001
12LCA14AA041
12LCM20AA441
12LCB23AA061
12LCB26AA041
12LCA14AA041
12LDC10AA061
12LDC21AA061
12LCA50AA041
12LCA40AA041
12LCA40AA842
12LCA40AA071
12LCA34AA071
12LCA35AA071
10GHA28AA041
13GHB31AA041
12LCP11AA041
12LCP-10AA071
12LCP10AP001
12LCP20AP001

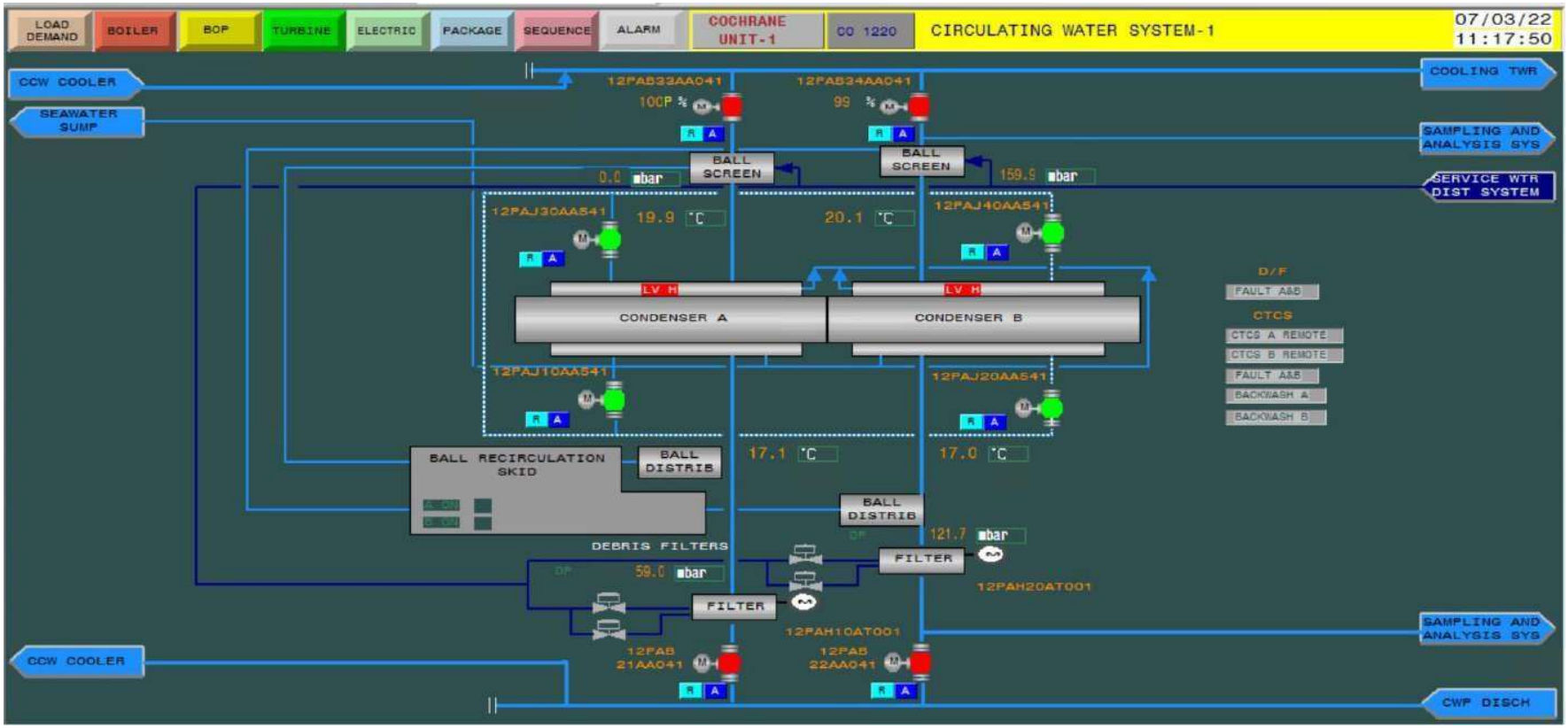

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-I
CO 1966
CONDENSATE DRAIN SYSTEM
07/03/22
11:15:57
VENT
AUX. STEAM HEADER 2
AUX. STEAM HEADER 1
AUX. STEAM HEADER DRAIN
COLD REHEAT
MAIN STEAM WARMING UP 1
MAIN STEAM WARMING UP 2
HRH STEAM WARMING UP 1
HRH STEAM WARMING UP 2
HP FWH NO.2 VENT
HP FWH NO.1 VENT
116.5 °C
START-UP FLASH TANK
-6.0 mm
38.1 °C
LV L
TMP HH
TMP H
12LCE25AA061
CEP DISCHARGE
12LCE29AA041
S/U FSH TK VLV GROUP
GRP CTRL
12LCM20AA441
12LCM70AA471
-0 %
CONDENSER
-1.2 °C
STR-UP FLSH TNK AREA SMP
10GHA28AA041
SERVICE WTR DIST SYSTEM


LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1967
FWH DRAIN AND VENT SYSTEM (1/2)
07/03/22
11:16:20
START-UP FLASH TANK
12MAL63AA541
HP FWH 2
-413 MM
158.9 °C
0.8 T/H
21 %
12LCH31AA071
12LCH41AA471
-0 %
CONDENSER TO EMERGENCY
START-UP FLASH TANK
HP FWH 1
-411 mm
142.7 °C
58 % ATM
12LCH11AA071
12LCH21AA471
0 %
CONDENSER TO EMERGENCY
N2 FILLING SYSTEM
3 %
12MAL43AA541
DEAERATOR
FEEDWATER STORAGE TANK
937.8 mm
135.6 °C
12LCK20AA461
CONDENSER
12LCK10AA441
COLD COND TANK
FEEDWATER WARMING-UP

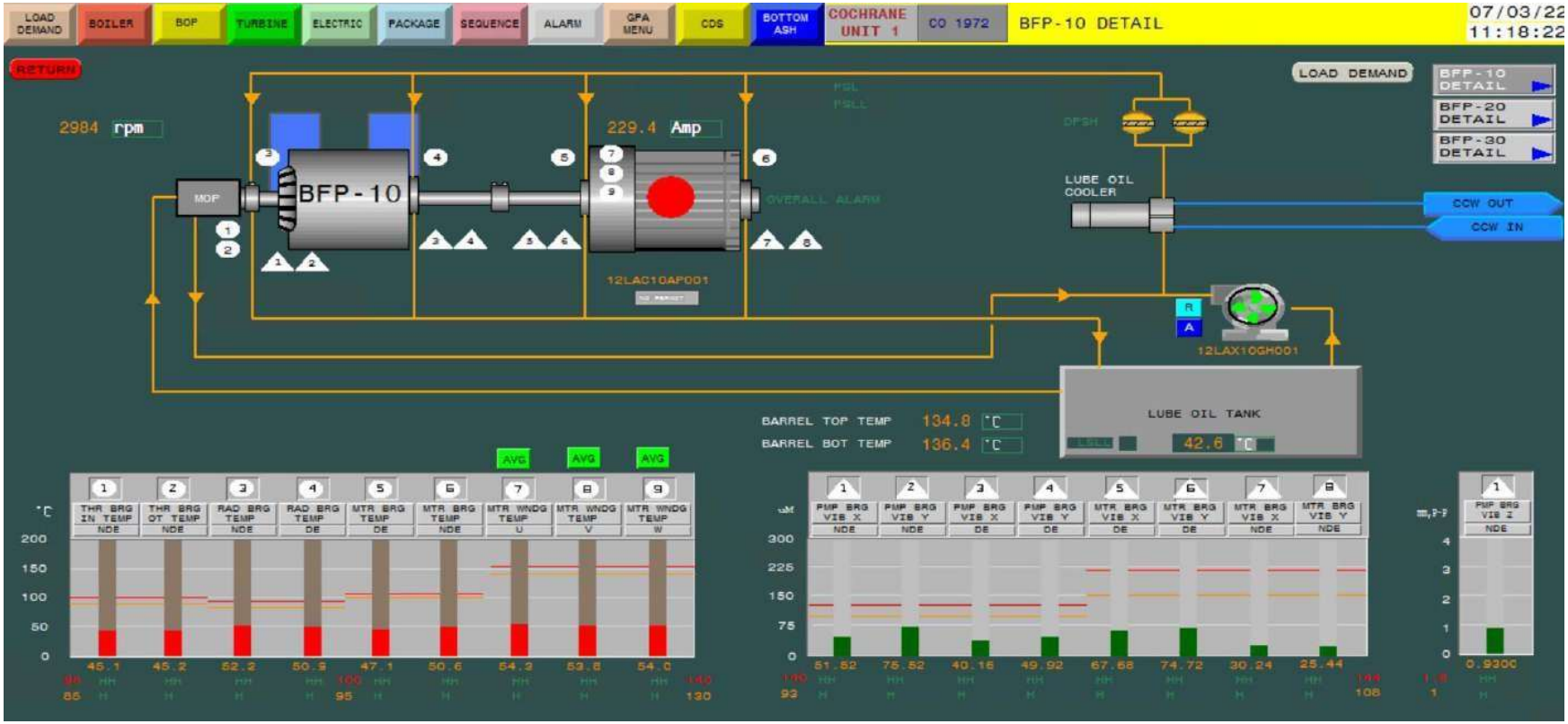

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1969
FEEDWATER SYSTEM
07/03/22
13:04:32
LP FWH NO.3
AMMONIA DOSING PUMP
O2 SCAVENGER DOSING PUMP
DEAERATOR
2.8 BARG
135.6 °C
FEEDWATER TANK
943.9 mm
SAMPLING SYSTEM
REHEATER ATTEMP SYS
12LAB43AA071
12LAB42AA071
12LAB41AA071
NPSH
BFP A 2.20
BFP B 1.62
BFP C 2.25
4.4 BARG
135.7 °C
234.1 BARG
223.6 m3/h
12LAB41AA041
12LAX10GH001
12LAC10AP001
DETAIL-10
4.4 BARG
142.0 °C
4.4 BARG
0.1 m3/h
12LAB42AA041
BFP GROUP SELECTION
STBY SEL
GROUP CONTROL
12LAX20GH001
STBY 12LAC20AP001
BOILER FEEDWATER PUMPS
DETAIL-20
4.4 BARG
135.7 °C
234.2 BARG
170.4 m3/h
12LAB43AA041
12LAX30GH001
12LAC30AP001
DETAIL-30
HP S/H SPRAY
0 %
11LAB10AA071
12 %
ECONOMIZER
174.2 T/H
184.1 °C
232.9 BARG
12LAB70AA041
N2 FILLING
12LAB60AA041
HP FEEDWATER HEATER NO.2
HP FWH-2 MODE
NORMAL
BYPASS
NORMAL
159.0 °C
12LAB60AA042
12LAB50AA041
HP FEEDWATER HEATER NO.1
HP FWH-1 MODE
NORMAL
BYPASS
NORMAL
12LAB50AA042
142.3 °C

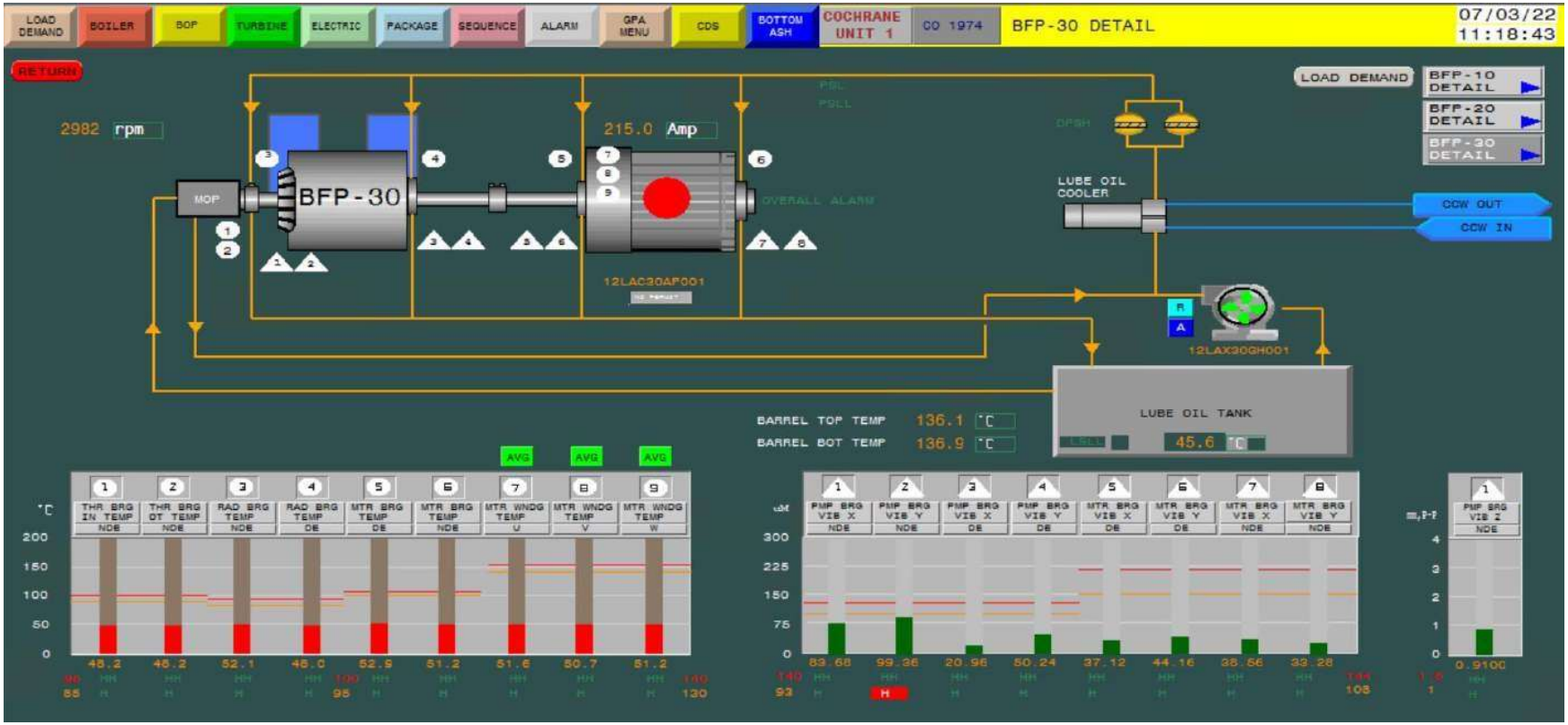

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 1970
CONDENSATE MAKE-UP SYSTEM
07/03/22
11:17:06
FW STORAGE TANK DRAIN
DEM WTR XFER PMP DISCH
13GHB31AA041
COLD CONDENSATE TANK
4212
COND MAKEUP GROUP SEL
STBY SEL
GRP CTRL
12LCP10AP001
12LCP20AP001
CONDENSATE MAKE-UP PUMPS
STBY
5.5 BARG
28.9 °C
35.2 T/H
12LCP10AA071
29 %
CHEMICAL DOSING SYS
CONDENSER HOTWELL

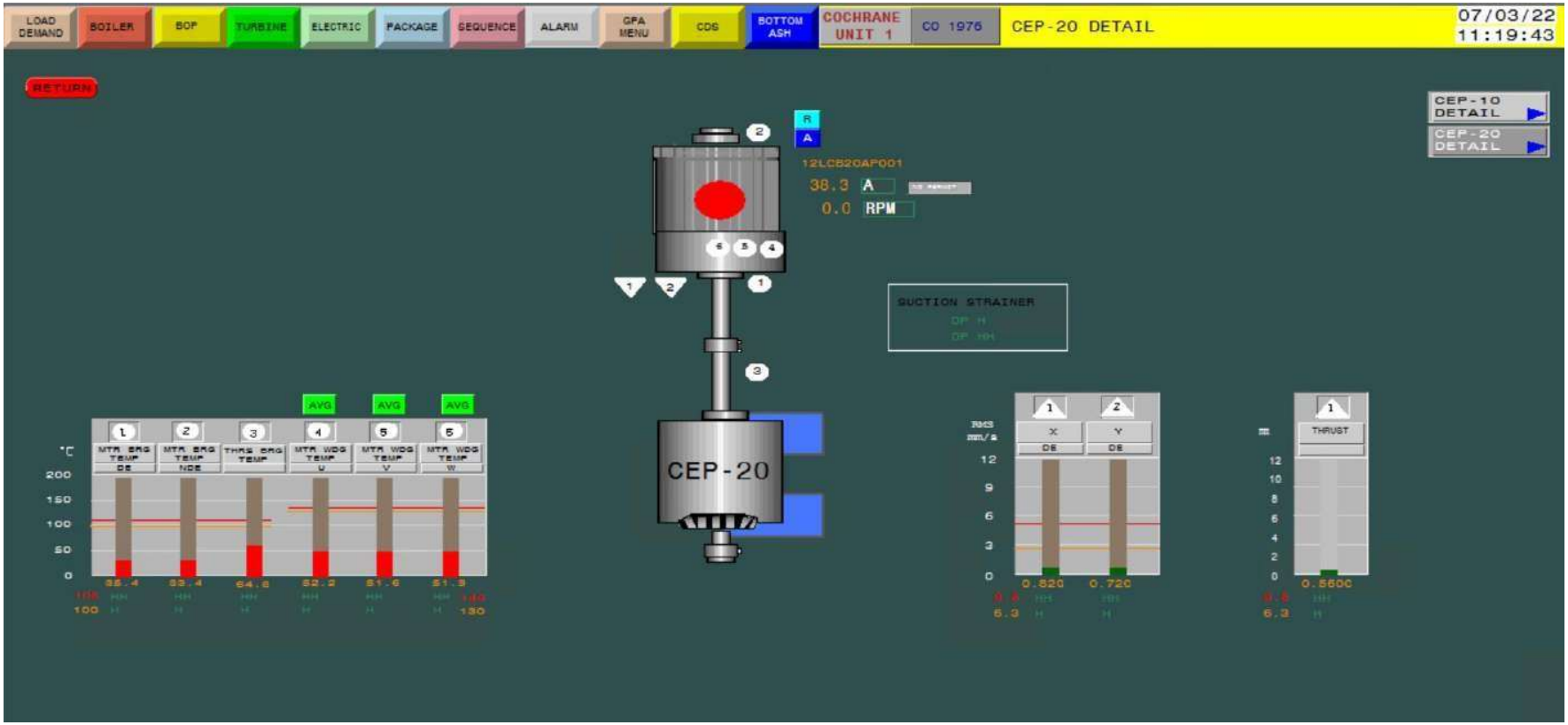

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
COCHRANE UNIT-1
CO 1219
CIRCULATING WATER SYSTEM
07/03/22
11:17:31
CONDENSER
ELECTRO CHLORINATION
CLNG TWR MKUP PMP DIS
DESAL SEA WTR POND
CW OUT FALL
6.3 pH
0.0 %
21.7 deg
3727 m3/h
CAUDAL HIGH
CW DISCH POND
04PAR21AA041
% 55
CIRCULATING WATER PUMPS
LAG
3.1 BARG
% 81
12PAB13AA081
DETAIL-10
12PAC10AP001
CONDENSER
3.1 BARG
% 82
12PAB14AA081
DETAIL-20
12PAC20AP001
CWP DISCH MKUP PMP DIS
02PAR23AA041
CW GROUP SELECTION
STBY SEL
GRP CTRL
17.0 °C
7094 mm
UNIT #1 CWP INTAKE SUMP
12PAR20AA041
5.4 BARG
CLNG TWR MKUP PMP DIS
12PAB35AA045
12PAB35AA044
12PAB35AA043
12PAB35AA042
12PAB35AA041
12PAB36AA045
12PAB36AA044
12PAB36AA043
12PAB36AA042
12PAB36AA041
K
E
J
D
H
C
G
B
F
A
CT FANS GRP CONTROL
GRP CTRL
0.0
FANS OF MANUAL GRP
ENTER
UNIT #1 COOLING TOWER
58.8 mm
SCALE INHIBITOR
02PUK31AA041
ELECTRO CHLO SYSTEM

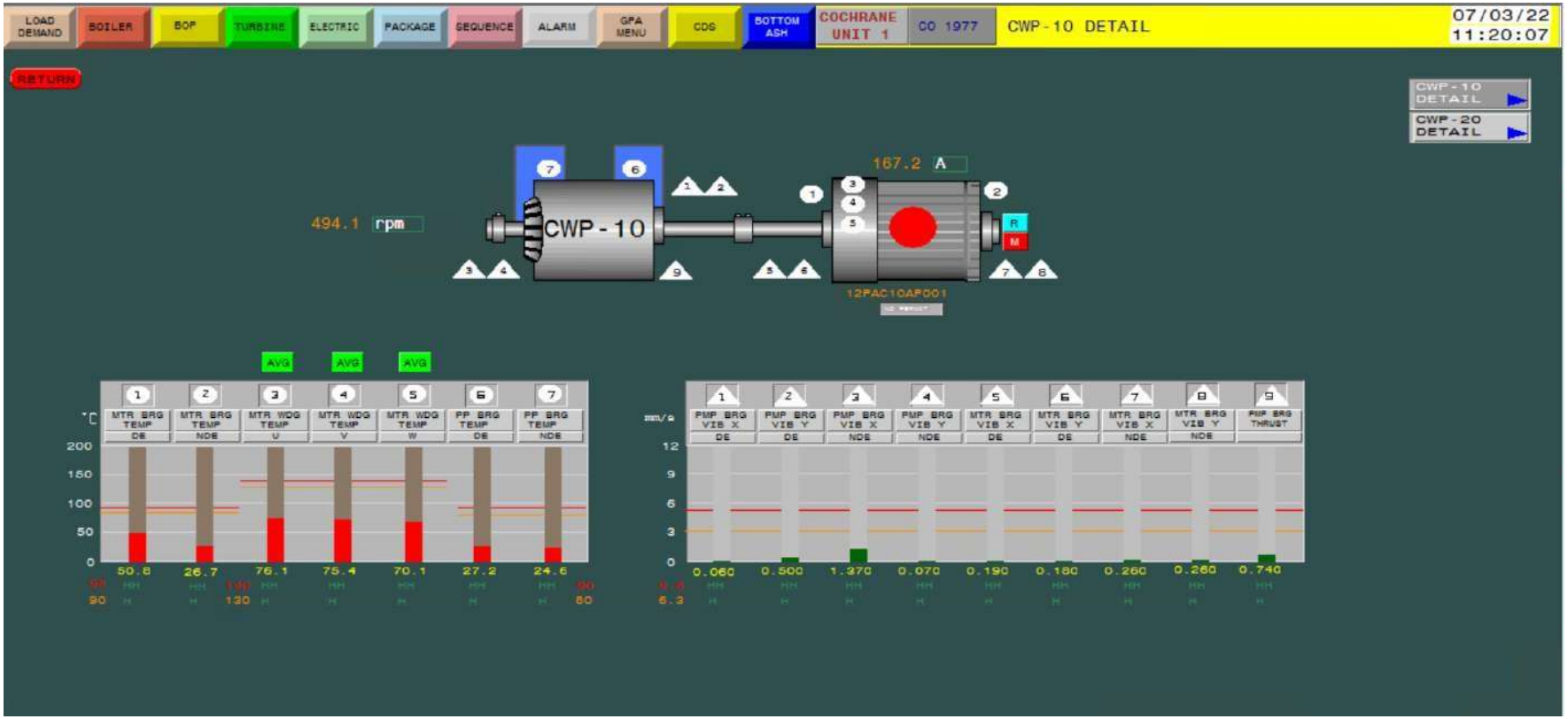

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
COCHRANE UNIT-1
CO 1220
CIRCULATING WATER SYSTEM-1
07/03/22
11:17:50
CCW COOLER
SEAWATER SUMP
12PAB32AA041
100P %
12PAB34AA041
99 %
COOLING TWR
SAMPLING AND ANALYSIS SYS
SERVICE WTR DIST SYSTEM
BALL SCREEN
BALL SCREEN
0.0 mbar
159.9 mbar
12PAJ30AA541
19.9 °C
20.1 °C
12PAJ40AA541
LV H
LV H
CONDENSER A
CONDENSER B
D/F
FAULT A&B
CTCS
CTCS A REMOTE
CTCS B REMOTE
FAULT A&B
BACKWASH A
BACKWASH B
12PAJ10AA541
12PAJ20AA541
BALL RECIRCULATION SKID
BALL DISTRIB
17.1 °C
17.0 °C
BALL DISTRIB
121.7 mbar
DEBRIS FILTERS
FILTER
59.0 mbar
12PAH20AT001
FILTER
12PAH10AT001
12PAB 21AA041
12PAB 22AA041
SAMPLING AND ANALYSIS SYS
CCW COOLER
CWP DISCH

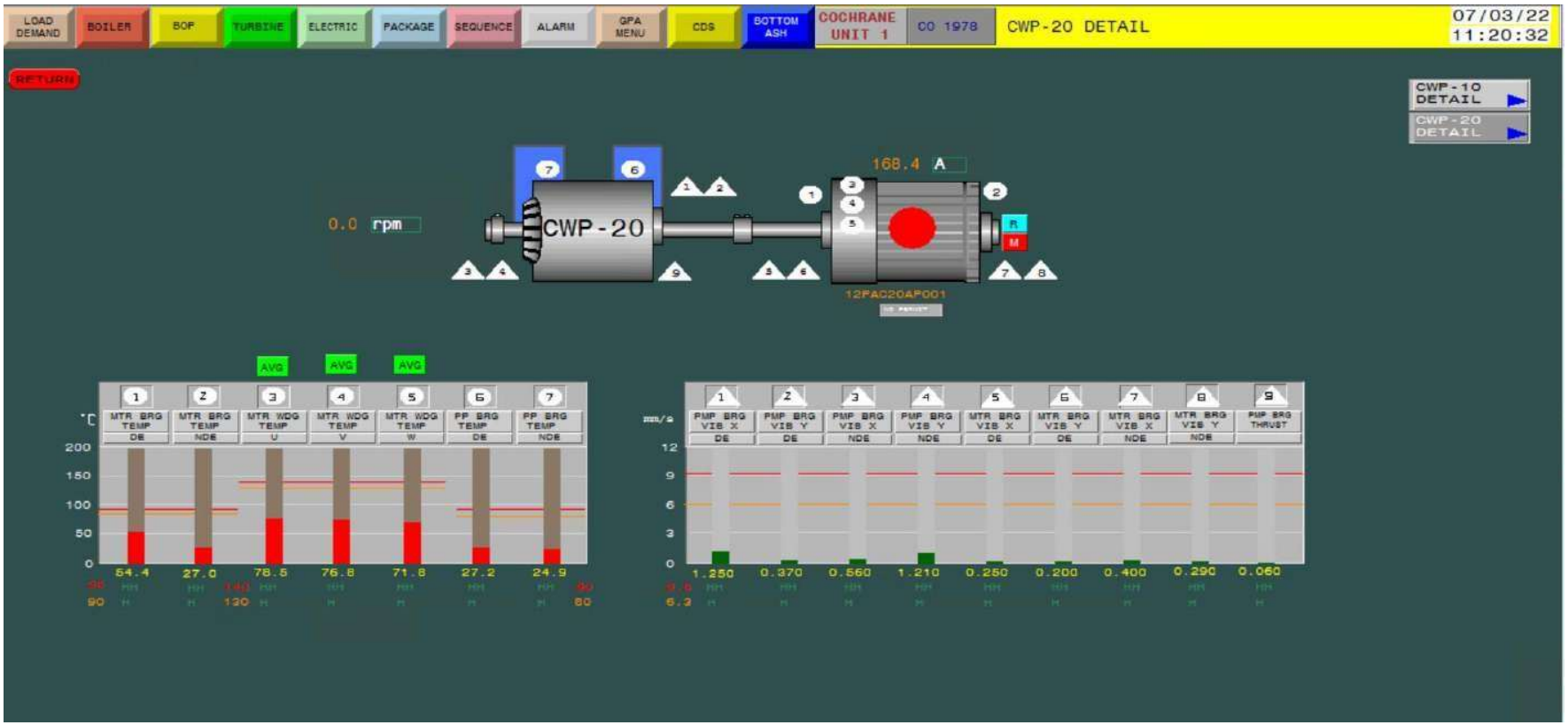

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 1971
SAMPLING SYSTEM
07/03/22
11:18:03
DRUM WTR TEMP HI
HP S/H STM TEMP HI
HP SAT TEMP HI
HRH STM TEMP HI
CCW SC 3.6 u
DRUM WTR SC 6.6 u
DRUM WTR Na 1.4 p
DRUM WTR pH 9.4 p
DRUM WTR SiO2 0.3 p
HP S/H STM CC 0.006 us
HP S/H STM SiO2 39.3 p
HP S/H STM SC 4.5 u
HP S/H STM Na 50.6 p
HRH STEAM Na 0.2 p
HRH STEAM SC 6.5 u
SAMPLING STATUS
CEP DISCH TEMP HI
D/A INL TEMP HI
D/A OUT TEMP HI
ECO TEMP HI
CONDENSER pH 14.2 p
CONDENSER CL 0.2 p
CEP DISCH. CC 0.150 us
CEP DISCH. SC 6.1 u
CEP DISCH. pH 9.4 p
CEP DISCH. DO2 101.2 p
D/A INLET DO2 101.2 p
D/A OUTLET DO2 50.6 p
ECO INLET SC 6.6 u
ECO INLET pH 9.2 p
ECO INLET CC 0.126 us

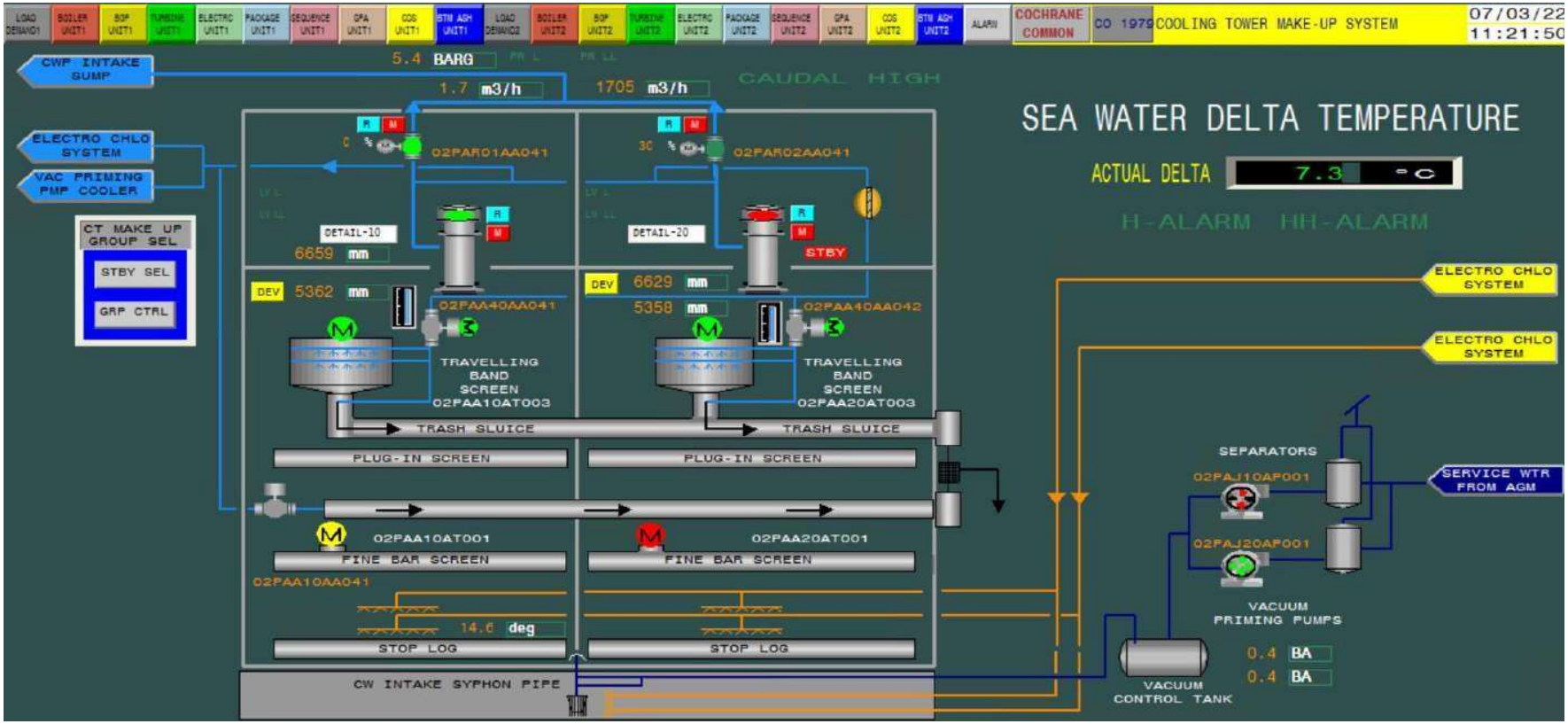

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 1972
BFP-10 DETAIL
07/03/22
11:18:22
RETURN
LOAD DEMAND
BFP-10 DETAIL
BFP-20 DETAIL
BFP-30 DETAIL
2984 rpm
229.4 Amp
BFP-10
MOP
LUBE OIL COOLER
CCW OUT
CCW IN
12LAC10AP001
12LAX10GH001
LUBE OIL TANK
42.6 °C
BARREL TOP TEMP 134.8 °C
BARREL BOT TEMP 136.4 °C
THR BRG IN TEMP
THR BRG OT TEMP
RAD BRG TEMP
MTR BRG TEMP
MTR WNDG TEMP
PMP BRG VIB X
PMP BRG VIB Y
MTR BRG VIB X
MTR BRG VIB Y

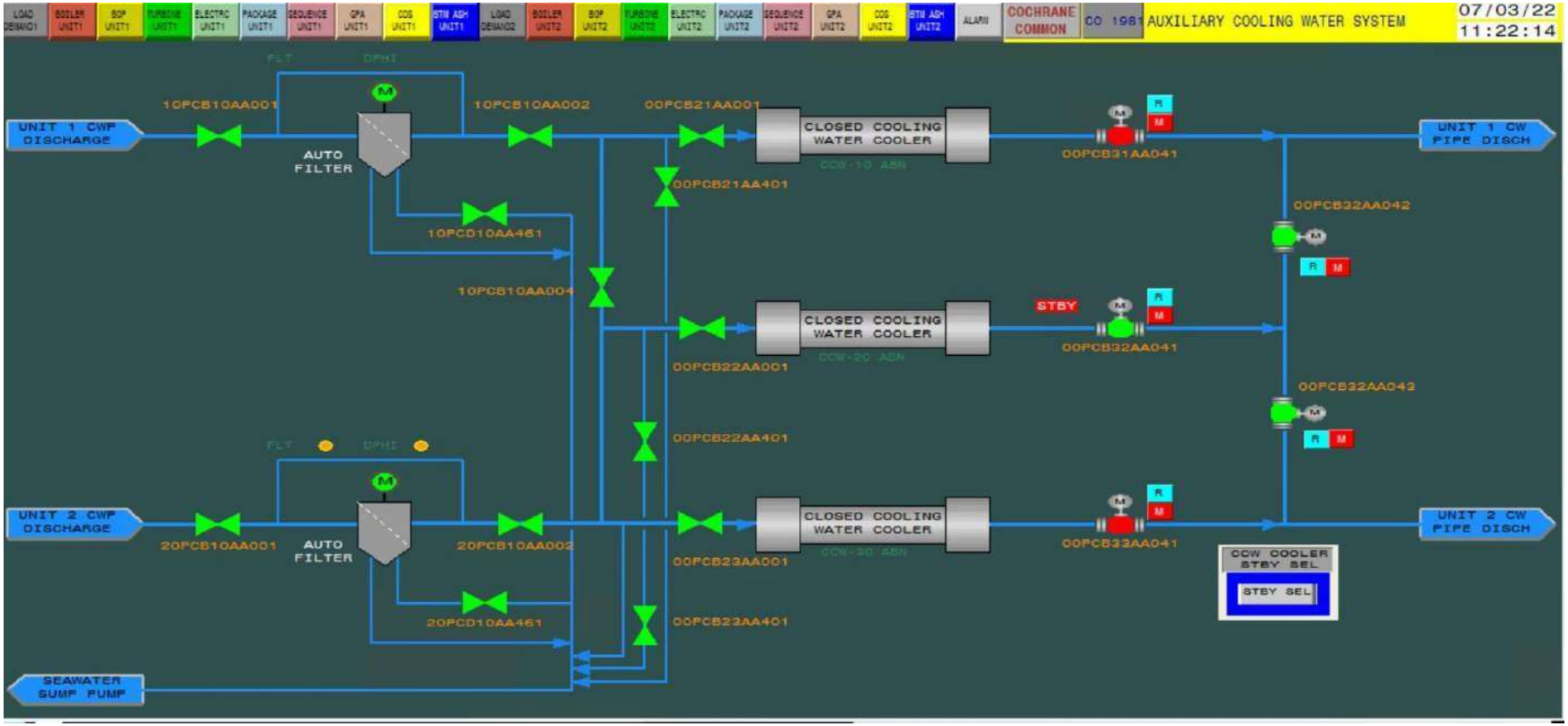

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 1974
BFP-30 DETAIL
07/03/22
11:18:43
RETURN
2982 rpm
215.0 Amp
BFP-30
MOP
LOAD DEMAND
BFP-10 DETAIL
BFP-20 DETAIL
BFP-30 DETAIL
LUBE OIL COOLER
CCW OUT
CCW IN
OVERALL ALARM
12LAC30AP001
12LAX30GH001
LUBE OIL TANK
45.6 °C
BARREL TOP TEMP 136.1 °C
BARREL BOT TEMP 136.9 °C
THR BRG IN TEMP
THR BRG OT TEMP
RAD BRG TEMP
MTR BRG TEMP
MTR WNDG TEMP
PMP BRG VIB X
PMP BRG VIB Y
MTR BRG VIB X
MTR BRG VIB Y
PMP BRG VIB Z
NDE
DE
AVG

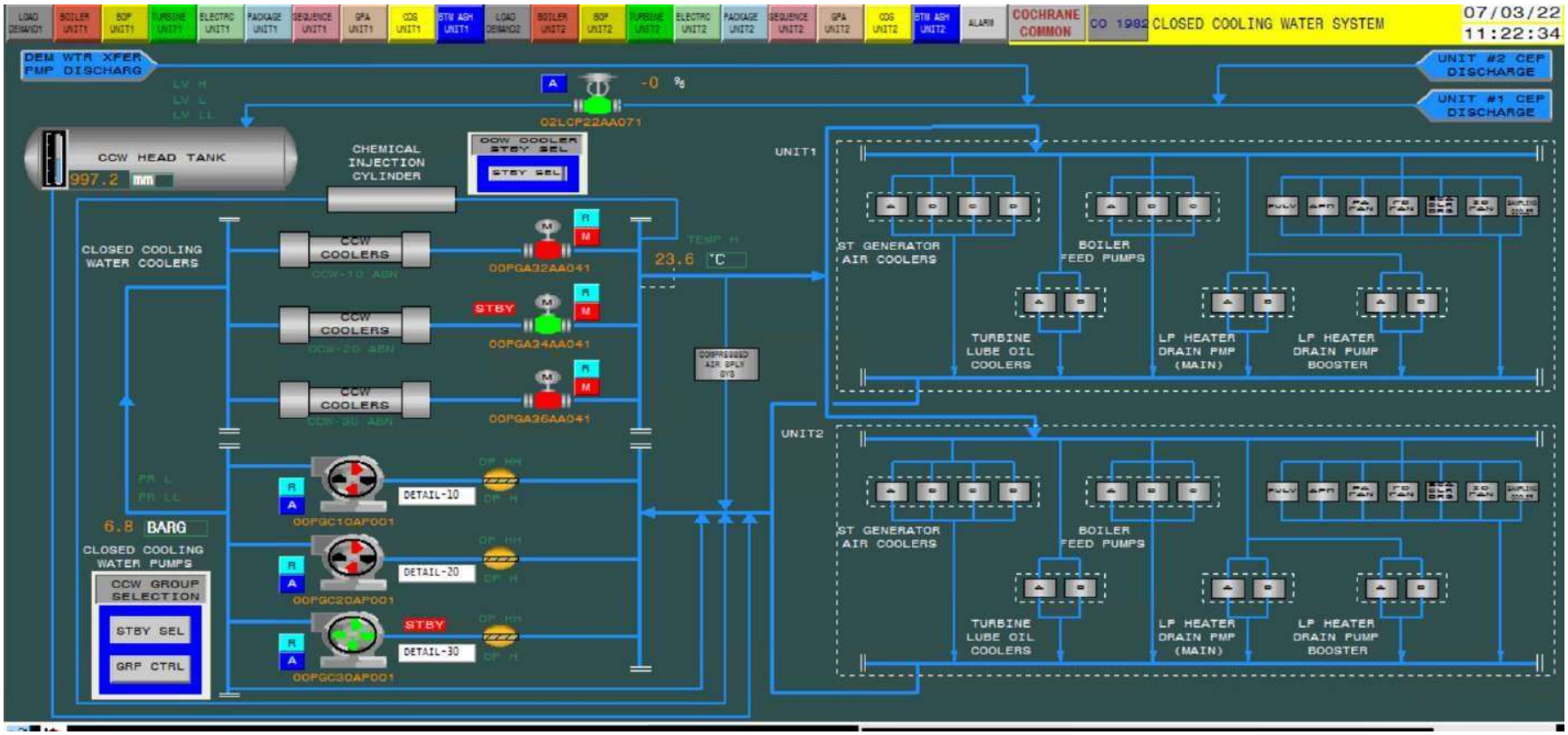

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 1976
CEP-20 DETAIL
07/03/22
11:19:43
RETURN
CEP-10 DETAIL
CEP-20 DETAIL
12LCB20AP001
38.3 A
0.0 RPM
SUCTION STRAINER
CEP-20
AVG
AVG
AVG
MTR DRG TEMP DE
MTR DRG TEMP NDE
THRS DRG TEMP
MTR WDG TEMP U
MTR WDG TEMP V
MTR WDG TEMP W
35.4
33.4
64.8
52.2
51.6
51.3
X
Y
DE
DE
0.520
0.720
THRUST
0.560

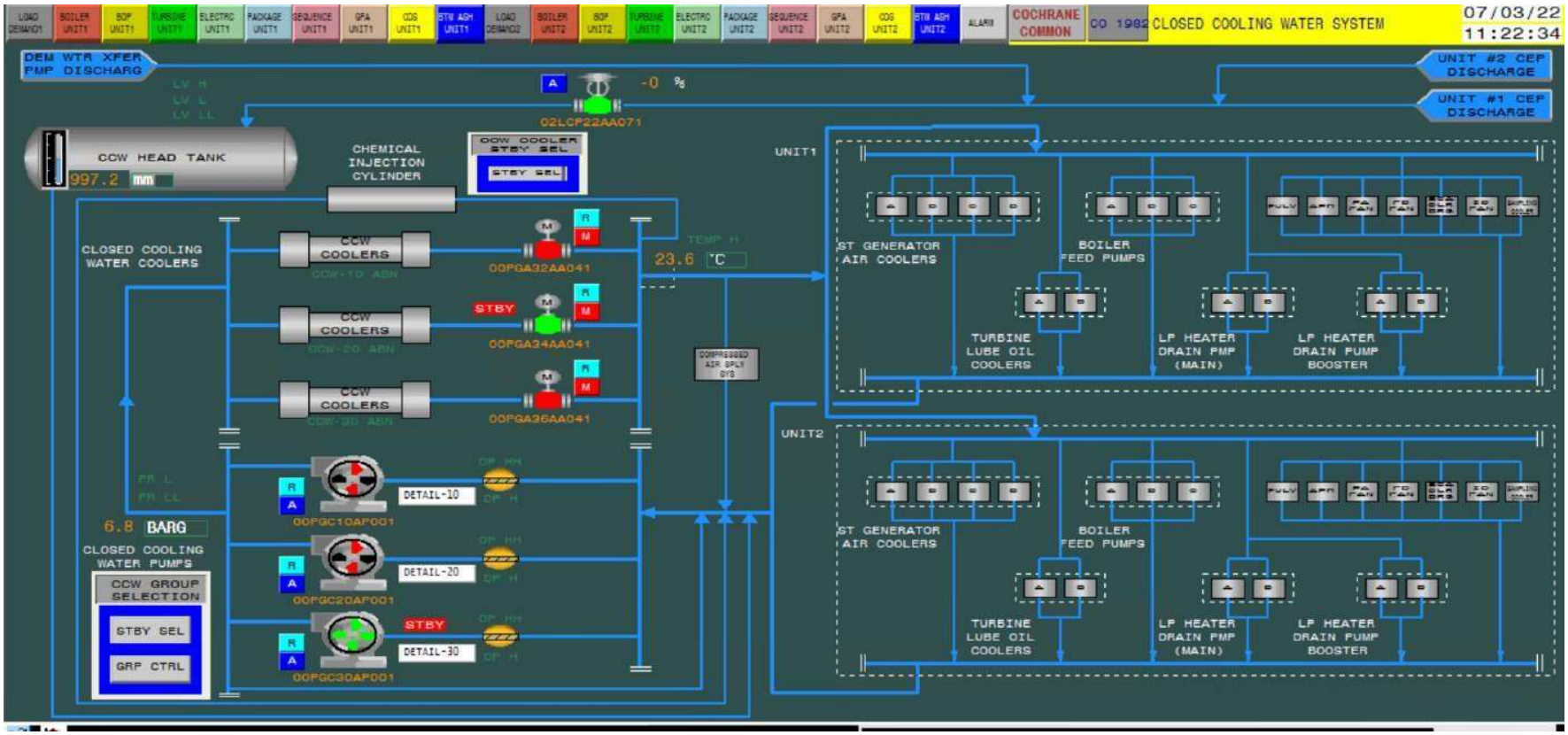

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 1977
CWP-10 DETAIL
07/03/22
11:20:07
RETURN
CWP-10 DETAIL
CWP-20 DETAIL
494.1 rpm
CWP-10
167.2 A
12PAC10AP001
AVG
AVG
AVG
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR WDG TEMP U
MTR WDG TEMP V
MTR WDG TEMP W
PP BRG TEMP DE
PP BRG TEMP NDE
50.8
26.7
76.1
75.4
70.1
27.2
24.6
PMP BRG VIB X DE
PMP BRG VIB Y DE
PMP BRG VIB X NDE
PMP BRG VIB Y NDE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
PMP BRG THRUST
0.060
0.500
1.370
0.070
0.190
0.180
0.260
0.260
0.740

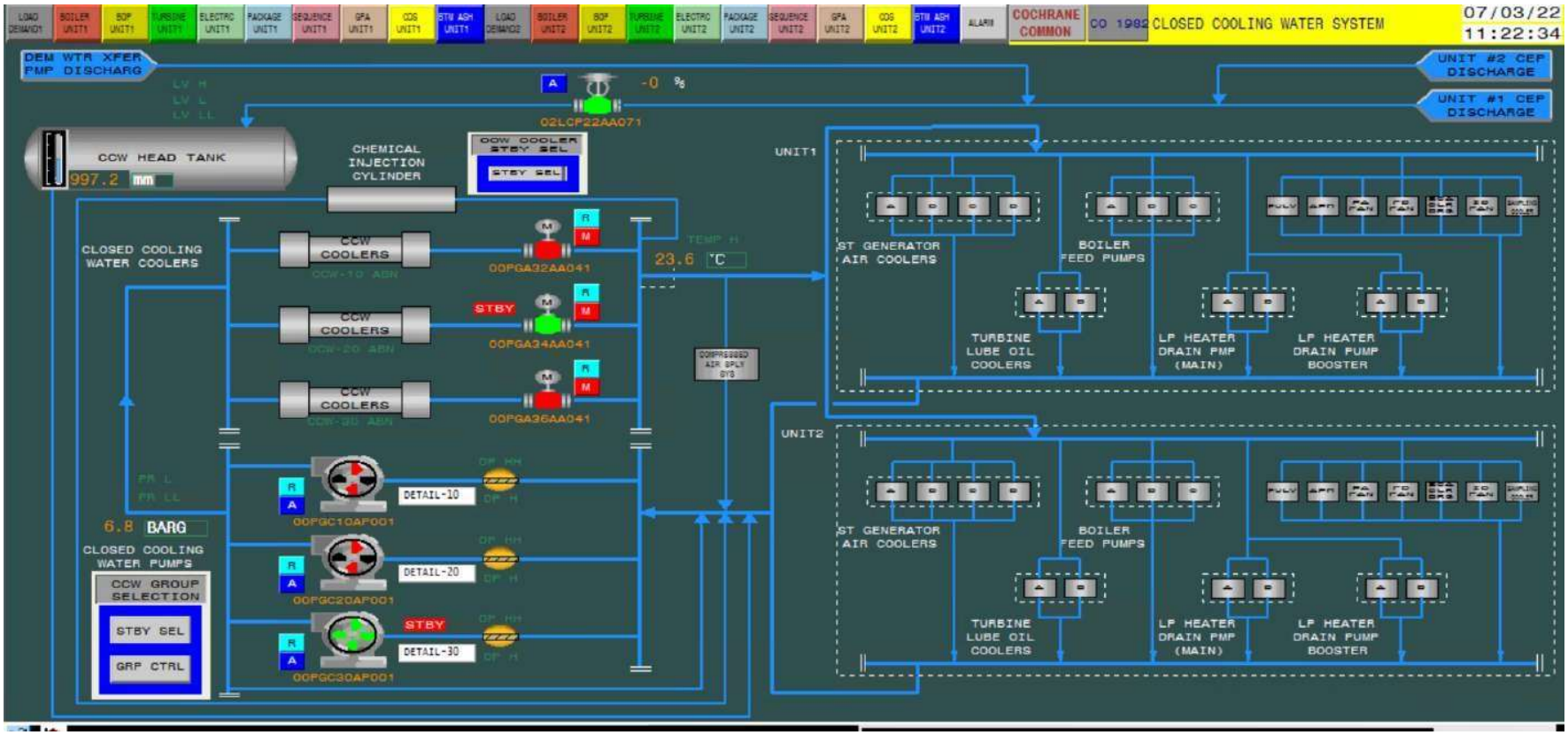

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 1978
CWP-20 DETAIL
07/03/22
11:20:32
RETURN
CWP-10 DETAIL
CWP-20 DETAIL
0.0 rpm
CWP-20
168.4 A
12PAC20AP001
AVG
AVG
AVG
°C
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR WDG TEMP U
MTR WDG TEMP V
MTR WDG TEMP W
PP BRG TEMP DE
PP BRG TEMP NDE
200
150
100
50
0
54.4
27.0
78.5
76.8
71.8
27.2
24.9
mm/s
PMP BRG VIB X DE
PMP BRG VIB Y DE
PMP BRG VIB X NDE
PMP BRG VIB Y NDE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
PMP BRG THRUST
12
9
6
3
0
1.250
0.370
0.560
1.210
0.250
0.200
0.400
0.290
0.060

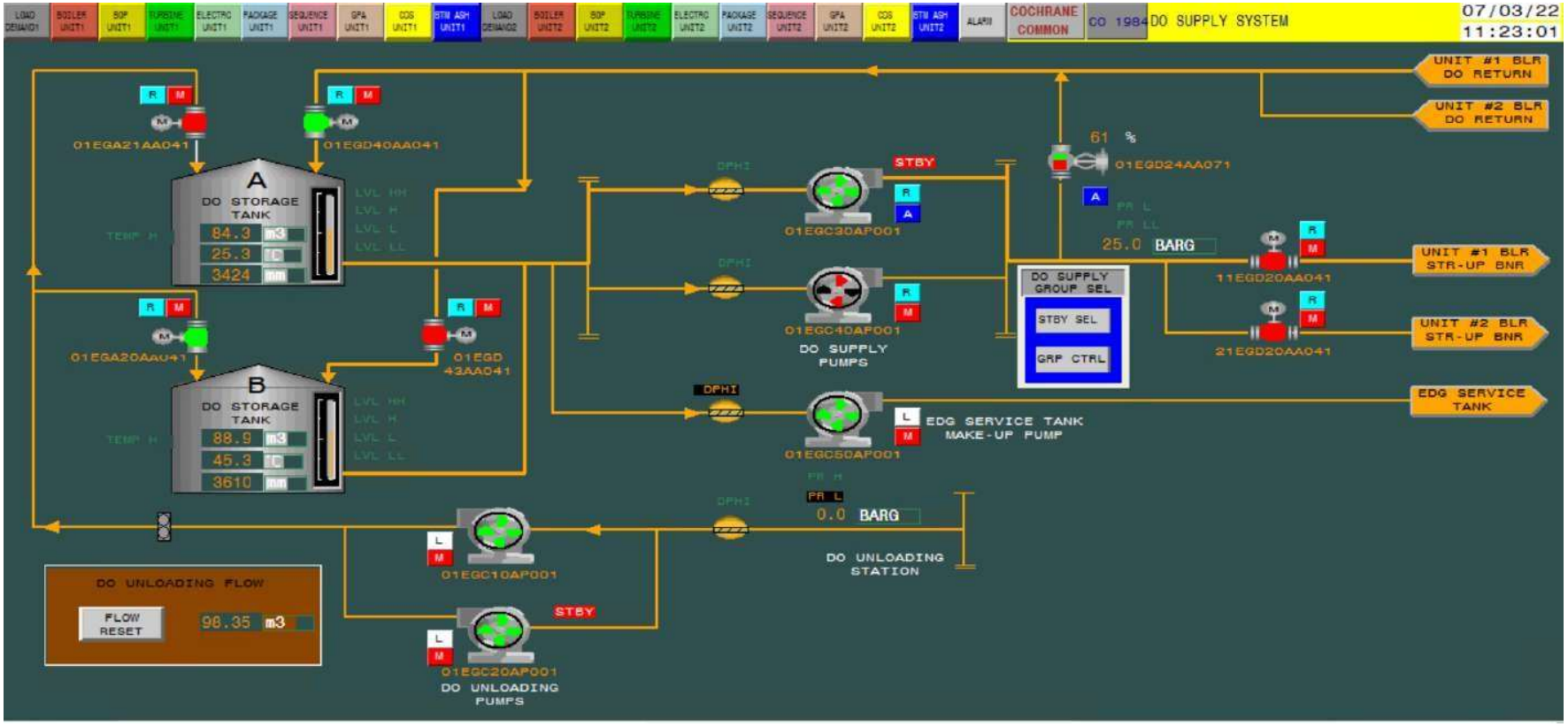

COCHRANE
COMMON
CO 1979
COOLING TOWER MAKE-UP SYSTEM
07/03/22
11:21:50
CWP INTAKE SUMP
5.4 BARG
1.7 m3/h
1705 m3/h
CAUDAL HIGH
SEA WATER DELTA TEMPERATURE
ACTUAL DELTA
7.3 °C
H-ALARM
HH-ALARM
ELECTRO CHLO SYSTEM
VAC PRIMING PMP COOLER
CT MAKE UP GROUP SEL
STBY SEL
GRP CTRL
02PAR01AA041
02PAR02AA041
DETAIL-10
DETAIL-20
6659 mm
STBY
DEV 5362 mm
DEV 6629 mm
5358 mm
02PAA40AA041
02PAA40AA042
TRAVELLING BAND SCREEN 02PAA10AT003
TRAVELLING BAND SCREEN 02PAA20AT003
TRASH SLUICE
TRASH SLUICE
PLUG-IN SCREEN
PLUG-IN SCREEN
02PAA10AT001
02PAA20AT001
FINE BAR SCREEN
FINE BAR SCREEN
02PAA10AA041
14.6 deg
STOP LOG
STOP LOG
CW INTAKE SYPHON PIPE
ELECTRO CHLO SYSTEM
ELECTRO CHLO SYSTEM
SEPARATORS
02PAJ10AP001
02PAJ20AP001
SERVICE WTR FROM AGM
VACUUM PRIMING PUMPS
0.4 BA
0.4 BA
VACUUM CONTROL TANK

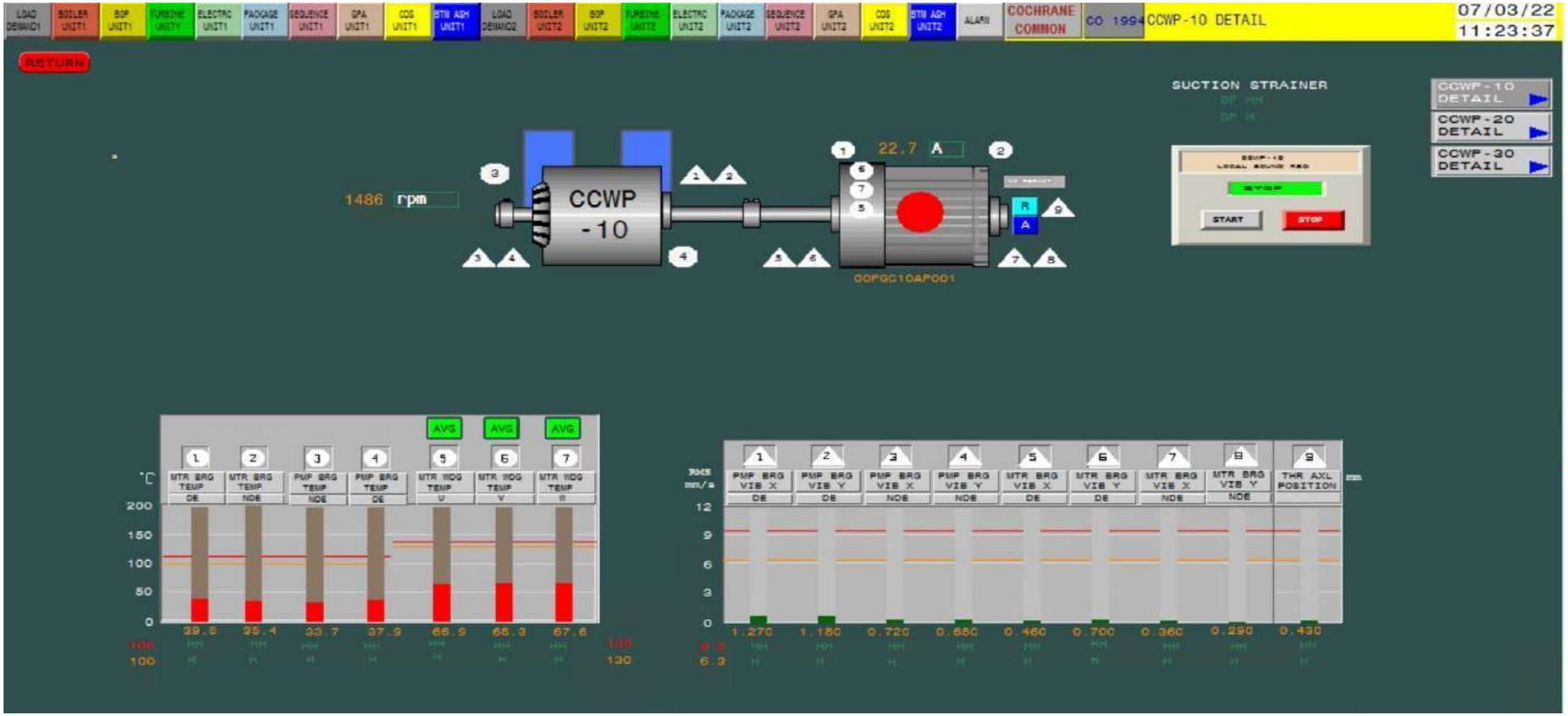

COCHRANE COMMON
CO 1981
AUXILIARY COOLING WATER SYSTEM
07/03/22
11:22:14
UNIT 1 CWP DISCHARGE
10PCB10AA001
AUTO FILTER
10PCB10AA002
00PCB21AA001
CLOSED COOLING WATER COOLER
00PCB31AA041
UNIT 1 CW PIPE DISCH
00PCB21AA401
10PCD10AA461
00PCB32AA042
10PCB10AA004
STBY
00PCB32AA041
00PCB22AA001
00PCB32AA043
00PCB22AA401
UNIT 2 CWP DISCHARGE
20PCB10AA001
AUTO FILTER
20PCB10AA002
00PCB23AA001
00PCB33AA041
UNIT 2 CW PIPE DISCH
20PCD10AA461
00PCB23AA401
CCW COOLER STBY SEL
STBY SEL
SEAWATER SUMP PUMP

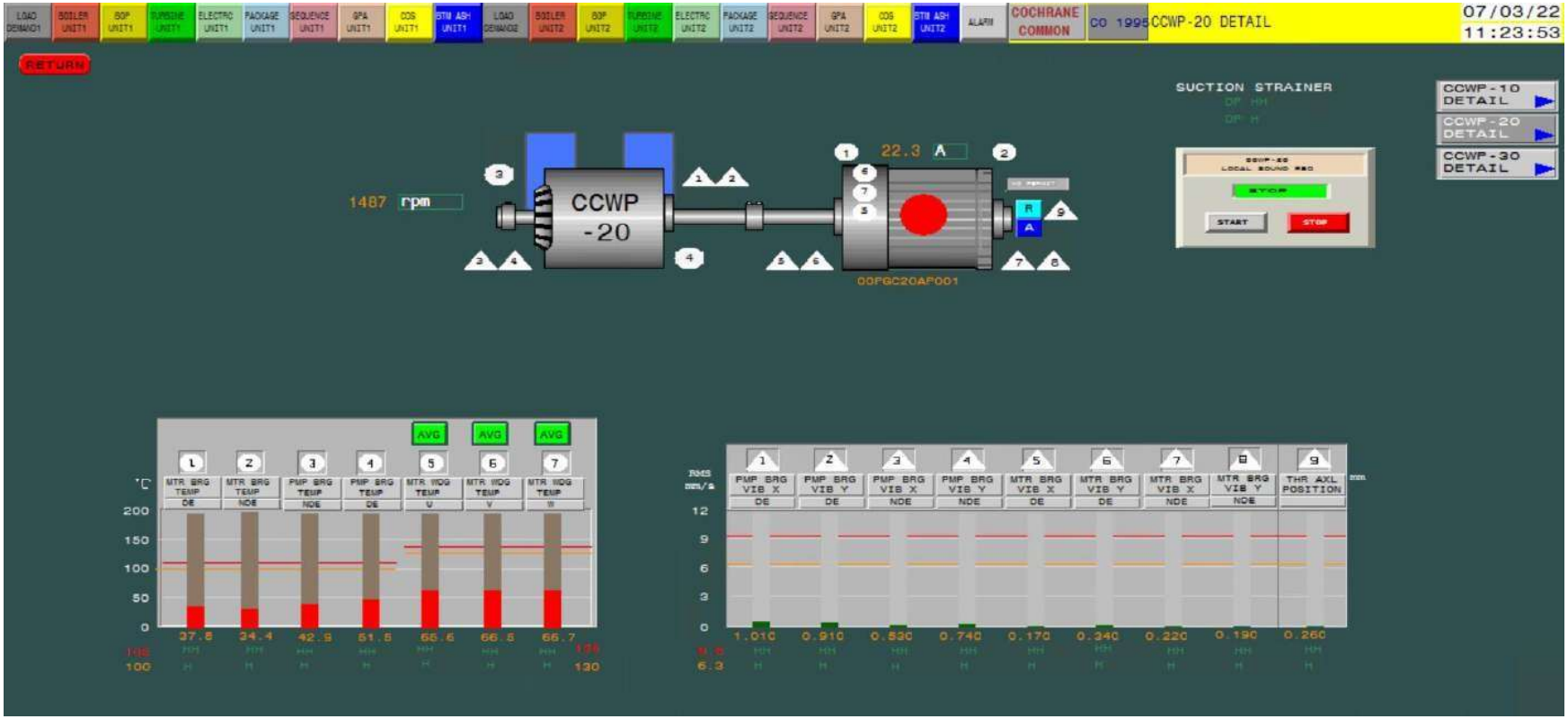

COCHRANE COMMON
CO 1992
CLOSED COOLING WATER SYSTEM
07/03/22
11:22:34
DEM WTR XFER PMP DISCHARG
UNIT #2 CEP DISCHARGE
UNIT #1 CEP DISCHARGE
02LCP22AA071
CCW HEAD TANK
997.2 mm
CHEMICAL INJECTION CYLINDER
CCW COOLER STBY SEL
CLOSED COOLING WATER COOLERS
CCW COOLERS
00PGA32AA041
00PGA34AA041
00PGA36AA041
STBY
TEMP H
23.6 °C
UNIT1
UNIT2
ST GENERATOR AIR COOLERS
BOILER FEED PUMPS
TURBINE LUBE OIL COOLERS
LP HEATER DRAIN PMP (MAIN)
LP HEATER DRAIN PUMP BOOSTER
6.8 BARG
CLOSED COOLING WATER PUMPS
CCW GROUP SELECTION
STBY SEL
GRP CTRL
00PGC10AP001
00PGC20AP001
00PGC30AP001
DETAIL-10
DETAIL-20
DETAIL-30

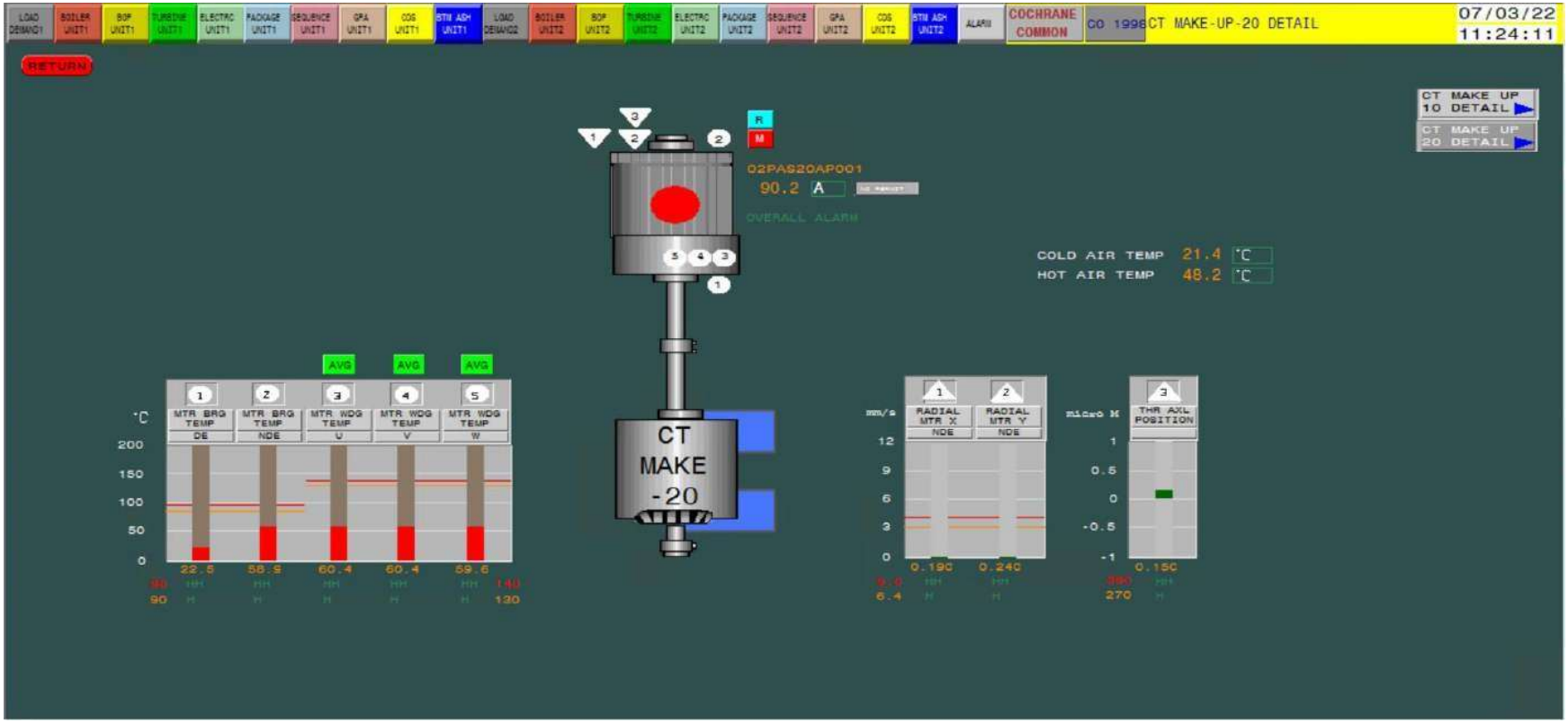

COCHRANE COMMON
CO 1992
CLOSED COOLING WATER SYSTEM
07/03/22
11:22:34
DEM WTR XFER PMP DISCHARG
UNIT #2 CEP DISCHARGE
UNIT #1 CEP DISCHARGE
02LCP22AA071
CCW HEAD TANK
997.2 mm
CHEMICAL INJECTION CYLINDER
CCW COOLER STBY SEL
STBY SEL
CLOSED COOLING WATER COOLERS
CCW COOLERS
00PGA32AA041
00PGA34AA041
00PGA36AA041
STBY
TEMP H
23.6 °C
COMPRESSED AIR SPLY SYS
UNIT1
ST GENERATOR AIR COOLERS
BOILER FEED PUMPS
TURBINE LUBE OIL COOLERS
LP HEATER DRAIN PMP (MAIN)
LP HEATER DRAIN PUMP BOOSTER
UNIT2
00PGC10AP001
00PGC20AP001
00PGC30AP001
DETAIL-10
DETAIL-20
DETAIL-30
6.8 BARG
CLOSED COOLING WATER PUMPS
CCW GROUP SELECTION
STBY SEL
GRP CTRL

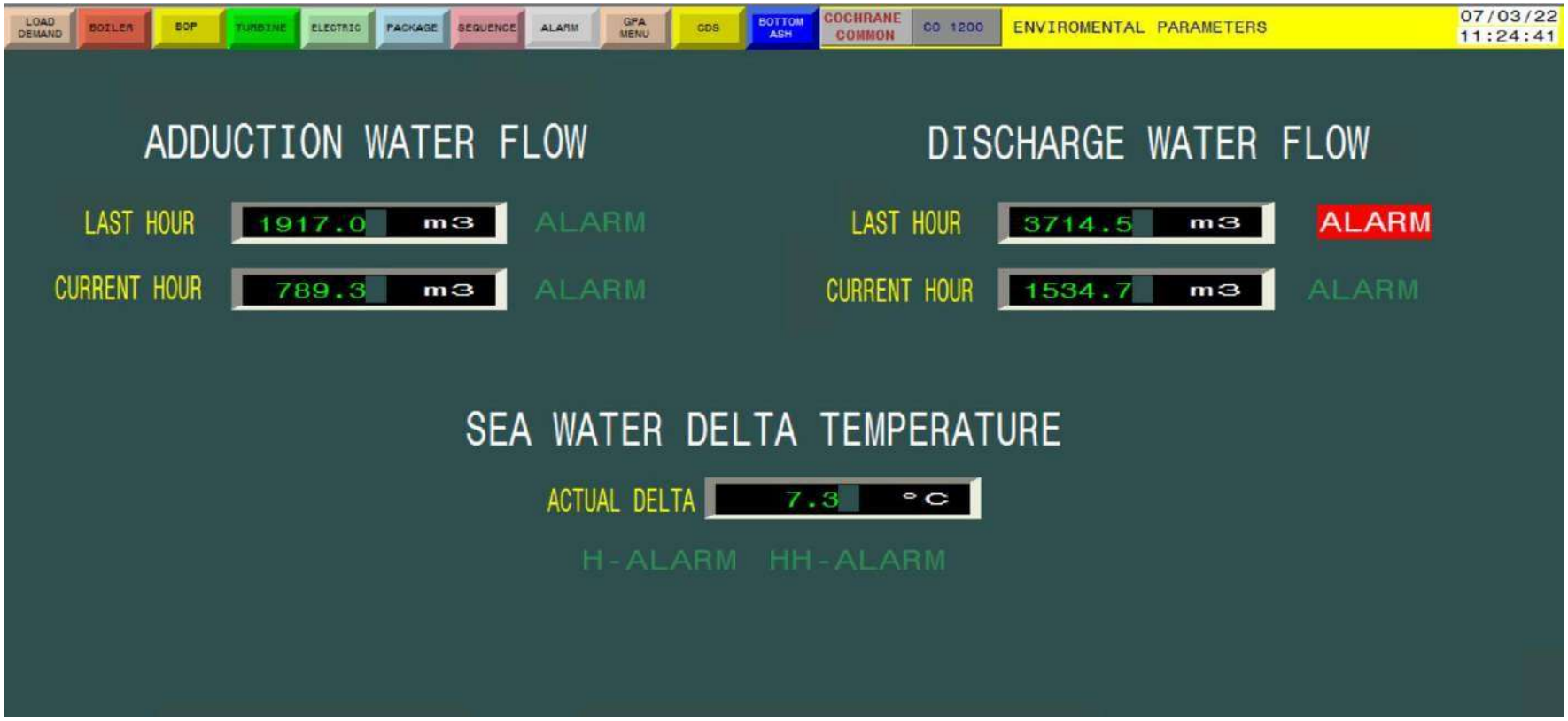

COCHRANE COMMON
CO 1992
CLOSED COOLING WATER SYSTEM
07/03/22
11:22:34
DEM WTR XFER PMP DISCHARG
UNIT #2 CEP DISCHARGE
UNIT #1 CEP DISCHARGE
02LCP22AA071
CCW HEAD TANK
997.2 mm
CHEMICAL INJECTION CYLINDER
CCW COOLER STBY SEL
CLOSED COOLING WATER COOLERS
CCW COOLERS
00PGA32AA041
00PGA34AA041
00PGA36AA041
STBY
TEMP H
23.6 °C
UNIT1
UNIT2
ST GENERATOR AIR COOLERS
BOILER FEED PUMPS
TURBINE LUBE OIL COOLERS
LP HEATER DRAIN PMP (MAIN)
LP HEATER DRAIN PUMP BOOSTER
6.8 BARG
CLOSED COOLING WATER PUMPS
CCW GROUP SELECTION
STBY SEL
GRP CTRL
00PGC10AP001
00PGC20AP001
00PGC30AP001
DETAIL-10
DETAIL-20
DETAIL-30

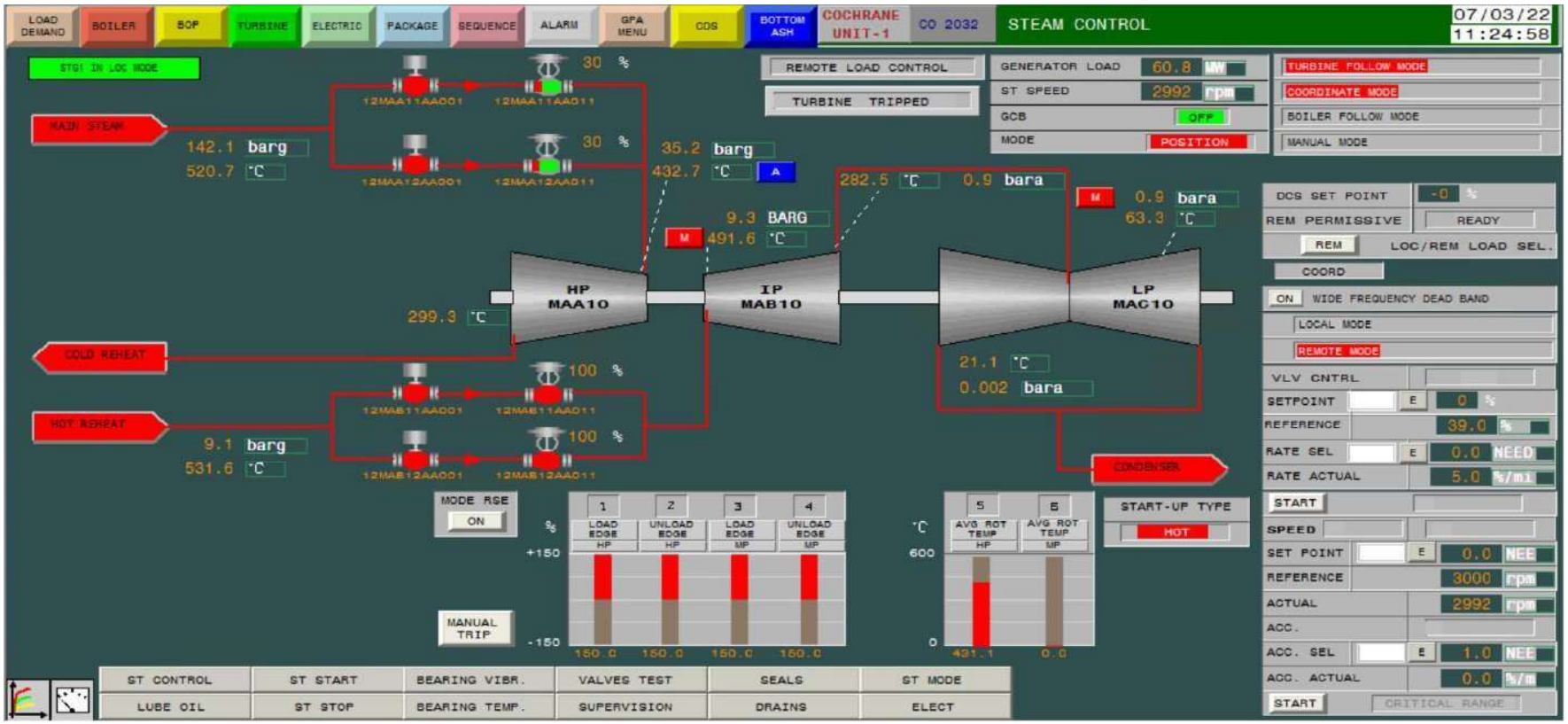

DO SUPPLY SYSTEM
07/03/22
11:23:01
COCHRANE COMMON
UNIT #1 BLR DO RETURN
UNIT #2 BLR DO RETURN
01EGA21AA041
01EGD40AA041
A
DO STORAGE TANK
84.3 m3
25.3 °C
3424 mm
01EGA20AA041
01EGD 43AA041
B
DO STORAGE TANK
88.9 m3
45.3 °C
3610 mm
01EGC30AP001
STBY
01EGC40AP001
DO SUPPLY PUMPS
61 %
01EGD24AA071
25.0 BARG
DO SUPPLY GROUP SEL
STBY SEL
GRP CTRL
11EGD20AA041
21EGD20AA041
UNIT #1 BLR STR-UP BNR
UNIT #2 BLR STR-UP BNR
EDG SERVICE TANK
01EGC50AP001
EDG SERVICE TANK MAKE-UP PUMP
0.0 BARG
DO UNLOADING STATION
01EGC10AP001
01EGC20AP001
STBY
DO UNLOADING PUMPS
DO UNLOADING FLOW
FLOW RESET
98.35 m3

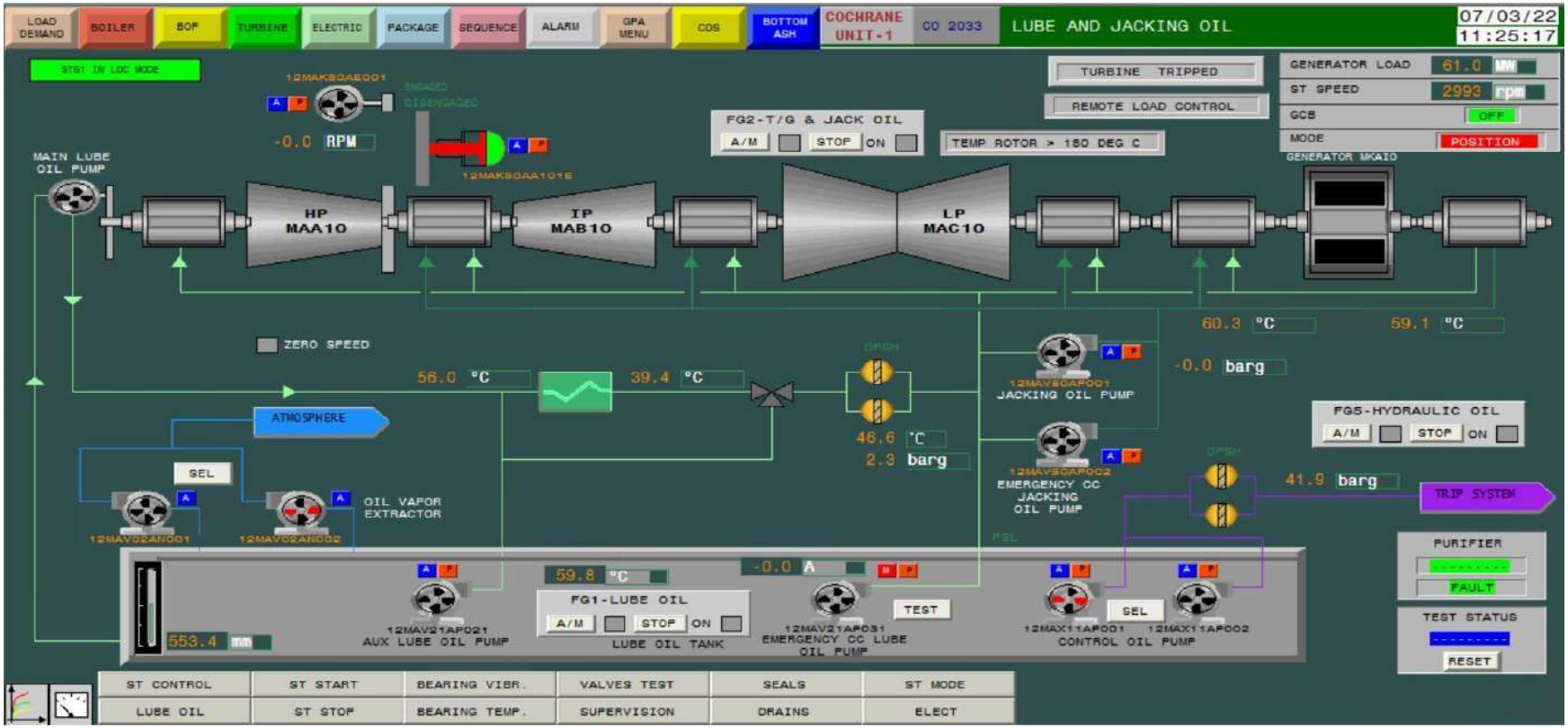

COCHRANE COMMON
CO 1994
CCWP-10 DETAIL
07/03/22
11:23:37
RETURN
SUCTION STRAINER
CCWP-10 DETAIL
CCWP-20 DETAIL
CCWP-30 DETAIL
1486 rpm
CCWP -10
22.7 A
START
STOP
00PGC10AP001
AVG
MTR BRG TEMP DE
MTR BRG TEMP NDE
PMP BRG TEMP NDE
PMP BRG TEMP DE
MTR WDG TEMP U
MTR WDG TEMP V
MTR WDG TEMP W
39.6
35.4
33.7
37.9
66.9
68.3
67.6
PMP BRG VIB X DE
PMP BRG VIB Y DE
PMP BRG VIB X NDE
PMP BRG VIB Y NDE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
THR AXL POSITION
1.270
1.180
0.720
0.650
0.460
0.700
0.360
0.290
0.430

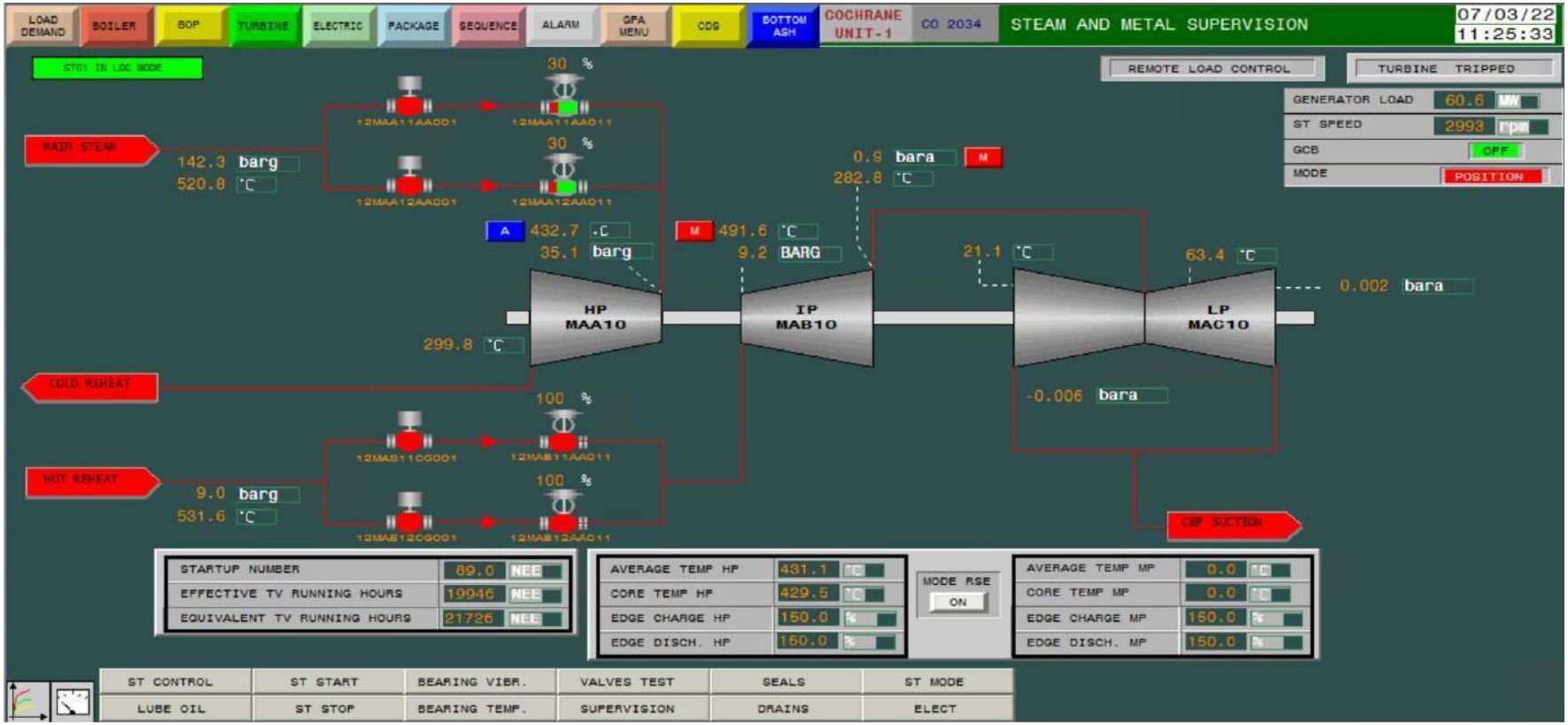

COCHRANE COMMON
CO 1995
CCWP-20 DETAIL
07/03/22
11:23:53
RETURN
SUCTION STRAINER
CCWP-10 DETAIL
CCWP-20 DETAIL
CCWP-30 DETAIL
1487 rpm
CCWP -20
22.3 A
START
STOP
00PGC20AP001
AVG
MTR BRG TEMP DE
MTR BRG TEMP NDE
PMP BRG TEMP NDE
PMP BRG TEMP DE
MTR WDG TEMP V
MTR WDG TEMP W
37.8
34.4
42.9
51.5
65.6
66.5
66.7
PMP BRG VIB X DE
PMP BRG VIB Y DE
PMP BRG VIB X NDE
PMP BRG VIB Y NDE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
THR AXL POSITION
1.010
0.910
0.530
0.740
0.170
0.340
0.220
0.190
0.260

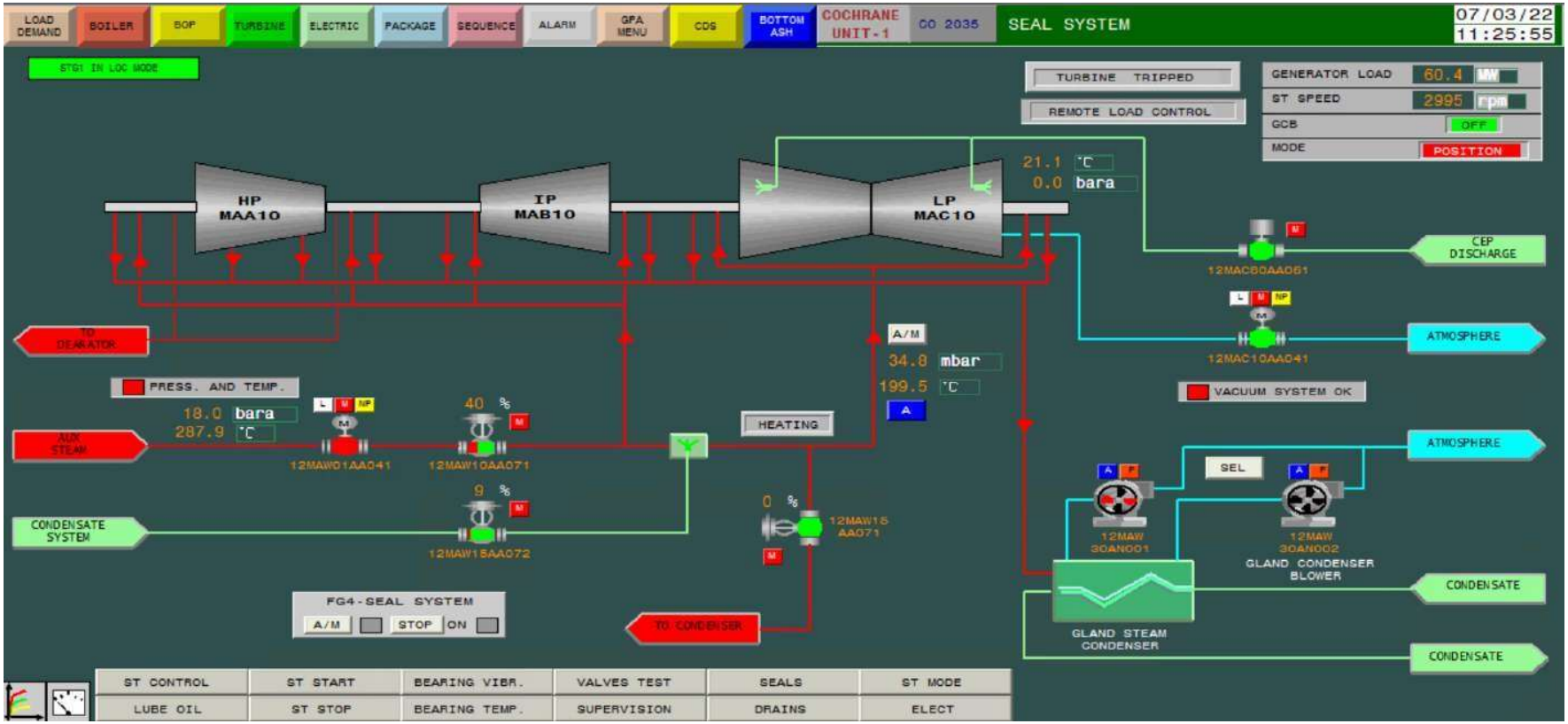

COCHRANE
COMMON
CO 1998
CT MAKE-UP-20 DETAIL
07/03/22
11:24:11
RETURN
CT MAKE UP
10 DETAIL
CT MAKE UP
20 DETAIL
02PAS20AP001
90.2 A
OVERALL ALARM
COLD AIR TEMP 21.4 °C
HOT AIR TEMP 48.2 °C
CT
MAKE
-20
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR WDG TEMP U
MTR WDG TEMP V
MTR WDG TEMP W
AVG
22.5
58.5
60.4
60.4
59.6
RADIAL MTR X NDE
RADIAL MTR Y NDE
0.190
0.240
THR AXL POSITION
0.150

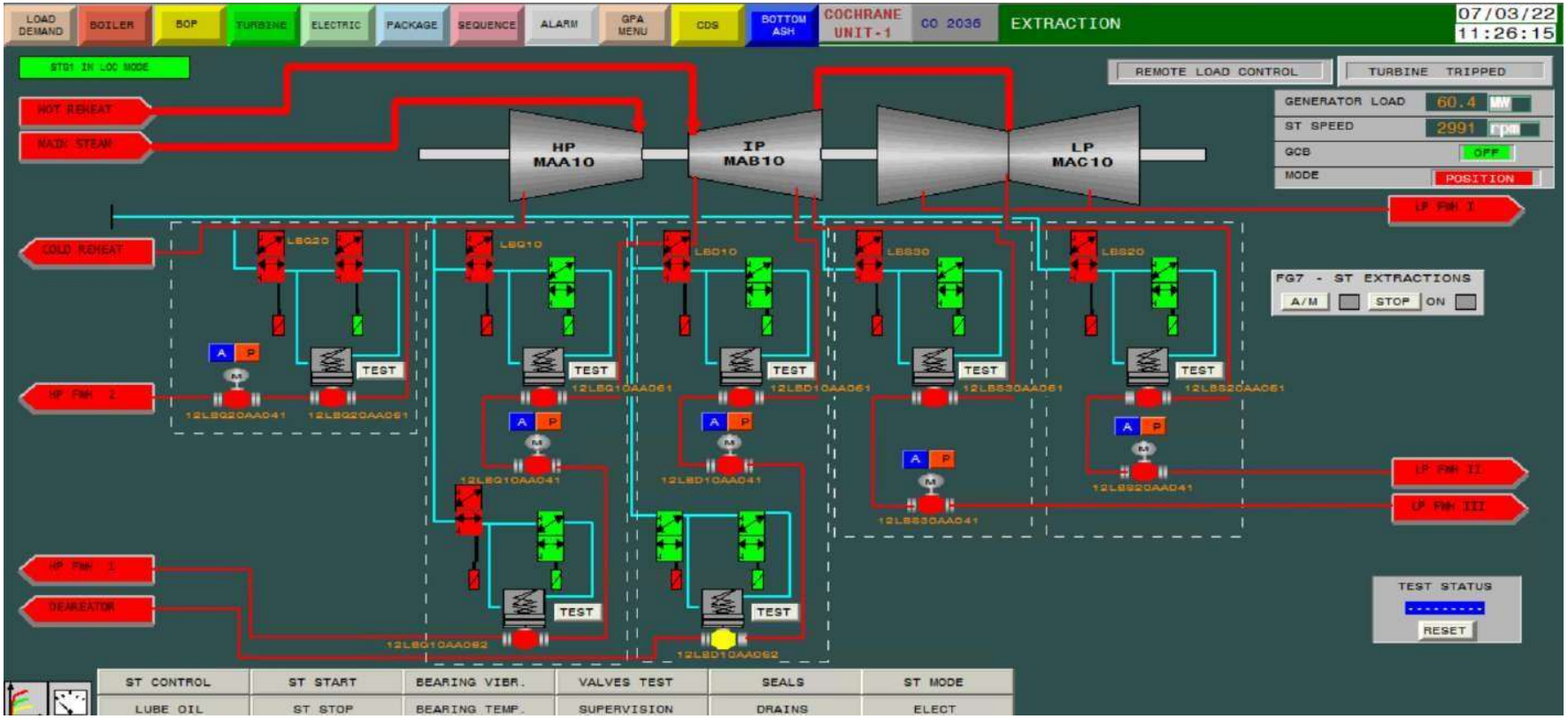

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE COMMON
CO 1200
ENVIROMENTAL PARAMETERS
07/03/22
11:24:41
ADDUCTION WATER FLOW
LAST HOUR
1917.0 m3
ALARM
CURRENT HOUR
789.3 m3
ALARM
DISCHARGE WATER FLOW
LAST HOUR
3714.5 m3
ALARM
CURRENT HOUR
1534.7 m3
ALARM
SEA WATER DELTA TEMPERATURE
ACTUAL DELTA
7.3 °C
H-ALARM
HH-ALARM

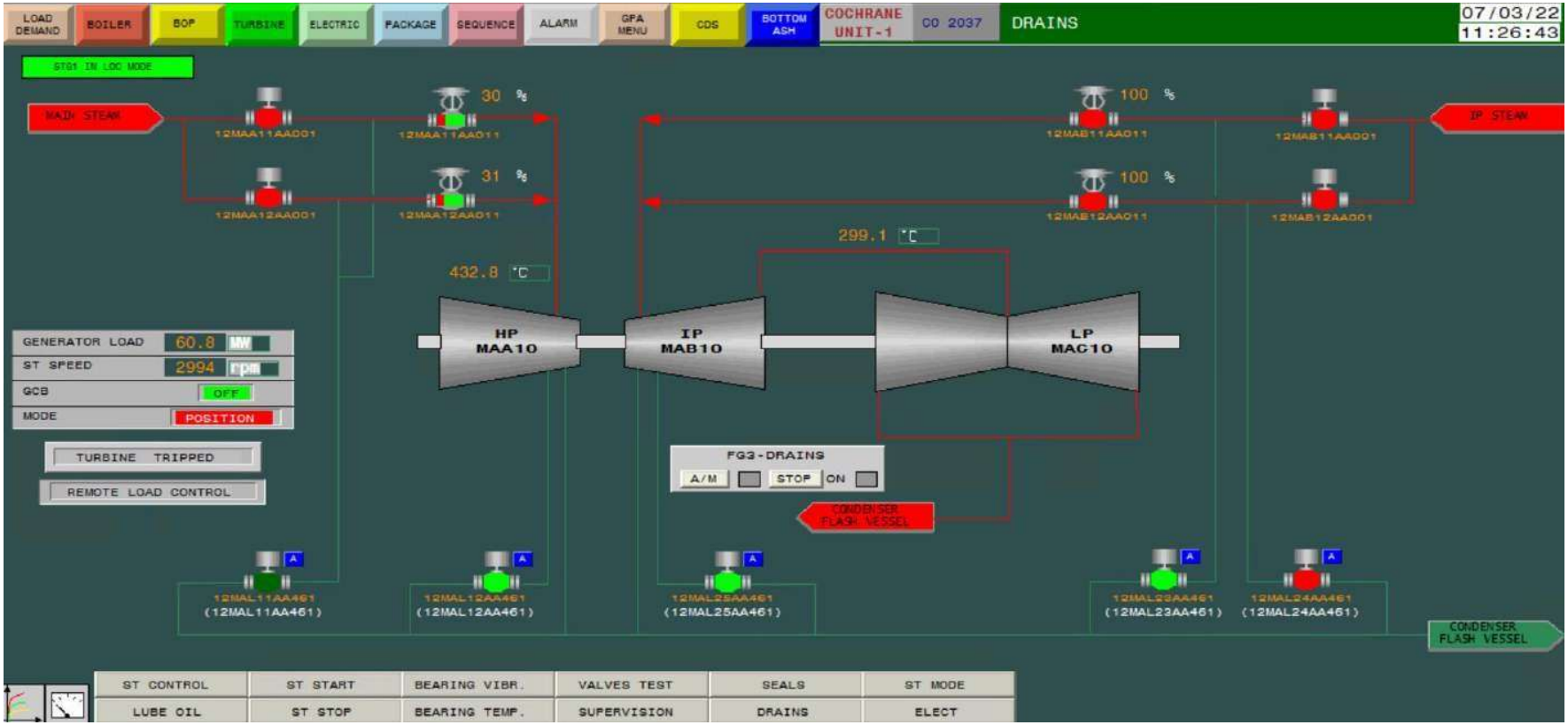

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2032
STEAM CONTROL
07/03/22
11:24:58
STG1 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD 60.8 MW
ST SPEED 2992 rpm
GCB OFF
MODE POSITION
TURBINE FOLLOW MODE
COORDINATE MODE
BOILER FOLLOW MODE
MANUAL MODE
MAIN STEAM
142.1 barg
520.7 °C
30 %
30 %
35.2 barg
432.7 °C
A
9.3 BARG
491.6 °C
282.5 °C
0.9 bara
0.9 bara
63.3 °C
HP MAA10
IP MAB10
LP MAC10
299.3 °C
COLD REHEAT
HOT REHEAT
9.1 barg
531.6 °C
100 %
100 %
21.1 °C
0.002 bara
CONDENSER
DCS SET POINT
REM PERMISSIVE READY
REM
LOC/REM LOAD SEL.
COORD
ON WIDE FREQUENCY DEAD BAND
LOCAL MODE
REMOTE MODE
VLV CNTRL
SETPOINT 0 %
REFERENCE 39.0 %
RATE SEL 0.0 %/mi
RATE ACTUAL 5.0 %/mi
MODE RSE
ON
MANUAL TRIP
START-UP TYPE
HOT
START
SPEED
SET POINT 0.0 rpm
REFERENCE 3000 rpm
ACTUAL 2992 rpm
ACC.
ACC. SEL 1.0
ACC. ACTUAL 0.0 %/m
START
CRITICAL RANGE
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

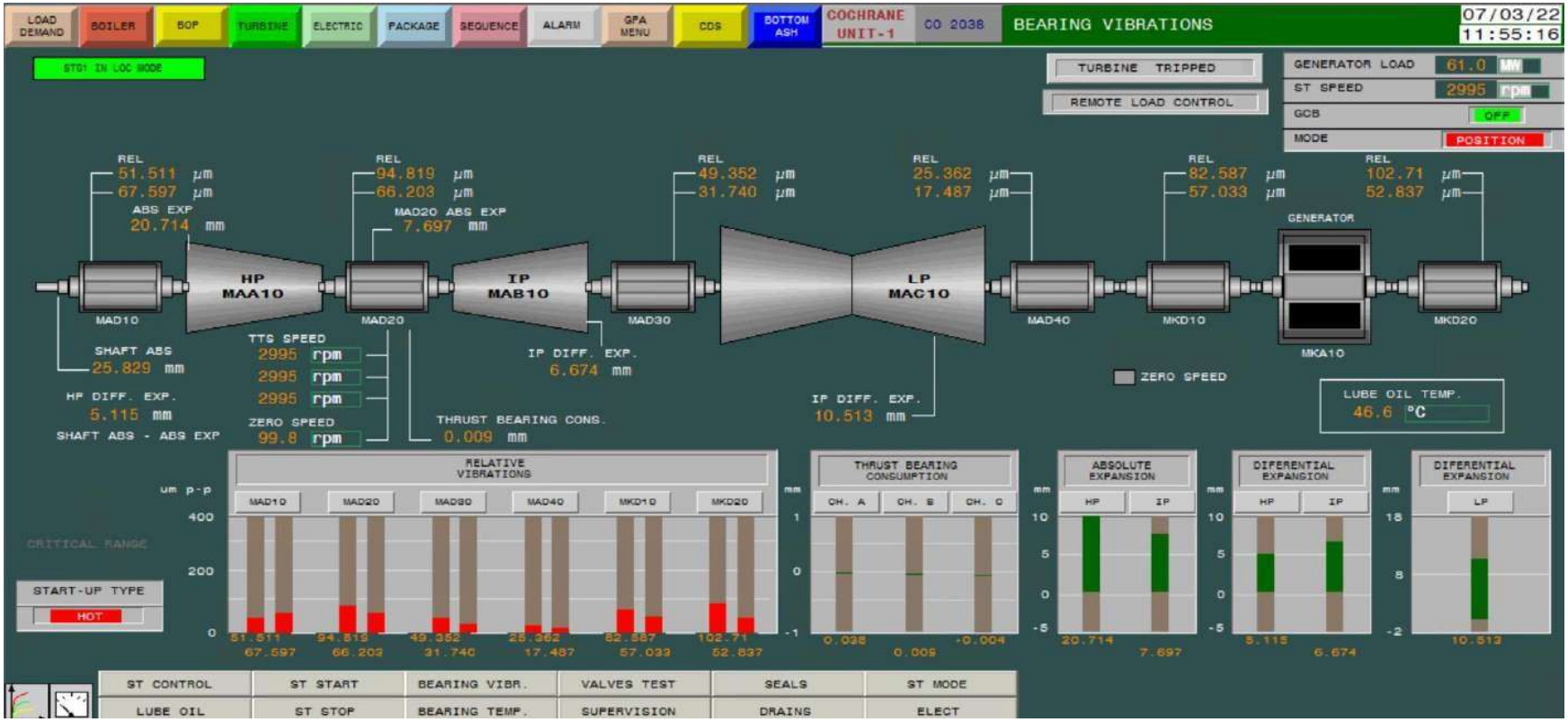

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2033
LUBE AND JACKING OIL
07/03/22
11:25:17
STG1 IN LOC MODE
12MAK80AE001
ENGAGED
DISENGAGED
-0.0 RPM
12MAK80AA101E
TURBINE TRIPPED
REMOTE LOAD CONTROL
FG2-T/G & JACK OIL
A/M
STOP
ON
TEMP ROTOR > 150 DEG C
GENERATOR LOAD 61.0 MW
ST SPEED 2993 rpm
GCB OFF
MODE POSITION
GENERATOR MKA10
MAIN LUBE OIL PUMP
HP MAA10
IP MAB10
LP MAC10
60.3 °C
59.1 °C
ZERO SPEED
56.0 °C
39.4 °C
DPSH
12MAV80AP001
JACKING OIL PUMP
-0.0 barg
ATMOSPHERE
46.6 °C
2.3 barg
12MAV80AP002
EMERGENCY CC JACKING OIL PUMP
FG5-HYDRAULIC OIL
A/M
STOP
ON
41.9 barg
TRIP SYSTEM
SEL
12MAV02AN001
12MAV02AN002
OIL VAPOR EXTRACTOR
PGL
PURIFIER
FAULT
59.8 °C
-0.0 A
553.4 mm
12MAV21AP021
AUX LUBE OIL PUMP
FG1-LUBE OIL
A/M
STOP
ON
LUBE OIL TANK
12MAV21AP031
EMERGENCY CC LUBE OIL PUMP
TEST
SEL
12MAX11AP001
12MAX11AP002
CONTROL OIL PUMP
TEST STATUS
RESET
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

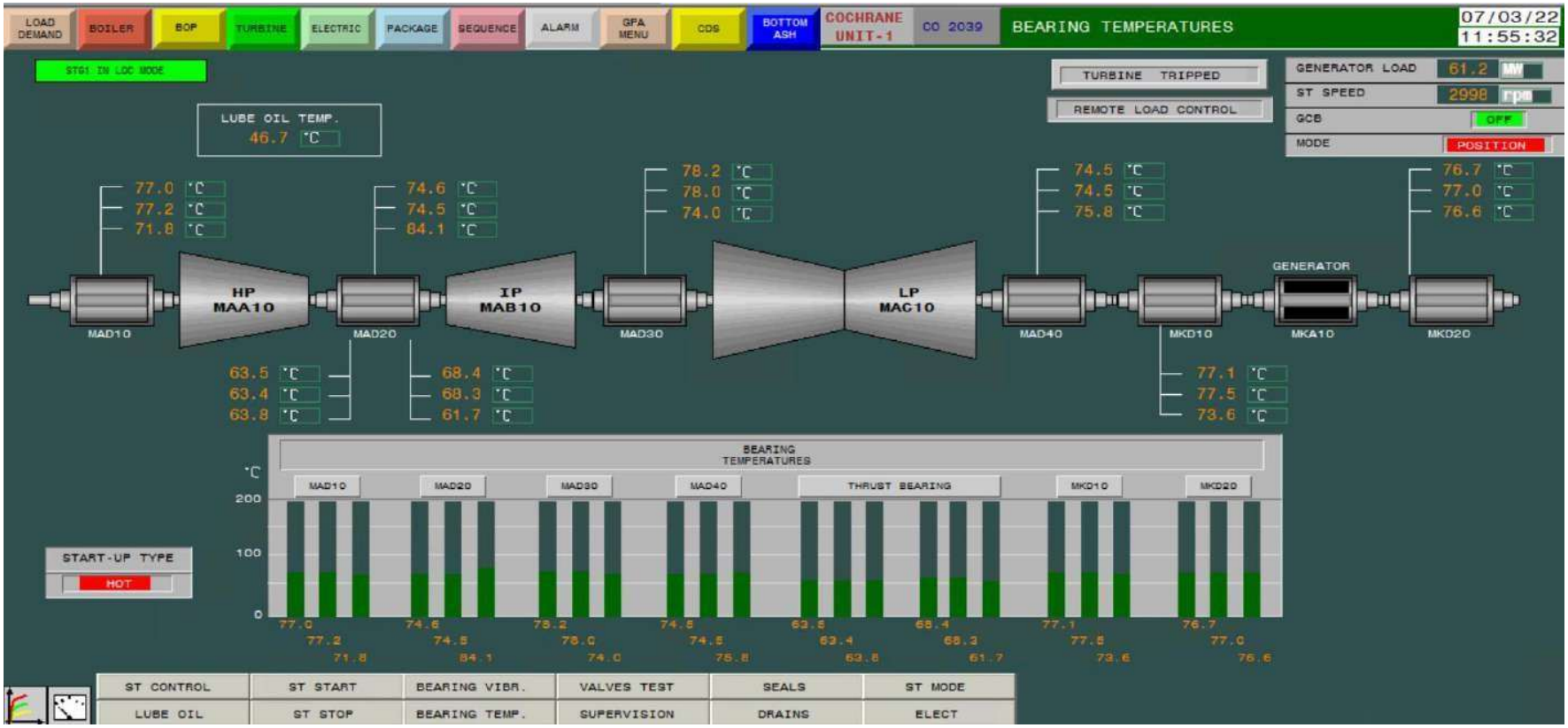

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2034
STEAM AND METAL SUPERVISION
07/03/22
11:25:33
STG1 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD 60.6 MW
ST SPEED 2993 rpm
GCB OFF
MODE POSITION
MAIN STEAM
142.3 barg
520.8 °C
30 %
30 %
12MAA11AA001
12MAA11AA011
12MAA12AA001
12MAA12AA011
A 432.7 °C
35.1 barg
M 491.6 °C
9.2 BARG
0.9 bara
282.8 °C
21.1 °C
63.4 °C
0.002 bara
HP MAA10
IP MAB10
LP MAC10
299.8 °C
COLD REHEAT
-0.006 bara
100 %
100 %
12MAB11QG001
12MAB11AA011
12MAB12QG001
12MAB12AA011
HOT REHEAT
9.0 barg
531.6 °C
CEP SUCTION
STARTUP NUMBER 89.0
EFFECTIVE TV RUNNING HOURS 19946
EQUIVALENT TV RUNNING HOURS 21726
AVERAGE TEMP HP 431.1
CORE TEMP HP 429.5
EDGE CHARGE HP 150.0 %
EDGE DISCH. HP 150.0 %
MODE RSE ON
AVERAGE TEMP MP 0.0
CORE TEMP MP 0.0
EDGE CHARGE MP 150.0 %
EDGE DISCH. MP 150.0 %
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

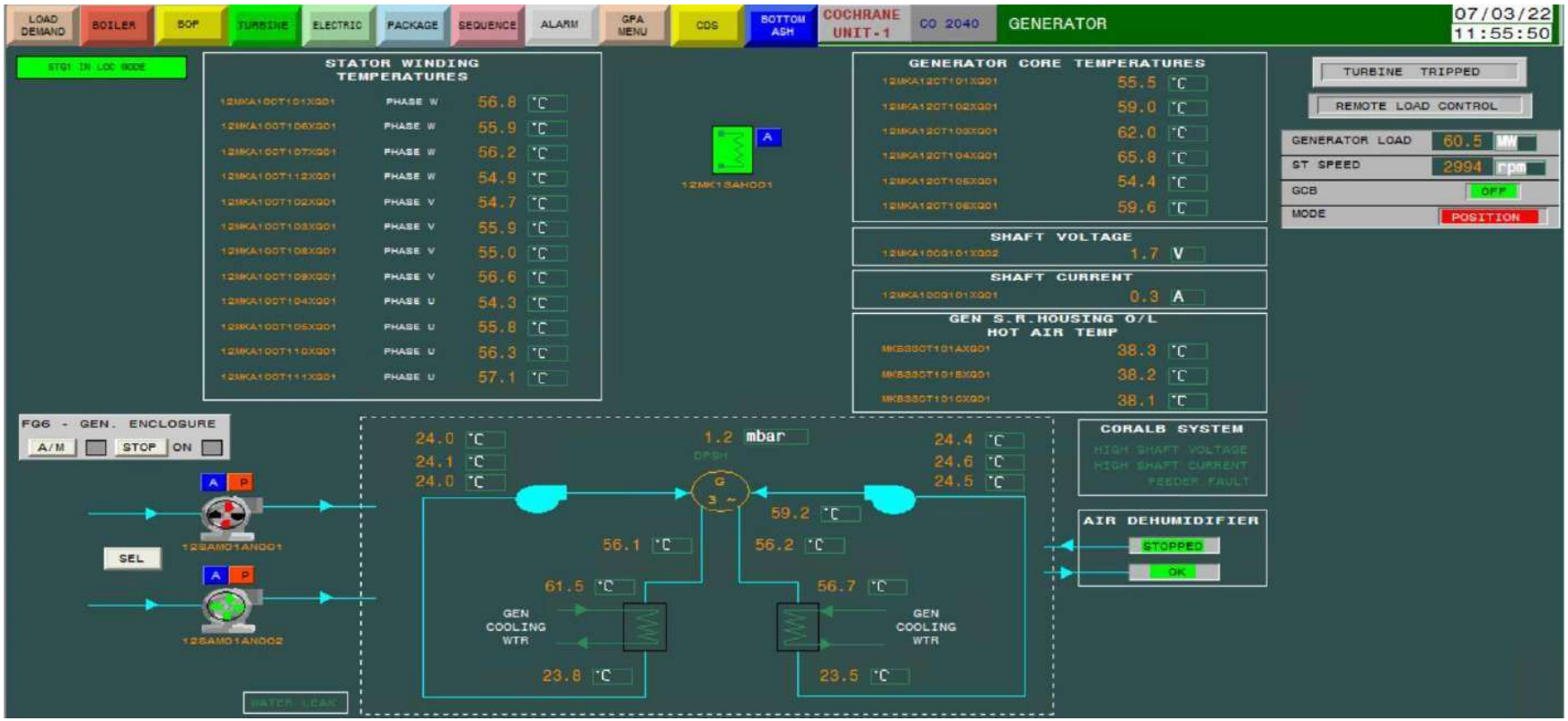

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2035
SEAL SYSTEM
07/03/22
11:25:55
STG1 IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 60.4 MW
ST SPEED 2995 rpm
GCB OFF
MODE POSITION
HP MAA10
IP MAB10
LP MAC10
21.1 °C
0.0 bara
12MAC80AA061
CEP DISCHARGE
12MAC10AA041
ATMOSPHERE
TO DEAERATOR
A/M
34.8 mbar
199.5 °C
A
PRESS. AND TEMP.
18.0 bara
287.9 °C
AUX STEAM
40 %
12MAW01AA041
12MAW10AA071
HEATING
VACUUM SYSTEM OK
ATMOSPHERE
SEL
9 %
CONDENSATE SYSTEM
12MAW15AA072
0 %
12MAW15 AA071
12MAW 30AN001
12MAW 30AN002
GLAND CONDENSER BLOWER
CONDENSATE
FG4-SEAL SYSTEM
A/M
STOP
ON
TO CONDENSER
GLAND STEAM CONDENSER
CONDENSATE
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

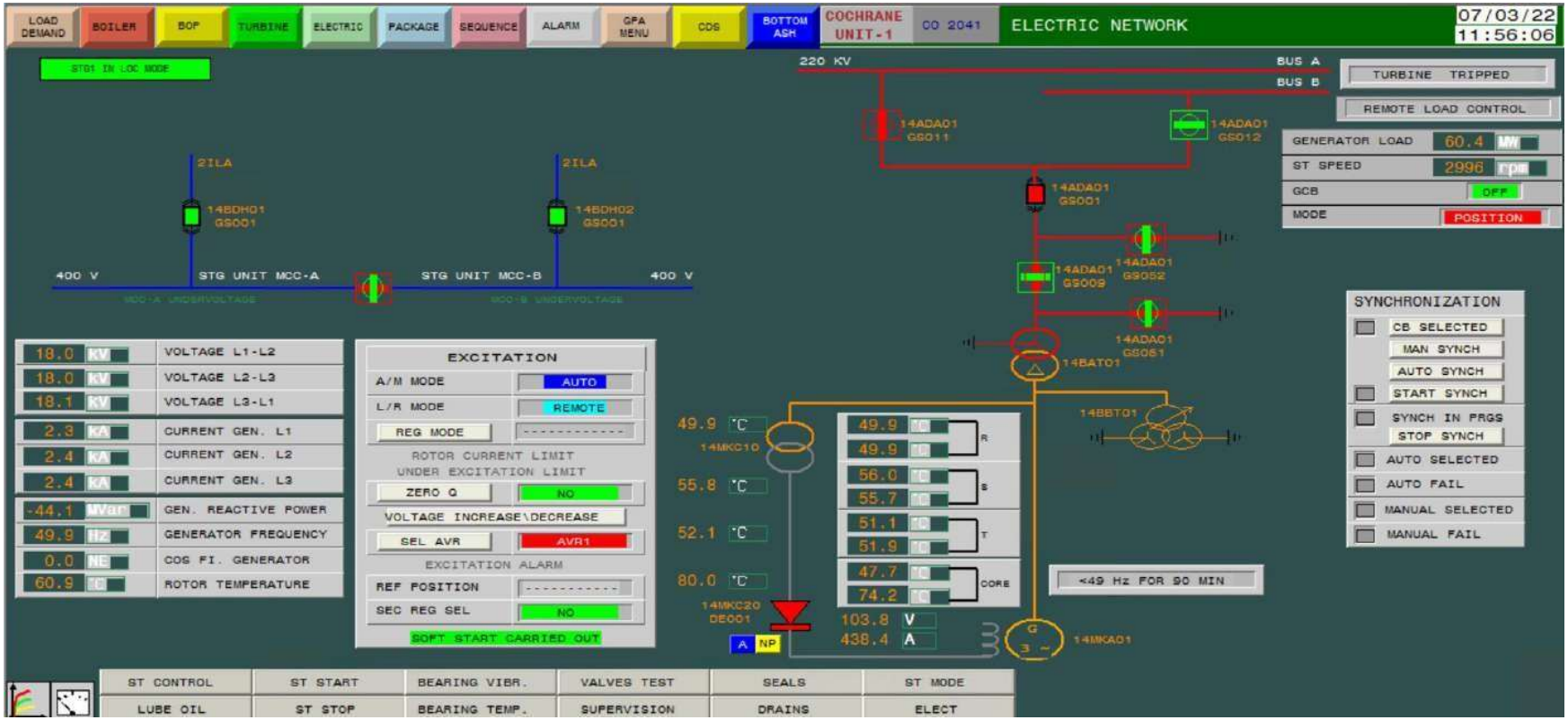

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
GO 2036
EXTRACTION
07/03/22
11:26:15
STG1 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD
60.4
MW
ST SPEED
2991
rpm
GCB
OFF
MODE
POSITION
HOT REHEAT
MAIN STEAM
HP MAA10
IP MAB10
LP MAC10
COLD REHEAT
LP FW I
HP FW I
LP FW II
LP FW III
DEAERATOR
FG7 - ST EXTRACTIONS
A/M
STOP
ON
TEST
TEST STATUS
RESET
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

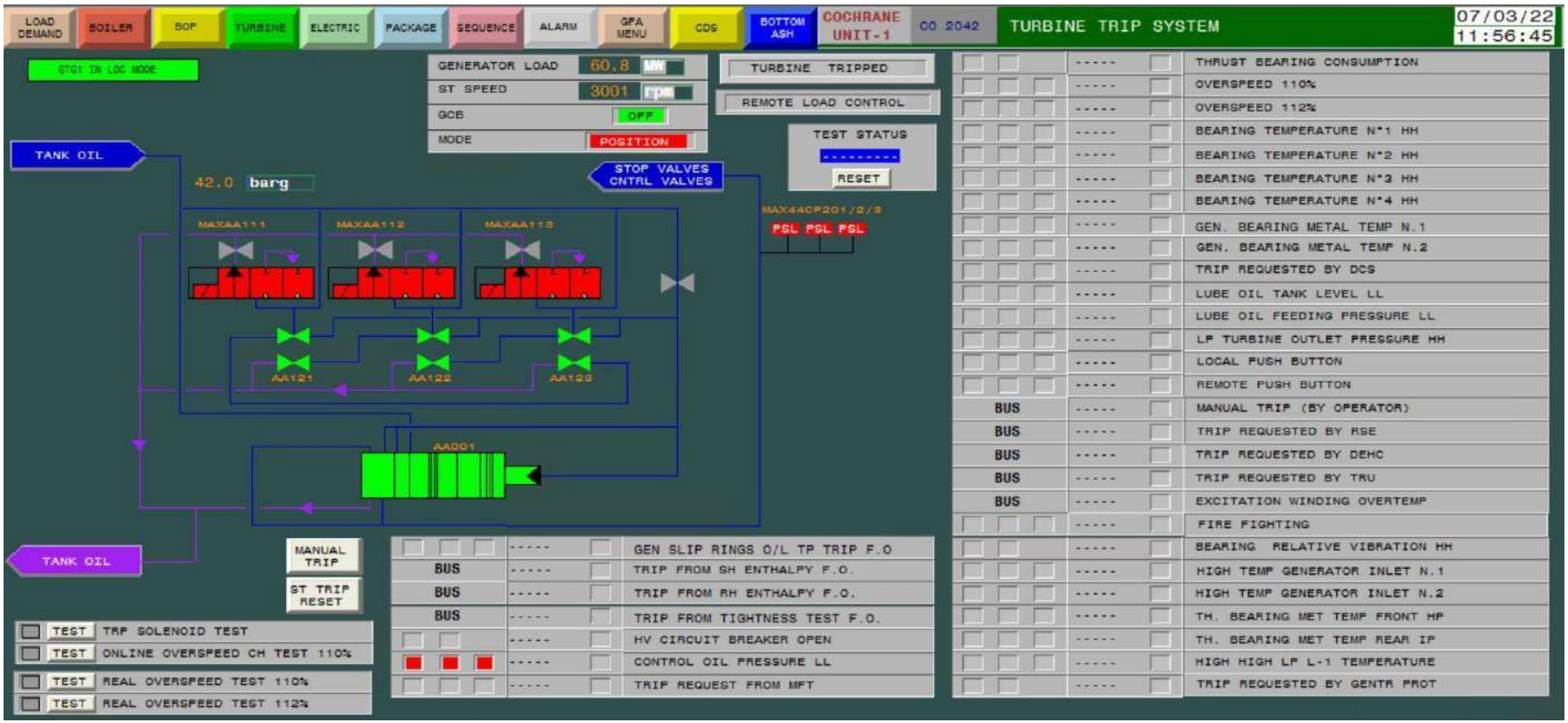

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2037
DRAINS
07/03/22
11:26:43
STG1 IN LOC MODE
MAIN STEAM
30 %
31 %
100 %
100 %
IP STEAM
299.1 °C
432.8 °C
HP MAA10
IP MAB10
LP MAC10
GENERATOR LOAD 60.8 MW
ST SPEED 2994 rpm
GCB OFF
MODE POSITION
TURBINE TRIPPED
REMOTE LOAD CONTROL
FG3-DRAINS
A/M
STOP
ON
CONDENSER FLASH VESSEL
12MAL11AA461 (12MAL11AA461)
12MAL12AA461 (12MAL12AA461)
12MAL25AA461 (12MAL25AA461)
12MAL23AA461 (12MAL23AA461)
12MAL24AA461 (12MAL24AA461)
CONDENSER FLASH VESSEL
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

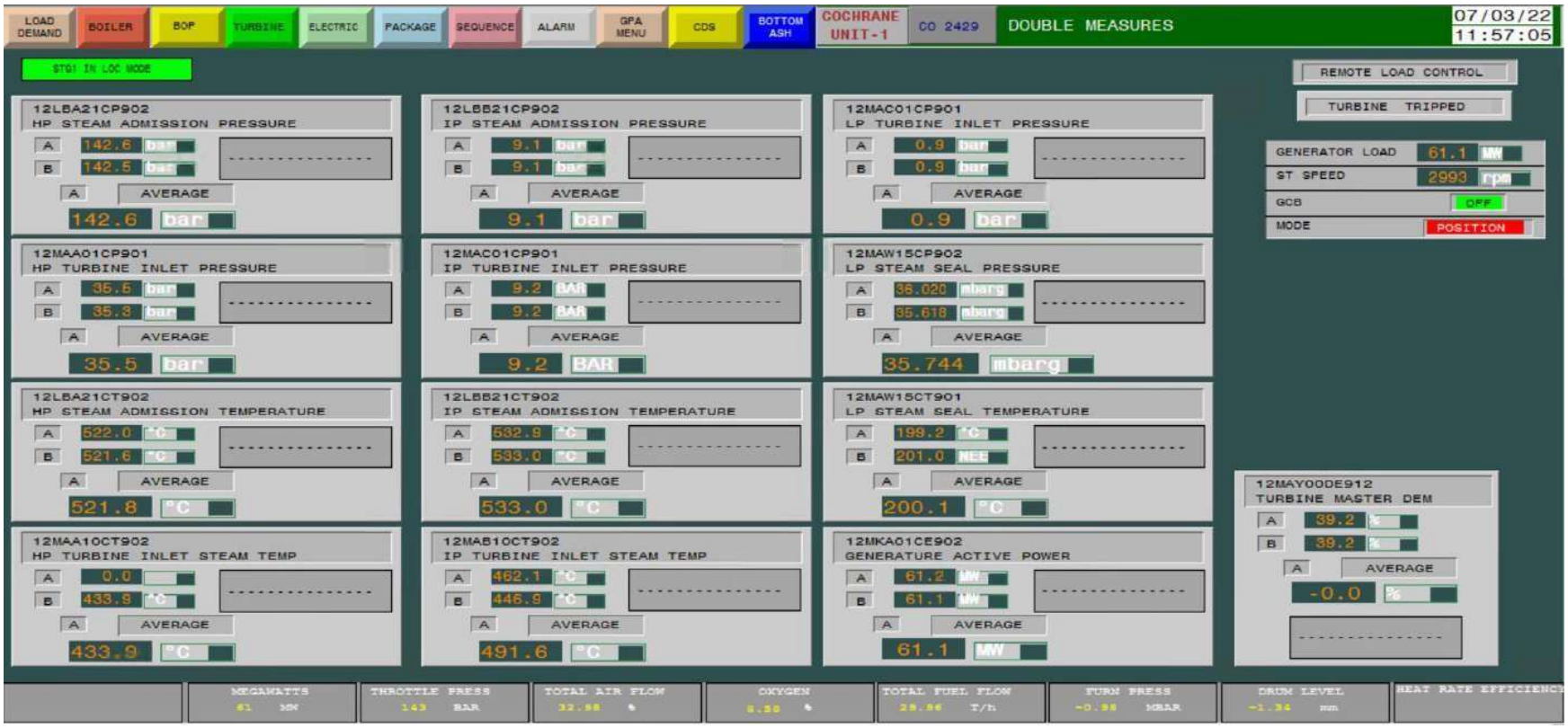

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2038
BEARING VIBRATIONS
07/03/22
11:55:16
STG1 IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 61.0 MW
ST SPEED 2995 rpm
GCB OFF
MODE POSITION
REL 51.511 µm 67.597 µm
ABS EXP 20.714 mm
REL 94.819 µm 66.203 µm
MAD20 ABS EXP 7.697 mm
REL 49.352 µm 31.740 µm
REL 25.362 µm 17.487 µm
REL 82.587 µm 57.033 µm
REL 102.71 µm 52.837 µm
GENERATOR
HP MAA10
IP MAB10
LP MAC10
MAD10
MAD20
MAD30
MAD40
MKD10
MKD20
MKA10
SHAFT ABS 25.829 mm
HP DIFF. EXP. 5.115 mm
SHAFT ABS - ABS EXP
TTS SPEED 2995 rpm 2995 rpm 2995 rpm
ZERO SPEED 99.8 rpm
THRUST BEARING CONS. 0.009 mm
IP DIFF. EXP. 6.674 mm
IP DIFF. EXP. 10.513 mm
ZERO SPEED
LUBE OIL TEMP. 46.6 °C
RELATIVE VIBRATIONS
um p-p
CRITICAL RANGE
THRUST BEARING CONSUMPTION
CH. A
CH. B
CH. C
ABSOLUTE EXPANSION
DIFERENTIAL EXPANSION
DIFERENTIAL EXPANSION
START-UP TYPE
HOT
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

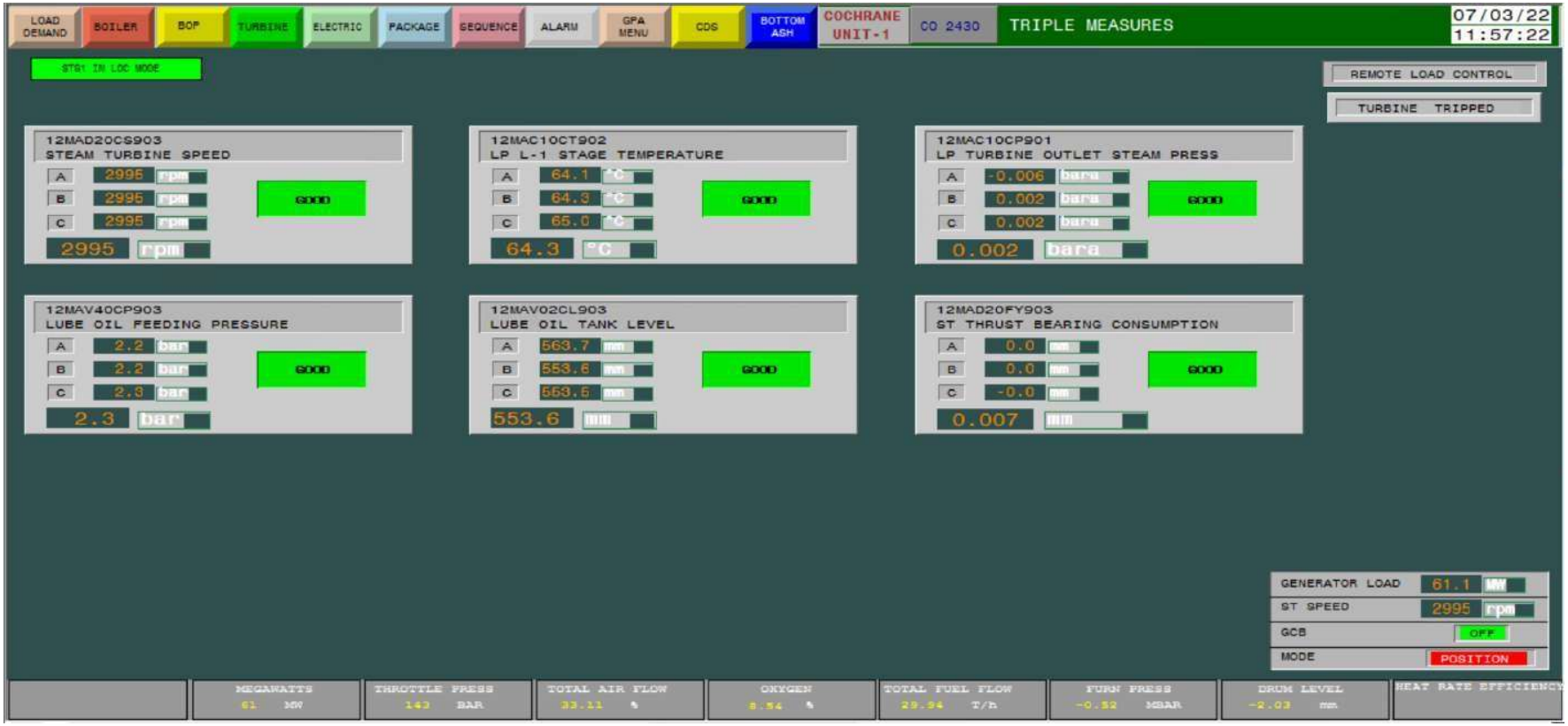

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2039
BEARING TEMPERATURES
07/03/22
11:55:32
STG1 IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 61.2 MW
ST SPEED 2998 rpm
GCB OFF
MODE POSITION
LUBE OIL TEMP.
46.7 °C
77.0 °C
77.2 °C
71.8 °C
74.6 °C
74.5 °C
84.1 °C
78.2 °C
78.0 °C
74.0 °C
74.5 °C
74.5 °C
75.8 °C
76.7 °C
77.0 °C
76.6 °C
HP MAA10
IP MAB10
LP MAC10
GENERATOR
MAD10
MAD20
MAD30
MAD40
MKD10
MKA10
MKD20
63.5 °C
63.4 °C
63.8 °C
68.4 °C
68.3 °C
61.7 °C
77.1 °C
77.5 °C
73.6 °C
BEARING TEMPERATURES
°C
200
100
0
MAD10
MAD20
MAD30
MAD40
THRUST BEARING
MKD10
MKD20
START-UP TYPE
HOT
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

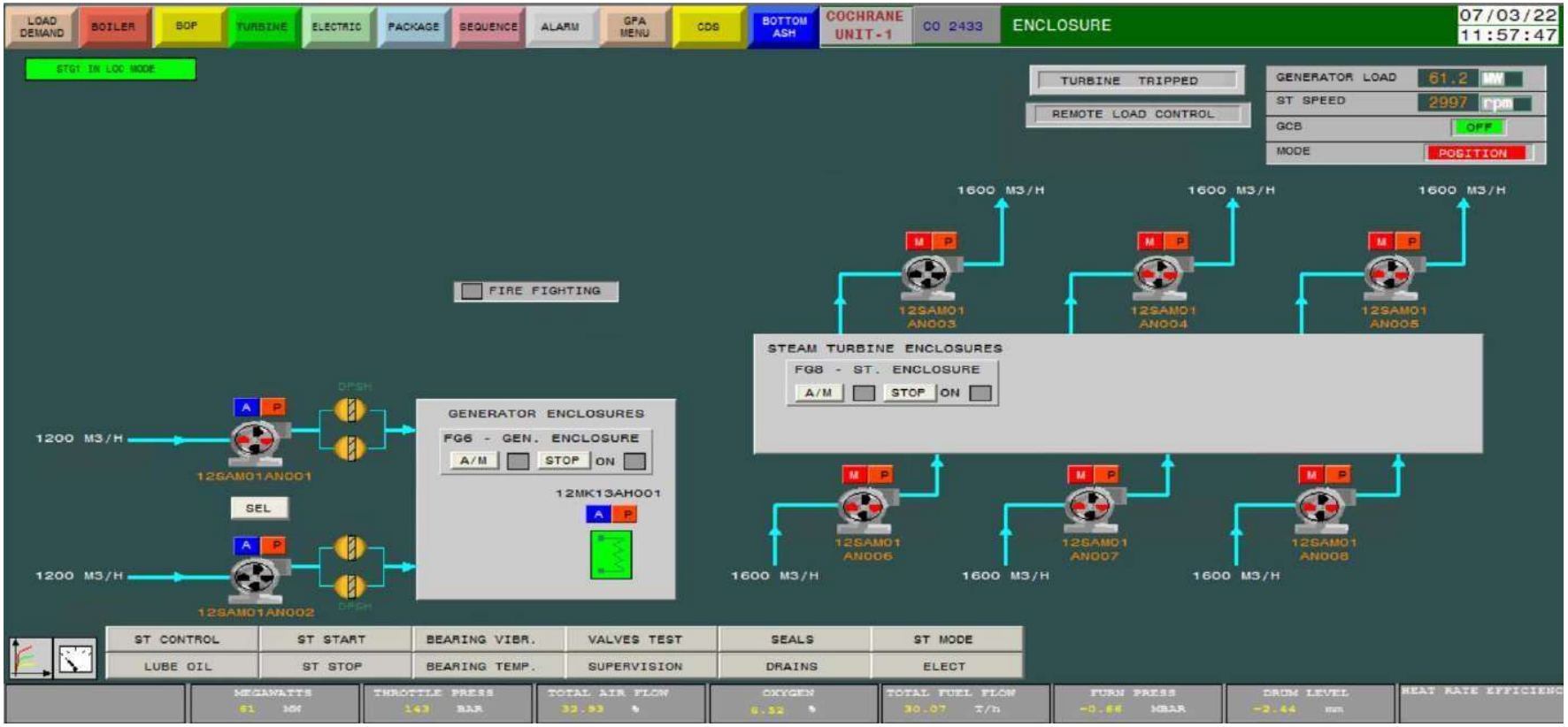

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2040
GENERATOR
07/03/22
11:55:50
STG1 IN LOC MODE
STATOR WINDING TEMPERATURES
PHASE W 56.8 °C
PHASE W 55.9 °C
PHASE W 56.2 °C
PHASE W 54.9 °C
PHASE V 54.7 °C
PHASE V 55.9 °C
PHASE V 55.0 °C
PHASE V 56.6 °C
PHASE U 54.3 °C
PHASE U 55.8 °C
PHASE U 56.3 °C
PHASE U 57.1 °C
12MK13AN001
GENERATOR CORE TEMPERATURES
55.5 °C
59.0 °C
62.0 °C
65.8 °C
54.4 °C
59.6 °C
SHAFT VOLTAGE
1.7 V
SHAFT CURRENT
0.3 A
GEN S.R.HOUSING O/L HOT AIR TEMP
38.3 °C
38.2 °C
38.1 °C
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 60.5 MW
ST SPEED 2994 rpm
GCB OFF
MODE POSITION
FG6 - GEN. ENCLOSURE
A/M
STOP
ON
12SAM01AN001
SEL
12SAM01AN002
WATER LEAK
24.0 °C
24.1 °C
24.0 °C
1.2 mbar
DPSH
24.4 °C
24.6 °C
24.5 °C
59.2 °C
56.1 °C
56.2 °C
61.5 °C
56.7 °C
GEN COOLING WTR
GEN COOLING WTR
23.8 °C
23.5 °C
CORALB SYSTEM
HIGH SHAFT VOLTAGE
HIGH SHAFT CURRENT
FEEDER FAULT
AIR DEHUMIDIFIER
STOPPED
OK

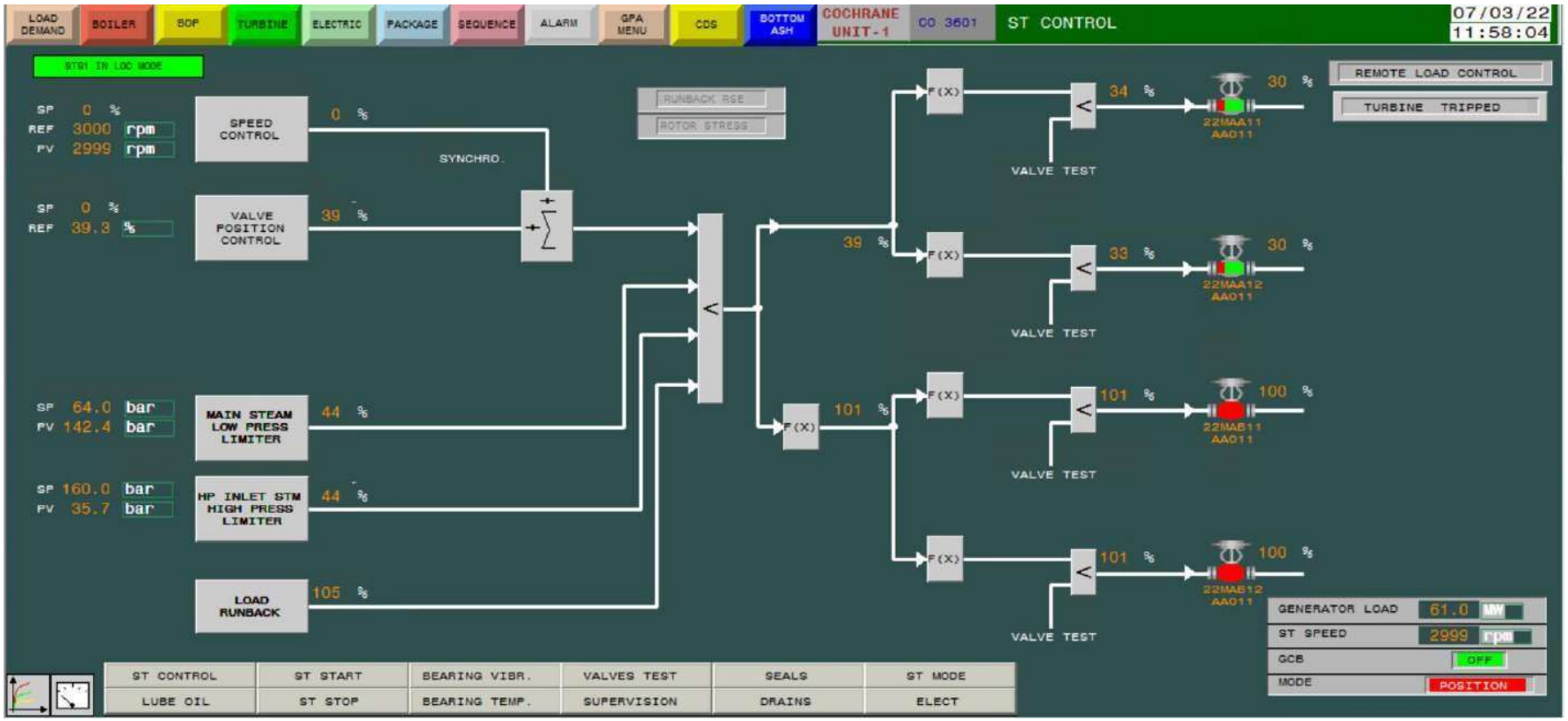

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2041
ELECTRIC NETWORK
07/03/22
11:56:06
STG1 IN LOC MODE
220 KV
BUS A
BUS B
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 60.4 MW
ST SPEED 2996 rpm
GCB OFF
MODE POSITION
14ADA01 GS011
14ADA01 GS012
14ADA01 GS001
14ADA01 GS009
14ADA01 GS052
14ADA01 GS051
14BAT01
14BBT01
2ILA
14BDH01 GS001
2ILA
14BDH02 GS001
400 V
STG UNIT MCC-A
STG UNIT MCC-B
400 V
MCC-A UNDERVOLTAGE
MCC-B UNDERVOLTAGE
18.0 kV VOLTAGE L1-L2
18.0 kV VOLTAGE L2-L3
18.1 kV VOLTAGE L3-L1
2.3 kA CURRENT GEN. L1
2.4 kA CURRENT GEN. L2
2.4 kA CURRENT GEN. L3
-44.1 MVar GEN. REACTIVE POWER
49.9 Hz GENERATOR FREQUENCY
0.0 NE COS FI. GENERATOR
60.9 °C ROTOR TEMPERATURE
EXCITATION
A/M MODE AUTO
L/R MODE REMOTE
REG MODE
ROTOR CURRENT LIMIT
UNDER EXCITATION LIMIT
ZERO Q NO
VOLTAGE INCREASE\DECREASE
SEL AVR AVR1
EXCITATION ALARM
REF POSITION
SEC REG SEL NO
SOFT START CARRIED OUT
49.9 °C 14MKC10
55.8 °C
52.1 °C
80.0 °C 14MKC20 DE001
A NP
49.9 °C
49.9 °C
56.0 °C
55.7 °C
51.1 °C
51.9 °C
47.7 °C
74.2 °C
R
S
T
CORE
103.8 V
438.4 A
14MKA01
<49 Hz FOR 90 MIN
SYNCHRONIZATION
CB SELECTED
MAN SYNCH
AUTO SYNCH
START SYNCH
SYNCH IN PRGS
STOP SYNCH
AUTO SELECTED
AUTO FAIL
MANUAL SELECTED
MANUAL FAIL
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

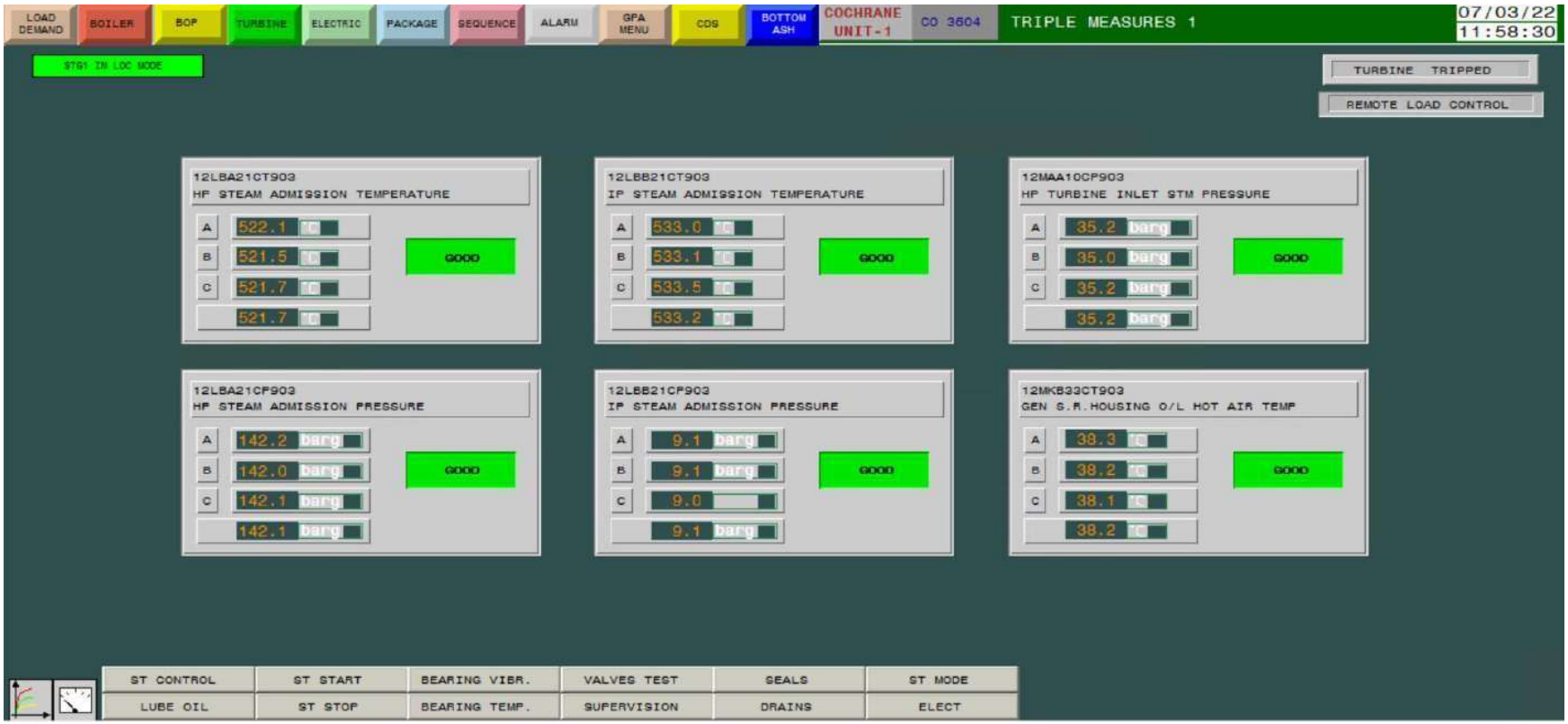

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2042
TURBINE TRIP SYSTEM
07/03/22
11:56:45
STG1 IN LOC MODE
GENERATOR LOAD 60.8 MW
ST SPEED 3001 rpm
GCB OFF
MODE POSITION
TURBINE TRIPPED
REMOTE LOAD CONTROL
TEST STATUS
RESET
TANK OIL
42.0 barg
STOP VALVES CNTRL VALVES
MAXAA111
MAXAA112
MAXAA113
MAX44CP201/2/3
PSL PSL PSL
AA121
AA122
AA123
AA001
TANK OIL
MANUAL TRIP
ST TRIP RESET
TEST TRP SOLENOID TEST
TEST ONLINE OVERSPEED CH TEST 110%
TEST REAL OVERSPEED TEST 110%
TEST REAL OVERSPEED TEST 112%
GEN SLIP RINGS O/L TP TRIP F.O
TRIP FROM SH ENTHALPY F.O.
TRIP FROM RH ENTHALPY F.O.
TRIP FROM TIGHTNESS TEST F.O.
HV CIRCUIT BREAKER OPEN
CONTROL OIL PRESSURE LL
TRIP REQUEST FROM MFT
THRUST BEARING CONSUMPTION
OVERSPEED 110%
OVERSPEED 112%
BEARING TEMPERATURE N°1 HH
BEARING TEMPERATURE N°2 HH
BEARING TEMPERATURE N°3 HH
BEARING TEMPERATURE N°4 HH
GEN. BEARING METAL TEMP N.1
GEN. BEARING METAL TEMP N.2
TRIP REQUESTED BY DCS
LUBE OIL TANK LEVEL LL
LUBE OIL FEEDING PRESSURE LL
LP TURBINE OUTLET PRESSURE HH
LOCAL PUSH BUTTON
REMOTE PUSH BUTTON
MANUAL TRIP (BY OPERATOR)
TRIP REQUESTED BY RSE
TRIP REQUESTED BY DEHC
TRIP REQUESTED BY TRU
EXCITATION WINDING OVERTEMP
FIRE FIGHTING
BEARING RELATIVE VIBRATION HH
HIGH TEMP GENERATOR INLET N.1
HIGH TEMP GENERATOR INLET N.2
TH. BEARING MET TEMP FRONT HP
TH. BEARING MET TEMP REAR IP
HIGH HIGH LP L-1 TEMPERATURE
TRIP REQUESTED BY GENTR PROT

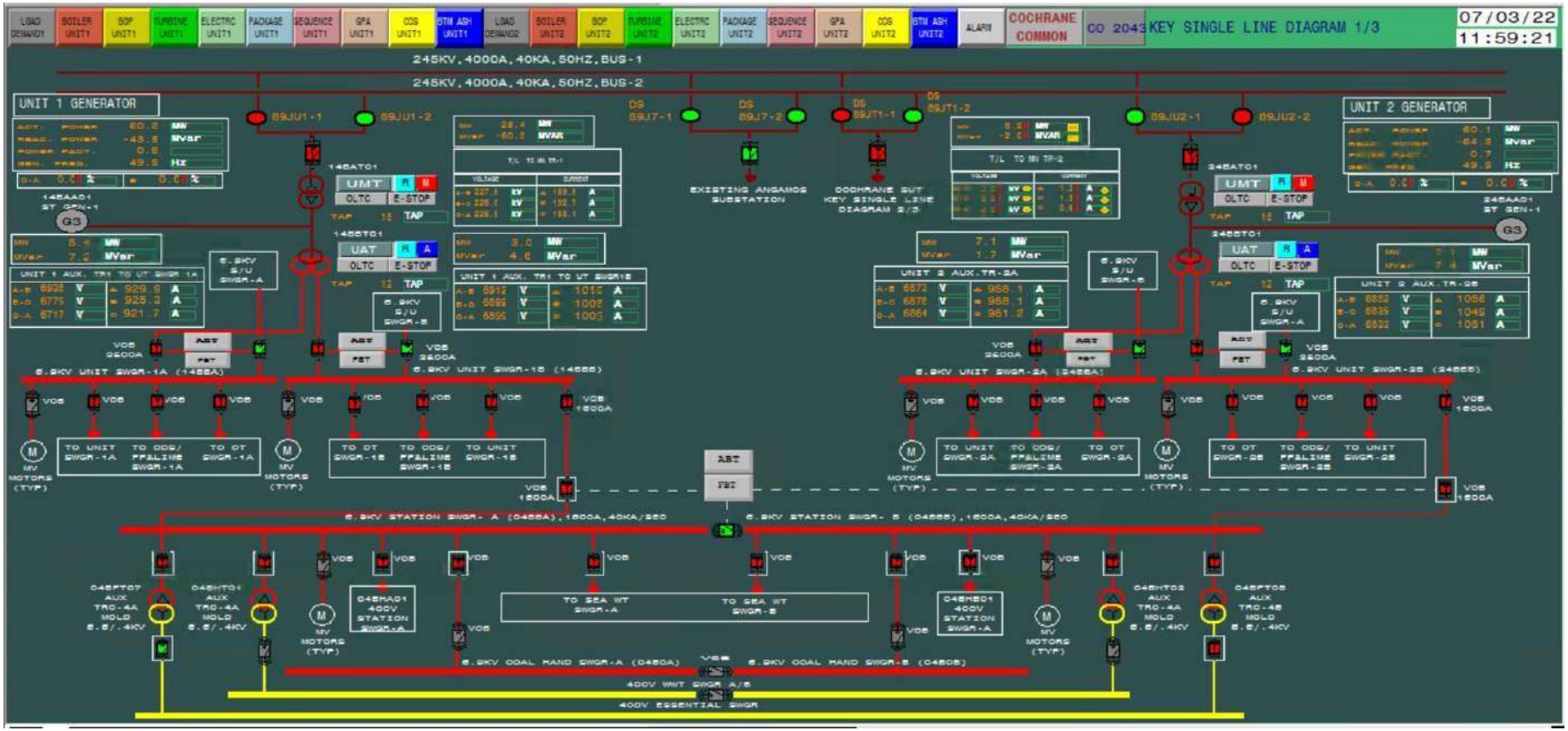

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2429
DOUBLE MEASURES
07/03/22
11:57:05
STG1 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD 61.1 MW
ST SPEED 2993 rpm
GCB OFF
MODE POSITION
12LBA21CP902
HP STEAM ADMISSION PRESSURE
A 142.6 bar
B 142.5 bar
AVERAGE 142.6 bar
12LBB21CP902
IP STEAM ADMISSION PRESSURE
A 9.1 bar
B 9.1 bar
AVERAGE 9.1 bar
12MAC01CP901
LP TURBINE INLET PRESSURE
A 0.9 bar
B 0.9 bar
AVERAGE 0.9 bar
12MAA01CP901
HP TURBINE INLET PRESSURE
A 35.5 bar
B 35.3 bar
AVERAGE 35.5 bar
12MAC01CP901
IP TURBINE INLET PRESSURE
A 9.2 BAR
B 9.2 BAR
AVERAGE 9.2 BAR
12MAW15CP902
LP STEAM SEAL PRESSURE
A 36.020 mbarg
B 35.618 mbarg
AVERAGE 35.744 mbarg
12LBA21CT902
HP STEAM ADMISSION TEMPERATURE
A 522.0 °C
B 521.6 °C
AVERAGE 521.8 °C
12LBB21CT902
IP STEAM ADMISSION TEMPERATURE
A 532.9 °C
B 533.0 °C
AVERAGE 533.0 °C
12MAW15CT901
LP STEAM SEAL TEMPERATURE
A 199.2 °C
B 201.0 NEG
AVERAGE 200.1 °C
12MAA10CT902
HP TURBINE INLET STEAM TEMP
A 0.0
B 433.9 °C
AVERAGE 433.9 °C
12MAB10CT902
IP TURBINE INLET STEAM TEMP
A 462.1 °C
B 446.9 °C
AVERAGE 491.6 °C
12MKA01CE902
GENERATURE ACTIVE POWER
A 61.2 MW
B 61.1 MW
AVERAGE 61.1 MW
12MAY00DE912
TURBINE MASTER DEM
A 39.2 %
B 39.2 %
AVERAGE -0.0 %
MEGAWATTS 61 MW
THROTTLE PRESS 143 BAR
TOTAL AIR FLOW 32.98 %
OXYGEN 8.58 %
TOTAL FUEL FLOW 28.96 T/h
FURN PRESS -0.98 MBAR
DRUM LEVEL -1.34 mm
HEAT RATE EFFICIENCY

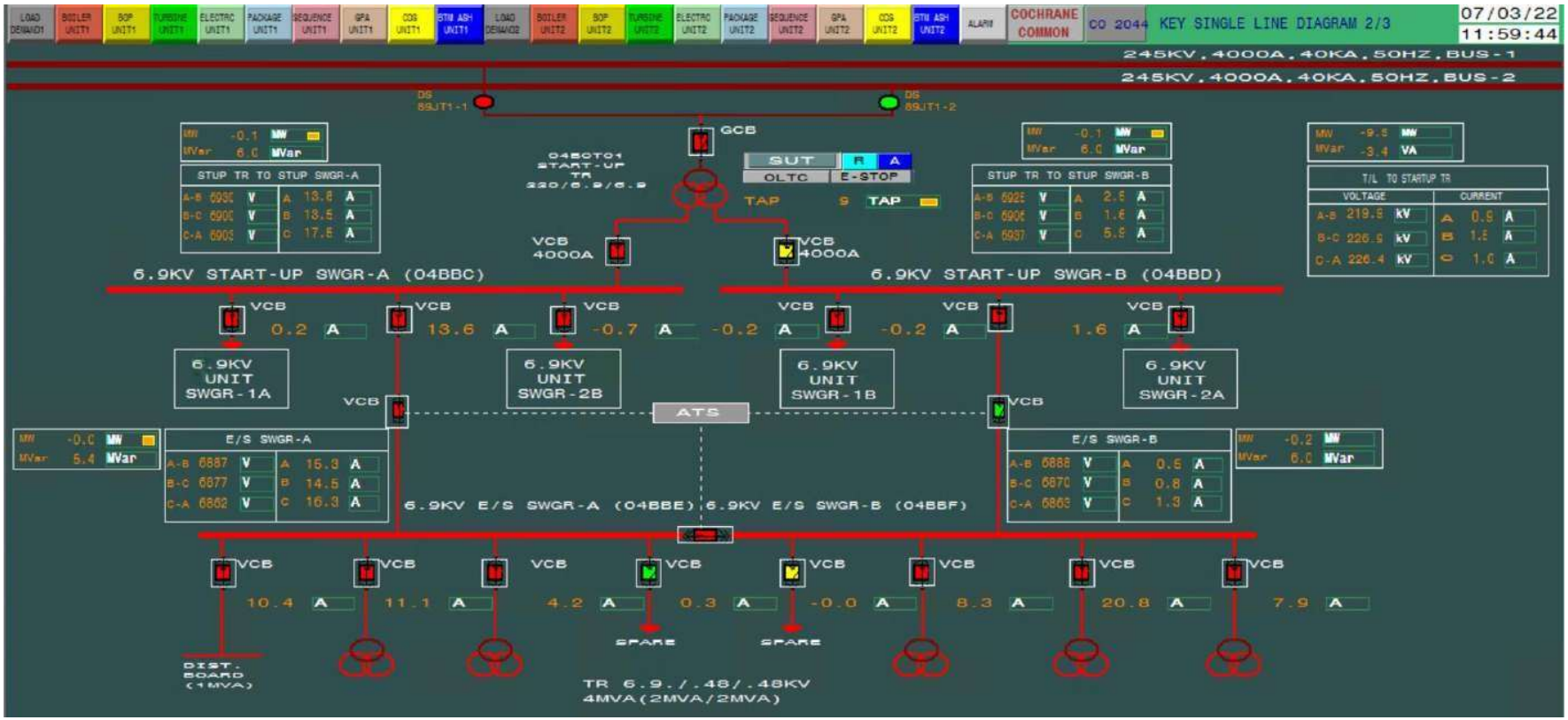

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2430
TRIPLE MEASURES
07/03/22
11:57:22
STG1 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
12MAD20CS903
STEAM TURBINE SPEED
A 2995 rpm
B 2995 rpm
C 2995 rpm
GOOD
2995 rpm
12MAC10CT902
LP L-1 STAGE TEMPERATURE
A 64.1 °C
B 64.3 °C
C 65.0 °C
GOOD
64.3 °C
12MAC10CP901
LP TURBINE OUTLET STEAM PRESS
A -0.006 bara
B 0.002 bara
C 0.002 bara
GOOD
0.002 bara
12MAV40CP903
LUBE OIL FEEDING PRESSURE
A 2.2 bar
B 2.2 bar
C 2.3 bar
GOOD
2.3 bar
12MAV02CL903
LUBE OIL TANK LEVEL
A 563.7 mm
B 553.6 mm
C 553.6 mm
GOOD
553.6 mm
12MAD20FY903
ST THRUST BEARING CONSUMPTION
A 0.0 mm
B 0.0 mm
C -0.0 mm
GOOD
0.007 mm
GENERATOR LOAD 61.1 MW
ST SPEED 2995 rpm
GCB OFF
MODE POSITION
MEGAWATTS 61 MW
THROTTLE PRESS 143 BAR
TOTAL AIR FLOW 33.11 %
OXYGEN 8.54 %
TOTAL FUEL FLOW 29.94 T/h
FURN PRESS -0.52 MBAR
DRUM LEVEL -2.03 mm
HEAT RATE EFFICIENCY

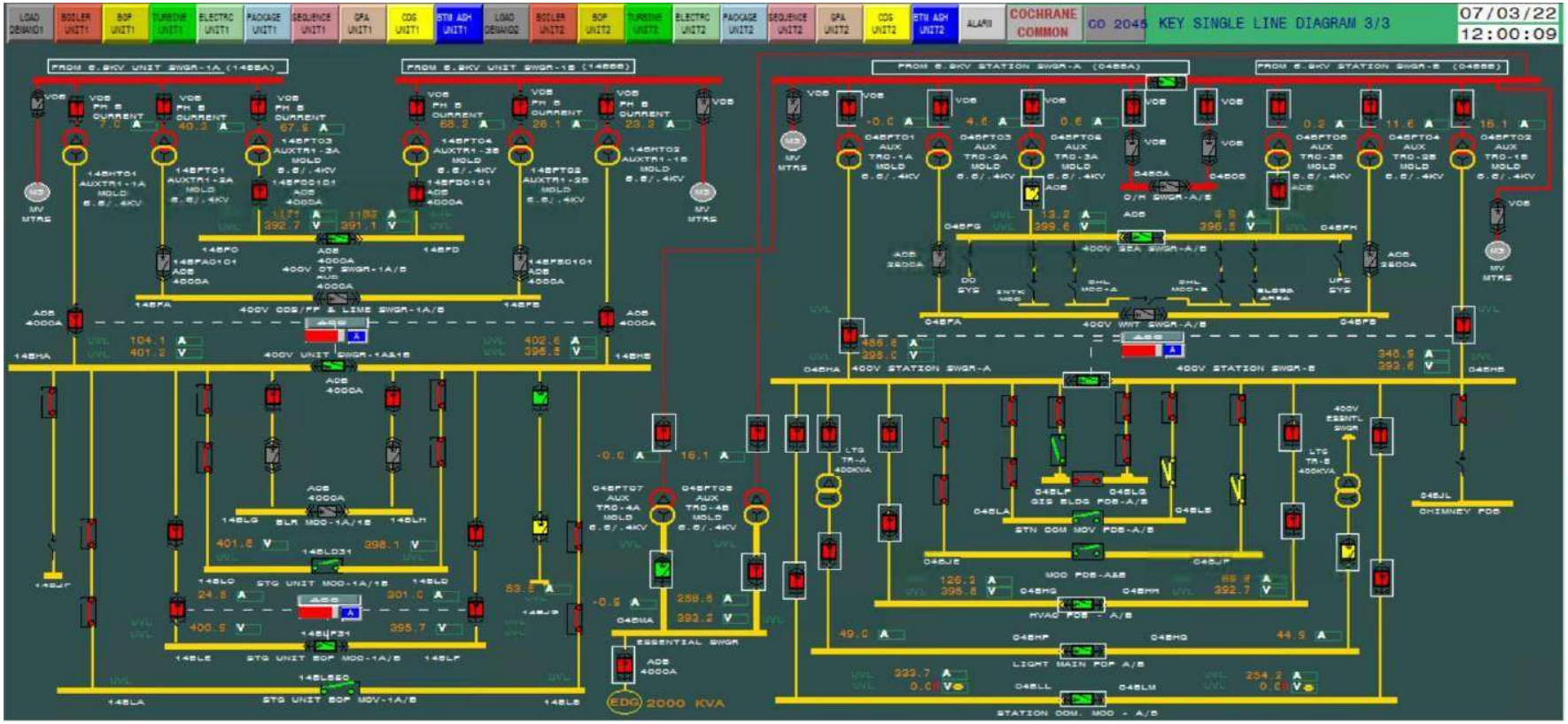

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 2433
ENCLOSURE
07/03/22
11:57:47
STG1 IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 61.2 MW
ST SPEED 2997 rpm
GCB OFF
MODE POSITION
FIRE FIGHTING
1600 M3/H
12SAM01 AN003
12SAM01 AN004
12SAM01 AN005
STEAM TURBINE ENCLOSURES
FG8 - ST. ENCLOSURE
A/M
STOP
ON
1200 M3/H
12SAM01AN001
SEL
12SAM01AN002
GENERATOR ENCLOSURES
FG6 - GEN. ENCLOSURE
12MK13AH001
12SAM01 AN006
12SAM01 AN007
12SAM01 AN008
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENC


LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 3601
ST CONTROL
07/03/22
11:58:04
ST01 IN LOC MODE
SP 0 %
REF 3000 rpm
PV 2999 rpm
SPEED CONTROL
0 %
SYNCHRO.
SP 0 %
REF 39.3 %
VALVE POSITION CONTROL
39 %
RUNBACK RSE
ROTOR STRESS
SP 64.0 bar
PV 142.4 bar
MAIN STEAM LOW PRESS LIMITER
44 %
SP 160.0 bar
PV 35.7 bar
HP INLET STM HIGH PRESS LIMITER
44 %
LOAD RUNBACK
105 %
F(X)
34 %
30 %
22MAA11 AA011
VALVE TEST
39 %
33 %
30 %
22MAA12 AA011
VALVE TEST
101 %
101 %
100 %
22MAB11 AA011
VALVE TEST
101 %
101 %
100 %
22MAB12 AA011
VALVE TEST
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD 61.0 MW
ST SPEED 2999 rpm
GCB OFF
MODE POSITION
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT


LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-1
CO 3604
TRIPLE MEASURES 1
07/03/22
11:58:30
STG1 IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
12LBA21CT903
HP STEAM ADMISSION TEMPERATURE
A 522.1 °C
B 521.5 °C
C 521.7 °C
521.7 °C
GOOD
12LBB21CT903
IP STEAM ADMISSION TEMPERATURE
A 533.0 °C
B 533.1 °C
C 533.5 °C
533.2 °C
GOOD
12MAA10CP903
HP TURBINE INLET STM PRESSURE
A 35.2 barg
B 35.0 barg
C 35.2 barg
35.2 barg
GOOD
12LBA21CP903
HP STEAM ADMISSION PRESSURE
A 142.2 barg
B 142.0 barg
C 142.1 barg
142.1 barg
GOOD
12LBB21CP903
IP STEAM ADMISSION PRESSURE
A 9.1 barg
B 9.1 barg
C 9.0
9.1 barg
GOOD
12MKB33CT903
GEN S.R.HOUSING O/L HOT AIR TEMP
A 38.3 °C
B 38.2 °C
C 38.1 °C
38.2 °C
GOOD
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT


COCHRANE COMMON
CO 2043
KEY SINGLE LINE DIAGRAM 1/3
07/03/22
11:59:21
245KV, 4000A, 40KA, 50HZ, BUS-1
245KV, 4000A, 40KA, 50HZ, BUS-2
UNIT 1 GENERATOR
UNIT 2 GENERATOR
89JU1-1
89JU1-2
89JU2-1
89JU2-2
DS 89J7-1
DS 89J7-2
DS 89JT1-1
DS 89JT1-2
EXISTING ANGAMOS SUBSTATION
COCHRANE SUT KEY SINGLE LINE DIAGRAM 2/3
145AT01
245AT01
145ST01
245ST01
UMT
UAT
OLTC
E-STOP
TAP
145AA01 ST GEN-1
245AA01 ST GEN-1
UNIT 1 AUX. TR1 TO UT SWGR 1A
UNIT 2 AUX.TR-2A
UNIT 2 AUX.TR-2B
6.9KV S/U SWGR-A
6.9KV S/U SWGR-B
6.9KV UNIT SWGR-1A (1455A)
6.9KV UNIT SWGR-1B (1455B)
6.9KV UNIT SWGR-2A (2455A)
6.9KV UNIT SWGR-2B (2455B)
VCB 2500A
VCB 1600A
ABT
FBT
TO UNIT SWGR-1A
TO ODG/ FFALIME SWGR-1A
TO OT SWGR-1A
TO OT SWGR-1B
TO ODG/ FFALIME SWGR-1B
TO UNIT SWGR-1B
TO UNIT SWGR-2A
TO ODG/ FFALIME SWGR-2A
TO OT SWGR-2A
TO OT SWGR-2B
TO ODG/ FFALIME SWGR-2B
TO UNIT SWGR-2B
MV MOTORS (TYP)
6.9KV STATION SWGR- A (0455A),1600A,40KA/2SC
6.9KV STATION SWGR- B (0455B),1600A,40KA/2SC
045FT07 AUX TRF-4A MOLD 6.6/.4KV
045HT01 AUX TRF-4A MOLD 6.6/.4KV
045HA01 400V STATION SWGR-A
045HB01 400V STATION SWGR-A
045HT02 AUX TRF-4A MOLD 6.6/.4KV
045FT05 AUX TRF-4B MOLD 6.6/.4KV
TO SEA WT SWGR-A
TO SEA WT SWGR-B
6.9KV COAL HAND SWGR-A (0460A)
6.9KV COAL HAND SWGR-B (0460B)
400V WHT SWGR A/B
400V ESSENTIAL SWGR

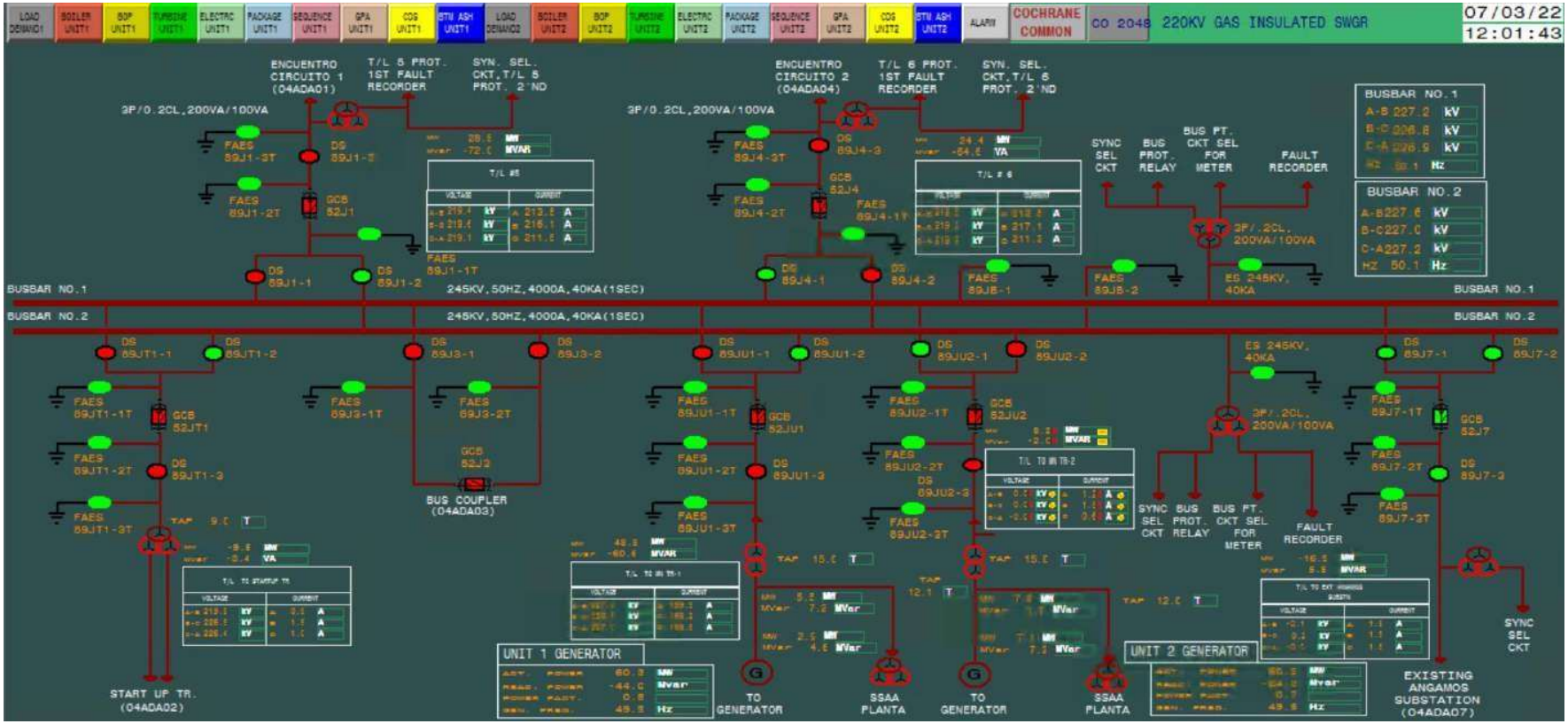

COCHRANE
COMMON
CO 2044
KEY SINGLE LINE DIAGRAM 2/3
07/03/22
11:59:44
245KV, 4000A, 40KA, 50HZ, BUS-1
245KV, 4000A, 40KA, 50HZ, BUS-2
GCB
SUT
OLTC
E-STOP
TAP
STUP TR TO STUP SWGR-A
STUP TR TO STUP SWGR-B
T/L TO STARTUP TR
VOLTAGE
CURRENT
VCB
4000A
6.9KV START-UP SWGR-A (04BBC)
6.9KV START-UP SWGR-B (04BBD)
6.9KV UNIT SWGR-1A
6.9KV UNIT SWGR-2B
6.9KV UNIT SWGR-1B
6.9KV UNIT SWGR-2A
ATS
E/S SWGR-A
E/S SWGR-B
6.9KV E/S SWGR-A (04BBE)
6.9KV E/S SWGR-B (04BBF)
SPARE
SPARE
DIST. BOARD (1MVA)
TR 6.9./.48/.48KV
4MVA(2MVA/2MVA)

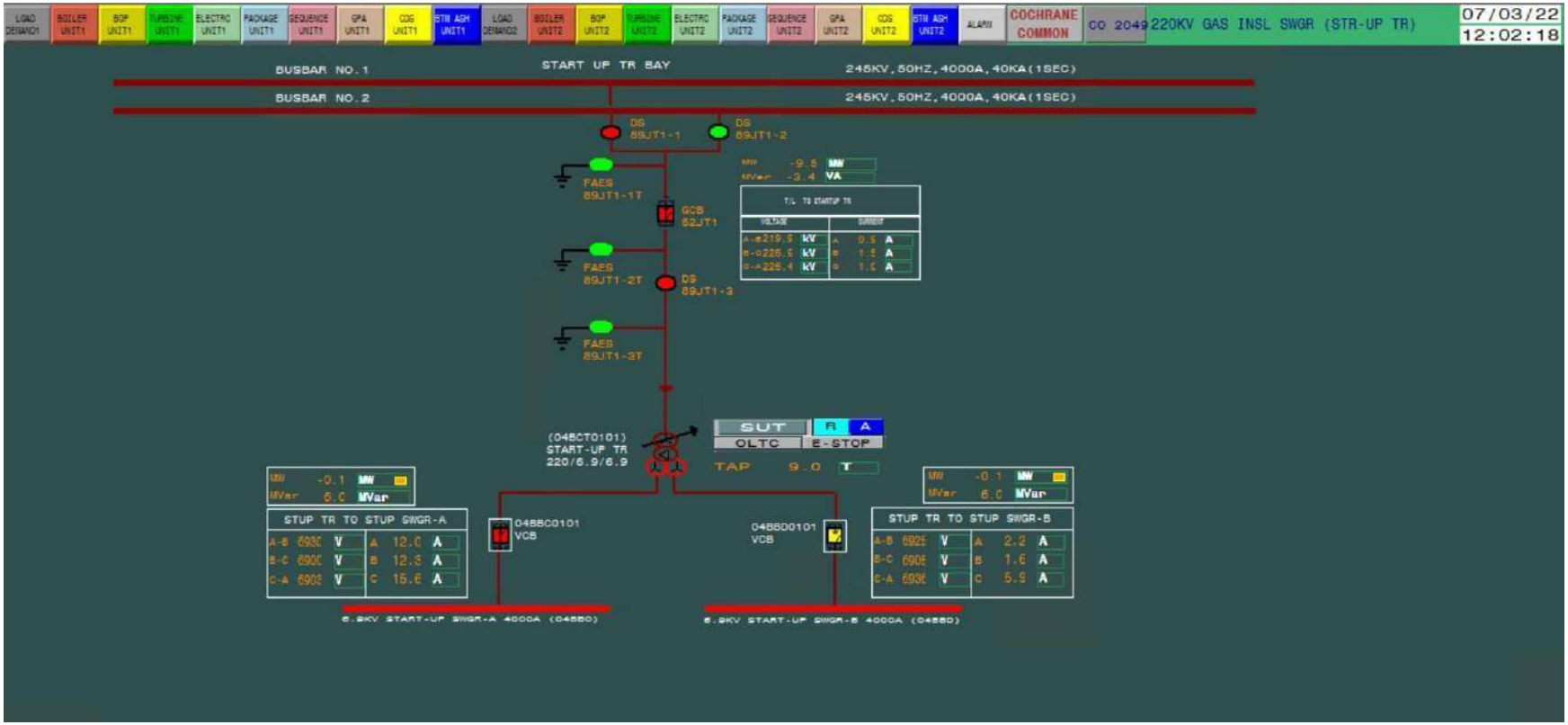

COCHRANE
COMMON
CO 2045
KEY SINGLE LINE DIAGRAM 3/3
07/03/22
12:00:09
FROM 6.9KV UNIT SWGR-1A (145EA)
FROM 6.9KV UNIT SWGR-1B (145EB)
FROM 6.9KV STATION SWGR-A (045EA)
FROM 6.9KV STATION SWGR-B (045EB)
400V CDS/FF & LIME SWGR-1A/B
400V UNIT SWGR-1A&1B
400V STATION SWGR-A
400V STATION SWGR-B
400V WHT SWGR-A/B
STG UNIT MOD-1A/1B
STG UNIT BOP MOD-1A/B
STG UNIT BOP MOV-1A/B
ESSENTIAL SWGR
2000 KVA
STN COM MOV FDS-A/B
MOD FDS-A&B
HVAC FDS - A/B
LIGHT MAIN FDP A/B
STATION COM. MOD - A/B
CHIMNEY FDS

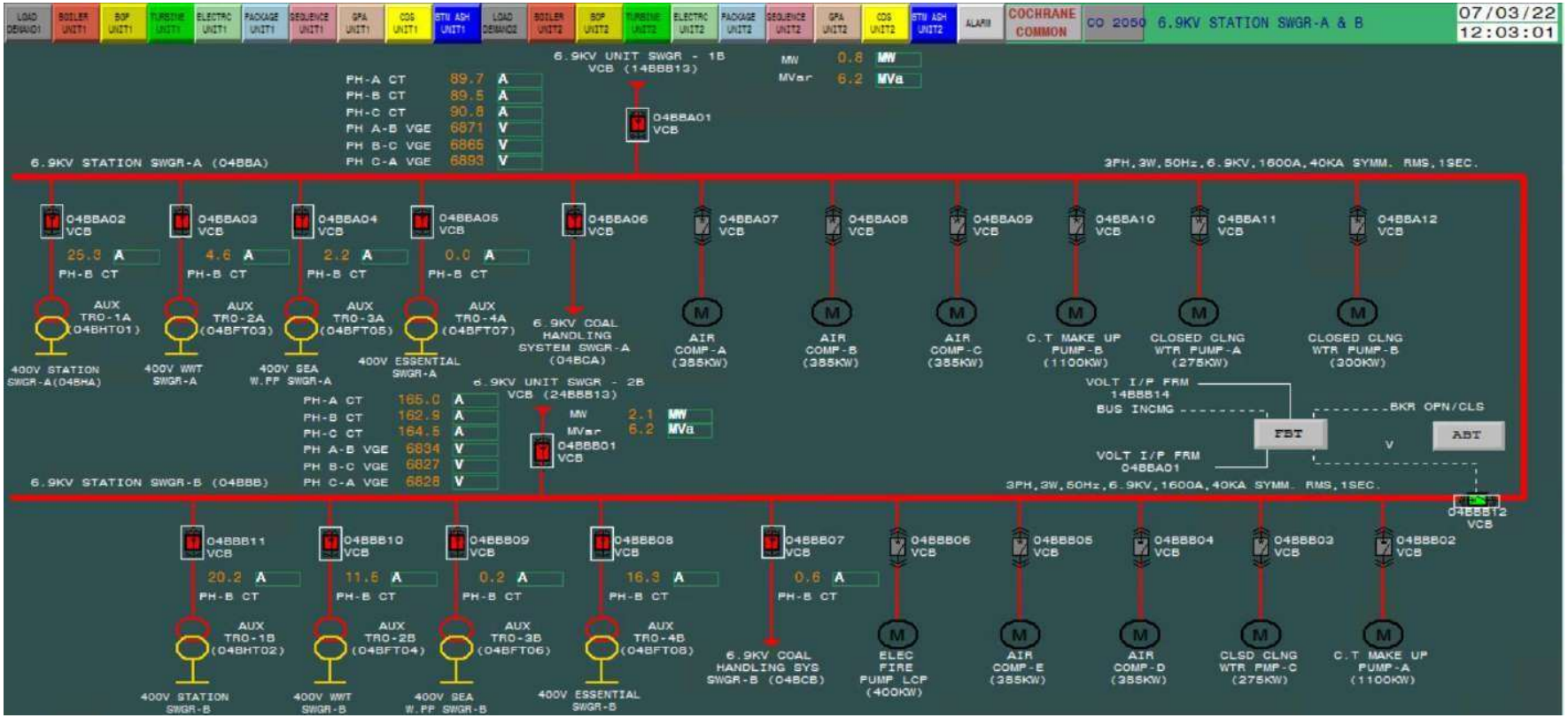

LOAD DEMAND1
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRIC UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
GPA UNIT1
COG UNIT1
STM ASH UNIT1
LOAD DEMAND2
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRIC UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
GPA UNIT2
COG UNIT2
STM ASH UNIT2
ALARM
COCHRANE COMMON
CO 2046
220KV GIS & UT1 TR ALARMS(1/3)
07/03/22
12:00:34
UNIT 1 MAIN TR ALARM
LOSS OF NORMAL AC 380 V POWER
LOSS OF BACK UP AC 380V POWER
OIL LEVEL INDICATOR(MAIN) LOW
OIL LEVEL INDICATOR(OLTC) LOW
BUCHHOLZ RELAY
WINDING TEMP.INDICATOR(HV) 95
WINDING TEMP.INDICATOR(XV) 95
TOP OIL TEMP.INDICATOR 90
CONTROL POWER UNDERVOTAGE
DC POWER UNDERVOLTAGE
FAN MOTOR OVERLOAD
PUMP MOTOR OVERLOAD
OIL FLOW FAIL
GAS MON DEV RELAY#1(GAS H)
GAS MON DEV RELAY#2(GAS HH)
GAS MON DEV RELAY#3(MOIST H)
GAS MON DEV RELAY#4(MOIST HH)
GAS MON DEV RELAY#5(SYS FAIL)
RCP DC POWER UNDERVOLTAGE
OLTC MDU TAP CHANGER IN OPER
OLTC MDU TAP CHANGER INCMPLT
OLTC MDU TAP CNTRL POS LOC
OLTC MDU TAP CNTRL POS RCP
OLTC MDU TAP CNTRL POS DCS
OLTC MDU TAP POSITION AUTO
START-UP TR ALARM
LOSS OF NORMAL AC 380 V POWER
LOSS OF BACK UP AC 380V POWER
OIL LEVEL INDICATOR(MAIN) LOW
OIL LEVEL INDICATOR(OLTC) LOW
BUCHHOLZ RELAY
WINDING TEMP.INDICATOR(HV) 95
WINDING TEMP.INDICATOR(XV) 95
WINDING TEMP.INDICATOR(YV) 95
TOP OIL TEMP.INDICATOR 90
CONTROL POWER UNDERVOTAGE
DC POWER UNDERVOLTAGE
FAN MOTOR OVERLOAD
GAS MON DEV RELAY#1(GAS H)
GAS MON DEV RELAY#2(GAS HH)
GAS MON DEV RELAY#3(MOIST H)
GAS MON DEV RELAY#4(MOIST HH)
GAS MON DEV RELAY#5(SYS FAIL)
RCP DC POWER UNDERVOLTAGE
OLTC MDU TAP CHANGER IN OPER
OLTC MDU TAP CHANGER INCMPLT
OLTC MDU TAP CNTRL POS LOC
OLTC MDU TAP CNTRL POS RCP
OLTC MDU TAP CNTRL POS DCS
OLTC MDU TAP POSITION AUTO
UNIT 1 AUX TR ALARM
LOSS OF NORMAL AC 380 V POWER
LOSS OF BACK UP AC 380V POWER
OIL LEVEL INDICATOR(MAIN) LOW
OIL LEVEL INDICATOR(OLTC) LOW
BUCHHOLZ RELAY
WINDING TEMP.INDICATOR(HV) 95
WINDING TEMP.INDICATOR(XV) 95
WINDING TEMP.INDICATOR(YV) 95
TOP OIL TEMP.INDICATOR 90
CONTROL POWER UNDERVOTAGE
DC POWER UNDERVOLTAGE
FAN MOTOR OVERLOAD
GAS MON DEV RELAY#1(GAS H)
GAS MON DEV RELAY#2(GAS HH)
GAS MON DEV RELAY#3(MOIST H)
GAS MON DEV RELAY#4(MOIST HH)
GAS MON DEV RELAY#5(SYS FAIL)
RCP DC POWER UNDERVOLTAGE
OLTC MDU TAP CHANGER IN OPER
OLTC MDU TAP CHANGER INCMPLT
OLTC MDU TAP CNTRL POS LOC
OLTC MDU TAP CNTRL POS RCP
OLTC MDU TAP CNTRL POS DCS
OLTC MDU TAP POSITION AUTO
OLTC MDU TAP POSITION DCS
220KV GIS T/L #5 ALARM
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENNERAL GAS COMP.2ND STAGE
G01-1 GAS COMP.2ND STAGE
G01-2 GAS COMP.1ST STAGE
G01-3 GAS COMP.1ST STAGE
G01-4 GAS COMP.1ST STAGE
G01-5 GAS COMP.1ST STAGE
G01-6 GAS COMP.1ST STAGE
G01-7 GAS COMP.1ST STAGE
GM01-3 GAS COMP.1ST STAGE
GM02-7 GAS COMP.1ST STAGE
DC CONTROL MCCB OPEND
AC CONTROL MCCB OPEND
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPANCY
VT-3 2ND MCB OPEND
VT-3 3RD MCB OPEND
INTERLOCK BYPASS KEY SELECTED
220KV GIS T/L #6 ALARM
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENNERAL GAS COMP.2ND STAGE
G07-1 GAS COMP.2ND STAGE
G07-2 GAS COMP.1ST STAGE
G07-3 GAS COMP.1ST STAGE
G07-4 GAS COMP.1ST STAGE
G07-5 GAS COMP.1ST STAGE
G07-6 GAS COMP.1ST STAGE
G07-7 GAS COMP.1ST STAGE
DC CONTROL MCCB OPEND
AC CONTROL MCCB OPEND
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPANCY
VT-3 2ND MCB OPEND
VT-3 3RD MCB OPEND
INTERLOCK BYPASS KEY SELECTED
BUS COUPLER ALARM
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENERAL GAS COMP.2ND STAGE
GG03-1 GAS COMP.1ST STAGE
GG03-2 GAS COMP.1ST STAGE
GG03-3 GAS COMP.1ST STAGE
DC CONTROL MCCB OPEN
AC CONTROL MCCB OPEN
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPENCY
INTERLOCK BYPASS KEY SELECTED
GENERAL GAS COMP.2ND STAGE
GM01-1 GAS COMP.1ST STAGE
GM01-2 GAS COMP.1ST STAGE
GM02-1 GAS COMP.1ST STAGE
GM02-2 GAS COMP.1ST STAGE
DC CONTROL MCCB OPEN
AC CONTROL MCCB OPEN
VT-1 2ND MCB OFF
VT-1 3RD MCB OFF
VT-2 2ND MCB OFF
VT-2 3RD MCB OFF
INTERLOCK BYPASS KEY SELECTED
PROTECTION RELAY TRIP
REMOTE SELECTED STATUS
UNIT 1 MAIN TEMP
34.6 deg WINING TEMP IND(HV)
34.9 deg WINING TEMP IND(XV)
28.6 deg TOP OIL TEMP IND
START UP TR TEMP
37.6 deg WINING TEMP IND(HV)
37.5 deg WINING TEMP IND(XV)
36.8 deg WINING TEMP IND(YV)
36.8 deg TOP OIL TEMP IND
UNIT 1 AUX TR TEMP
52.3 deg WINING TEMP IND(HV)
48.5 deg WINING TEMP IND(XV)
50.3 deg WINING TEMP IND(YV)
49.7 deg TOP OIL TEMP IND

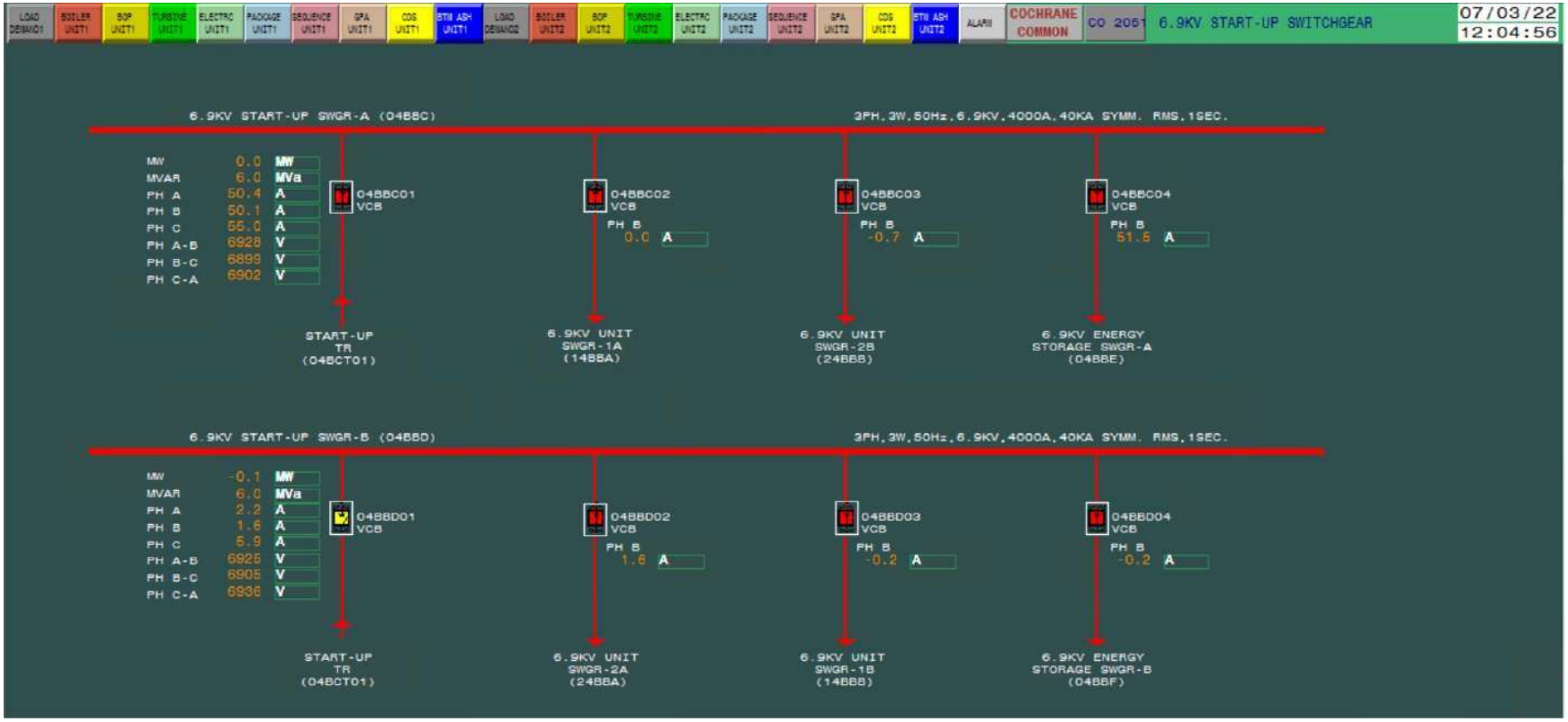

LOAD DEMAND1
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRO UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
GPA UNIT1
COG UNIT1
STM ASH UNIT1
LOAD DEMAND2
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRO UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
GPA UNIT2
COG UNIT2
STM ASH UNIT2
ALARM
COCHRANE COMMON
CO 2090
220KV GIS & UT2 TR ALARMS(2/3)
07/03/22
12:01:00
UNIT 2 MAIN TR ALARM
LOSS OF NORMAL AC 380 V POWER
LOSS OF BACK UP AC 380V POWER
OIL LEVEL INDICATOR(MAIN) LOW
OIL LEVEL INDICATOR(OLTC) LOW
BUCHHOLZ RELAY
WINDING TEMP.INDICATOR(HV) 95
WINDING TEMP.INDICATOR(XV) 95
TOP OIL TEMP.INDICATOR 90
CONTROL POWER UNDERVOTAGE
DC POWER UNDERVOLTAGE
FAN MOTOR OVERLOAD
PUMP MOTOR OVERLOAD
OIL FLOW FAIL
GAS MON DEV RELAY#1(GAS H)
GAS MON DEV RELAY#2(GAS HH)
GAS MON DEV RELAY#3(MOIST H)
GAS MON DEV RELAY#4(MOIST HH)
GAS MON DEV RELAY#5(SYS FAIL)
RCP DC POWER UNDERVOLTAGE
OLTC MDU TAP CHANGER IN OPER
OLTC MDU TAP CHANGER INCMPLT
OLTC MDU TAP CNTRL POS LOC
OLTC MDU TAP CNTRL POS RCP
OLTC MDU TAP CNTRL POS DCS
OLTC MDU TAP POSITION AUTO
START-UP TR ALARM
LOSS OF NORMAL AC 380 V POWER
LOSS OF BACK UP AC 380V POWER
OIL LEVEL INDICATOR(MAIN) LOW
OIL LEVEL INDICATOR(OLTC) LOW
BUCHHOLZ RELAY
WINDING TEMP.INDICATOR(HV) 95
WINDING TEMP.INDICATOR(XV) 95
WINDING TEMP.INDICATOR(YV) 95
TOP OIL TEMP.INDICATOR 90
CONTROL POWER UNDERVOTAGE
DC POWER UNDERVOLTAGE
FAN MOTOR OVERLOAD
GAS MON DEV RELAY#1(GAS H)
GAS MON DEV RELAY#2(GAS HH)
GAS MON DEV RELAY#3(MOIST H)
GAS MON DEV RELAY#4(MOIST HH)
GAS MON DEV RELAY#5(SYS FAIL)
RCP DC POWER UNDERVOLTAGE
OLTC MDU TAP CHANGER IN OPER
OLTC MDU TAP CHANGER INCMPLT
OLTC MDU TAP CNTRL POS LOC
OLTC MDU TAP CNTRL POS RCP
OLTC MDU TAP CNTRL POS DCS
OLTC MDU TAP POSITION AUTO
UNIT 2 AUX TR ALARM
LOSS OF NORMAL AC 380 V POWER
LOSS OF BACK UP AC 380V POWER
OIL LEVEL INDICATOR(MAIN) LOW
OIL LEVEL INDICATOR(OLTC) LOW
BUCHHOLZ RELAY
WINDING TEMP.INDICATOR(HV) 95
WINDING TEMP.INDICATOR(XV) 95
WINDING TEMP.INDICATOR(YV) 95
TOP OIL TEMP.INDICATOR 90
CONTROL POWER UNDERVOTAGE
DC POWER UNDERVOLTAGE
FAN MOTOR OVERLOAD
GAS MON DEV RELAY#1(GAS H)
GAS MON DEV RELAY#2(GAS HH)
GAS MON DEV RELAY#3(MOIST H)
GAS MON DEV RELAY#4(MOIST HH)
GAS MON DEV RELAY#5(SYS FAIL)
RCP DC POWER UNDERVOLTAGE
OLTC MDU TAP CHANGER IN OPER
OLTC MDU TAP CHANGER INCMPLT
OLTC MDU TAP CNTRL POS LOC
OLTC MDU TAP CNTRL POS RCP
OLTC MDU TAP CNTRL POS DCS
OLTC MDU TAP POSITION AUTO
OLTC MDU TAP POSITION DCS
220KV GIS T/L #5 ALARM
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENNERAL GAS COMP.2ND STAGE
G01-1 GAS COMP.2ND STAGE
G01-2 GAS COMP.1ST STAGE
G01-3 GAS COMP.1ST STAGE
G01-4 GAS COMP.1ST STAGE
G01-5 GAS COMP.1ST STAGE
G01-6 GAS COMP.1ST STAGE
G01-7 GAS COMP.1ST STAGE
GM01-3 GAS COMP.1ST STAGE
GM02-7 GAS COMP.1ST STAGE
DC CONTROL MCCB OPEND
AC CONTROL MCCB OPEND
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPANCY
VT-3 2ND MCB OPEND
VT-3 3RD MCB OPEND
INTERLOCK BYPASS KEY SELECTED
220KV GIS T/L #6 ALARM
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENNERAL GAS COMP.2ND STAGE
G07-1 GAS COMP.2ND STAGE
G07-2 GAS COMP.1ST STAGE
G07-3 GAS COMP.1ST STAGE
G07-4 GAS COMP.1ST STAGE
G07-5 GAS COMP.1ST STAGE
G07-6 GAS COMP.1ST STAGE
G07-7 GAS COMP.1ST STAGE
DC CONTROL MCCB OPEND
AC CONTROL MCCB OPEND
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPANCY
VT-3 2ND MCB OPEND
VT-3 3RD MCB OPEND
INTERLOCK BYPASS KEY SELECTED
BUS COUPLER ALARM
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENERAL GAS COMP.2ND STAGE
G03-1 GAS COMP.1ST STAGE
G03-2 GAS COMP.1ST STAGE
G03-3 GAS COMP.1ST STAGE
DC CONTROL MCCB OPEN
AC CONTROL MCCB OPEN
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPENCY
INTERLOCK BYPASS KEY SELECTED
GENERAL GAS COMP.2ND STAGE
GM01-1 GAS COMP.1ST STAGE
GM01-2 GAS COMP.1ST STAGE
GM02-1 GAS COMP.1ST STAGE
GM02-2 GAS COMP.1ST STAGE
DC CONTROL MCCB OPEN
AC CONTROL MCCB OPEN
VT-1 2ND MCB OFF
VT-1 3RD MCB OFF
VT-2 2ND MCB OFF
VT-2 3RD MCB OFF
INTERLOCK BYPASS KEY SELECTED
PROTECTION RELAY TRIP
REMOTE SELECTED STATUS
UNIT 2 MAIN TEMP
35.8 deg WINING TEMP IND(HV)
37.2 deg WINING TEMP IND(XV)
30.7 deg TOP OIL TEMP IND
START UP TR TEMP
37.6 deg WINING TEMP IND(HV)
37.5 deg WINING TEMP IND(XV)
36.8 deg WINING TEMP IND(YV)
36.9 deg TOP OIL TEMP IND
UNIT 2 AUX TR TEMP
52.7 deg WINING TEMP IND(HV)
49.4 deg WINING TEMP IND(XV)
51.5 deg WINING TEMP IND(YV)
42.6 deg TOP OIL TEMP IND

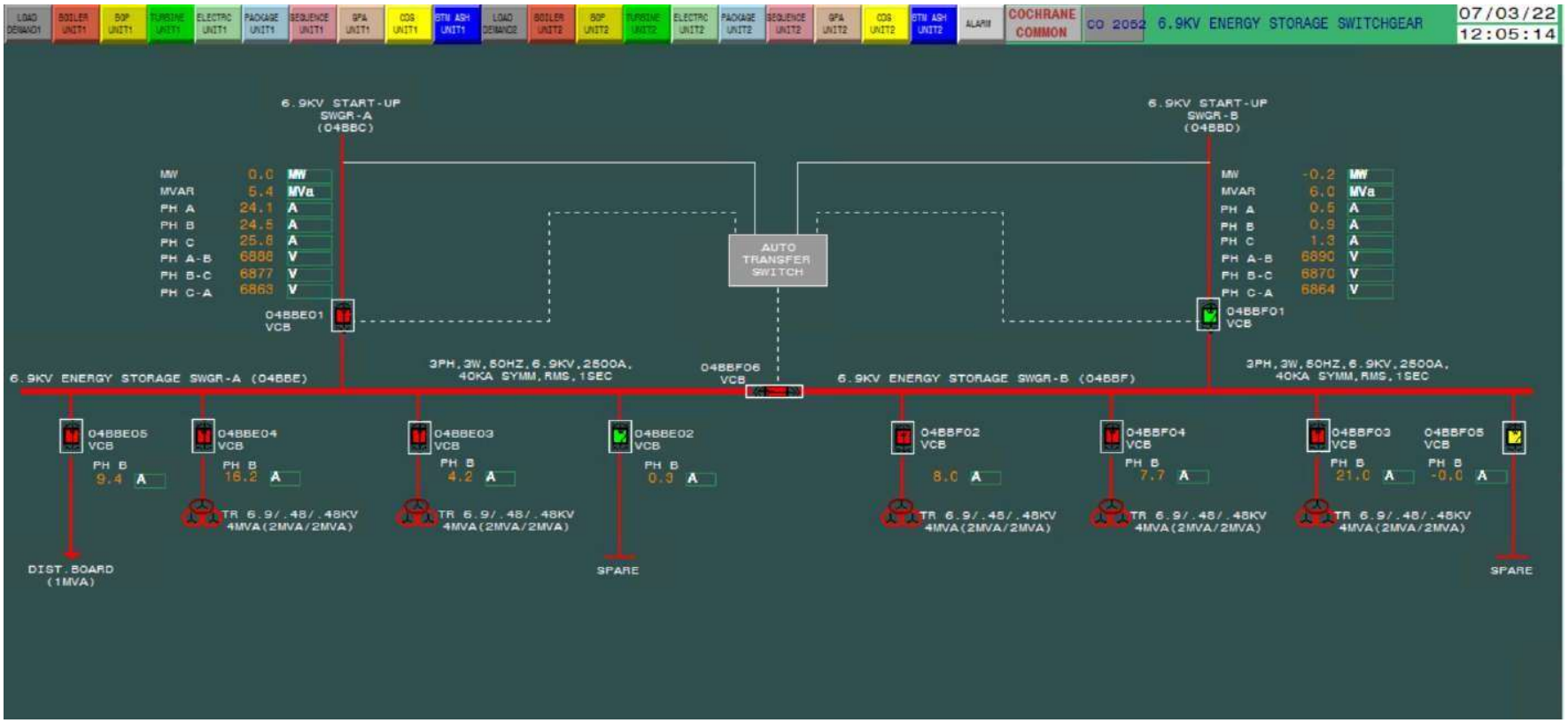

LOAD DEMAND1
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRO UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
SPA UNIT1
COS UNIT1
STN ASH UNIT1
LOAD DEMAND2
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRO UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
SPA UNIT2
COS UNIT2
STN ASH UNIT2
ALARM
COCHRANE COMMON
CO 2047
220KV GIS & TR ALARMS(3/3)
07/03/22
12:01:21
220KV GIS START UP TR
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENNERAL GAS COMP.2ND STAGE
G05-1 GAS COMP.2ND STAGE
G05-2 GAS COMP.1ST STAGE
G05-3 GAS COMP.1ST STAGE
G05-4 GAS COMP.1ST STAGE
G05-5 GAS COMP.1ST STAGE
G05-6 GAS COMP.1ST STAGE
G05-7 GAS COMP.1ST STAGE
DC CONTROL MCCB OPENED
AC CONTROL MCCB OPENED
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPANCY
VT-3 2ND MCB OPENED
VT-3 3RD MCB OPENED
INTERLOCK BYPASS KEY SELECTED
PROTECTION RELAY TRIP
GIS EXIIST ANGAMOS S/S
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENERAL GAS COMP.2ND STAGE
G06-1 GAS COMP.2ND STAGE
G06-2 GAS COMP.1ST STAGE
G06-3 GAS COMP.1ST STAGE
G06-4 GAS COMP.1ST STAGE
G06-5 GAS COMP.1ST STAGE
G06-6 GAS COMP.1ST STAGE
G06-7 GAS COMP.1ST STAGE
DC CONTROL MCCB OPENED
AC CONTROL MCCB OPENED
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPANCY
VT-3 2ND MCB OPENED
VT-3 3RD MCB OPENED
INTERLOCK BYPASS KEY SELECTED
PROTECTION RELAY TRIP
220KV GIS UNIT 1 MN TR
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENERAL GAS COMP.2ND STAGE
G03-1 GAS COMP.2ND STAGE
G03-2 GAS COMP.1ST STAGE
G03-3 GAS COMP.1ST STAGE
G03-4 GAS COMP.1ST STAGE
G02-5 GAS COMP.1ST STAGE
G03-6 GAS COMP.1ST STAGE
G03-7 GAS COMP.1ST STAGE
G03-8 GAS COMP.1ST STAGE
DC CONTROL MCCB OPENED
AC CONTROL MCCB OPENED
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPANCY
VT-3 2ND MCB OPENED
VT-3 3RD MCB OPENED
INTERLOCK BYPASS KEY SELECTED
STG PROTECTION RLY CH.A TRIP
STG PROTECTION RLY CH.B TRIP
220KV GIS UNIT 2 MN TR
GCB (QO) CLOSED
GCB (QO) OPENED
GCB OIL CLOSING LOCKOUT
GCB OIL TRIP LOCKOUT
GCB OIL LOW PRESSURE
GCB OIL LOW LEVEL
GCB PUMP MOTOR OVER LOAD
GCB PUMP MOTOR LONG RUN
GCB GAS 1ST STAGE
GCB GAS 2ND STAGE LOCKOUT
GENERAL GAS COMP.2ND STAGE
G03-1 GAS COMP.2ND STAGE
G03-2 GAS COMP.1ST STAGE
G03-3 GAS COMP.1ST STAGE
G03-4 GAS COMP.1ST STAGE
G02-5 GAS COMP.1ST STAGE
G03-6 GAS COMP.1ST STAGE
G03-7 GAS COMP.1ST STAGE
G03-8 GAS COMP.1ST STAGE
DC CONTROL MCCB OPENED
AC CONTROL MCCB OPENED
TRIP CONTROL POWER FAILURE
GCB POLE DISCREPANCY
VT-3 2ND MCB OPENED
VT-3 3RD MCB OPENED
INTERLOCK BYPASS KEY SELECTED
STG PROTECTION RLY CH.A TRIP
STG PROTECTION RLY CH.B TRIP
GIS BUS PROTECT PNL
87B1 TRIP
87B2 TRIP
27B1 TRIP
27B2 TRIP
BREAKER FAILURE
86B1 STATUS
86B2 STATUS
43BP STATUS
DS FAIL
TWO DS CLOSE
TWO DS OPEN
TWO VT FAIL
RELAY FAIL
DC FAIL
CT ALARM
43BP IN SERVICE
43BP OUT OF SERVICE

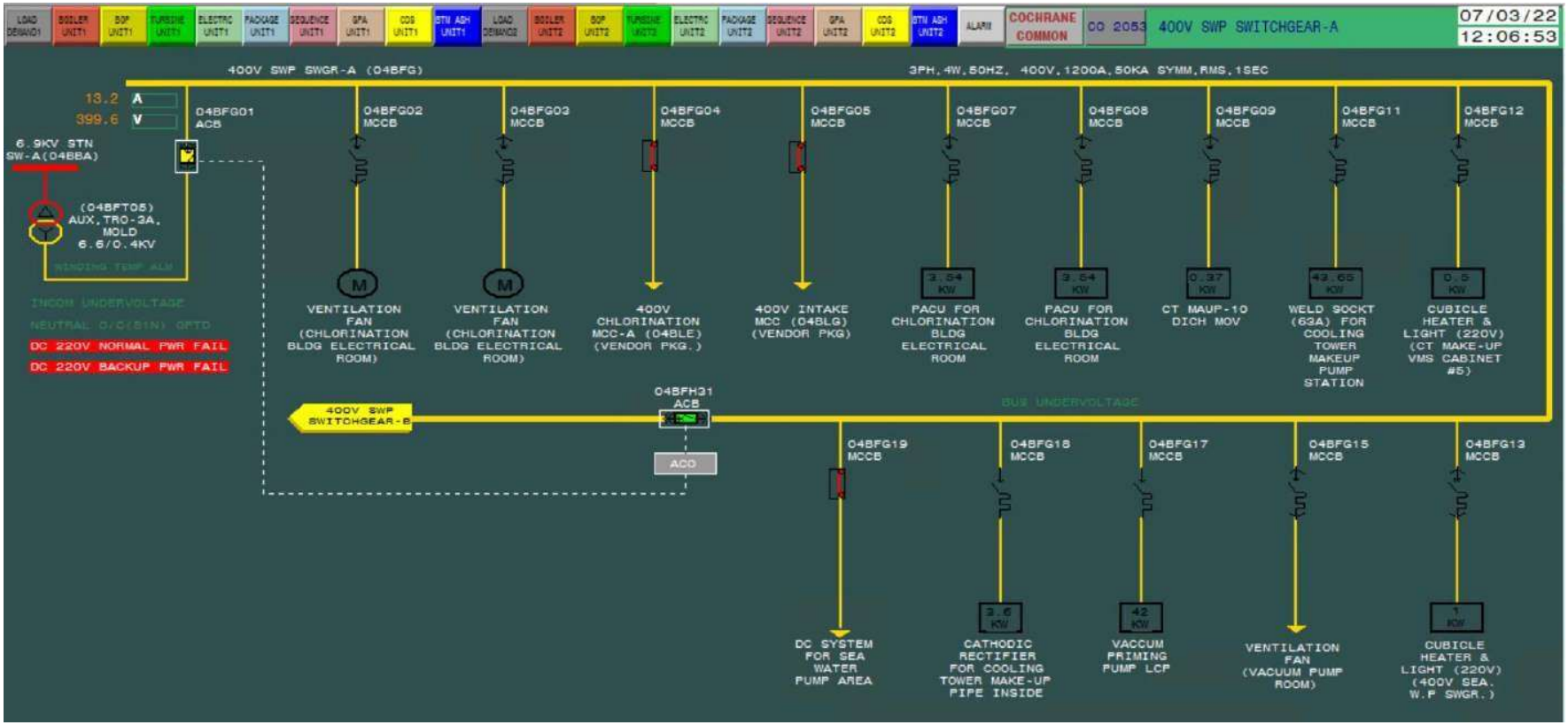

COCHRANE COMMON
220KV GAS INSULATED SWGR
07/03/22
12:01:43
ENCUENTRO CIRCUITO 1 (04ADA01)
T/L 5 PROT. 1ST FAULT RECORDER
SYN. SEL. CKT, T/L 5 PROT. 2'ND
ENCUENTRO CIRCUITO 2 (04ADA04)
T/L 6 PROT. 1ST FAULT RECORDER
SYN. SEL. CKT, T/L 6 PROT. 2'ND
3P/0.2CL,200VA/100VA
BUSBAR NO.1
BUSBAR NO.2
245KV,50HZ,4000A,40KA(1SEC)
BUS COUPLER (04ADA03)
START UP TR. (04ADA02)
UNIT 1 GENERATOR
UNIT 2 GENERATOR
TO GENERATOR
SSAA PLANTA
EXISTING ANGAMOS SUBSTATION (04ADA07)
SYNC SEL CKT
BUS PROT. RELAY
BUS PT. CKT SEL FOR METER
FAULT RECORDER
ES 245KV, 40KA

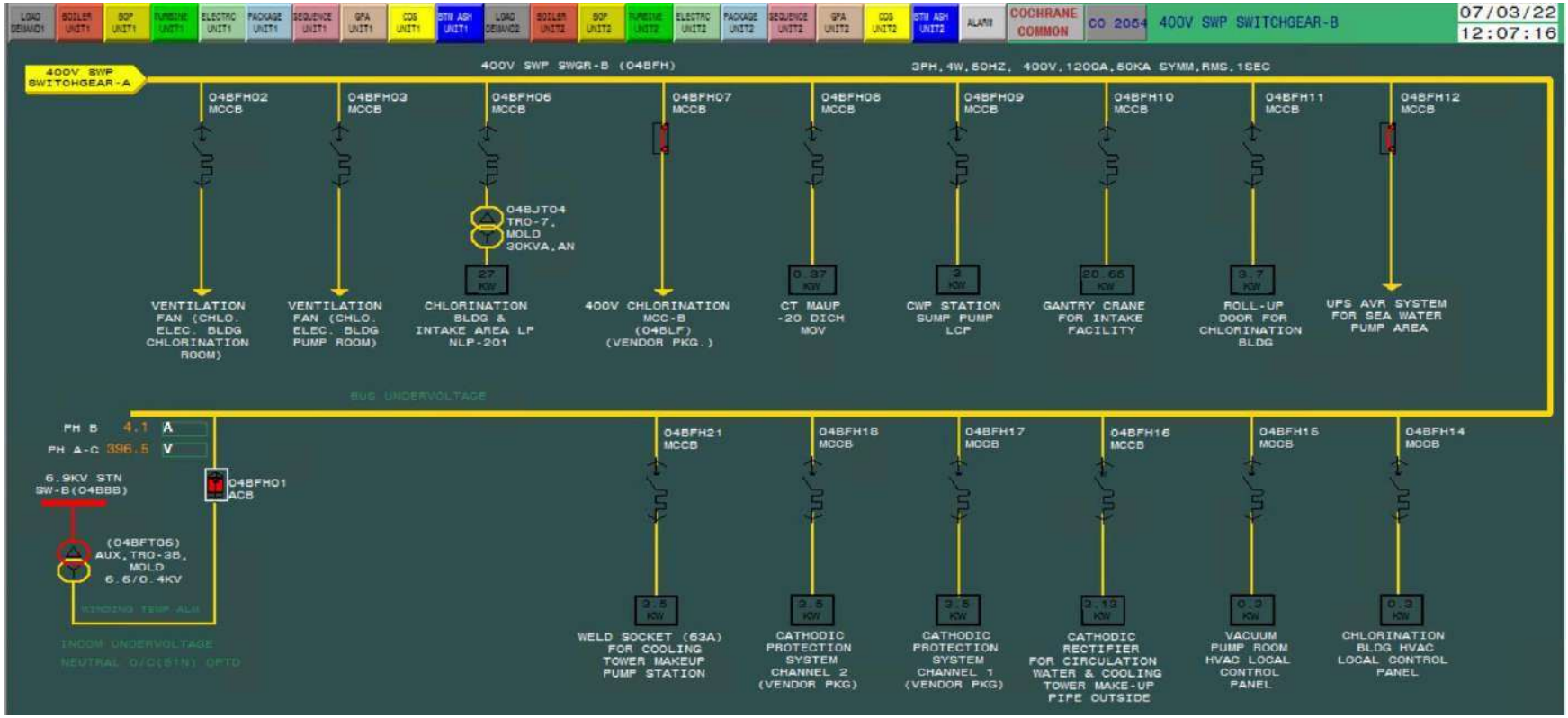

COCHRANE
COMMON
220KV GAS INSL SWGR (STR-UP TR)
07/03/22
12:02:18
BUSBAR NO. 1
START UP TR BAY
245KV, 50HZ, 4000A, 40KA(1SEC)
BUSBAR NO. 2
245KV, 50HZ, 4000A, 40KA(1SEC)
DS 89JT1-1
DS 89JT1-2
FAES 89JT1-1T
GCB 52JT1
FAES 89JT1-2T
DS 89JT1-3
FAES 89JT1-3T
(048CT0101)
START-UP TR
220/6.9/6.9
SUT
OLTC
E-STOP
TAP
9.0
STUP TR TO STUP SWGR-A
STUP TR TO STUP SWGR-B
048BC0101
VCB
048BD0101
VCB
6.9KV START-UP SWGR-A 4000A (048BC)
6.9KV START-UP SWGR-B 4000A (048BD)

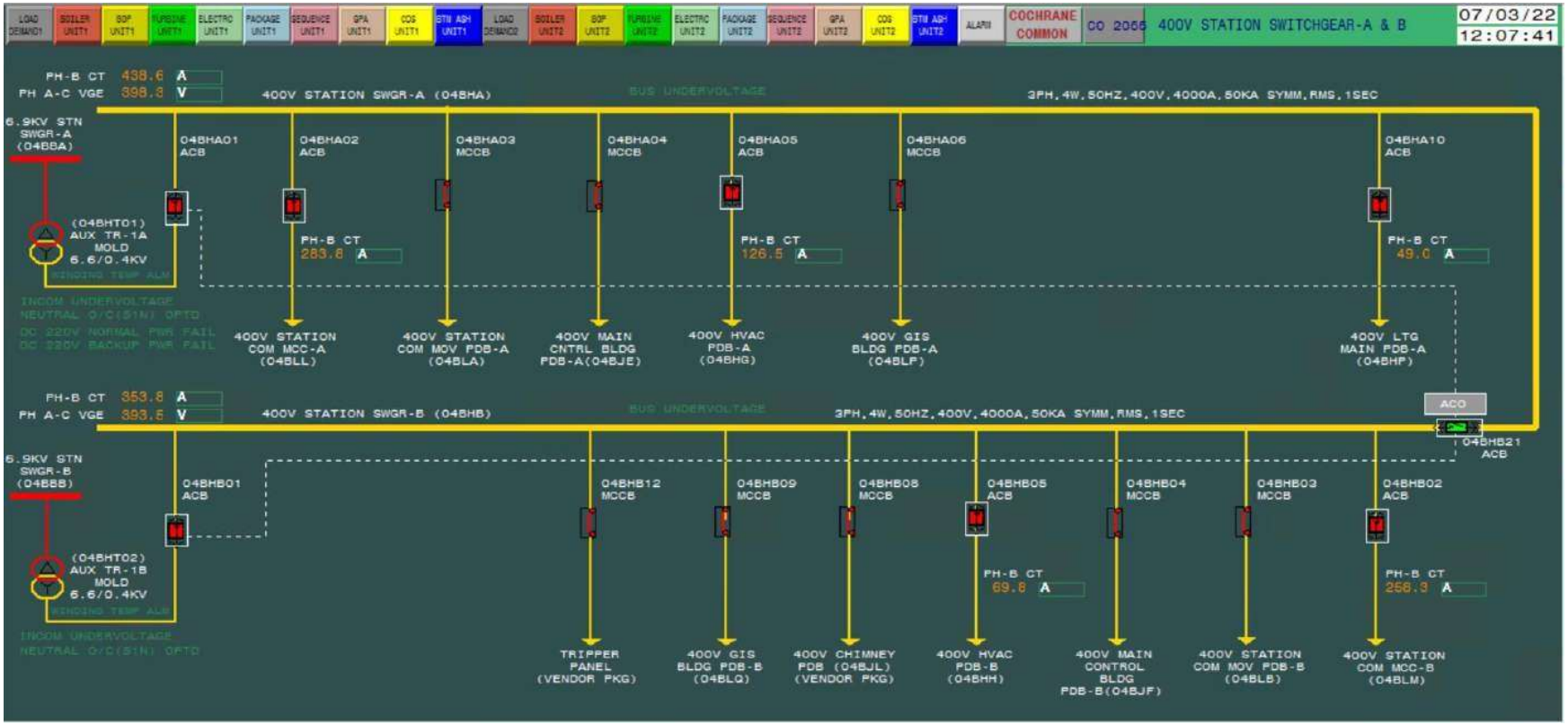

COCHRANE
COMMON
CO 2050
6.9KV STATION SWGR-A & B
07/03/22
12:03:01
6.9KV UNIT SWGR - 1B
VCB (14BBB13)
MW 0.8 MW
MVar 6.2 MVa
PH-A CT 89.7 A
PH-B CT 89.5 A
PH-C CT 90.8 A
PH A-B VGE 6871 V
PH B-C VGE 6865 V
PH C-A VGE 6893 V
04BBA01 VCB
6.9KV STATION SWGR-A (04BBA)
3PH,3W,50Hz,6.9KV,1600A,40KA SYMM. RMS,1SEC.
04BBA02 VCB
25.8 A PH-B CT
AUX TR0-1A (04BHT01)
400V STATION SWGR-A(04BHA)
04BBA03 VCB
4.6 A PH-B CT
AUX TR0-2A (04BFT03)
400V WWT SWGR-A
04BBA04 VCB
2.2 A PH-B CT
AUX TR0-3A (04BFT05)
400V SEA W.PP SWGR-A
04BBA05 VCB
0.0 A PH-B CT
AUX TR0-4A (04BFT07)
400V ESSENTIAL SWGR-A
04BBA06 VCB
6.9KV COAL HANDLING SYSTEM SWGR-A (04BCA)
04BBA07 VCB
AIR COMP-A (385KW)
04BBA08 VCB
AIR COMP-B (385KW)
04BBA09 VCB
AIR COMP-C (385KW)
04BBA10 VCB
C.T MAKE UP PUMP-B (1100KW)
04BBA11 VCB
CLOSED CLNG WTR PUMP-A (275KW)
04BBA12 VCB
CLOSED CLNG WTR PUMP-B (300KW)
6.9KV UNIT SWGR - 2B
VCB (24BBB13)
MW 2.1 MW
MVar 6.2 MVa
04BBB01 VCB
PH-A CT 165.0 A
PH-B CT 162.9 A
PH-C CT 164.5 A
PH A-B VGE 6834 V
PH B-C VGE 6827 V
PH C-A VGE 6828 V
VOLT I/P FRM 14BBB14 BUS INCMG
BKR OPN/CLS
FBT
V
ABT
VOLT I/P FRM 04BBA01
6.9KV STATION SWGR-B (04BBB)
3PH,3W,50Hz,6.9KV,1600A,40KA SYMM. RMS,1SEC.
04BBB12 VCB
04BBB11 VCB
20.2 A PH-B CT
AUX TR0-1B (04BHT02)
400V STATION SWGR-B
04BBB10 VCB
11.6 A PH-B CT
AUX TR0-2B (04BFT04)
400V WWT SWGR-B
04BBB09 VCB
0.2 A PH-B CT
AUX TR0-3B (04BFT06)
400V SEA W.PP SWGR-B
04BBB08 VCB
16.3 A PH-B CT
AUX TR0-4B (04BFT08)
400V ESSENTIAL SWGR-B
04BBB07 VCB
0.6 A PH-B CT
6.9KV COAL HANDLING SYS SWGR-B (04BCB)
04BBB06 VCB
ELEC FIRE PUMP LCP (400KW)
04BBB05 VCB
AIR COMP-E (385KW)
04BBB04 VCB
AIR COMP-D (385KW)
04BBB03 VCB
CLSD CLNG WTR PMP-C (275KW)
04BBB02 VCB
C.T MAKE UP PUMP-A (1100KW)

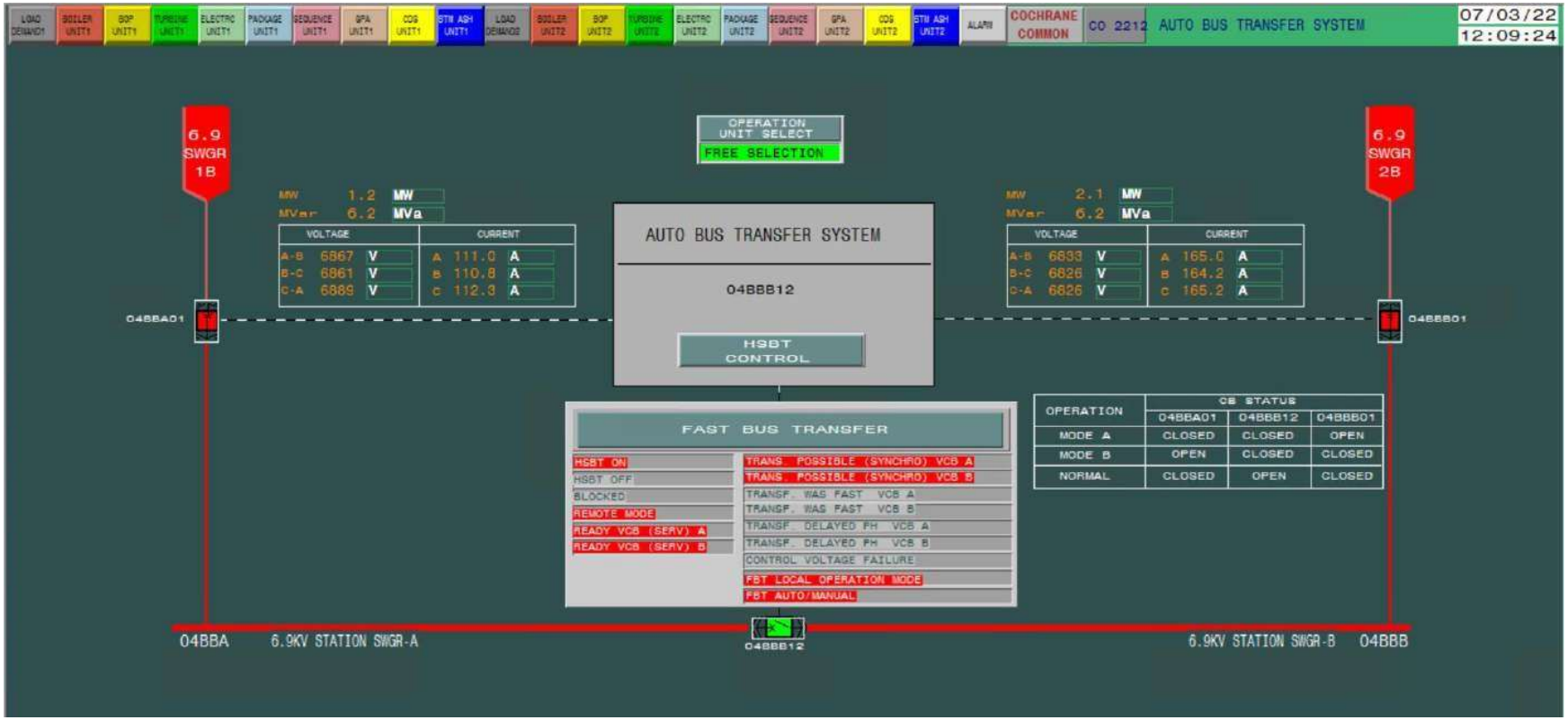

LOAD DEMAND1
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRC UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
SPA UNIT1
COS UNIT1
STN ASH UNIT1
LOAD DEMAND2
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRC UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
SPA UNIT2
COS UNIT2
STN ASH UNIT2
ALARM
COCHRANE COMMON
CO 2051
6.9KV START-UP SWITCHGEAR
07/03/22
12:04:56
6.9KV START-UP SWGR-A (04BBC)
3PH,3W,60Hz,6.9KV,4000A,40KA SYMM. RMS,1SEC.
MW 0.0 MW
MVAR 6.0 MVa
PH A 50.4 A
PH B 50.1 A
PH C 55.0 A
PH A-B 6928 V
PH B-C 6899 V
PH C-A 6902 V
04BBC01 VCB
04BBC02 VCB
PH B 0.0 A
04BBC03 VCB
PH B -0.7 A
04BBC04 VCB
PH B 51.5 A
START-UP TR (04BCT01)
6.9KV UNIT SWGR-1A (14BBA)
6.9KV UNIT SWGR-2B (24BBB)
6.9KV ENERGY STORAGE SWGR-A (04BBE)
6.9KV START-UP SWGR-B (04BBD)
3PH,3W,60Hz,6.9KV,4000A,40KA SYMM. RMS,1SEC.
MW -0.1 MW
MVAR 6.0 MVa
PH A 2.2 A
PH B 1.6 A
PH C 5.9 A
PH A-B 6925 V
PH B-C 6905 V
PH C-A 6936 V
04BBD01 VCB
04BBD02 VCB
PH B 1.6 A
04BBD03 VCB
PH B -0.2 A
04BBD04 VCB
PH B -0.2 A
START-UP TR (04BCT01)
6.9KV UNIT SWGR-2A (24BBA)
6.9KV UNIT SWGR-1B (14BBB)
6.9KV ENERGY STORAGE SWGR-B (04BBF)

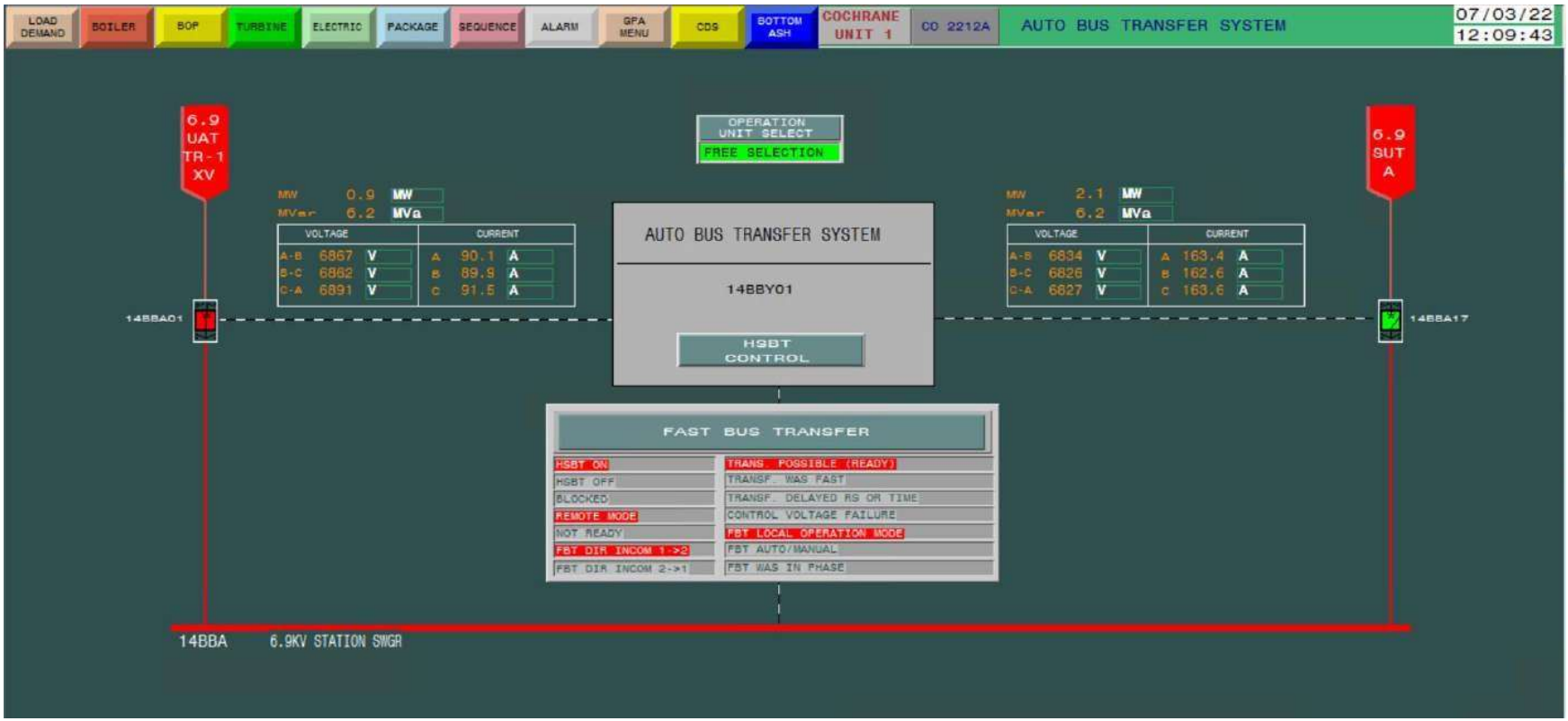

LOAD DEMAND1
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRC UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
GPA UNIT1
COG UNIT1
STN ASH UNIT1
LOAD DEMAND2
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRC UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
GPA UNIT2
COG UNIT2
STN ASH UNIT2
ALARM
COCHRANE COMMON
CO 2062
6.9KV ENERGY STORAGE SWITCHGEAR
07/03/22
12:05:14
6.9KV START-UP SWGR-A (04BBC)
6.9KV START-UP SWGR-B (04BBD)
MW 0.0 MW
MVAR 5.4 MVa
PH A 24.1 A
PH B 24.5 A
PH C 25.8 A
PH A-B 6888 V
PH B-C 6877 V
PH C-A 6863 V
MW -0.2 MW
MVAR 6.0 MVa
PH A 0.6 A
PH B 0.9 A
PH C 1.3 A
PH A-B 6890 V
PH B-C 6870 V
PH C-A 6864 V
AUTO TRANSFER SWITCH
04BBE01 VCB
04BBF01 VCB
6.9KV ENERGY STORAGE SWGR-A (04BBE)
3PH,3W,60HZ,6.9KV,2500A, 40KA SYMM,RMS,1SEC
04BBF06 VCB
6.9KV ENERGY STORAGE SWGR-B (04BBF)
3PH,3W,60HZ,6.9KV,2500A, 40KA SYMM,RMS,1SEC
04BBE05 VCB
PH B 9.4 A
04BBE04 VCB
PH B 16.2 A
04BBE03 VCB
PH B 4.2 A
04BBE02 VCB
PH B 0.3 A
04BBF02 VCB
8.0 A
04BBF04 VCB
PH B 7.7 A
04BBF03 VCB
PH B 21.0 A
04BBF05 VCB
PH B -0.0 A
TR 6.9/.48/.48KV 4MVA(2MVA/2MVA)
TR 6.9/.48/.48KV 4MVA(2MVA/2MVA)
TR 6.9/.48/.48KV 4MVA(2MVA/2MVA)
TR 6.9/.48/.48KV 4MVA(2MVA/2MVA)
TR 6.9/.48/.48KV 4MVA(2MVA/2MVA)
DIST.BOARD (1MVA)
SPARE
SPARE

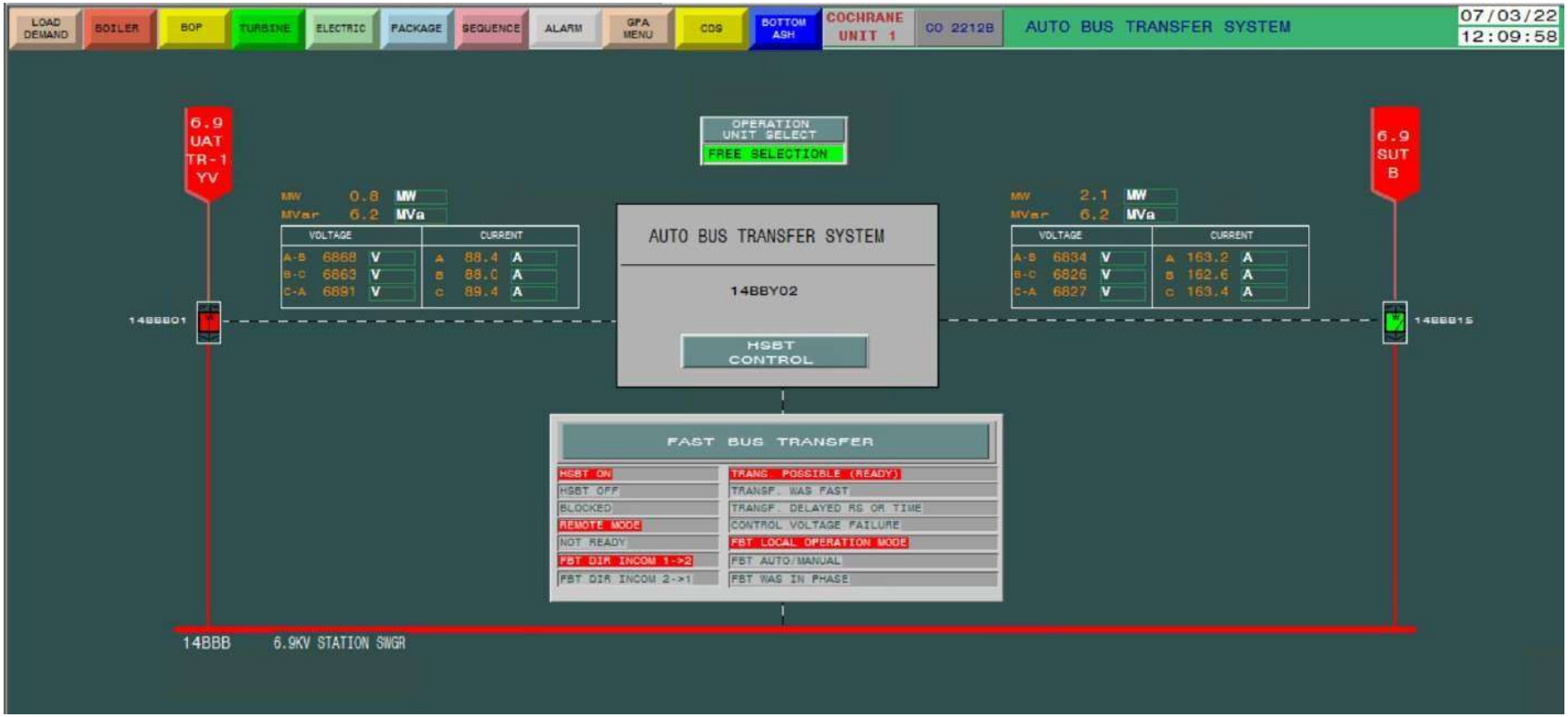

LOAD DEMAND1
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRC UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
SPA UNIT1
COS UNIT1
STN ASH UNIT1
LOAD DEMAND2
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRC UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
SPA UNIT2
COS UNIT2
STN ASH UNIT2
ALARM
COCHRANE COMMON
CO 2053
400V SWP SWITCHGEAR-A
07/03/22
12:06:53
400V SWP SWGR-A (04BFG)
3PH,4W,50HZ, 400V,1200A,50KA SYMM,RMS,1SEC
13.2 A
399.6 V
04BFG01 ACB
6.9KV STN SW-A(04BBA)
(04BFT05) AUX,TRO-3A, MOLD 6.6/0.4KV
WINDING TEMP ALM
INCOM UNDERVOLTAGE
NEUTRAL O/C(51N) OPTD
DC 220V NORMAL PWR FAIL
DC 220V BACKUP PWR FAIL
04BFG02 MCCB
VENTILATION FAN (CHLORINATION BLDG ELECTRICAL ROOM)
04BFG03 MCCB
VENTILATION FAN (CHLORINATION BLDG ELECTRICAL ROOM)
04BFG04 MCCB
400V CHLORINATION MCC-A (04BLE) (VENDOR PKG.)
04BFG05 MCCB
400V INTAKE MCC (04BLG) (VENDOR PKG)
04BFG07 MCCB
3.54 KW
PACU FOR CHLORINATION BLDG ELECTRICAL ROOM
04BFG08 MCCB
3.54 KW
PACU FOR CHLORINATION BLDG ELECTRICAL ROOM
04BFG09 MCCB
0.37 KW
CT MAUP-10 DICH MOV
04BFG11 MCCB
43.65 KW
WELD SOCKT (63A) FOR COOLING TOWER MAKEUP PUMP STATION
04BFG12 MCCB
0.5 KW
CUBICLE HEATER & LIGHT (220V) (CT MAKE-UP VMS CABINET #5)
400V SWP SWITCHGEAR-B
04BFH31 ACB
ACO
BUS UNDERVOLTAGE
04BFG19 MCCB
DC SYSTEM FOR SEA WATER PUMP AREA
04BFG18 MCCB
2.6 KW
CATHODIC RECTIFIER FOR COOLING TOWER MAKE-UP PIPE INSIDE
04BFG17 MCCB
42 KW
VACCUM PRIMING PUMP LCP
04BFG15 MCCB
VENTILATION FAN (VACUUM PUMP ROOM)
04BFG13 MCCB
1 KW
CUBICLE HEATER & LIGHT (220V) (400V SEA. W.P SWGR.)

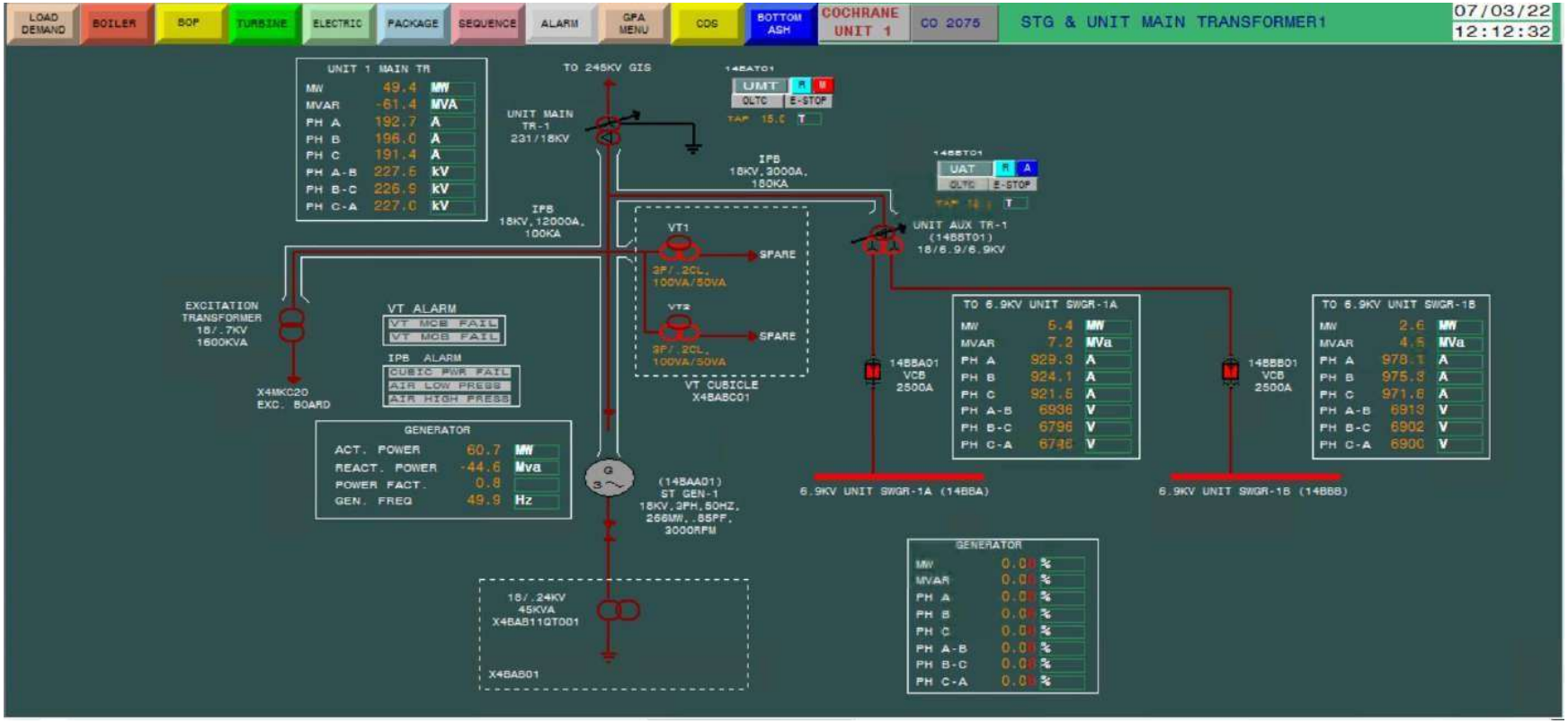

COCHRANE COMMON
CO 2054
400V SWP SWITCHGEAR-B
07/03/22
12:07:16
400V SWP SWITCHGEAR-A
400V SWP SWGR-B (04BFH)
3PH,4W,60HZ, 400V,1200A,50KA SYMM,RMS,1SEC
04BFH02 MCCB
VENTILATION FAN (CHLO. ELEC. BLDG CHLORINATION ROOM)
04BFH03 MCCB
VENTILATION FAN (CHLO. ELEC. BLDG PUMP ROOM)
04BFH06 MCCB
04BJT04 TRO-7, MOLD 30KVA,AN
27 KW
CHLORINATION BLDG & INTAKE AREA LP NLP-201
04BFH07 MCCB
400V CHLORINATION MCC-B (04BLF) (VENDOR PKG.)
04BFH08 MCCB
0.37 KW
CT MAUP -20 DICH MOV
04BFH09 MCCB
3 KW
CWP STATION SUMP PUMP LCP
04BFH10 MCCB
20.65 KW
GANTRY CRANE FOR INTAKE FACILITY
04BFH11 MCCB
3.7 KW
ROLL-UP DOOR FOR CHLORINATION BLDG
04BFH12 MCCB
UPS AVR SYSTEM FOR SEA WATER PUMP AREA
BUS UNDERVOLTAGE
PH B 4.1 A
PH A-C 396.5 V
6.9KV STN SW-B(04BBB)
04BFH01 ACB
(04BFT06) AUX, TRO-38, MOLD 6.6/0.4KV
WINDING TEMP ALM
INCOM UNDERVOLTAGE
NEUTRAL O/C(STN) OPTD
04BFH21 MCCB
2.5 KW
WELD SOCKET (63A) FOR COOLING TOWER MAKEUP PUMP STATION
04BFH18 MCCB
2.5 KW
CATHODIC PROTECTION SYSTEM CHANNEL 2 (VENDOR PKG)
04BFH17 MCCB
2.5 KW
CATHODIC PROTECTION SYSTEM CHANNEL 1 (VENDOR PKG)
04BFH16 MCCB
2.13 KW
CATHODIC RECTIFIER FOR CIRCULATION WATER & COOLING TOWER MAKE-UP PIPE OUTSIDE
04BFH15 MCCB
0.2 KW
VACUUM PUMP ROOM HVAC LOCAL CONTROL PANEL
04BFH14 MCCB
0.3 KW
CHLORINATION BLDG HVAC LOCAL CONTROL PANEL

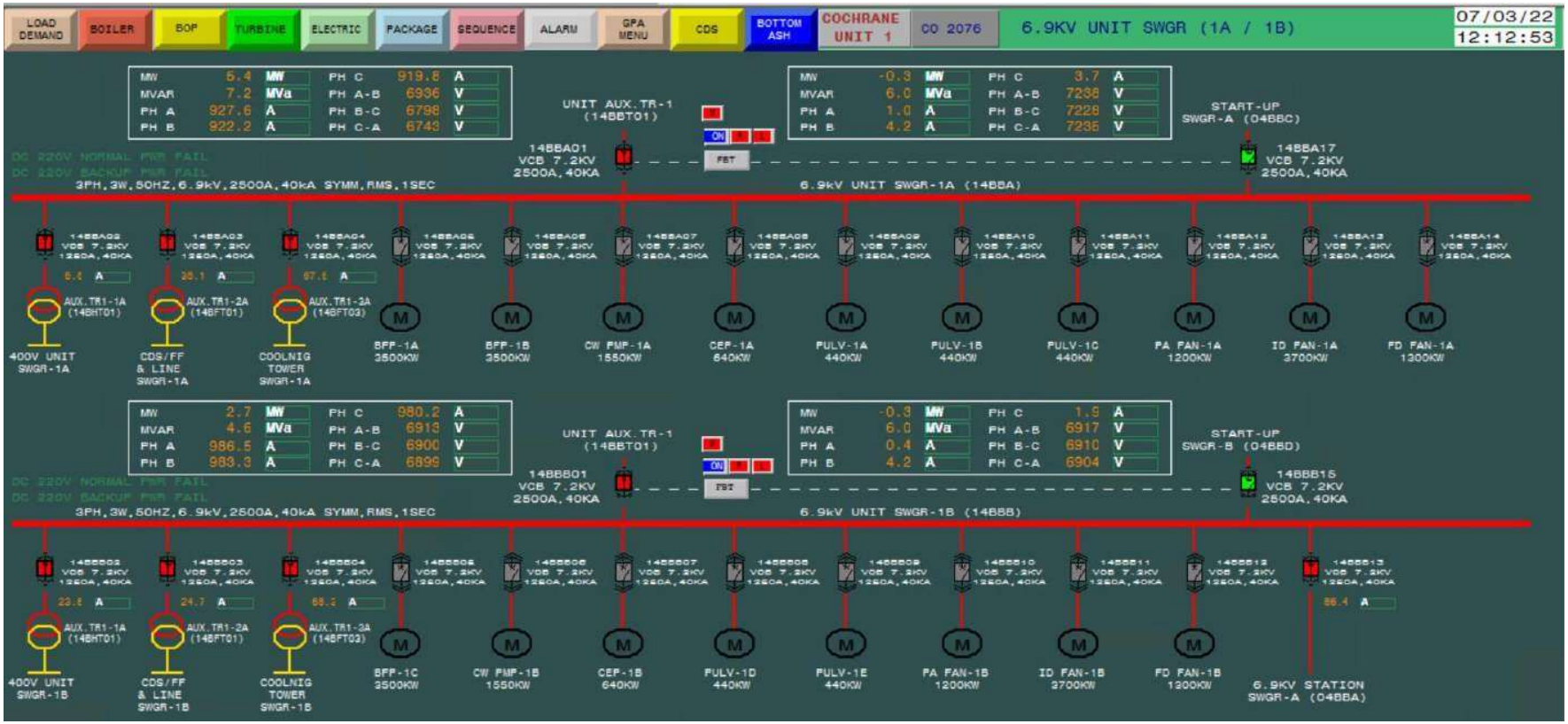

LOAD DEMAND1
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRIC UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
GPA UNIT1
COS UNIT1
STN ASH UNIT1
LOAD DEMAND2
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRIC UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
GPA UNIT2
COS UNIT2
STN ASH UNIT2
ALARM
COCHRANE COMMON
CO 2056
400V STATION SWITCHGEAR-A & B
07/03/22
12:07:41
PH-B CT 438.6 A
PH A-C VGE 398.8 V
400V STATION SWGR-A (04BHA)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,50KA SYMM.RMS,1SEC
6.9KV STN SWGR-A (04BBA)
04BHA01 ACB
04BHA02 ACB
04BHA03 MCCB
04BHA04 MCCB
04BHA05 ACB
04BHA06 MCCB
04BHA10 ACB
(04BHT01) AUX TR-1A MOLD 6.6/0.4KV
WINDING TEMP ALM
PH-B CT 283.8 A
PH-B CT 126.5 A
PH-B CT 49.0 A
INCOM UNDERVOLTAGE
NEUTRAL O/C(51N) OPTD
DC 220V NORMAL PWR FAIL
DC 220V BACKUP PWR FAIL
400V STATION COM MCC-A (04BLL)
400V STATION COM MOV PDB-A (04BLA)
400V MAIN CNTRL BLDG PDB-A(04BJE)
400V HVAC PDB-A (04BHG)
400V GIS BLDG PDB-A (04BLF)
400V LTG MAIN PDB-A (04BHP)
PH-B CT 353.8 A
PH A-C VGE 393.5 V
400V STATION SWGR-B (04BHB)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,50KA SYMM.RMS,1SEC
ACO
04BHB21 ACB
6.9KV STN SWGR-B (04BBB)
04BHB01 ACB
04BHB12 MCCB
04BHB09 MCCB
04BHB08 MCCB
04BHB05 ACB
04BHB04 MCCB
04BHB03 MCCB
04BHB02 ACB
(04BHT02) AUX TR-1B MOLD 6.6/0.4KV
WINDING TEMP ALM
INCOM UNDERVOLTAGE
NEUTRAL O/C(51N) OPTD
PH-B CT 69.8 A
PH-B CT 268.3 A
TRIPPER PANEL (VENDOR PKG)
400V GIS BLDG PDB-B (04BLQ)
400V CHIMNEY PDB (04BJL) (VENDOR PKG)
400V HVAC PDB-B (04BHH)
400V MAIN CONTROL BLDG PDB-B(04BJF)
400V STATION COM MOV PDB-B (04BLB)
400V STATION COM MCC-B (04BLM)

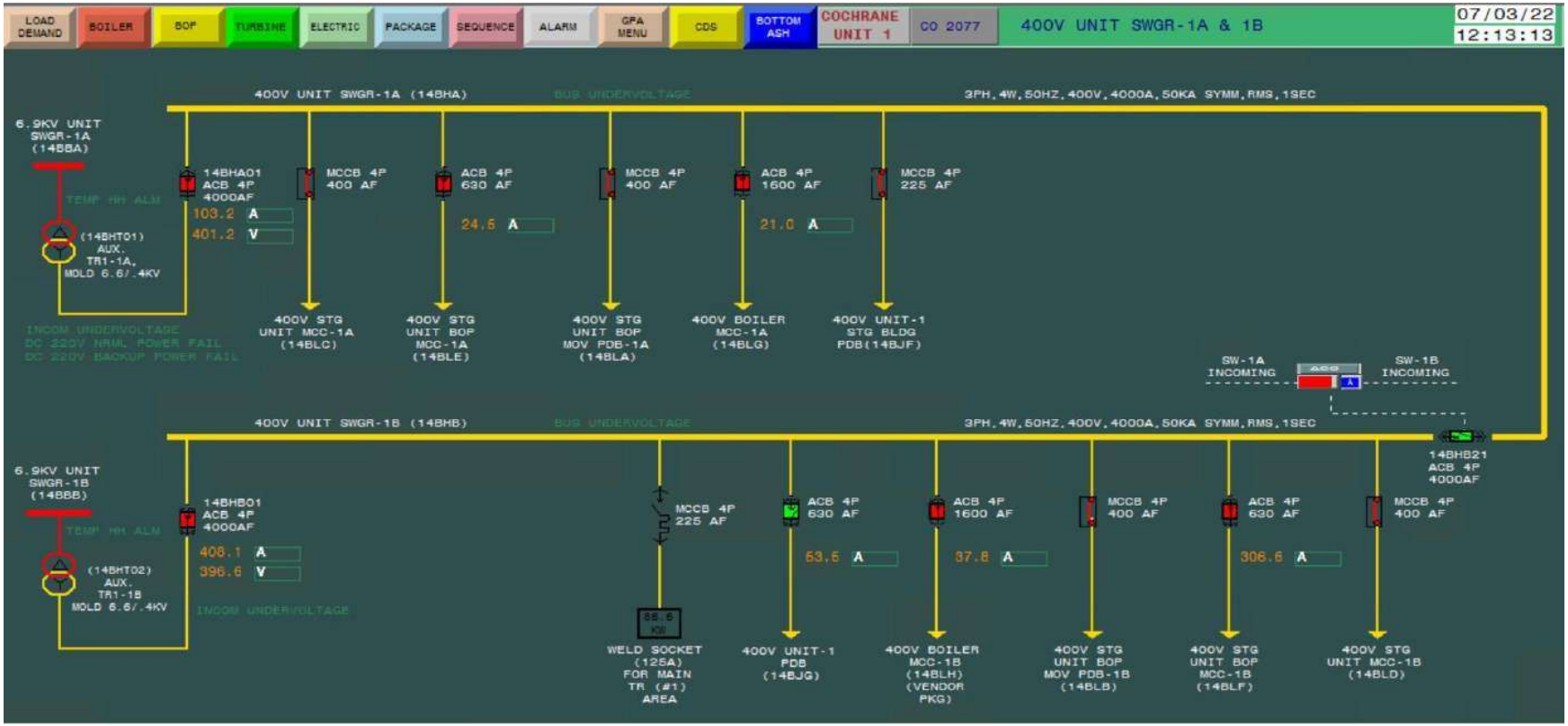

COCHRANE
COMMON
CO 2212
AUTO BUS TRANSFER SYSTEM
07/03/22
12:09:24
6.9 SWGR 1B
6.9 SWGR 2B
OPERATION UNIT SELECT
FREE SELECTION
MW 1.2 MW
MVar 6.2 MVa
VOLTAGE
CURRENT
A-B 6867 V
B-C 6861 V
C-A 6889 V
A 111.0 A
B 110.8 A
C 112.3 A
MW 2.1 MW
MVar 6.2 MVa
A-B 6833 V
B-C 6826 V
C-A 6826 V
A 165.0 A
B 164.2 A
C 165.2 A
AUTO BUS TRANSFER SYSTEM
04BBB12
HSBT CONTROL
04BBA01
04BBB01
FAST BUS TRANSFER
HSBT ON
HSBT OFF
BLOCKED
REMOTE MODE
READY VCB (SERV) A
READY VCB (SERV) B
TRANS. POSSIBLE (SYNCHRO) VCB A
TRANS. POSSIBLE (SYNCHRO) VCB B
TRANSF. WAS FAST VCB A
TRANSF. WAS FAST VCB B
TRANSF. DELAYED FH VCB A
TRANSF. DELAYED FH VCB B
CONTROL VOLTAGE FAILURE
FBT LOCAL OPERATION MODE
FBT AUTO/MANUAL
OPERATION
CB STATUS
04BBA01
04BBB12
04BBB01
MODE A CLOSED CLOSED OPEN
MODE B OPEN CLOSED CLOSED
NORMAL CLOSED OPEN CLOSED
04BBA 6.9KV STATION SWGR-A
04BBB12
6.9KV STATION SWGR-B 04BBB

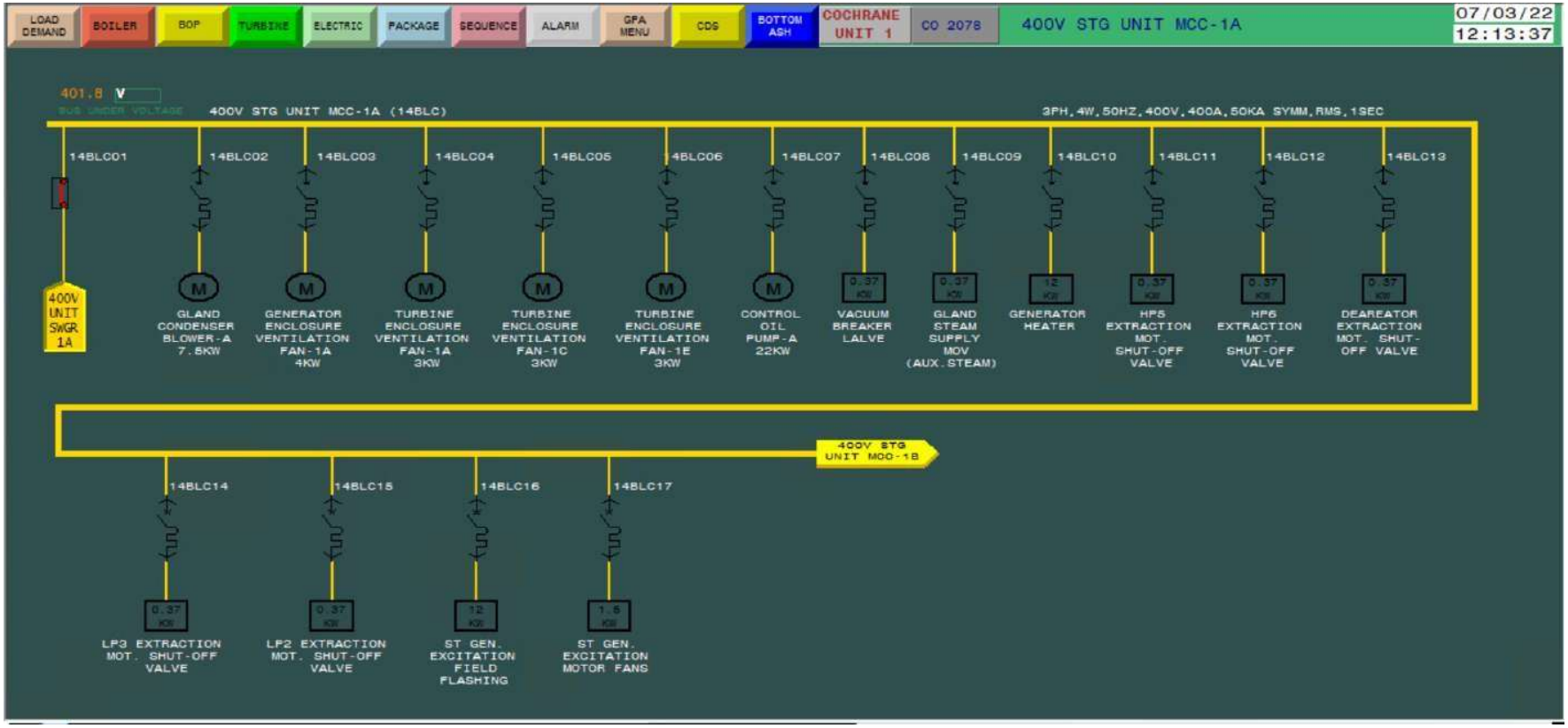

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2212A
AUTO BUS TRANSFER SYSTEM
07/03/22
12:09:43
6.9 UAT TR-1 XV
OPERATION UNIT SELECT
FREE SELECTION
6.9 SUT A
MW 0.9 MW
MVar 6.2 MVa
VOLTAGE
CURRENT
A-B 6867 V
B-C 6862 V
C-A 6891 V
A 90.1 A
B 89.9 A
C 91.5 A
AUTO BUS TRANSFER SYSTEM
14BBY01
HSBT CONTROL
MW 2.1 MW
MVar 6.2 MVa
A-B 6834 V
B-C 6826 V
C-A 6827 V
A 163.4 A
B 162.6 A
C 163.6 A
14BBA01
14BBA17
FAST BUS TRANSFER
HSBT ON
HSBT OFF
BLOCKED
REMOTE MODE
NOT READY
FBT DIR INCOM 1->2
FBT DIR INCOM 2->1
TRANS. POSSIBLE (READY)
TRANSF. WAS FAST
TRANSF. DELAYED RS OR TIME
CONTROL VOLTAGE FAILURE
FBT LOCAL OPERATION MODE
FBT AUTO/MANUAL
FBT WAS IN PHASE
14BBA 6.9KV STATION SWGR

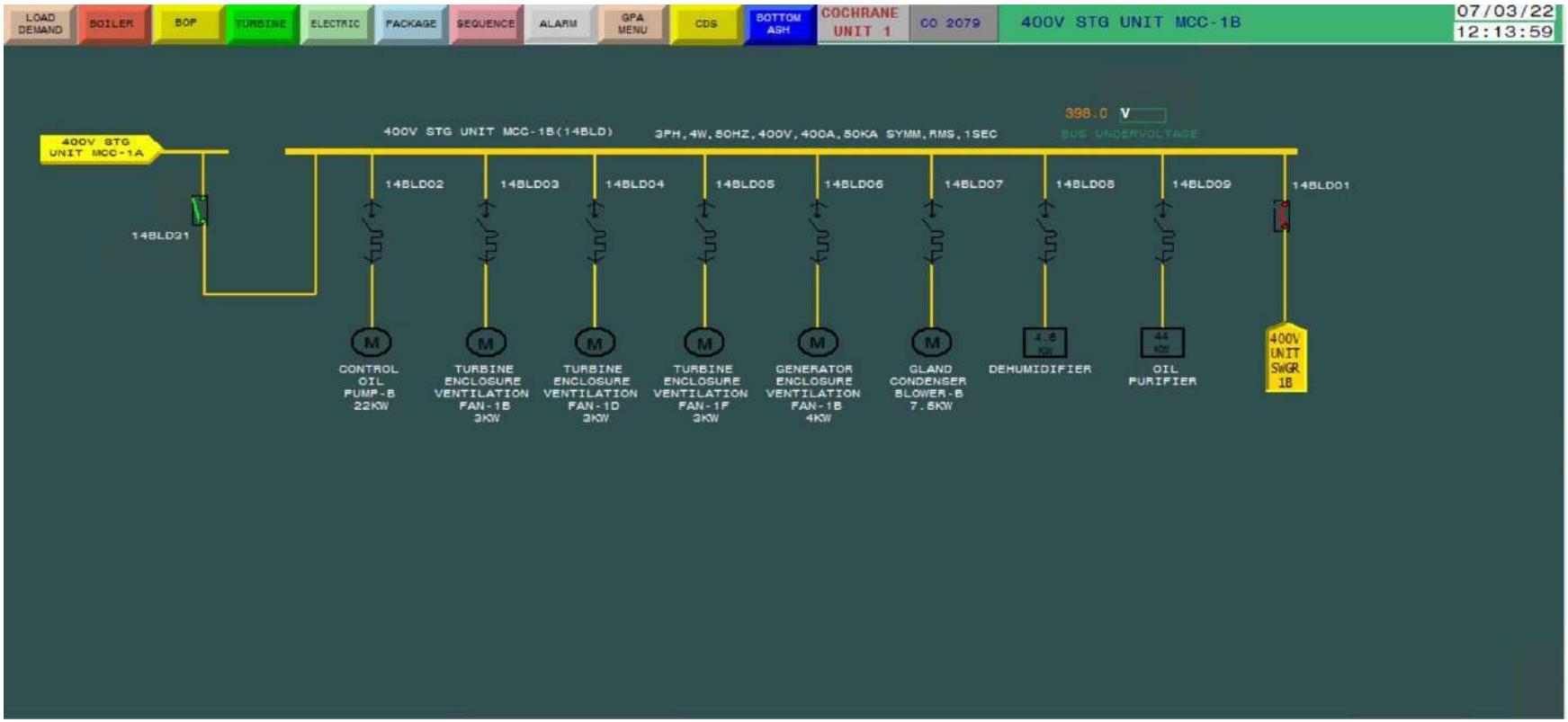

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
COS
BOTTOM ASH
COCHRANE UNIT 1
CO 22128
AUTO BUS TRANSFER SYSTEM
07/03/22
12:09:58
6.9 UAT TR-1 YV
OPERATION UNIT SELECT
FREE SELECTION
6.9 SUT B
MW 0.8 MW
MVar 6.2 MVa
VOLTAGE
CURRENT
A-B 6868 V
B-C 6863 V
C-A 6891 V
A 88.4 A
B 88.0 A
C 89.4 A
AUTO BUS TRANSFER SYSTEM
14BBY02
HSBT CONTROL
MW 2.1 MW
MVar 6.2 MVa
A-B 6834 V
B-C 6826 V
C-A 6827 V
A 163.2 A
B 162.6 A
C 163.4 A
14BBB01
14BBB15
FAST BUS TRANSFER
HSBT ON
HSBT OFF
BLOCKED
REMOTE MODE
NOT READY
FBT DIR INCOM 1->2
FBT DIR INCOM 2->1
TRANS. POSSIBLE (READY)
TRANSF. WAS FAST
TRANSF. DELAYED RS OR TIME
CONTROL VOLTAGE FAILURE
FBT LOCAL OPERATION MODE
FBT AUTO/MANUAL
FBT WAS IN PHASE
14BBB 6.9KV STATION SWGR

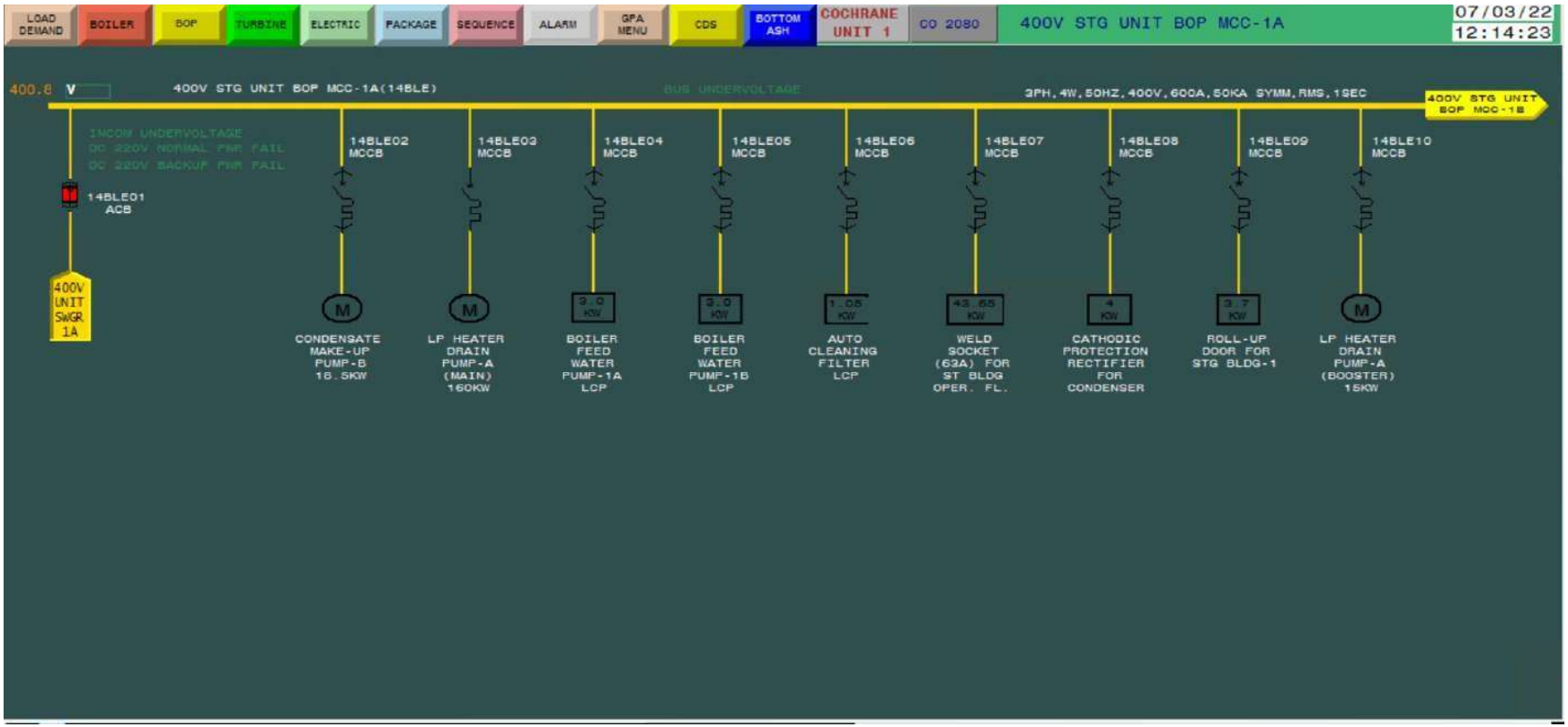

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2075
STG & UNIT MAIN TRANSFORMER1
07/03/22
12:12:32
UNIT 1 MAIN TR
MW 49.4 MW
MVAR -61.4 MVA
PH A 192.7 A
PH B 196.0 A
PH C 191.4 A
PH A-B 227.6 kV
PH B-C 226.9 kV
PH C-A 227.0 kV
TO 245KV GIS
UNIT MAIN TR-1 231/18KV
UMT
OLTC
E-STOP
IPB 18KV,3000A, 150KA
IPB 18KV,12000A, 100KA
UAT
UNIT AUX TR-1 (14BBT01) 18/6.9/6.9KV
VT1
SPARE
3P/.2CL, 100VA/50VA
VT2
VT CUBICLE X4BABC01
EXCITATION TRANSFORMER 18/.7KV 1600KVA
X4MKC20 EXC. BOARD
VT ALARM
VT MCB FAIL
IPB ALARM
CUBIC PWR FAIL
AIR LOW PRESS
AIR HIGH PRESS
GENERATOR
ACT. POWER 60.7 MW
REACT. POWER -44.6 Mva
POWER FACT. 0.8
GEN. FREQ 49.9 Hz
(14BAA01) ST GEN-1 18KV,3PH,50HZ, 255MW,.85PF, 3000RPM
18/.24KV 45KVA X4BAB11QT001
X4BAB01
TO 6.9KV UNIT SWGR-1A
MW 5.4 MW
MVAR 7.2 MVa
PH A 929.3 A
PH B 924.1 A
PH C 921.5 A
PH A-B 6936 V
PH B-C 6796 V
PH C-A 6748 V
14BBA01 VCB 2500A
14BBB01 VCB 2500A
TO 6.9KV UNIT SWGR-1B
MW 2.6 MW
MVAR 4.5 MVa
PH A 978.1 A
PH B 975.3 A
PH C 971.6 A
PH A-B 6913 V
PH B-C 6902 V
PH C-A 6900 V
6.9KV UNIT SWGR-1A (14BBA)
6.9KV UNIT SWGR-1B (14BBB)
GENERATOR
MW 0.0 %
MVAR 0.0 %
PH A 0.0 %
PH B 0.0 %
PH C 0.0 %
PH A-B 0.0 %
PH B-C 0.0 %
PH C-A 0.0 %

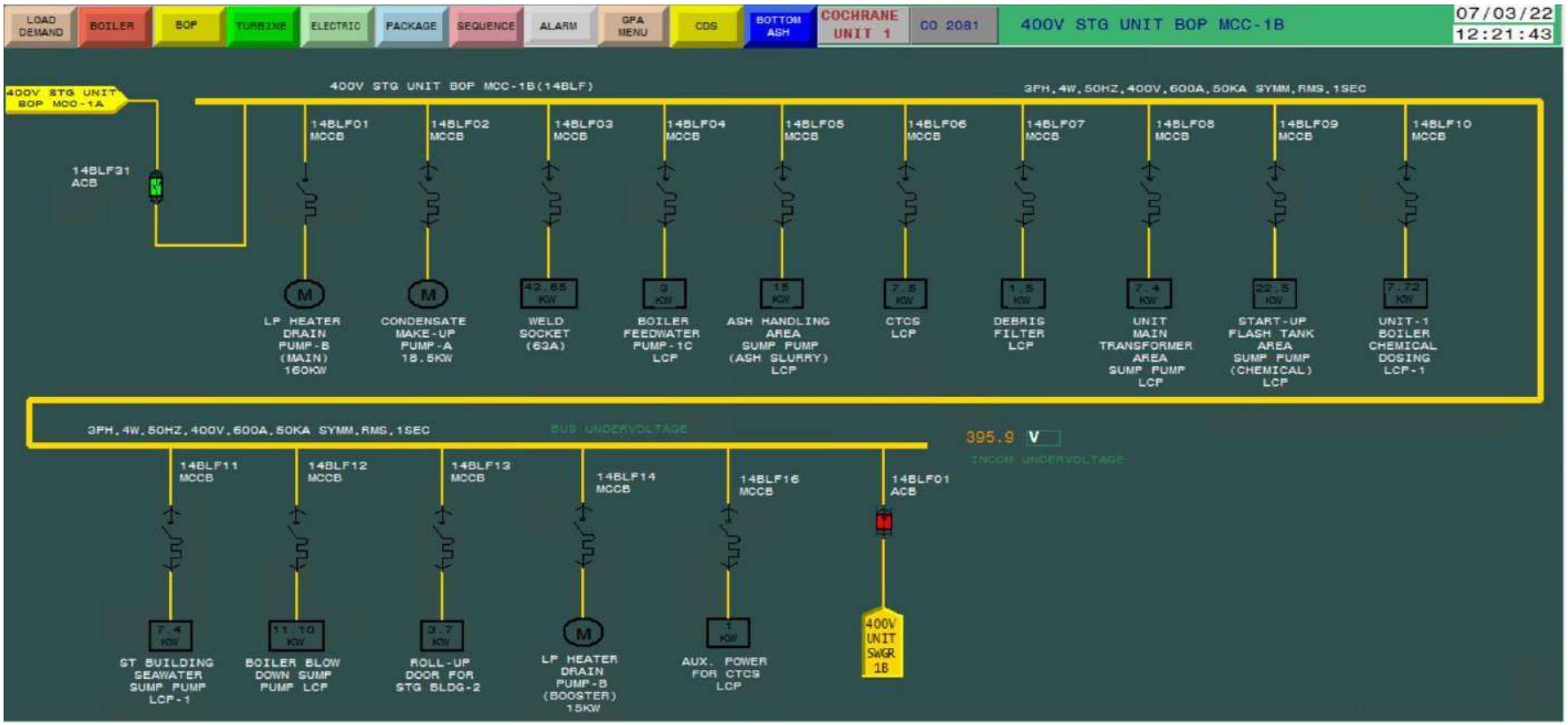

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2076
6.9KV UNIT SWGR (1A / 1B)
07/03/22
12:12:53
UNIT AUX.TR-1 (14BBT01)
14BBA01 VCB 7.2KV 2500A, 40KA
3PH, 3W, 50HZ, 6.9kV, 2500A, 40kA SYMM, RMS, 1SEC
6.9kV UNIT SWGR-1A (14BBA)
START-UP SWGR-A (04BBC)
14BBA17 VCB 7.2KV 2500A, 40KA
400V UNIT SWGR-1A
CDS/FF & LINE SWGR-1A
COOLNIG TOWER SWGR-1A
BFP-1A 3500KW
BFP-1B 3500KW
CW PMP-1A 1550KW
CEP-1A 640KW
PULV-1A 440KW
PULV-1B 440KW
PULV-1C 440KW
PA FAN-1A 1200KW
ID FAN-1A 3700KW
FD FAN-1A 1300KW
UNIT AUX.TR-1 (14BBT01)
14BBB01 VCB 7.2KV 2500A, 40KA
3PH, 3W, 50HZ, 6.9kV, 2500A, 40kA SYMM, RMS, 1SEC
6.9kV UNIT SWGR-1B (14BBB)
START-UP SWGR-B (04BBD)
14BBB15 VCB 7.2KV 2500A, 40KA
400V UNIT SWGR-1B
CDS/FF & LINE SWGR-1B
COOLNIG TOWER SWGR-1B
BFP-1C 3500KW
CW PMP-1B 1550KW
CEP-1B 640KW
PULV-1D 440KW
PULV-1E 440KW
PA FAN-1B 1200KW
ID FAN-1B 3700KW
FD FAN-1B 1300KW
6.9KV STATION SWGR-A (04BBA)

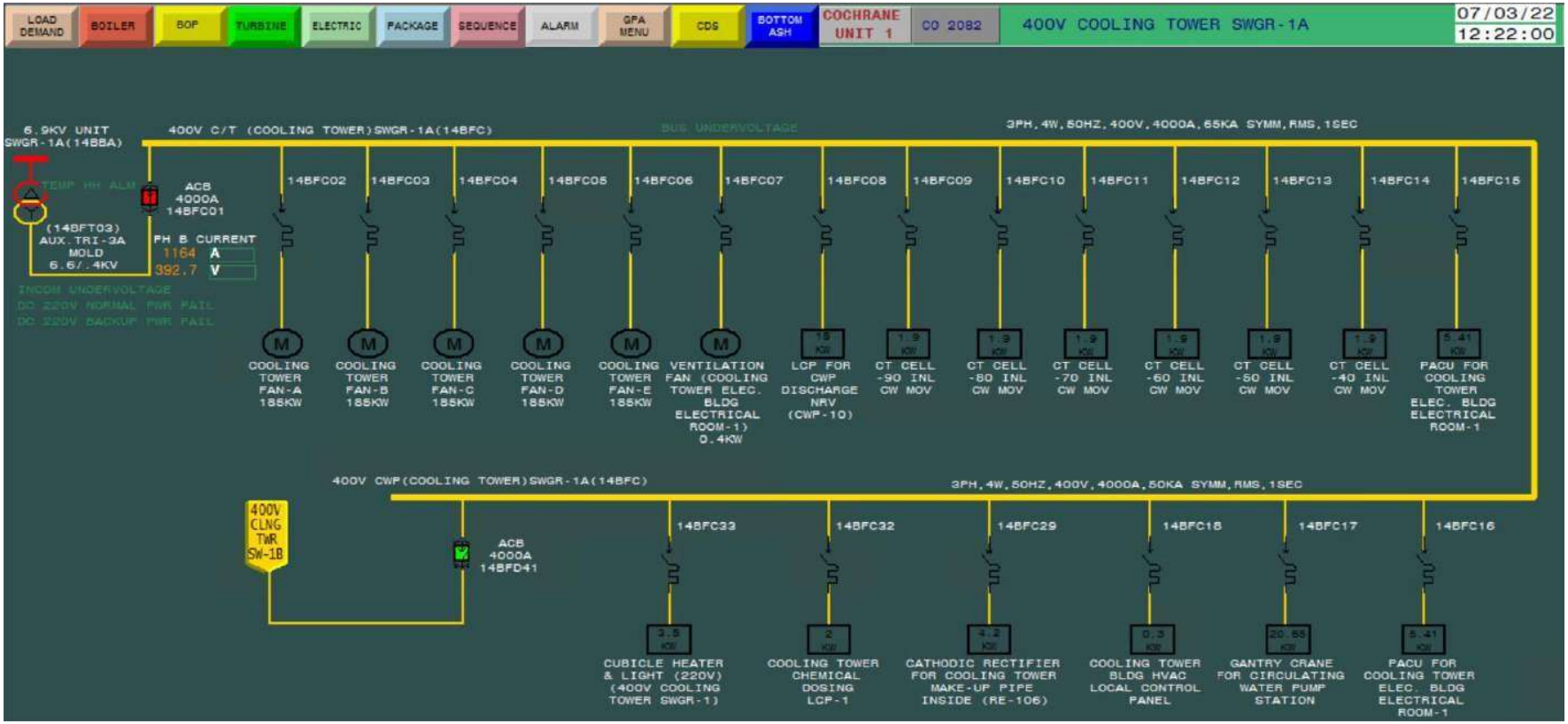

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2077
400V UNIT SWGR-1A & 1B
07/03/22
12:13:13
400V UNIT SWGR-1A (14BHA)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,50KA SYMM,RMS,1SEC
6.9KV UNIT SWGR-1A (14BBA)
TEMP HH ALM
(14BHT01) AUX. TR1-1A, MOLD 6.6/.4KV
INCOM UNDERVOLTAGE
DC 220V NRML POWER FAIL
DC 220V BACKUP POWER FAIL
14BHA01 ACB 4P 4000AF
103.2 A
401.2 V
MCCB 4P 400 AF
ACB 4P 630 AF
24.6 A
MCCB 4P 400 AF
ACB 4P 1600 AF
21.0 A
MCCB 4P 225 AF
400V STG UNIT MCC-1A (14BLC)
400V STG UNIT BOP MCC-1A (14BLE)
400V STG UNIT BOP MOV PDB-1A (14BLA)
400V BOILER MCC-1A (14BLG)
400V UNIT-1 STG BLDG PDB(14BJF)
SW-1A INCOMING
SW-1B INCOMING
400V UNIT SWGR-1B (14BHB)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,50KA SYMM,RMS,1SEC
14BHB21 ACB 4P 4000AF
6.9KV UNIT SWGR-1B (14BBB)
TEMP HH ALM
(14BHT02) AUX. TR1-1B MOLD 6.6/.4KV
INCOM UNDERVOLTAGE
14BHB01 ACB 4P 4000AF
408.1 A
396.6 V
MCCB 4P 225 AF
55.6 KW
ACB 4P 630 AF
53.6 A
ACB 4P 1600 AF
37.8 A
MCCB 4P 400 AF
ACB 4P 630 AF
306.6 A
MCCB 4P 400 AF
WELD SOCKET (125A) FOR MAIN TR (#1) AREA
400V UNIT-1 PDB (14BJG)
400V BOILER MCC-1B (14BLH) (VENDOR PKG)
400V STG UNIT BOP MOV PDB-1B (14BLB)
400V STG UNIT BOP MCC-1B (14BLF)
400V STG UNIT MCC-1B (14BLD)

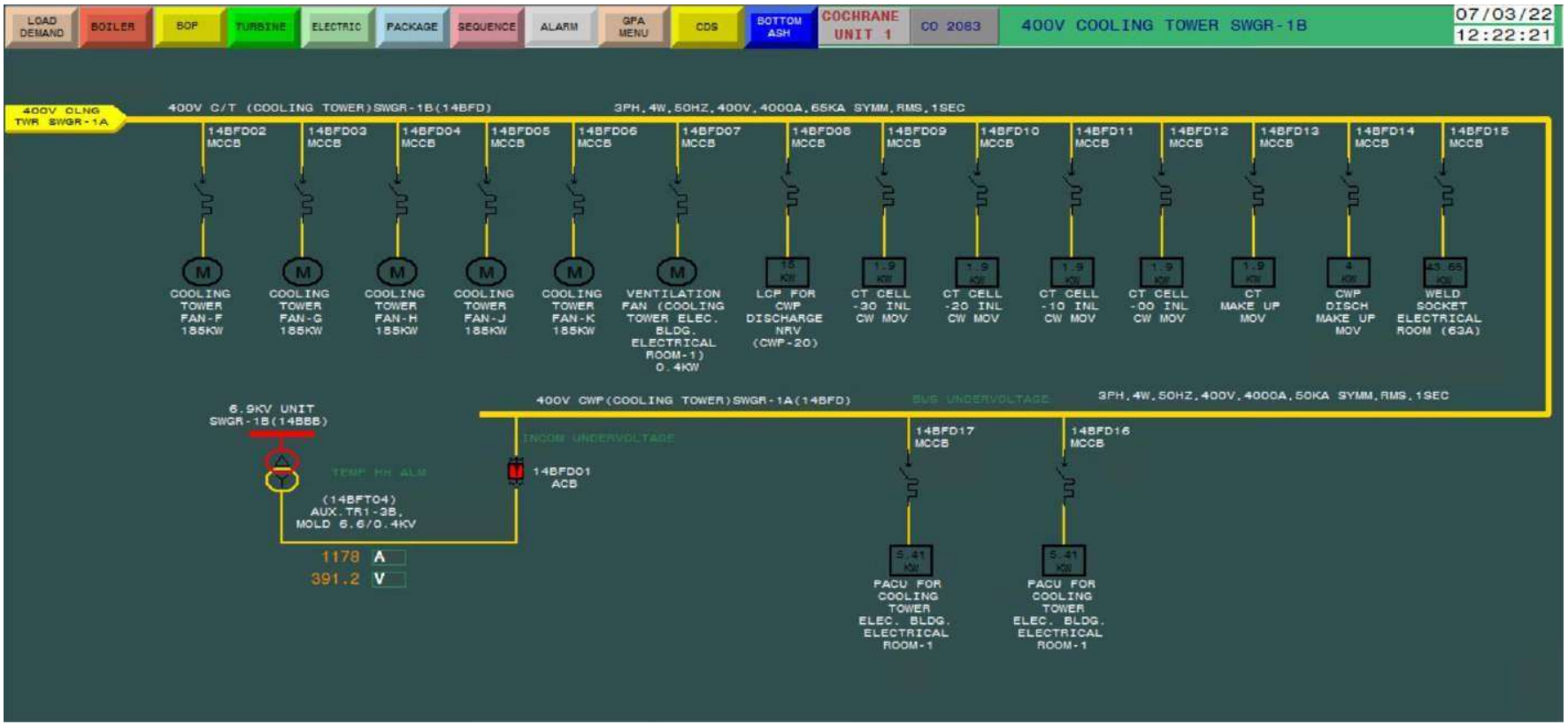

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2078
400V STG UNIT MCC-1A
07/03/22
12:13:37
401.8 V
BUS UNDER VOLTAGE
400V STG UNIT MCC-1A (14BLC)
3PH, 4W, 50HZ, 400V, 400A, 50KA SYMM, RMS, 1SEC
14BLC01
14BLC02
14BLC03
14BLC04
14BLC05
14BLC06
14BLC07
14BLC08
14BLC09
14BLC10
14BLC11
14BLC12
14BLC13
400V UNIT SWGR 1A
GLAND CONDENSER BLOWER-A 7.8KW
GENERATOR ENCLOSURE VENTILATION FAN-1A 4KW
TURBINE ENCLOSURE VENTILATION FAN-1A 3KW
TURBINE ENCLOSURE VENTILATION FAN-1C 3KW
TURBINE ENCLOSURE VENTILATION FAN-1E 3KW
CONTROL OIL PUMP-A 22KW
VACUUM BREAKER LALVE
GLAND STEAM SUPPLY MOV (AUX.STEAM)
GENERATOR HEATER
HP5 EXTRACTION MOT. SHUT-OFF VALVE
HP6 EXTRACTION MOT. SHUT-OFF VALVE
DEAERATOR EXTRACTION MOT. SHUT-OFF VALVE
400V STG UNIT MCC-1B
14BLC14
14BLC15
14BLC16
14BLC17
LP3 EXTRACTION MOT. SHUT-OFF VALVE
LP2 EXTRACTION MOT. SHUT-OFF VALVE
ST GEN. EXCITATION FIELD FLASHING
ST GEN. EXCITATION MOTOR FANS

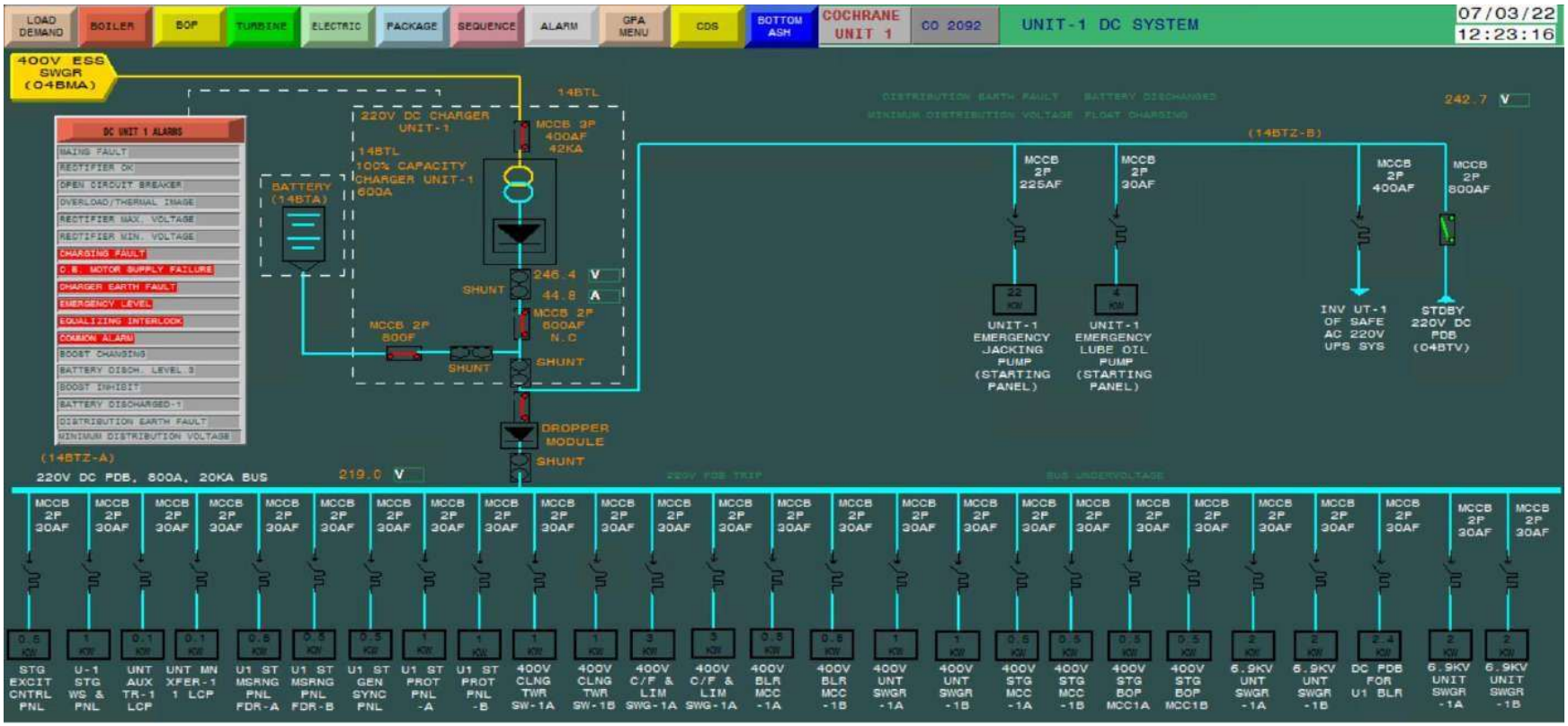

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2079
400V STG UNIT MCC-1B
07/03/22
12:13:59
398.0 V
BUS UNDERVOLTAGE
400V STG UNIT MCC-1A
400V STG UNIT MCC-1B(14BLD)
3PH,4W,50HZ,400V,400A,50KA SYMM.RMS,1SEC
14BLD31
14BLD02
14BLD03
14BLD04
14BLD05
14BLD06
14BLD07
14BLD08
14BLD09
14BLD01
CONTROL OIL PUMP-B 22KW
TURBINE ENCLOSURE VENTILATION FAN-1B 3KW
TURBINE ENCLOSURE VENTILATION FAN-1D 3KW
TURBINE ENCLOSURE VENTILATION FAN-1F 3KW
GENERATOR ENCLOSURE VENTILATION FAN-1B 4KW
GLAND CONDENSER BLOWER-B 7.5KW
DEHUMIDIFIER
OIL PURIFIER
400V UNIT SWGR 1B

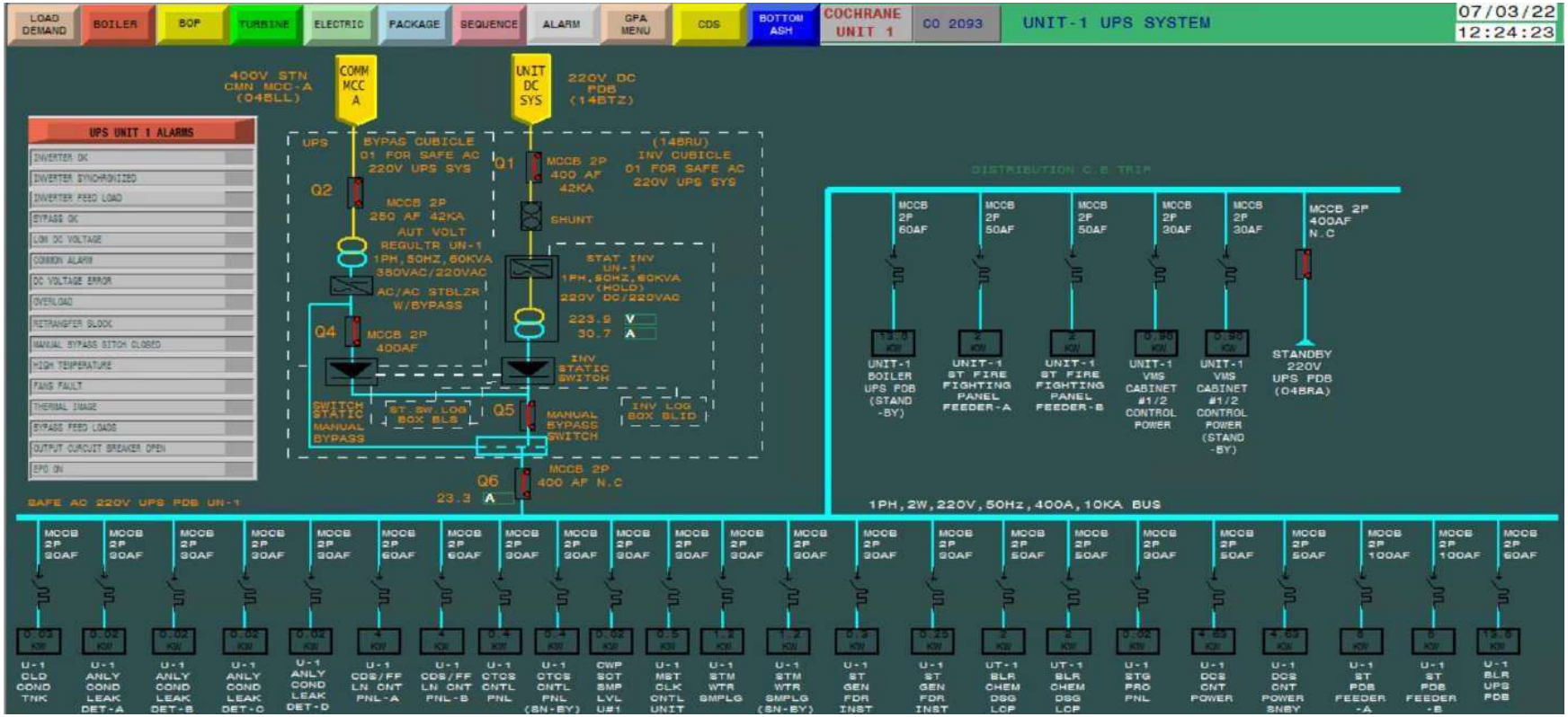

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2080
400V STG UNIT BOP MCC-1A
07/03/22
12:14:23
400.8 V
400V STG UNIT BOP MCC-1A(14BLE)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,600A,50KA SYMM.RMS,1SEC
400V STG UNIT BOP MCC-1B
INCOM UNDERVOLTAGE
DC 220V NORMAL PWR FAIL
DC 220V BACKUP PWR FAIL
14BLE01 ACB
400V UNIT SWGR 1A
14BLE02 MCCB
14BLE03 MCCB
14BLE04 MCCB
14BLE05 MCCB
14BLE06 MCCB
14BLE07 MCCB
14BLE08 MCCB
14BLE09 MCCB
14BLE10 MCCB
M
3.0 KW
3.0 KW
1.05 KW
43.65 KW
4 KW
3.7 KW
M
CONDENSATE MAKE-UP PUMP-B 18.5KW
LP HEATER DRAIN PUMP-A (MAIN) 160KW
BOILER FEED WATER PUMP-1A LCP
BOILER FEED WATER PUMP-1B LCP
AUTO CLEANING FILTER LCP
WELD SOCKET (63A) FOR ST BLDG OPER. FL.
CATHODIC PROTECTION RECTIFIER FOR CONDENSER
ROLL-UP DOOR FOR STG BLDG-1
LP HEATER DRAIN PUMP-A (BOOSTER) 15KW

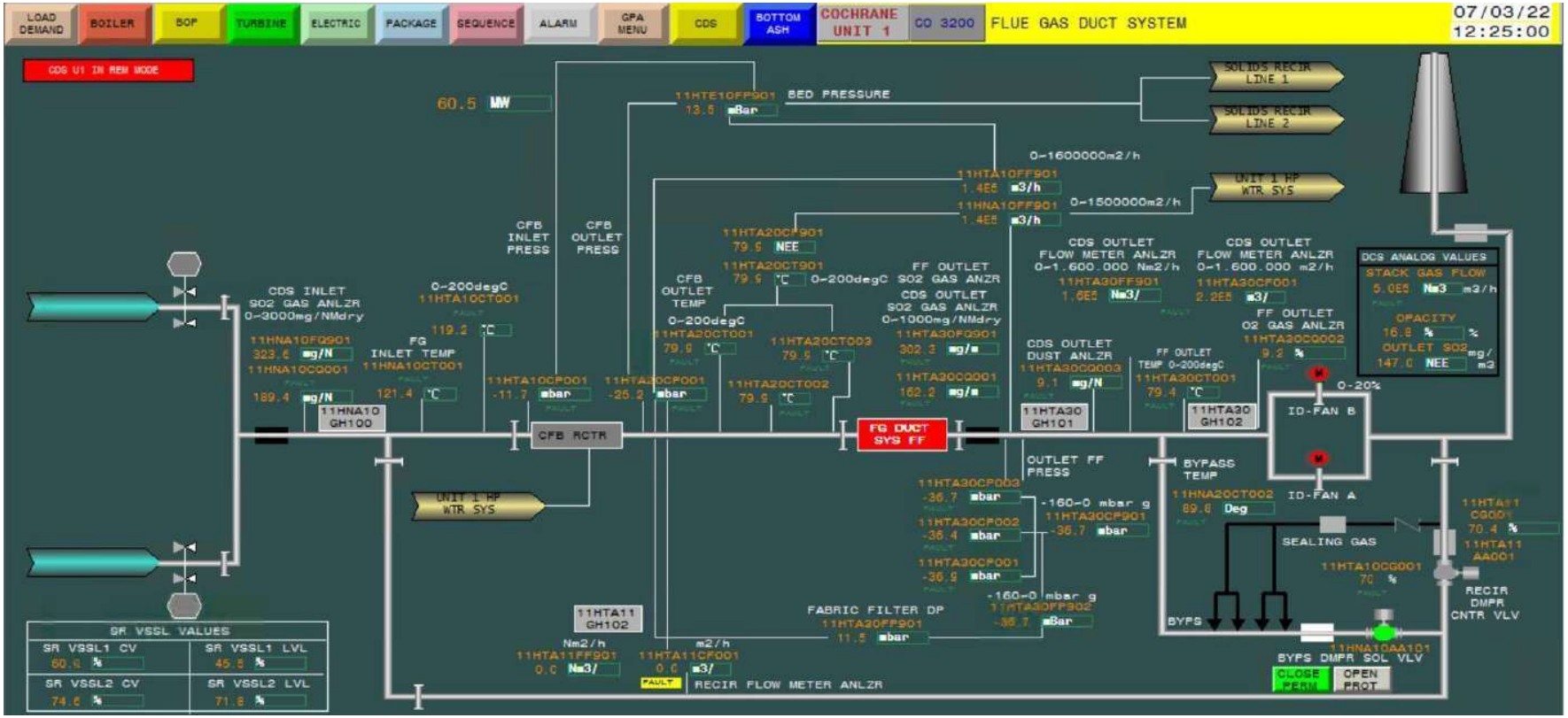

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2081
400V STG UNIT BOP MCC-1B
07/03/22
12:21:43
400V STG UNIT BOP MCC-1A
400V STG UNIT BOP MCC-1B(14BLF)
3PH,4W,50HZ,400V,600A,50KA SYMM,RMS,1SEC
14BLF31 ACB
14BLF01 MCCB
LP HEATER DRAIN PUMP-B (MAIN) 160KW
14BLF02 MCCB
CONDENSATE MAKE-UP PUMP-A 18.5KW
14BLF03 MCCB
43.65 KW
WELD SOCKET (63A)
14BLF04 MCCB
9 KW
BOILER FEEDWATER PUMP-1C LCP
14BLF05 MCCB
15 KW
ASH HANDLING AREA SUMP PUMP (ASH SLURRY) LCP
14BLF06 MCCB
7.5 KW
CTCS LCP
14BLF07 MCCB
1.5 KW
DEBRIS FILTER LCP
14BLF08 MCCB
7.4 KW
UNIT MAIN TRANSFORMER AREA SUMP PUMP LCP
14BLF09 MCCB
22.5 KW
START-UP FLASH TANK AREA SUMP PUMP (CHEMICAL) LCP
14BLF10 MCCB
7.72 KW
UNIT-1 BOILER CHEMICAL DOSING LCP-1
3PH,4W,50HZ,400V,600A,50KA SYMM,RMS,1SEC
BUS UNDERVOLTAGE
395.9 V
INCOM UNDERVOLTAGE
14BLF11 MCCB
7.4 KW
ST BUILDING SEAWATER SUMP PUMP LCP-1
14BLF12 MCCB
11.10 KW
BOILER BLOW DOWN SUMP PUMP LCP
14BLF13 MCCB
3.7 KW
ROLL-UP DOOR FOR STG BLDG-2
14BLF14 MCCB
LP HEATER DRAIN PUMP-B (BOOSTER) 15KW
14BLF16 MCCB
1 KW
AUX. POWER FOR CTCS LCP
14BLF01 ACB
400V UNIT SWGR 1B

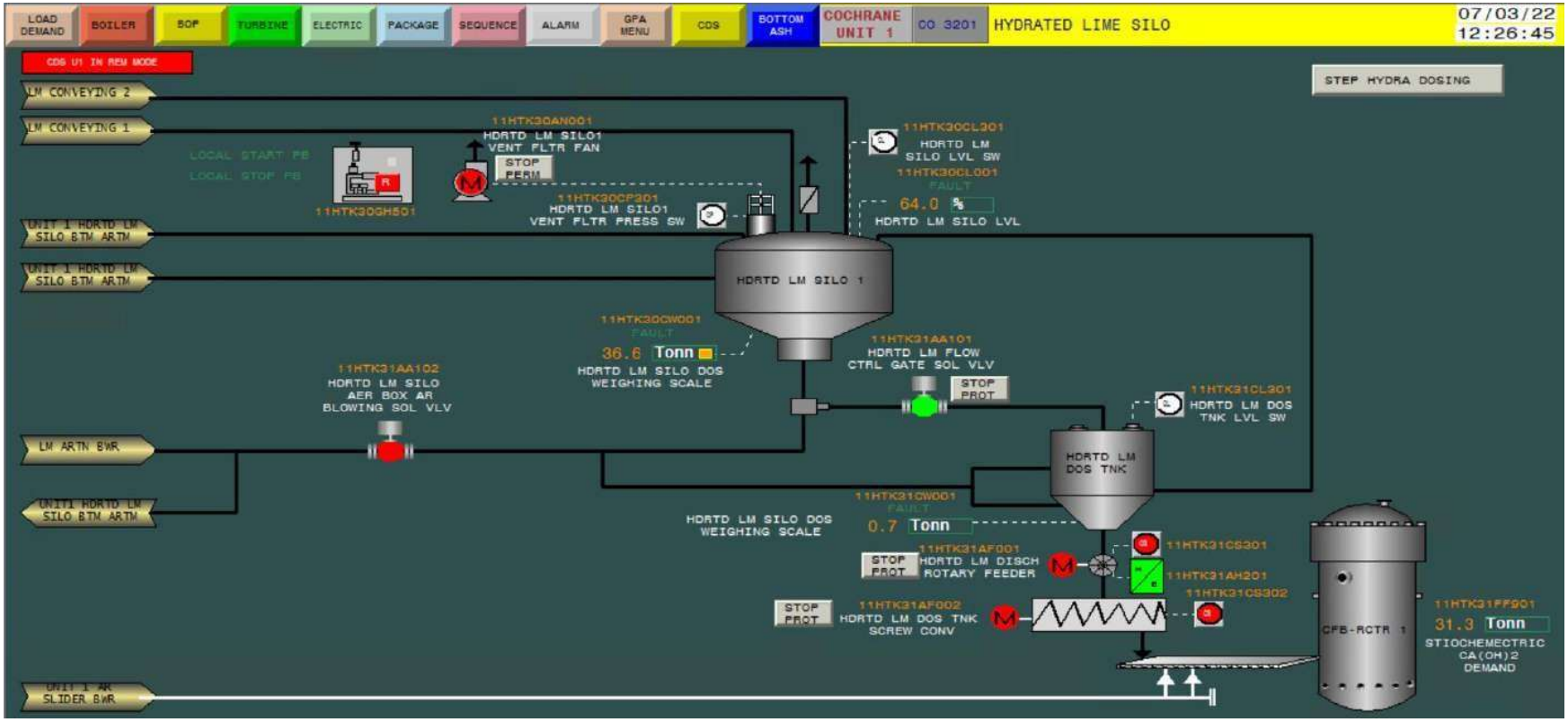

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2082
400V COOLING TOWER SWGR-1A
07/03/22
12:22:00
6.9KV UNIT SWGR-1A(14BBA)
400V C/T (COOLING TOWER)SWGR-1A(14BFC)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,65KA SYMM,RMS,1SEC
TEMP HH ALM
(14BFT03) AUX.TRI-3A MOLD 6.6/.4KV
ACB 4000A 14BFC01
PH B CURRENT
1164 A
392.7 V
INCOM UNDERVOLTAGE
DC 220V NORMAL PWR FAIL
DC 220V BACKUP PWR FAIL
14BFC02
14BFC03
14BFC04
14BFC05
14BFC06
14BFC07
14BFC08
14BFC09
14BFC10
14BFC11
14BFC12
14BFC13
14BFC14
14BFC15
COOLING TOWER FAN-A 185KW
COOLING TOWER FAN-B 185KW
COOLING TOWER FAN-C 185KW
COOLING TOWER FAN-D 185KW
COOLING TOWER FAN-E 185KW
VENTILATION FAN (COOLING TOWER ELEC. BLDG ELECTRICAL ROOM-1) 0.4KW
LCP FOR CWP DISCHARGE NRV (CWP-10)
CT CELL -90 INL CW MOV
CT CELL -80 INL CW MOV
CT CELL -70 INL CW MOV
CT CELL -60 INL CW MOV
CT CELL -50 INL CW MOV
CT CELL -40 INL CW MOV
PACU FOR COOLING TOWER ELEC. BLDG ELECTRICAL ROOM-1
400V CWP(COOLING TOWER)SWGR-1A(14BFC)
3PH,4W,50HZ,400V,4000A,50KA SYMM,RMS,1SEC
400V CLNG TWR SW-1B
ACB 4000A 14BFD41
14BFC33
14BFC32
14BFC29
14BFC18
14BFC17
14BFC16
CUBICLE HEATER & LIGHT (220V) (400V COOLING TOWER SWGR-1)
COOLING TOWER CHEMICAL DOSING LCP-1
CATHODIC RECTIFIER FOR COOLING TOWER MAKE-UP PIPE INSIDE (RE-106)
COOLING TOWER BLDG HVAC LOCAL CONTROL PANEL
GANTRY CRANE FOR CIRCULATING WATER PUMP STATION
PACU FOR COOLING TOWER ELEC. BLDG ELECTRICAL ROOM-1

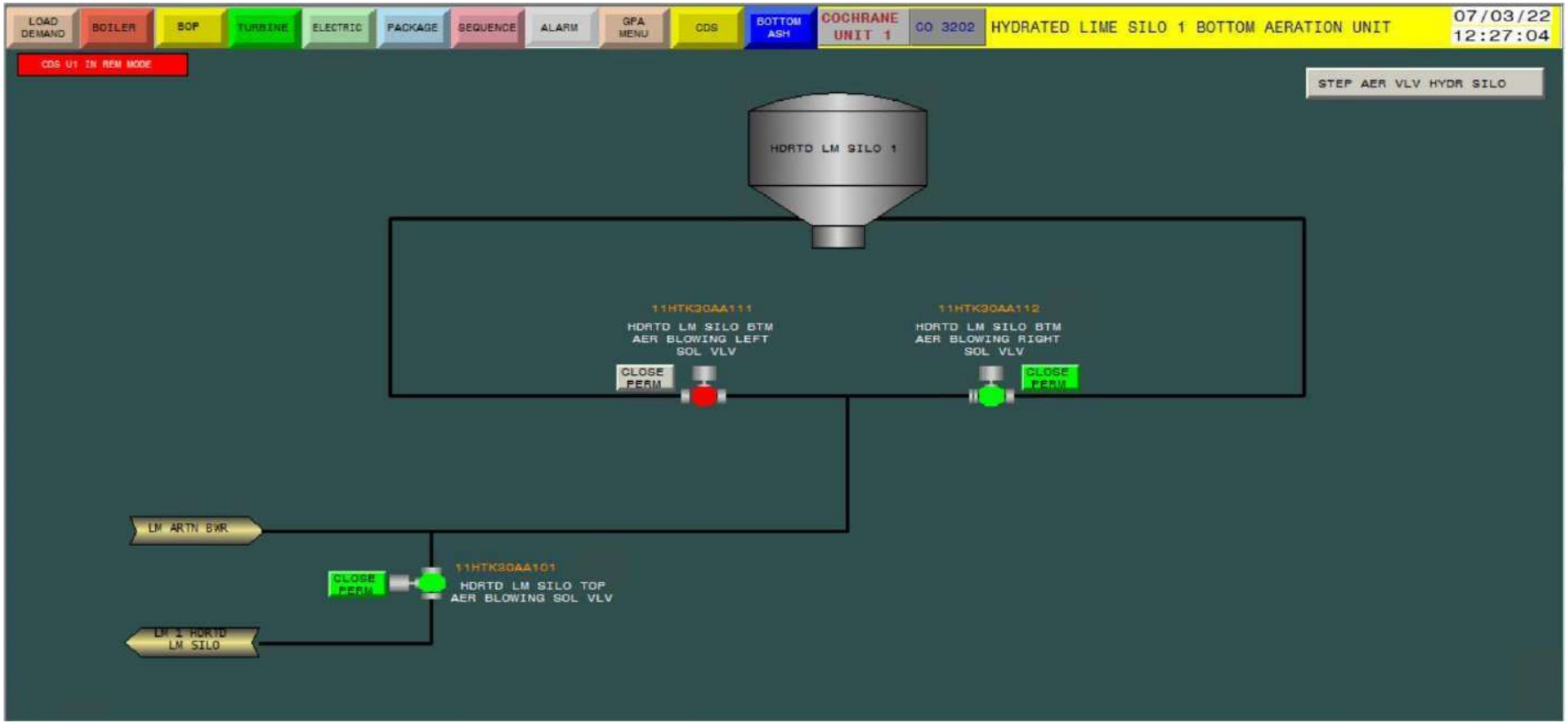

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2083
400V COOLING TOWER SWGR-1B
07/03/22
12:22:21
400V CLNG TWR SWGR-1A
400V C/T (COOLING TOWER)SWGR-1B(14BFD)
3PH,4W,50HZ,400V,4000A,65KA SYMM,RMS,1SEC
14BFD02 MCCB
14BFD03 MCCB
14BFD04 MCCB
14BFD05 MCCB
14BFD06 MCCB
14BFD07 MCCB
14BFD08 MCCB
14BFD09 MCCB
14BFD10 MCCB
14BFD11 MCCB
14BFD12 MCCB
14BFD13 MCCB
14BFD14 MCCB
14BFD15 MCCB
COOLING TOWER FAN-F 185KW
COOLING TOWER FAN-G 185KW
COOLING TOWER FAN-H 185KW
COOLING TOWER FAN-J 185KW
COOLING TOWER FAN-K 185KW
VENTILATION FAN (COOLING TOWER ELEC. BLDG. ELECTRICAL ROOM-1) 0.4KW
LCP FOR CWP DISCHARGE NRV (CWP-20)
CT CELL -30 INL CW MOV
CT CELL -20 INL CW MOV
CT CELL -10 INL CW MOV
CT CELL -00 INL CW MOV
CT MAKE UP MOV
CWP DISCH MAKE UP MOV
WELD SOCKET ELECTRICAL ROOM (63A)
6.9KV UNIT SWGR-1B(14BBB)
(14BFT04) AUX.TR1-3B, MOLD 6.6/0.4KV
1178 A
391.2 V
400V CWP(COOLING TOWER)SWGR-1A(14BFD)
3PH,4W,50HZ,400V,4000A,50KA SYMM,RMS,1SEC
14BFD01 ACB
14BFD17 MCCB
14BFD16 MCCB
PACU FOR COOLING TOWER ELEC. BLDG. ELECTRICAL ROOM-1
PACU FOR COOLING TOWER ELEC. BLDG. ELECTRICAL ROOM-1

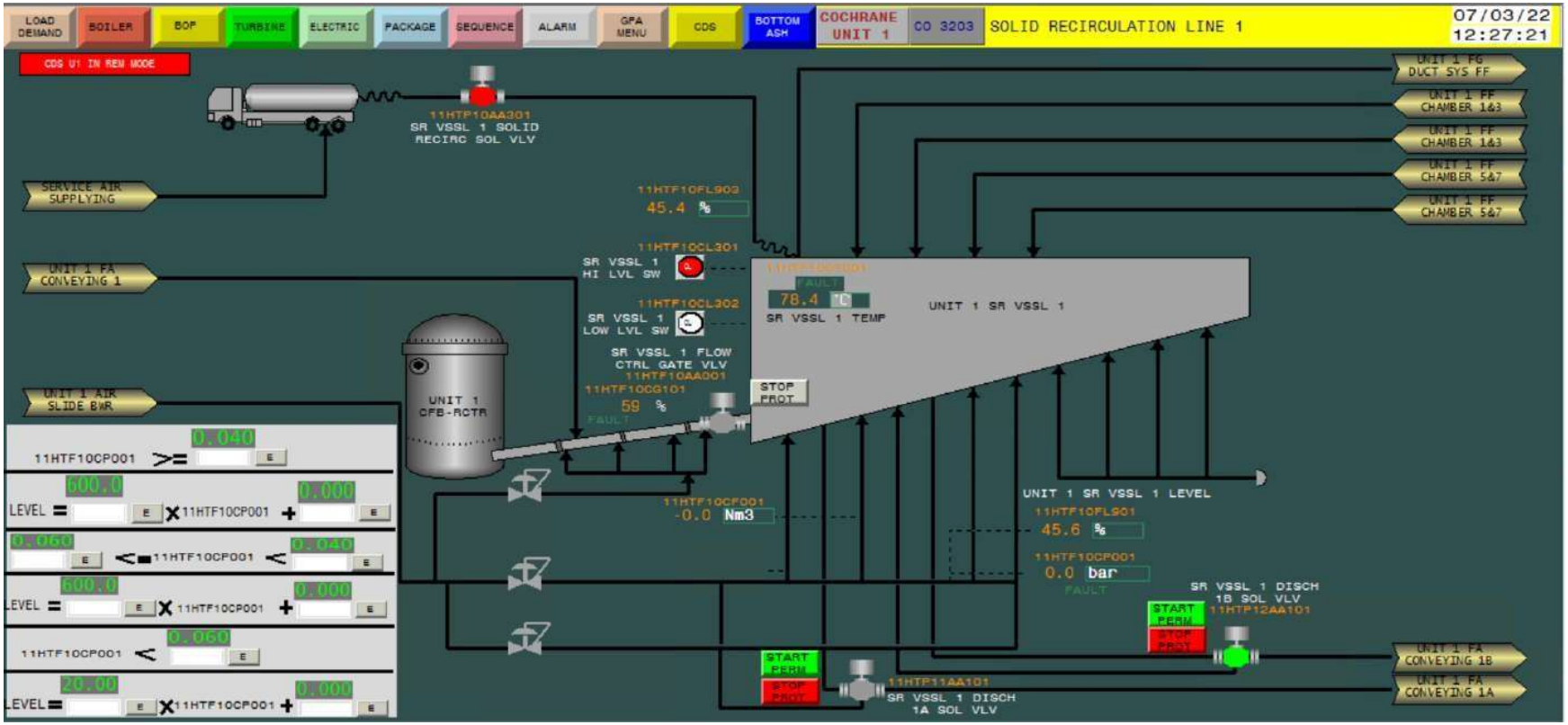

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2092
UNIT-1 DC SYSTEM
07/03/22
12:23:16
400V ESS SWGR (04BMA)
14BTL
220V DC CHARGER UNIT-1
MCCB 3P 400AF 42KA
14BTL 100% CAPACITY CHARGER UNIT-1 600A
BATTERY (14BTA)
SHUNT
246.4 V
44.8 A
MCCB 2P 800AF N.C
MCCB 2P 800F
SHUNT
DROPPER MODULE
SHUNT
DC UNIT 1 ALARMS
MAINS FAULT
RECTIFIER OK
OPEN CIRCUIT BREAKER
OVERLOAD/THERMAL IMAGE
RECTIFIER MAX. VOLTAGE
RECTIFIER MIN. VOLTAGE
CHARGING FAULT
C.B. MOTOR SUPPLY FAILURE
CHARGER EARTH FAULT
EMERGENCY LEVEL
EQUALIZING INTERLOCK
COMMON ALARM
BOOST CHARGING
BATTERY DISCH. LEVEL 3
BOOST INHIBIT
BATTERY DISCHARGED-1
DISTRIBUTION EARTH FAULT
MINIMUM DISTRIBUTION VOLTAGE
(14BTZ-A)
220V DC PDB, 800A, 20KA BUS
219.0 V
242.7 V
(14BTZ-B)
MCCB 2P 225AF
MCCB 2P 30AF
MCCB 2P 400AF
MCCB 2P 800AF
UNIT-1 EMERGENCY JACKING PUMP (STARTING PANEL)
UNIT-1 EMERGENCY LUBE OIL PUMP (STARTING PANEL)
INV UT-1 OF SAFE AC 220V UPS SYS
STDBY 220V DC PDB (04BTV)
MCCB 2P 30AF
STG EXCIT CNTRL PNL
U-1 STG WS & PNL
UNT AUX TR-1 LCP
UNT MN XFER-1 1 LCP
U1 ST MSRNG PNL FDR-A
U1 ST MSRNG PNL FDR-B
U1 ST GEN SYNC PNL
U1 ST PROT PNL -A
U1 ST PROT PNL -B
400V CLNG TWR SW-1A
400V CLNG TWR SW-1B
400V C/F & LIM SWG-1A
400V C/F & LIM SWG-1A
400V BLR MCC -1A
400V BLR MCC -1B
400V UNT SWGR -1A
400V UNT SWGR -1B
400V STG MCC -1A
400V STG MCC -1B
400V STG BOP MCC1A
400V STG BOP MCC1B
6.9KV UNT SWGR -1A
6.9KV UNT SWGR -1B
DC PDB FOR U1 BLR
6.9KV UNIT SWGR -1A
6.9KV UNIT SWGR -1B

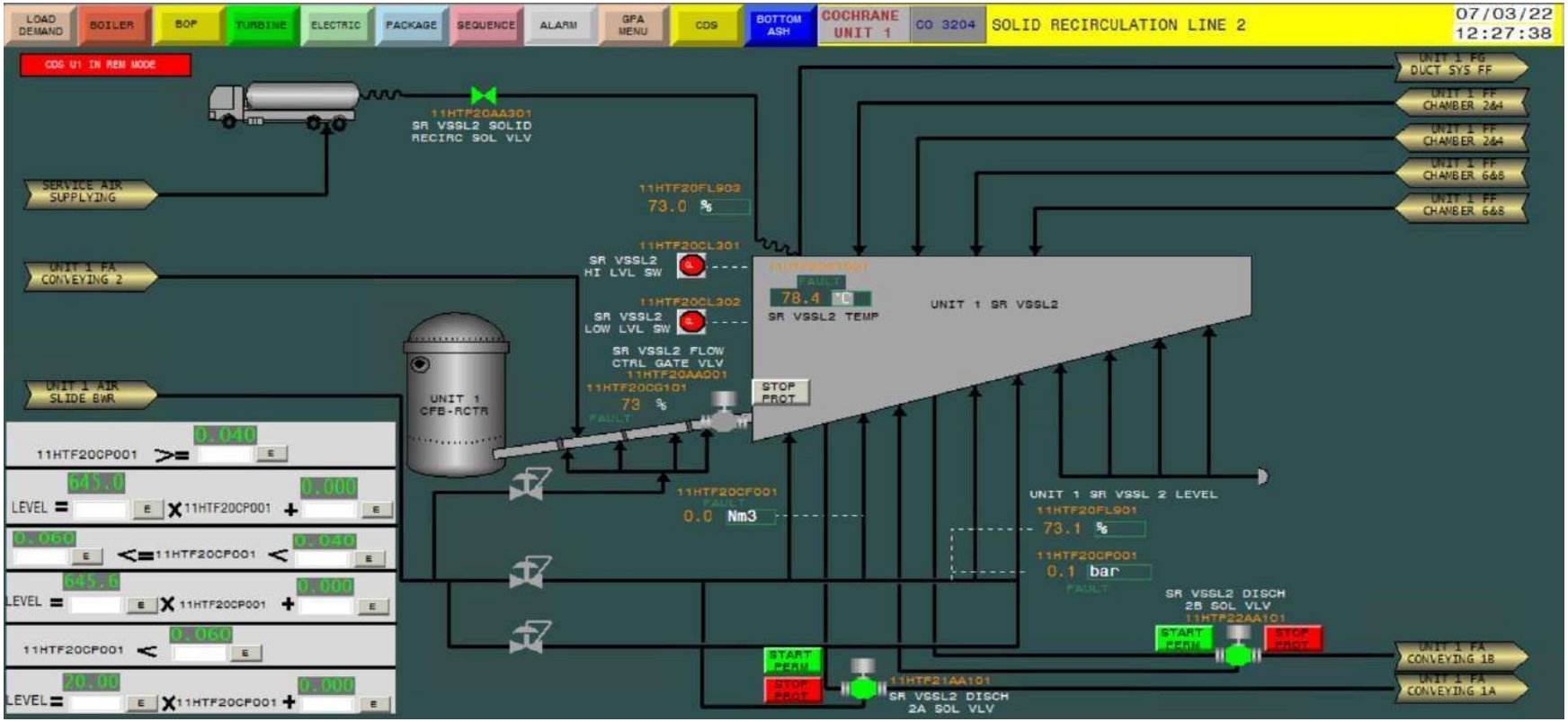

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 2093
UNIT-1 UPS SYSTEM
07/03/22
12:24:23
400V STN CMN MCC-A (048LL)
COMM MCC A
UNIT DC SYS
220V DC PDB (148TZ)
UPS UNIT 1 ALARMS
INVERTER OK
INVERTER SYNCHRONIZED
INVERTER FEED LOAD
BYPASS OK
LOW DC VOLTAGE
COMMON ALARM
DC VOLTAGE ERROR
OVERLOAD
RETRANSFER BLOCK
MANUAL BYPASS SITCH CLOSED
HIGH TEMPERATURE
FANS FAULT
THERMAL IMAGE
BYPASS FEED LOADS
OUTPUT CURCUIT BREAKER OPEN
EPO ON
UPS BYPAS CUBICLE 01 FOR SAFE AC 220V UPS SYS
(148RU) INV CUBICLE 01 FOR SAFE AC 220V UPS SYS
Q1
Q2
Q4
Q5
Q6
MCCB 2P 400 AF 42KA
MCCB 2P 250 AF 42KA
AUT VOLT REGULTR UN-1 1PH,50HZ,60KVA 380VAC/220VAC
AC/AC STBLZR W/BYPASS
MCCB 2P 400AF
SHUNT
STAT INV UN-1 1PH,50HZ,60KVA (HOLD) 220V DC/220VAC
223.9 V
30.7 A
INV STATIC SWITCH
SWITCH STATIC MANUAL BYPASS
ST.SW.LOG BOX BLS
INV LOG BOX BLID
MANUAL BYPASS SWITCH
MCCB 2P 400 AF N.C
23.3 A
SAFE AC 220V UPS PDB UN-1
DISTRIBUTION C.B TRIP
MCCB 2P 60AF
MCCB 2P 50AF
MCCB 2P 30AF
MCCB 2P 400AF N.C
UNIT-1 BOILER UPS PDB (STAND -BY)
UNIT-1 ST FIRE FIGHTING PANEL FEEDER-A
UNIT-1 ST FIRE FIGHTING PANEL FEEDER-B
UNIT-1 VMS CABINET #1/2 CONTROL POWER
UNIT-1 VMS CABINET #1/2 CONTROL POWER (STAND -BY)
STANDBY 220V UPS PDB (048RA)
1PH,2W,220V,50Hz,400A,10KA BUS
MCCB 2P 30AF
MCCB 2P 60AF
MCCB 2P 50AF
MCCB 2P 100AF
U-1 OLD COND TNK
U-1 ANLY COND LEAK DET-A
U-1 ANLY COND LEAK DET-B
U-1 ANLY COND LEAK DET-C
U-1 ANLY COND LEAK DET-D
U-1 CDS/FF LN CNT PNL-A
U-1 CDS/FF LN CNT PNL-B
U-1 CTCS CNTL PNL
U-1 CTCS CNTL PNL (SN-BY)
CWP SCT SMP LVL U#1
U-1 MST CLK CNTL UNIT
U-1 STM WTR SMPLG
U-1 STM WTR SMPLG (SN-BY)
U-1 ST GEN FDR INST
U-1 ST GEN FDR INST
UT-1 BLR CHEM DSG LCP
UT-1 BLR CHEM DSG LCP
U-1 STG PRO PNL
U-1 DCS CNT POWER
U-1 DCS CNT POWER SNBY
U-1 ST PDB FEEDER -A
U-1 ST PDB FEEDER -B
U-1 BLR UPS PDB

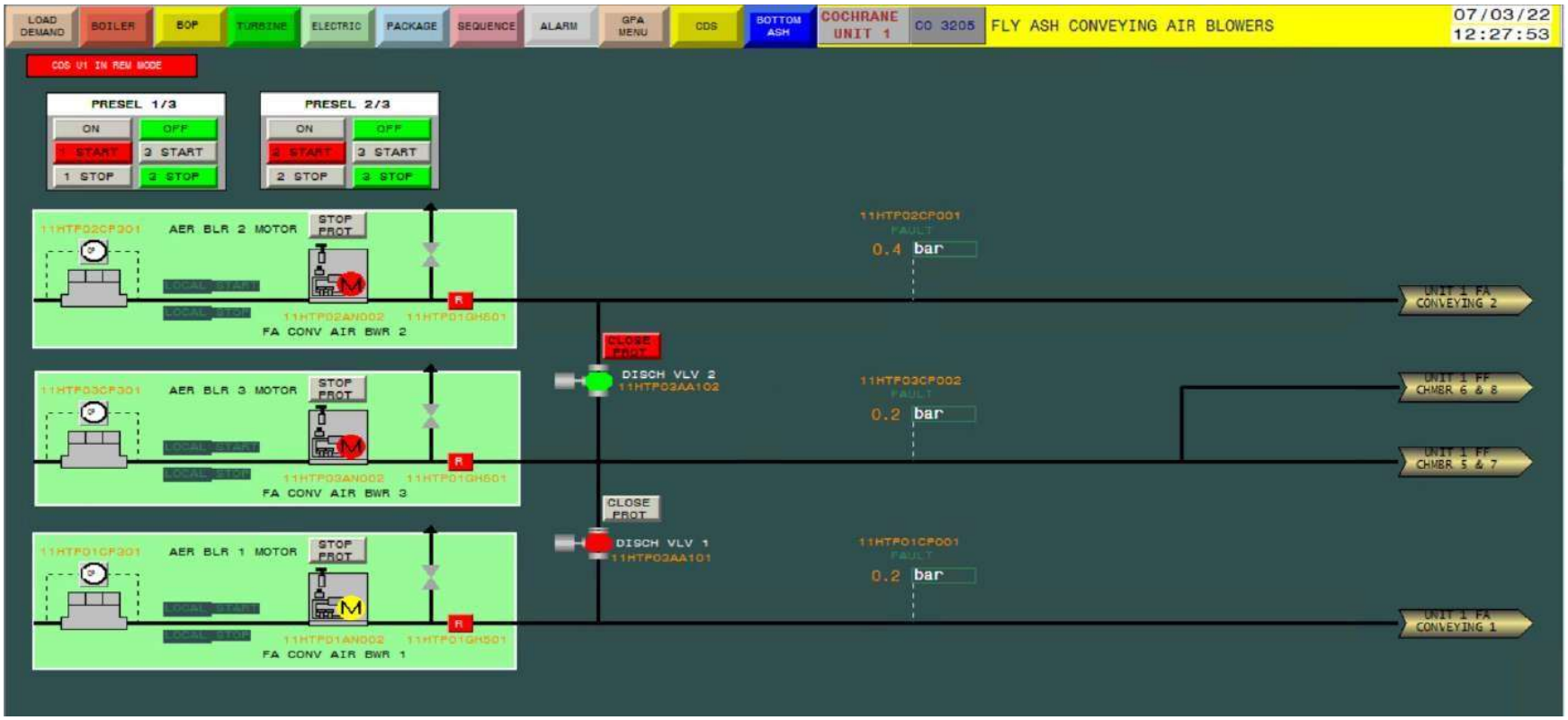

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3200
FLUE GAS DUCT SYSTEM
07/03/22
12:25:00
CDS U1 IN REM MODE
60.5 MW
11HTE10FP901
BED PRESSURE
13.5 mBar
SOLIDS RECIR LINE 1
SOLIDS RECIR LINE 2
0-1600000m2/h
11HTA10FF901
1.4E5 m3/h
0-1500000m2/h
11HNA10FF901
1.4E5 m3/h
UNIT 1 HP WTR SYS
CFB INLET PRESS
CFB OUTLET PRESS
11HTA20CP901
79.9 NEE
11HTA20CT901
79.9 °C
0-200degC
CFB OUTLET TEMP
FF OUTLET SO2 GAS ANZR
CDS OUTLET SO2 GAS ANLZR
0-1000mg/NMdry
11HTA30FQ901
302.3 mg/m
11HTA30CQ001
162.2 mg/m
CDS OUTLET FLOW METER ANLZR
0-1.600.000 Nm2/h
11HTA30FF901
1.6E5 Nm3/
CDS OUTLET FLOW METER ANLZR
0-1.600.000 m2/h
11HTA30CF001
2.2E5 m3/
DCS ANALOG VALUES
STACK GAS FLOW
5.0E5 Nm3 m3/h
OPACITY
16.8 %
OUTLET SO2 mg/m3
147.0 NEE
FF OUTLET O2 GAS ANLZR
11HTA30CQ002
9.2 %
0-20%
ID-FAN B
CDS INLET SO2 GAS ANLZR
0-3000mg/NMdry
11HNA10FQ901
323.6 mg/N
11HNA10CQ001
189.4 mg/N
11HNA10 GH100
0-200degC
11HTA10CT001
119.2 °C
FG INLET TEMP
11HNA10CT001
121.4 °C
11HTA10CP001
-11.7 mbar
11HTA30CP001
-25.2 mbar
11HTA20CT002
79.9 °C
11HTA20CT003
79.9 °C
CFB RCTR
FG DUCT SYS FF
CDS OUTLET DUST ANLZR
11HTA30CQ003
9.1 mg/N
11HTA30 GH101
FF OUTLET TEMP 0-200degC
11HTA30CT001
79.4 °C
11HTA30 GH102
OUTLET FF PRESS
11HTA30CP003
-36.7 mbar
11HTA30CP002
-36.4 mbar
11HTA30CP001
-36.9 mbar
-160-0 mbar g
11HTA20CP901
-36.7 mbar
BYPASS TEMP
11HNA20CT002
89.8 Deg
ID-FAN A
SEALING GAS
11HTA10CG001
70 %
11HTA11 AA001
RECIR DMPR CNTR VLV
BYPS
11HNA10AA101
BYPS DMPR SOL VLV
CLOSE PERM
OPEN PROT
UNIT 1 HP WTR SYS
11HTA11 GH102
FABRIC FILTER DP
11HTA20FP901
11.5 mbar
-160-0 mbar g
11HTA30FP902
-36.7 mBar
Nm2/h
11HTA11FF901
0.0 Nm3/
m2/h
11HTA11CF001
0.0 m3/
FAULT
RECIR FLOW METER ANLZR
SR VSSL VALUES
SR VSSL1 CV
60.6 %
SR VSSL1 LVL
45.5 %
SR VSSL2 CV
74.6 %
SR VSSL2 LVL
71.8 %

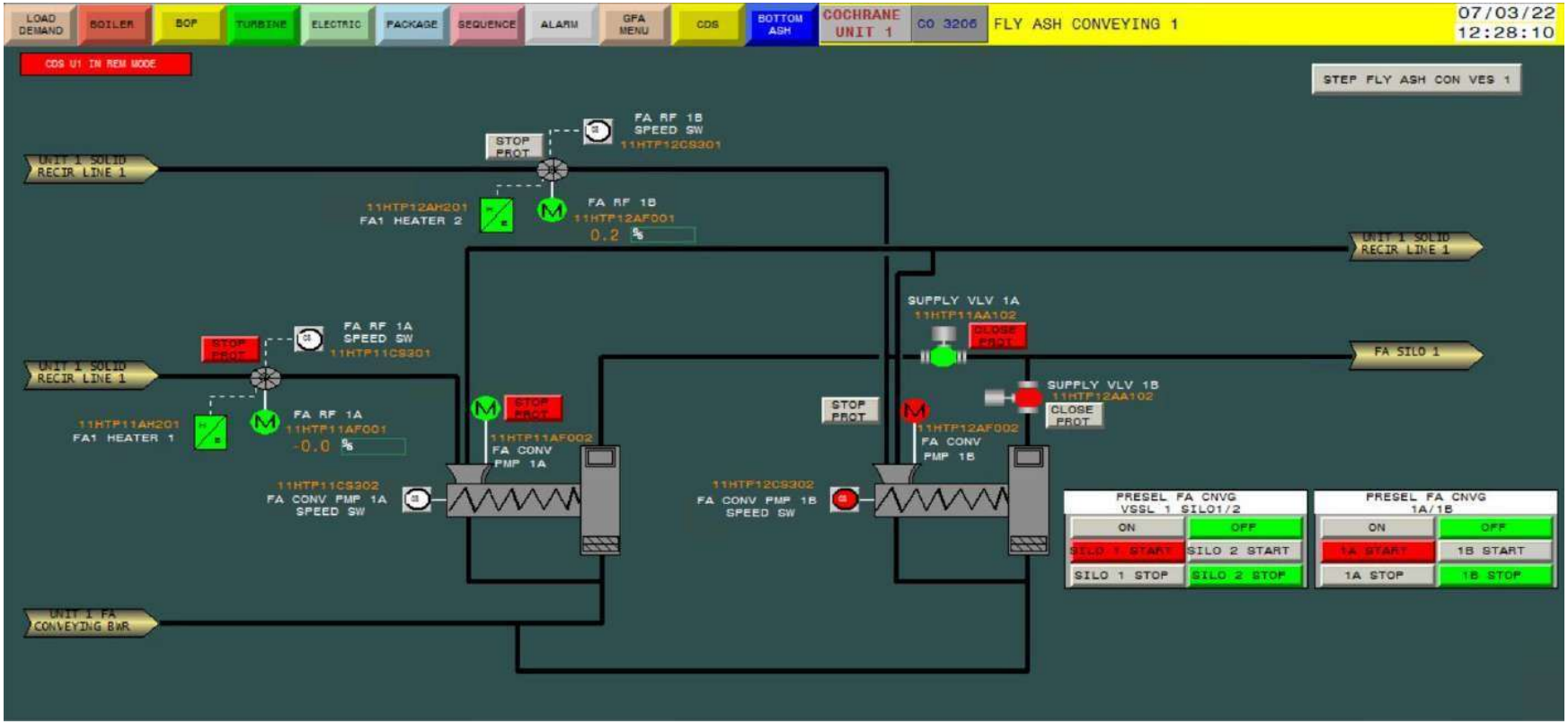

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CC 3201
HYDRATED LIME SILO
07/03/22
12:26:45
CDS U1 IN REM MODE
STEP HYDRA DOSING
LM CONVEYING 2
LM CONVEYING 1
LOCAL START PB
LOCAL STOP PB
11HTK30GH501
11HTK30AN001
HDRTD LM SILO1 VENT FLTR FAN
STOP PERM
11HTK30CP301
HDRTD LM SILO1 VENT FLTR PRESS SW
11HTK30CL301
HDRTD LM SILO LVL SW
11HTK30CL001
FAULT
64.0 %
HDRTD LM SILO LVL
UNIT 1 HDRTD LM SILO BTM ARTM
UNIT 1 HDRTD LM SILO BTM ARTM
HDRTD LM SILO 1
11HTK30CW001
FAULT
36.6 Tonn
HDRTD LM SILO DOS WEIGHING SCALE
11HTK31AA102
HDRTD LM SILO AER BOX AR BLOWING SOL VLV
11HTK31AA101
HDRTD LM FLOW CTRL GATE SOL VLV
STOP PROT
11HTK31CL301
HDRTD LM DOS TNK LVL SW
HDRTD LM DOS TNK
LM ARTN BWR
UNIT1 HDRTD LM SILO BTM ARTM
11HTK31CW001
FAULT
0.7 Tonn
HDRTD LM SILO DOS WEIGHING SCALE
STOP PROT
11HTK31AF001
HDRTD LM DISCH ROTARY FEEDER
11HTK31CS301
11HTK31AH201
11HTK31CS302
STOP PROT
11HTK31AF002
HDRTD LM DOS TNK SCREW CONV
CFB-RCTR 1
11HTK31FF901
31.3 Tonn
STIOCHEMECTRIC CA(OH)2 DEMAND
UNIT 1 AR SLIDER BWR

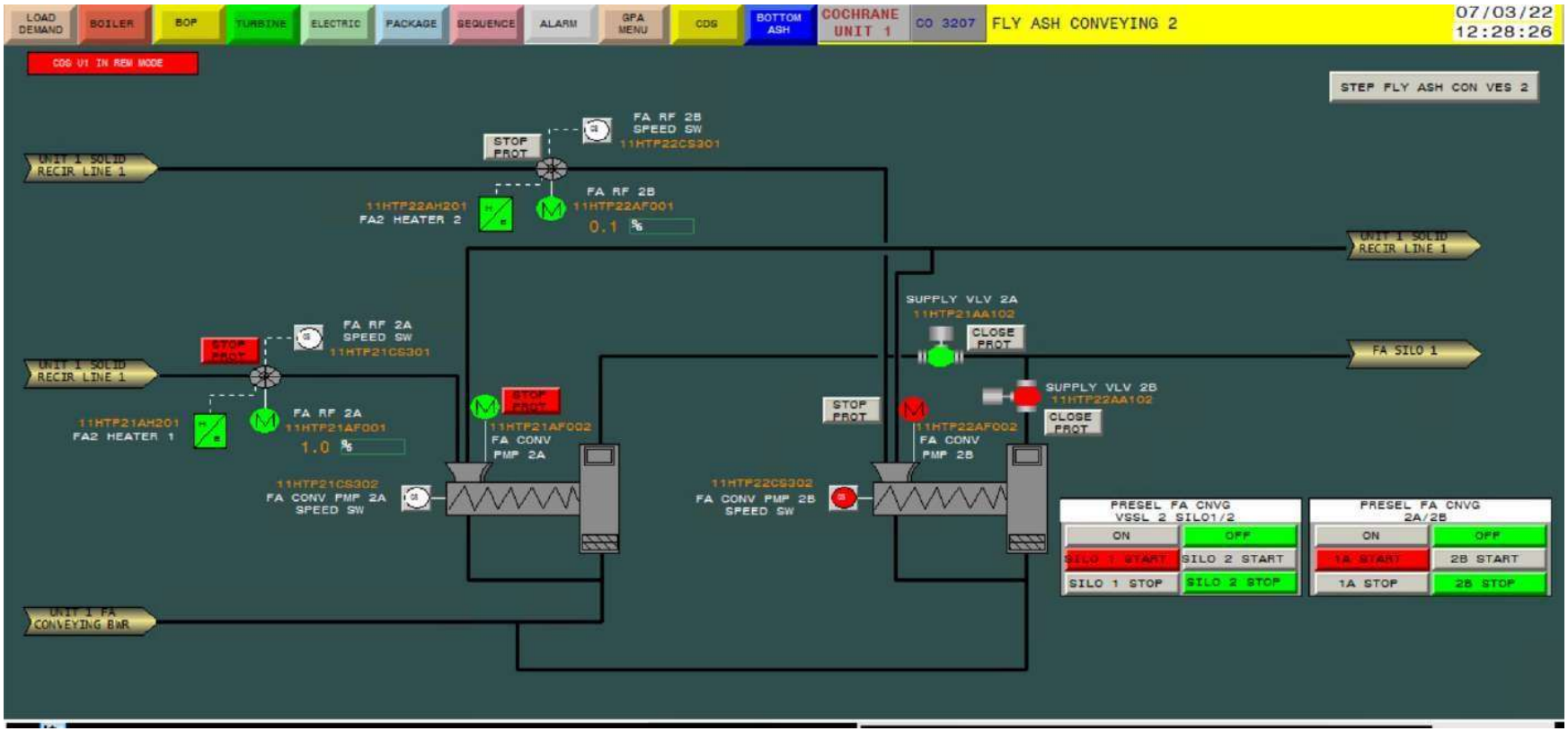

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3202
HYDRATED LIME SILO 1 BOTTOM AERATION UNIT
07/03/22
12:27:04
CDS U1 IN REM MODE
STEP AER VLV HYDR SILO
HDRTD LM SILO 1
11HTK30AA111
HDRTD LM SILO BTM AER BLOWING LEFT SOL VLV
CLOSE PERM
11HTK30AA112
HDRTD LM SILO BTM AER BLOWING RIGHT SOL VLV
CLOSE PERM
LM ARTN BWR
CLOSE PERM
11HTK30AA101
HDRTD LM SILO TOP AER BLOWING SOL VLV
LM 1 HDRTD LM SILO

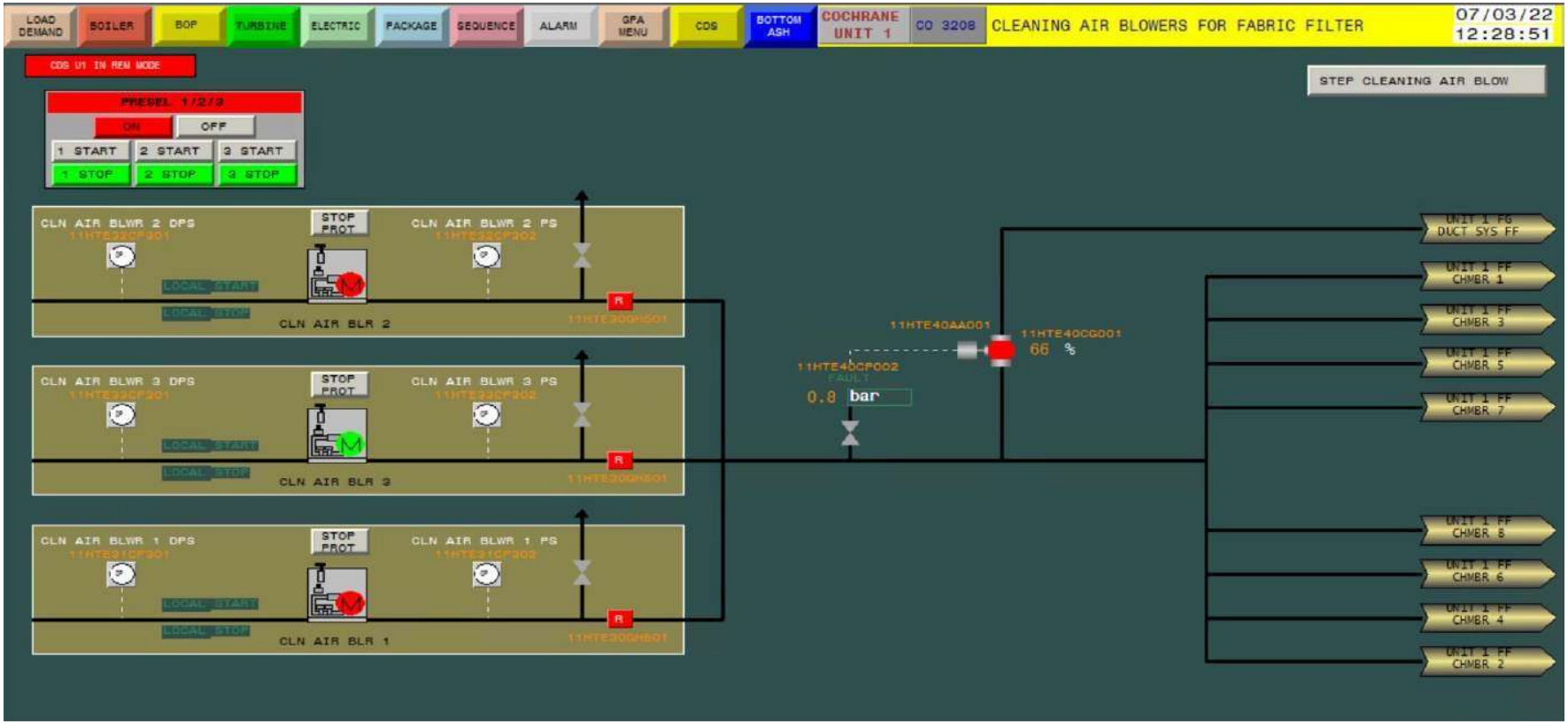

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3203
SOLID RECIRCULATION LINE 1
07/03/22
12:27:21
CDS U1 IN REM MODE
11HTP10AA301
SR VSSL 1 SOLID RECIRC SOL VLV
SERVICE AIR SUPPLYING
11HTF10FL902
45.4 %
11HTF10CL301
SR VSSL 1 HI LVL SW
11HTF10CL302
SR VSSL 1 LOW LVL SW
UNIT 1 FA CONVEYING 1
78.4
SR VSSL 1 TEMP
UNIT 1 SR VSSL 1
SR VSSL 1 FLOW CTRL GATE VLV
11HTF10AA001
11HTF10CG101
59 %
STOP PROT
UNIT 1 AIR SLIDE BAR
UNIT 1 CFB-RCTR
11HTF10CP001
0.040
600.0
0.000
0.060
LEVEL
UNIT 1 SR VSSL 1 LEVEL
11HTF10FL901
45.6 %
-0.0 Nm3
0.0 bar
SR VSSL 1 DISCH 1B SOL VLV
11HTP12AA101
START PERM
STOP PROT
11HTP11AA101
SR VSSL 1 DISCH 1A SOL VLV
20.00
UNIT 1 FG DUCT SYS FF
UNIT 1 FF CHAMBER 1&3
UNIT 1 FF CHAMBER 5&7
UNIT 1 FA CONVEYING 1B
UNIT 1 FA CONVEYING 1A

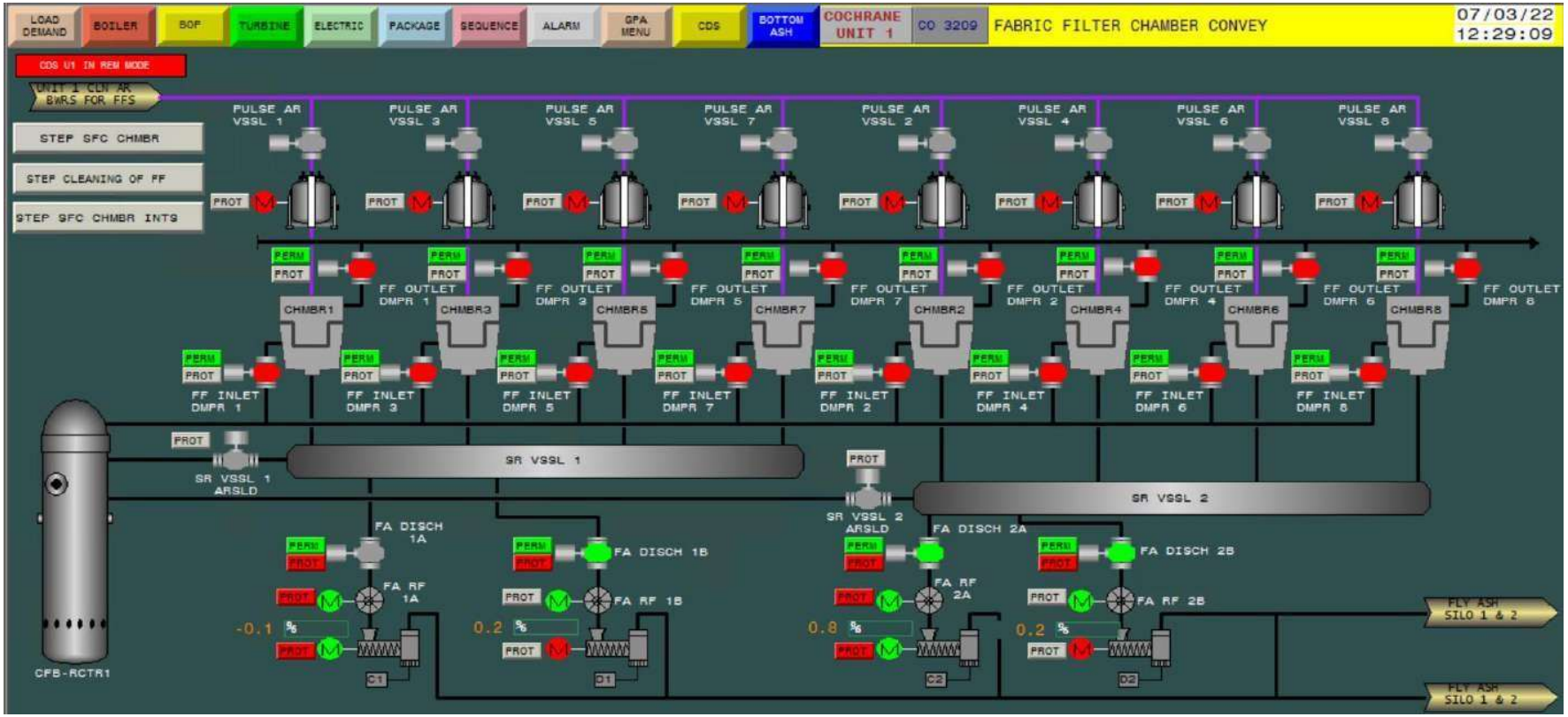

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3204
SOLID RECIRCULATION LINE 2
07/03/22
12:27:38
CDS U1 IN REM MODE
11HTF20AA301
SR VSSL2 SOLID RECIRC SOL VLV
SERVICE AIR SUPPLYING
UNIT 1 FA CONVEYING 2
UNIT 1 AIR SLIDE BWR
11HTF20FL903
73.0 %
11HTF20CL301
SR VSSL2 HI LVL SW
11HTF20CL302
SR VSSL2 LOW LVL SW
SR VSSL2 FLOW CTRL GATE VLV
11HTF20AA001
11HTF20CG101
73 %
STOP PROT
UNIT 1 CFB-RCTR
78.4 °C
SR VSSL2 TEMP
UNIT 1 SR VSSL2
UNIT 1 FG DUCT SYS FF
UNIT 1 FF CHAMBER 2&4
UNIT 1 FF CHAMBER 2&4
UNIT 1 FF CHAMBER 6&8
UNIT 1 FF CHAMBER 6&8
11HTF20CF001
0.0 Nm3
UNIT 1 SR VSSL 2 LEVEL
11HTF20FL901
73.1 %
11HTF20CP001
0.1 bar
SR VSSL2 DISCH 2B SOL VLV
11HTF22AA101
START PERM
STOP PROT
11HTF21AA101
SR VSSL2 DISCH 2A SOL VLV
UNIT 1 FA CONVEYING 1B
UNIT 1 FA CONVEYING 1A
11HTF20CP001 >= 0.040
LEVEL = 645.0 X 11HTF20CP001 + 0.000
0.060 <= 11HTF20CP001 < 0.040
LEVEL = 645.6 X 11HTF20CP001 + 0.000
11HTF20CP001 < 0.060
LEVEL = 20.00 X 11HTF20CP001 + 0.000

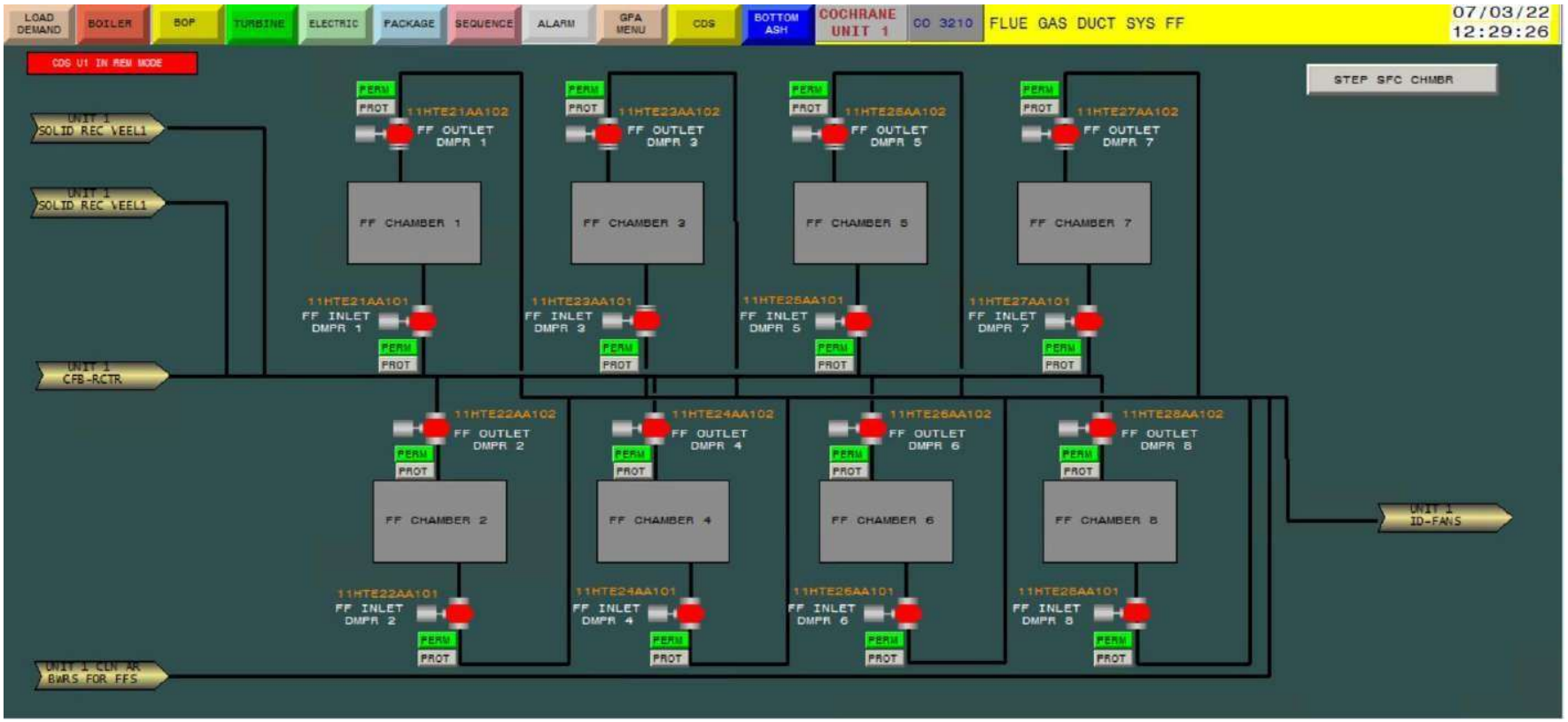

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3205
FLY ASH CONVEYING AIR BLOWERS
07/03/22
12:27:53
COS U1 IN REM MODE
PRESEL 1/3
ON
OFF
1 START
2 START
1 STOP
3 STOP
PRESEL 2/3
ON
OFF
1 START
2 START
2 STOP
3 STOP
11HTP02CP301
AER BLR 2 MOTOR
STOP PROT
LOCAL START
LOCAL STOP
11HTP02AN002
11HTP01GH501
FA CONV AIR BWR 2
11HTP03CP301
AER BLR 3 MOTOR
STOP PROT
LOCAL START
LOCAL STOP
11HTP03AN002
11HTP01GH501
FA CONV AIR BWR 3
11HTP01CP301
AER BLR 1 MOTOR
STOP PROT
LOCAL START
LOCAL STOP
11HTP01AN002
11HTP01GH501
FA CONV AIR BWR 1
CLOSE PROT
DISCH VLV 2
11HTP03AA102
CLOSE PROT
DISCH VLV 1
11HTP03AA101
11HTP02CP001
FAULT
0.4 bar
11HTP03CP002
FAULT
0.2 bar
11HTP01CP001
FAULT
0.2 bar
UNIT 1 FA CONVEYING 2
UNIT 1 FF CHMBR 6 & 8
UNIT 1 FF CHMBR 5 & 7
UNIT 1 FA CONVEYING 1

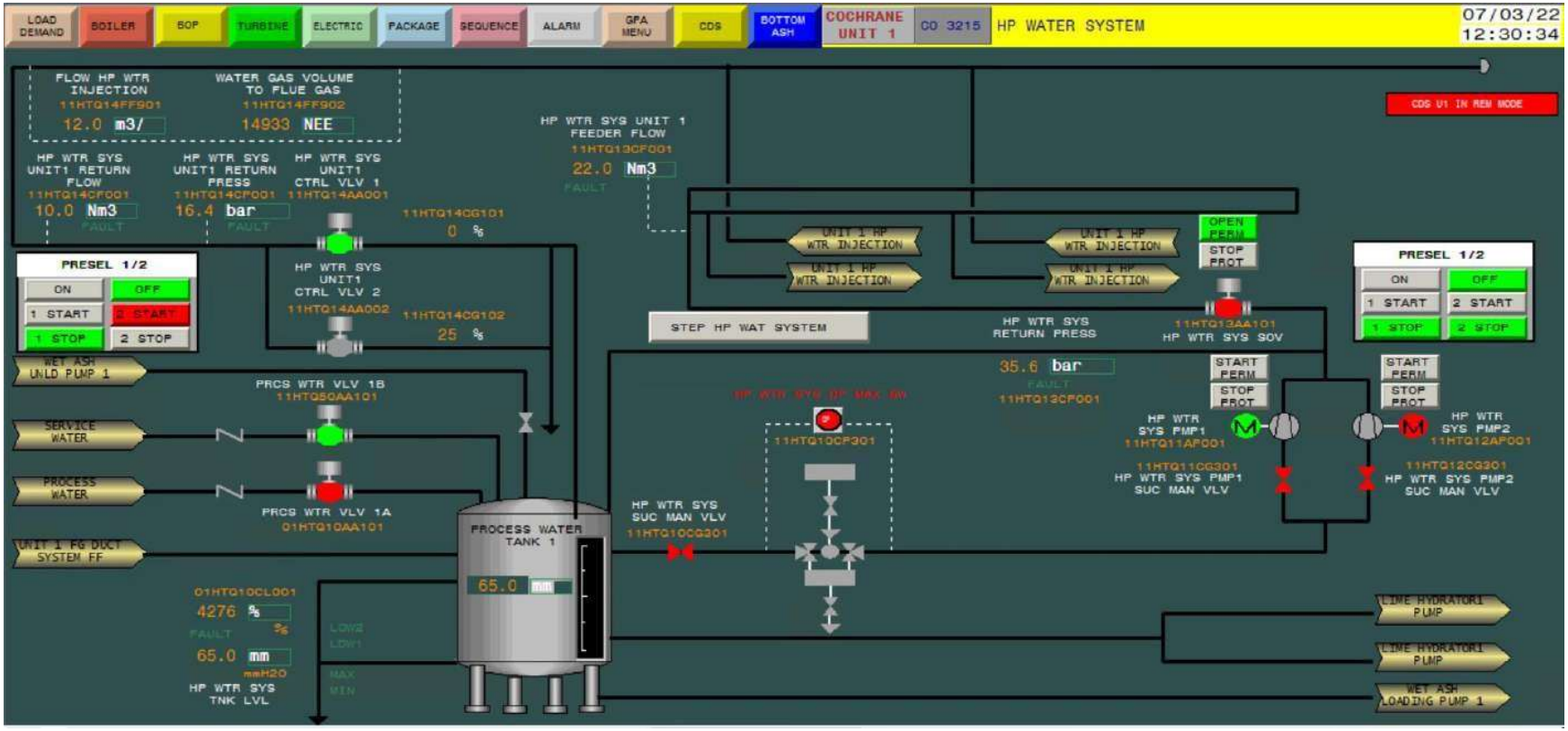

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3206
FLY ASH CONVEYING 1
07/03/22
12:28:10
CDS U1 IN REM MODE
STEP FLY ASH CON VES 1
FA RF 1B SPEED SW
11HTP12CS301
STOP PROT
UNIT 1 SOLID RECIR LINE 1
11HTP12AH201
FA1 HEATER 2
FA RF 1B
11HTP12AF001
0.2 %
UNIT 1 SOLID RECIR LINE 1
SUPPLY VLV 1A
11HTP11AA102
CLOSE PROT
FA SILO 1
FA RF 1A SPEED SW
11HTP11CS301
STOP PROT
UNIT 1 SOLID RECIR LINE 1
SUPPLY VLV 1B
11HTP12AA102
CLOSE PROT
11HTP11AH201
FA1 HEATER 1
FA RF 1A
11HTP11AF001
-0.0 %
STOP PROT
11HTP11AF002
FA CONV PMP 1A
STOP PROT
11HTP12AF002
FA CONV PMP 1B
11HTP11CS302
FA CONV PMP 1A SPEED SW
11HTP12CS302
FA CONV PMP 1B SPEED SW
PRESEL FA CNVG VSSL 1 SILO1/2
ON
OFF
SILO 1 START
SILO 2 START
SILO 1 STOP
SILO 2 STOP
PRESEL FA CNVG 1A/1B
ON
OFF
1A START
1B START
1A STOP
1B STOP
UNIT 1 FA CONVEYING BWR

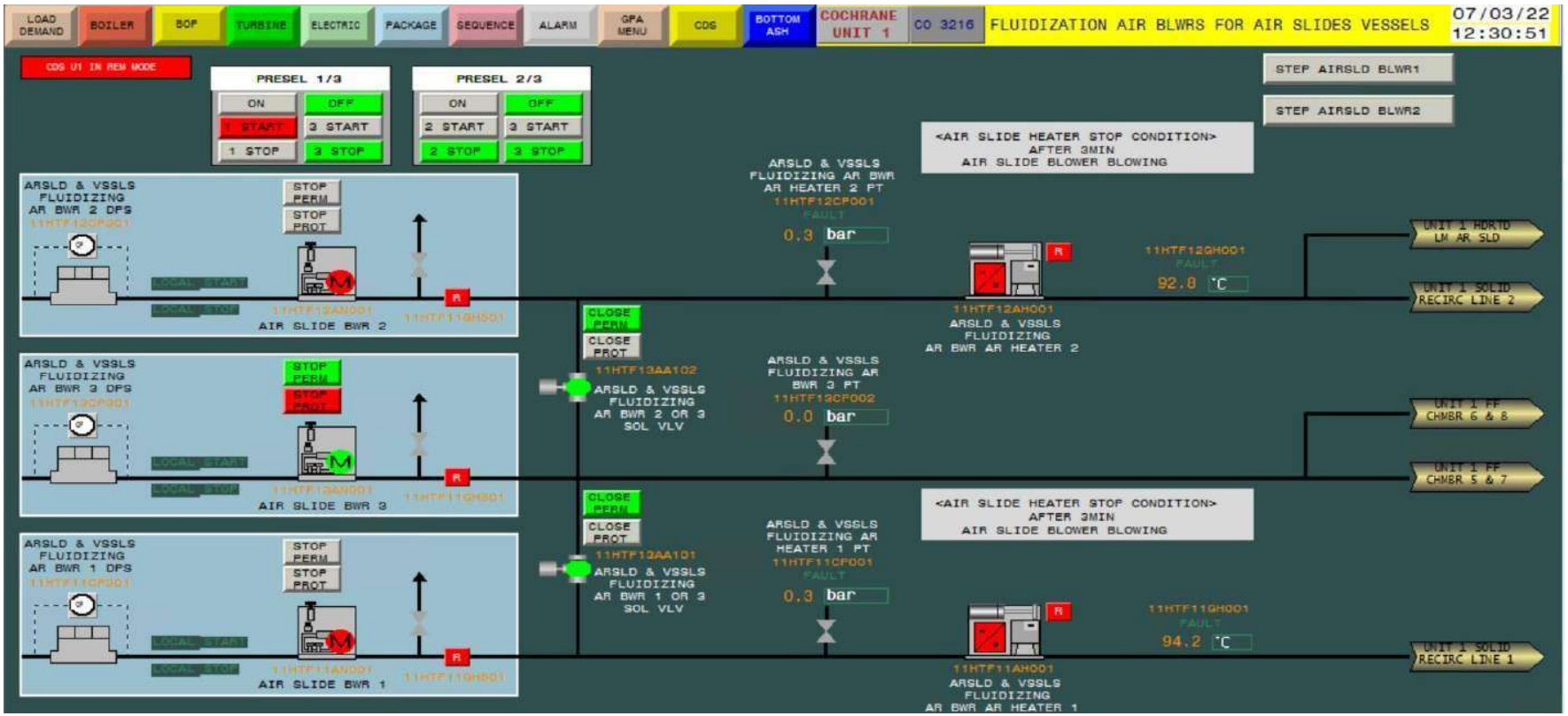

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3207
FLY ASH CONVEYING 2
07/03/22
12:28:26
CDS V1 IN REM MODE
STEP FLY ASH CON VES 2
FA RF 2B SPEED SW
11HTP22CS301
STOP PROT
UNIT 1 SOLID RECIR LINE 1
11HTP22AH201
FA2 HEATER 2
FA RF 2B
11HTP22AF001
0.1 %
UNIT 1 SOLID RECIR LINE 1
SUPPLY VLV 2A
11HTP21AA102
CLOSE PROT
FA SILO 1
FA RF 2A SPEED SW
11HTP21CS301
STOP PROT
UNIT 1 SOLID RECIR LINE 1
SUPPLY VLV 2B
11HTP22AA102
CLOSE PROT
11HTP21AH201
FA2 HEATER 1
FA RF 2A
11HTP21AF001
1.0 %
STOP PROT
11HTP21AF002
FA CONV PMP 2A
STOP PROT
11HTP21CS302
FA CONV PMP 2A SPEED SW
STOP PROT
11HTP22AF002
FA CONV PMP 2B
11HTP22CS302
FA CONV PMP 2B SPEED SW
PRESEL FA CNVG VSSL 2 SILO1/2
ON
OFF
SILO 1 START
SILO 2 START
SILO 1 STOP
SILO 2 STOP
PRESEL FA CNVG 2A/2B
ON
OFF
1A START
2B START
1A STOP
2B STOP
UNIT 1 FA CONVEYING BAR

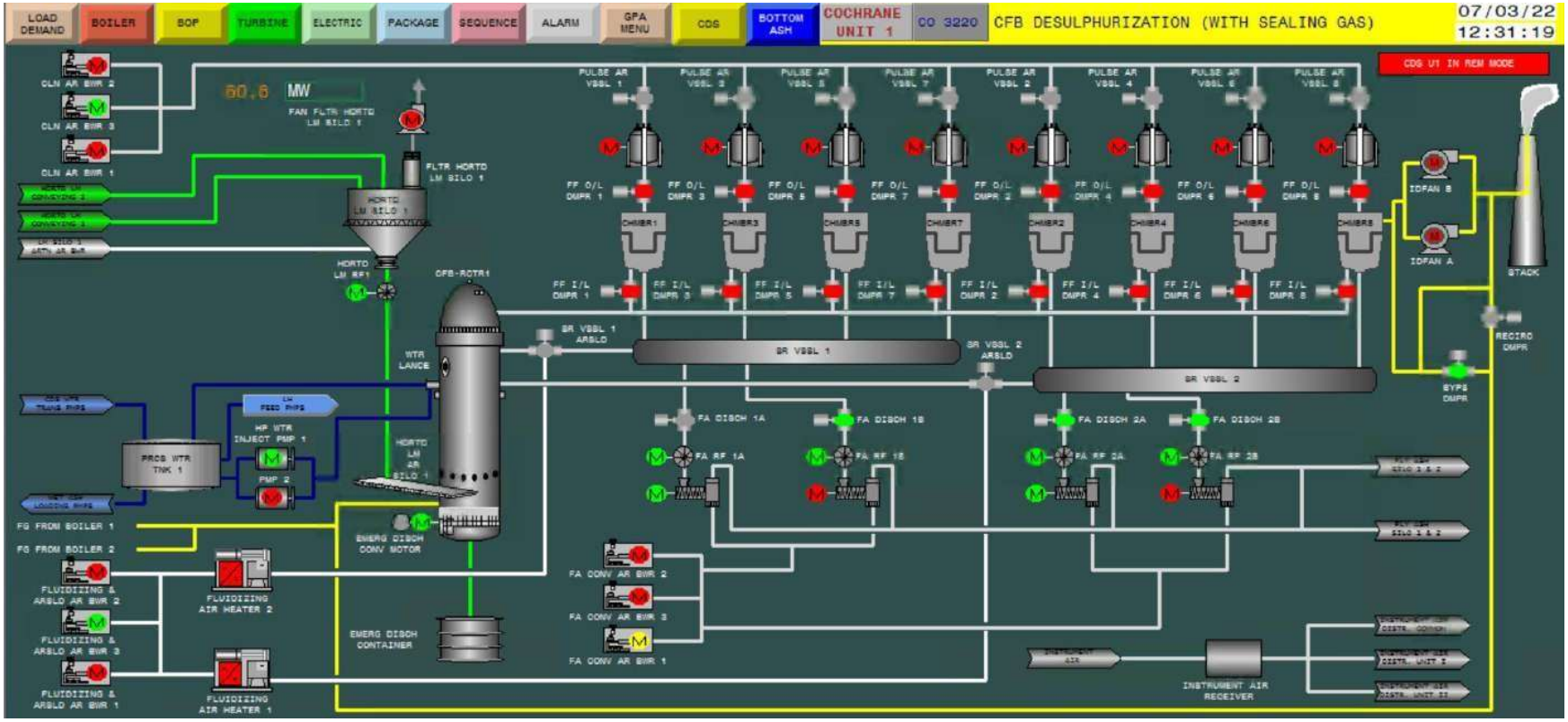

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3208
CLEANING AIR BLOWERS FOR FABRIC FILTER
07/03/22
12:28:51
CDS U1 IN REM MODE
STEP CLEANING AIR BLOW
PRESSEL 1/2/3
ON
OFF
1 START
2 START
3 START
1 STOP
2 STOP
3 STOP
CLN AIR BLWR 2 DPS
STOP PROT
CLN AIR BLWR 2 PS
LOCAL START
LOCAL STOP
CLN AIR BLR 2
CLN AIR BLWR 3 DPS
CLN AIR BLWR 3 PS
CLN AIR BLR 3
CLN AIR BLWR 1 DPS
CLN AIR BLWR 1 PS
CLN AIR BLR 1
11HTE40AA001
11HTE40CG001
66 %
11HTE40CF002
FAULT
0.8 bar
UNIT 1 FG DUCT SYS FF
UNIT 1 FF CHMBR 1
UNIT 1 FF CHMBR 3
UNIT 1 FF CHMBR 5
UNIT 1 FF CHMBR 7
UNIT 1 FF CHMBR 8
UNIT 1 FF CHMBR 6
UNIT 1 FF CHMBR 4
UNIT 1 FF CHMBR 2

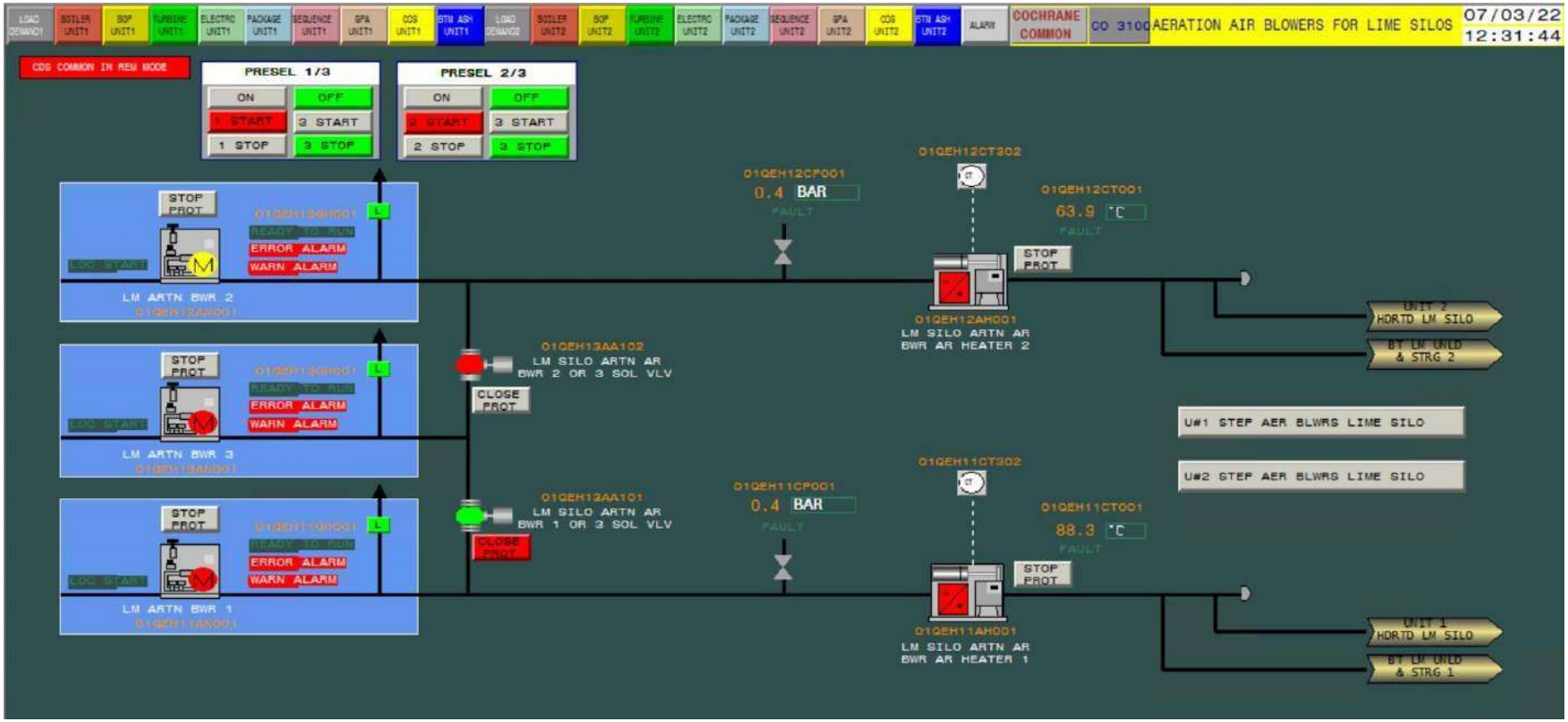

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3209
FABRIC FILTER CHAMBER CONVEY
07/03/22
12:29:09
CDS U1 IN REM MODE
UNIT 1 CLN AR BWRS FOR FFS
STEP SFC CHMBR
STEP CLEANING OF FF
STEP SFC CHMBR INTG
PULSE AR VSSL 1
PULSE AR VSSL 3
PULSE AR VSSL 5
PULSE AR VSSL 7
PULSE AR VSSL 2
PULSE AR VSSL 4
PULSE AR VSSL 6
PULSE AR VSSL 8
PROT
PERM
FF OUTLET DMPR 1
FF OUTLET DMPR 3
FF OUTLET DMPR 5
FF OUTLET DMPR 7
FF OUTLET DMPR 2
FF OUTLET DMPR 4
FF OUTLET DMPR 6
FF OUTLET DMPR 8
CHMBR1
CHMBR3
CHMBR5
CHMBR7
CHMBR2
CHMBR4
CHMBR6
CHMBR8
FF INLET DMPR 1
FF INLET DMPR 3
FF INLET DMPR 5
FF INLET DMPR 7
FF INLET DMPR 2
FF INLET DMPR 4
FF INLET DMPR 6
FF INLET DMPR 8
SR VSSL 1
SR VSSL 1 ARSLD
SR VSSL 2
SR VSSL 2 ARSLD
FA DISCH 1A
FA DISCH 1B
FA DISCH 2A
FA DISCH 2B
FA RF 1A
FA RF 1B
FA RF 2A
FA RF 2B
-0.1 %
0.2 %
0.8 %
0.2 %
C1
D1
C2
D2
CFB-RCTR1
FLY ASH SILO 1 & 2
FLY ASH SILO 1 & 2

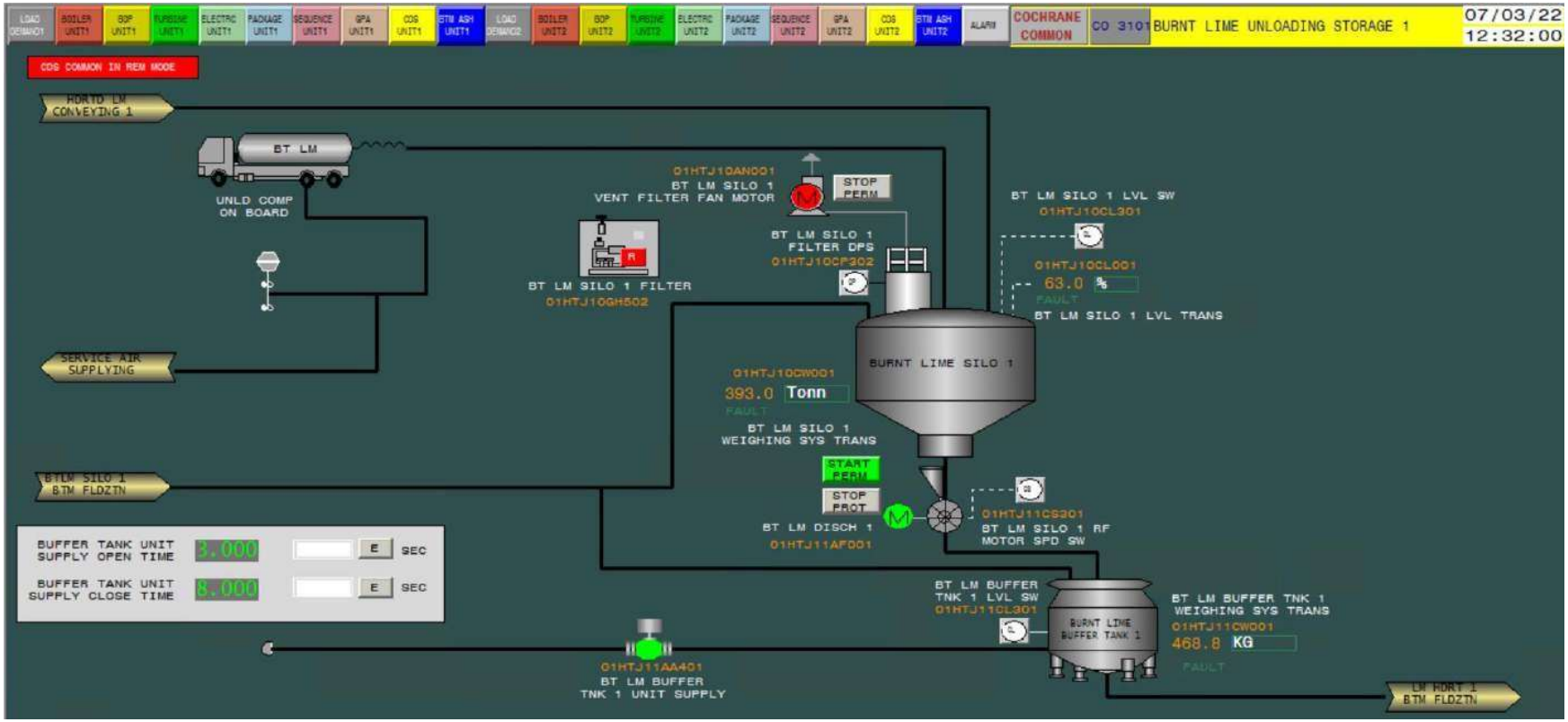

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3210
FLUE GAS DUCT SYS FF
07/03/22
12:29:26
CDS U1 IN REM MODE
STEP SFC CHMBR
UNIT 1 SOLID REC VEEL1
UNIT 1 SOLID REC VEEL1
UNIT 1 CFB-RCTR
UNIT 1 CLN AIR BWRS FOR FFS
UNIT 1 ID-FANS
PERM
PROT
11HTE21AA102
FF OUTLET DMPR 1
11HTE23AA102
FF OUTLET DMPR 3
11HTE25AA102
FF OUTLET DMPR 5
11HTE27AA102
FF OUTLET DMPR 7
FF CHAMBER 1
FF CHAMBER 3
FF CHAMBER 5
FF CHAMBER 7
11HTE21AA101
FF INLET DMPR 1
11HTE23AA101
FF INLET DMPR 3
11HTE25AA101
FF INLET DMPR 5
11HTE27AA101
FF INLET DMPR 7
11HTE22AA102
FF OUTLET DMPR 2
11HTE24AA102
FF OUTLET DMPR 4
11HTE26AA102
FF OUTLET DMPR 6
11HTE28AA102
FF OUTLET DMPR 8
FF CHAMBER 2
FF CHAMBER 4
FF CHAMBER 6
FF CHAMBER 8
11HTE22AA101
FF INLET DMPR 2
11HTE24AA101
FF INLET DMPR 4
11HTE26AA101
FF INLET DMPR 6
11HTE28AA101
FF INLET DMPR 8

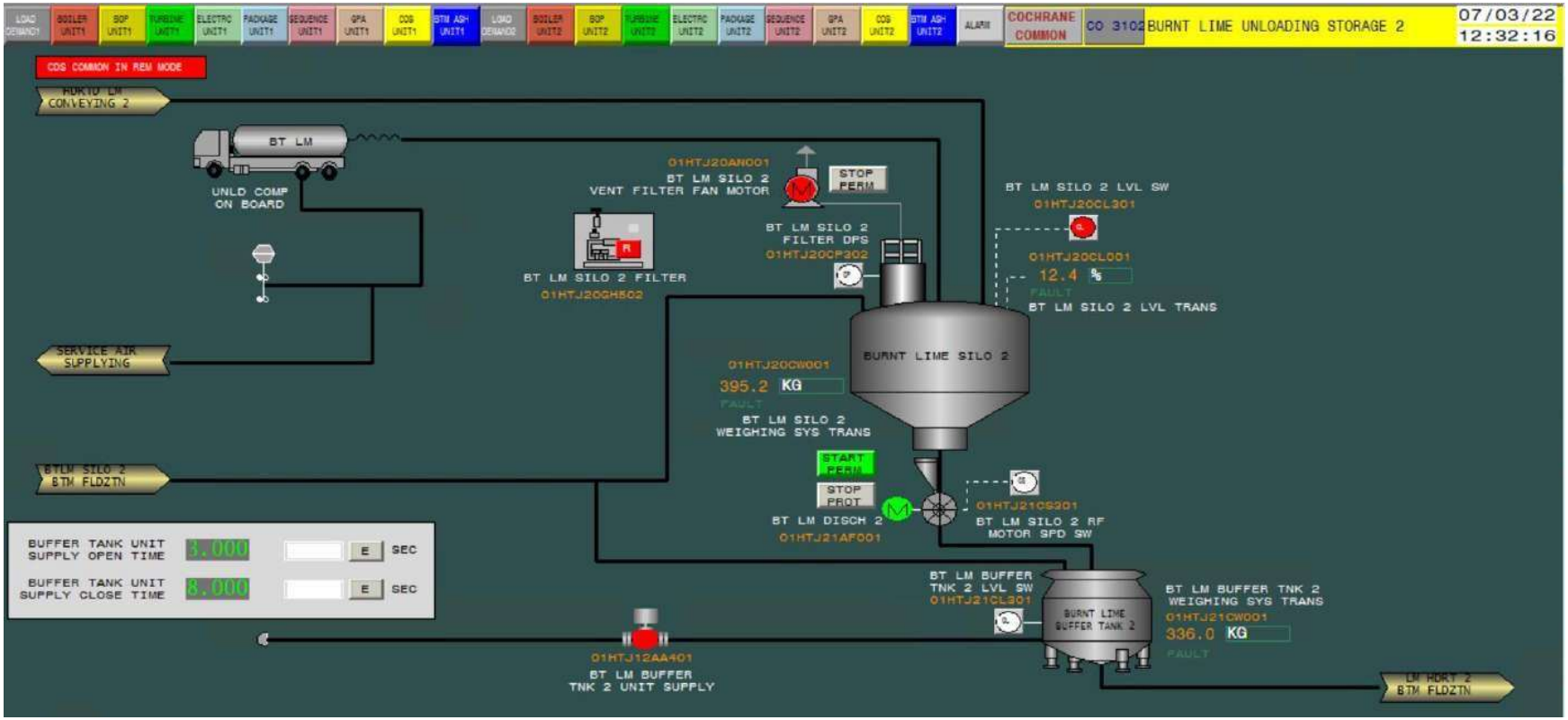

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3215
HP WATER SYSTEM
07/03/22
12:30:34
FLOW HP WTR INJECTION
11HTQ14FF901
12.0 m3/
WATER GAS VOLUME TO FLUE GAS
11HTQ14FF902
14933 NEE
CDS U1 IN REM MODE
HP WTR SYS UNIT 1 FEEDER FLOW
11HTQ13CF001
22.0 Nm3
FAULT
HP WTR SYS UNIT1 RETURN FLOW
11HTQ14CF001
10.0 Nm3
FAULT
HP WTR SYS UNIT1 RETURN PRESS
11HTQ14CP001
16.4 bar
FAULT
HP WTR SYS UNIT1 CTRL VLV 1
11HTQ14AA001
11HTQ14CG101
0 %
HP WTR SYS UNIT1 CTRL VLV 2
11HTQ14AA002
11HTQ14CG102
25 %
PRESEL 1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
UNIT 1 HP WTR INJECTION
UNIT 1 HP WTR INJECTION
UNIT 1 HP WTR INJECTION
UNIT 1 HP WTR INJECTION
OPEN PERM
STOP PROT
11HTQ13AA101
HP WTR SYS SOV
STEP HP WAT SYSTEM
HP WTR SYS RETURN PRESS
35.6 bar
FAULT
11HTQ13CF001
PRESEL 1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
START PERM
STOP PROT
START PERM
STOP PROT
WET ASH UNLD PUMP 1
PRCS WTR VLV 1B
11HTQ50AA101
SERVICE WATER
PROCESS WATER
PRCS WTR VLV 1A
01HTQ10AA101
UNIT 1 FG DUCT SYSTEM FF
HP WTR SYS DP MAX SW
11HTQ10CP301
HP WTR SYS PMP1
11HTQ11AP001
HP WTR SYS PMP2
11HTQ12AP001
11HTQ11CG301
HP WTR SYS PMP1 SUC MAN VLV
11HTQ12CG301
HP WTR SYS PMP2 SUC MAN VLV
HP WTR SYS SUC MAN VLV
11HTQ10CG301
PROCESS WATER TANK 1
65.0 mm
01HTQ10CL001
4276 %
FAULT
%
65.0 mm
mmH2O
HP WTR SYS TNK LVL
LOW2
LOW1
MAX
MIN
LIME HYDRATOR1 PUMP
LIME HYDRATOR1 PUMP
WET ASH LOADING PUMP 1

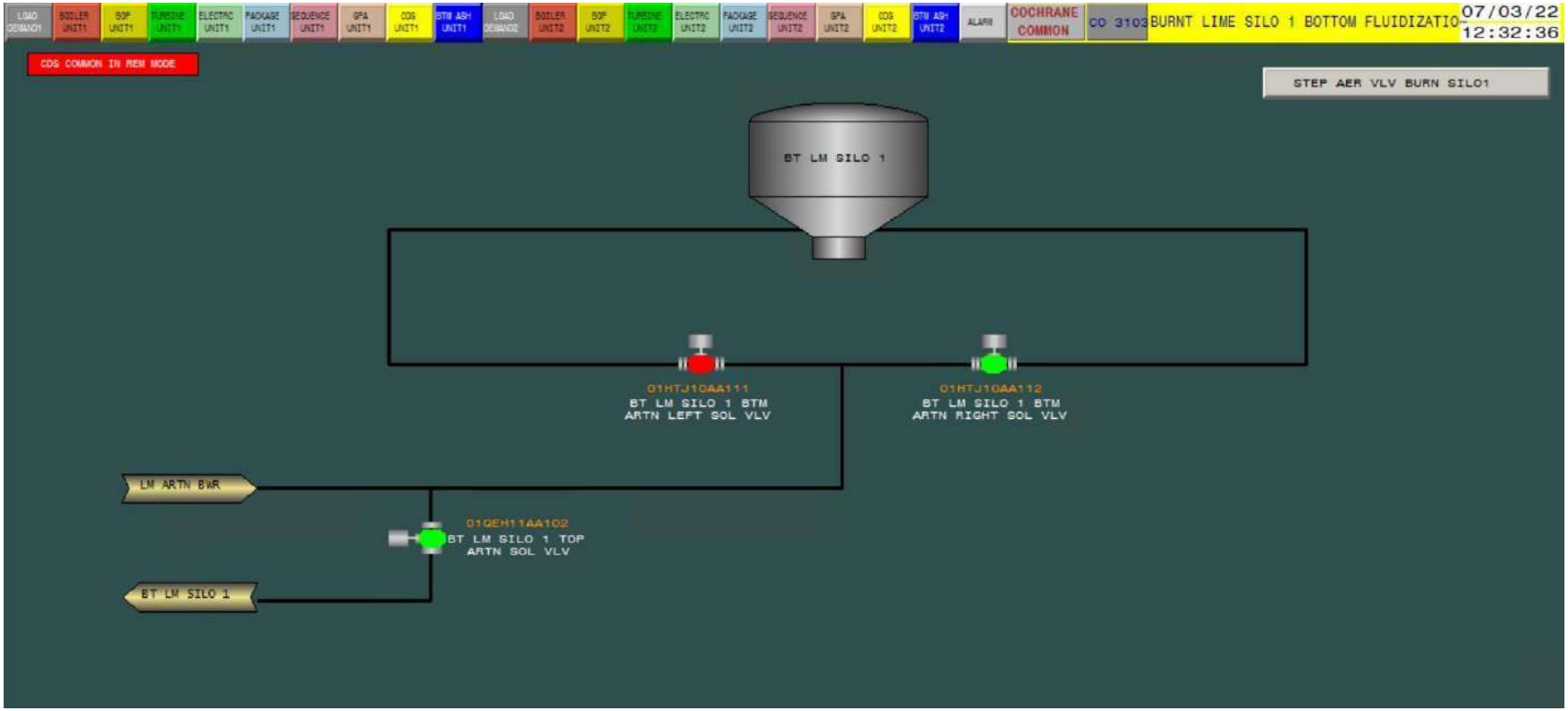

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3216
FLUIDIZATION AIR BLWRS FOR AIR SLIDES VESSELS
07/03/22
12:30:51
CDS U1 IN REM MODE
PRESEL 1/3
ON
OFF
1 START
2 START
3 START
1 STOP
2 STOP
3 STOP
PRESEL 2/3
ON
OFF
2 START
3 START
2 STOP
3 STOP
STEP AIRSLD BLWR1
STEP AIRSLD BLWR2
<AIR SLIDE HEATER STOP CONDITION>
AFTER 3MIN
AIR SLIDE BLOWER BLOWING
ARSLD & VSSLS FLUIDIZING AR BWR 2 DPS
11HTF12CP001
STOP PERM
STOP PROT
LOCAL START
LOCAL STOP
11HTF12AN001
AIR SLIDE BWR 2
11HTF11GH501
ARSLD & VSSLS FLUIDIZING AR BWR AR HEATER 2 PT
11HTF12CP001
FAULT
0.3 bar
11HTF12AH001
ARSLD & VSSLS FLUIDIZING AR BWR AR HEATER 2
11HTF12GH001
FAULT
92.8 °C
UNIT 1 HDR TO LM AR SLD
UNIT 1 SOLID RECIRC LINE 2
CLOSE PERM
CLOSE PROT
11HTF13AA102
ARSLD & VSSLS FLUIDIZING AR BWR 2 OR 3 SOL VLV
ARSLD & VSSLS FLUIDIZING AR BWR 3 DPS
11HTF13CP001
AIR SLIDE BWR 3
ARSLD & VSSLS FLUIDIZING AR BWR 3 PT
11HTF13CF002
0.0 bar
UNIT 1 FF CHMBR 6 & 8
UNIT 1 FF CHMBR 5 & 7
ARSLD & VSSLS FLUIDIZING AR BWR 1 DPS
11HTF11CP001
AIR SLIDE BWR 1
11HTF12AA101
ARSLD & VSSLS FLUIDIZING AR BWR 1 OR 3 SOL VLV
ARSLD & VSSLS FLUIDIZING AR HEATER 1 PT
11HTF11CF001
FAULT
0.3 bar
11HTF11AH001
ARSLD & VSSLS FLUIDIZING AR BWR AR HEATER 1
11HTF11GH001
FAULT
94.2 °C
UNIT 1 SOLID RECIRC LINE 1

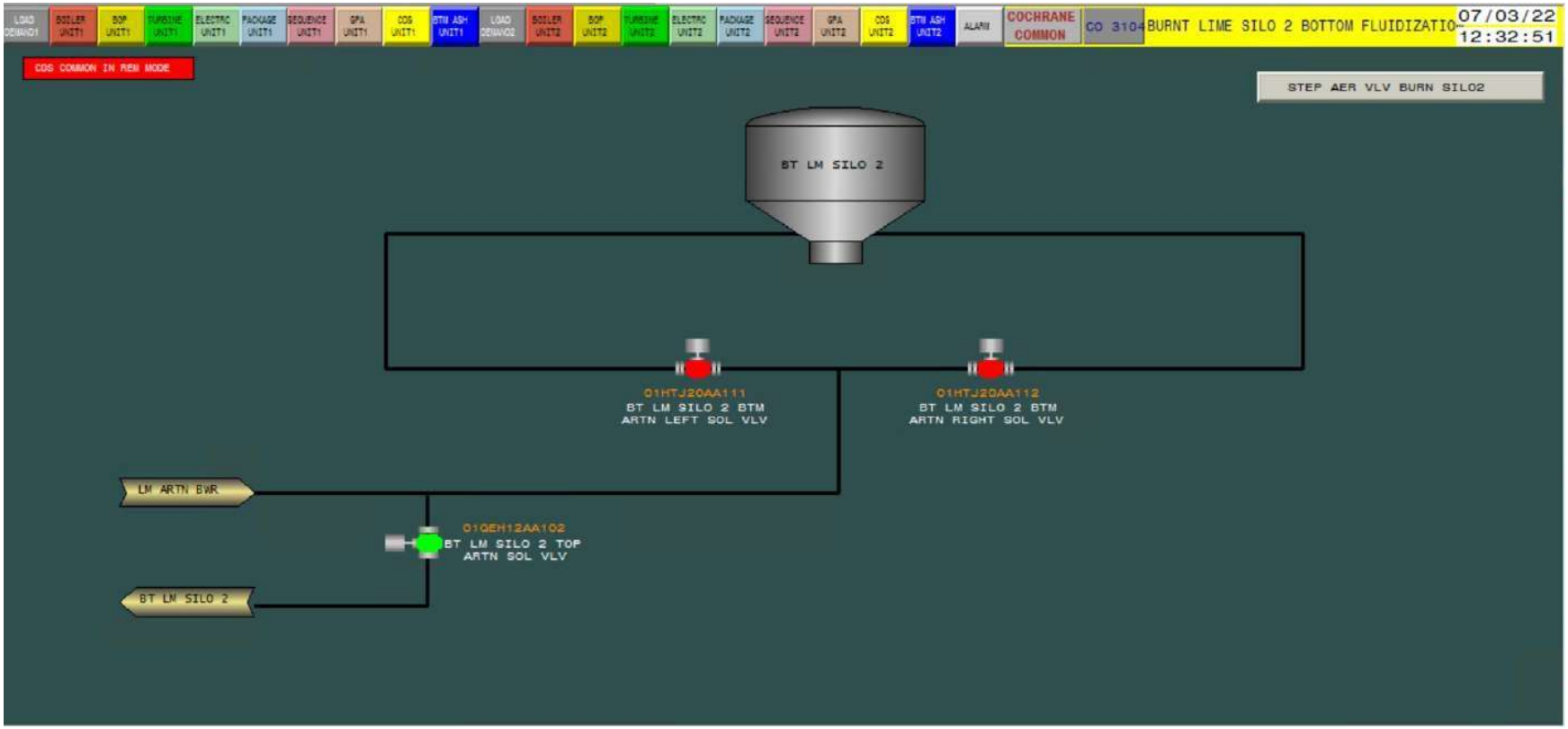

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3220
CFB DESULPHURIZATION (WITH SEALING GAS)
07/03/22
12:31:19
CDS U1 IN REM MODE
50.6 MW
FAN FLTR HORTO LM SILO 1
FLTR HORTO LM SILO 1
HORTO LM SILO 1
HORTO LM RF1
CFB-RCTR1
WTR LANCE
PULSE AR VSSL 1
PULSE AR VSSL 3
PULSE AR VSSL 5
PULSE AR VSSL 7
PULSE AR VSSL 2
PULSE AR VSSL 4
PULSE AR VSSL 6
PULSE AR VSSL 8
FF O/L DMPR 1
FF O/L DMPR 3
FF O/L DMPR 5
FF O/L DMPR 7
FF O/L DMPR 2
FF O/L DMPR 4
FF O/L DMPR 6
FF O/L DMPR 8
CHMBR1
CHMBR3
CHMBR5
CHMBR7
CHMBR2
CHMBR4
CHMBR6
CHMBR8
FF I/L DMPR 1
FF I/L DMPR 3
FF I/L DMPR 5
FF I/L DMPR 7
FF I/L DMPR 2
FF I/L DMPR 4
FF I/L DMPR 6
FF I/L DMPR 8
IDFAN B
IDFAN A
STACK
RECIRC DMPR
BYPS DMPR
SR VSSL 1 ARSLD
SR VSSL 1
SR VSSL 2 ARSLD
SR VSSL 2
FA DISCH 1A
FA DISCH 1B
FA DISCH 2A
FA DISCH 2B
FA RF 1A
FA RF 1B
FA RF 2A
FA RF 2B
PROC WTR TNK 1
HP WTR INJECT PMP 1
PMP 2
FG FROM BOILER 1
FG FROM BOILER 2
FLUIDIZING & ARSLD AIR BWR 2
FLUIDIZING & ARSLD AIR BWR 3
FLUIDIZING & ARSLD AIR BWR 1
FLUIDIZING AIR HEATER 2
FLUIDIZING AIR HEATER 1
EMERG DISCH CONV MOTOR
EMERG DISCH CONTAINER
FA CONV AIR BWR 2
FA CONV AIR BWR 3
FA CONV AIR BWR 1
INSTRUMENT AIR RECEIVER

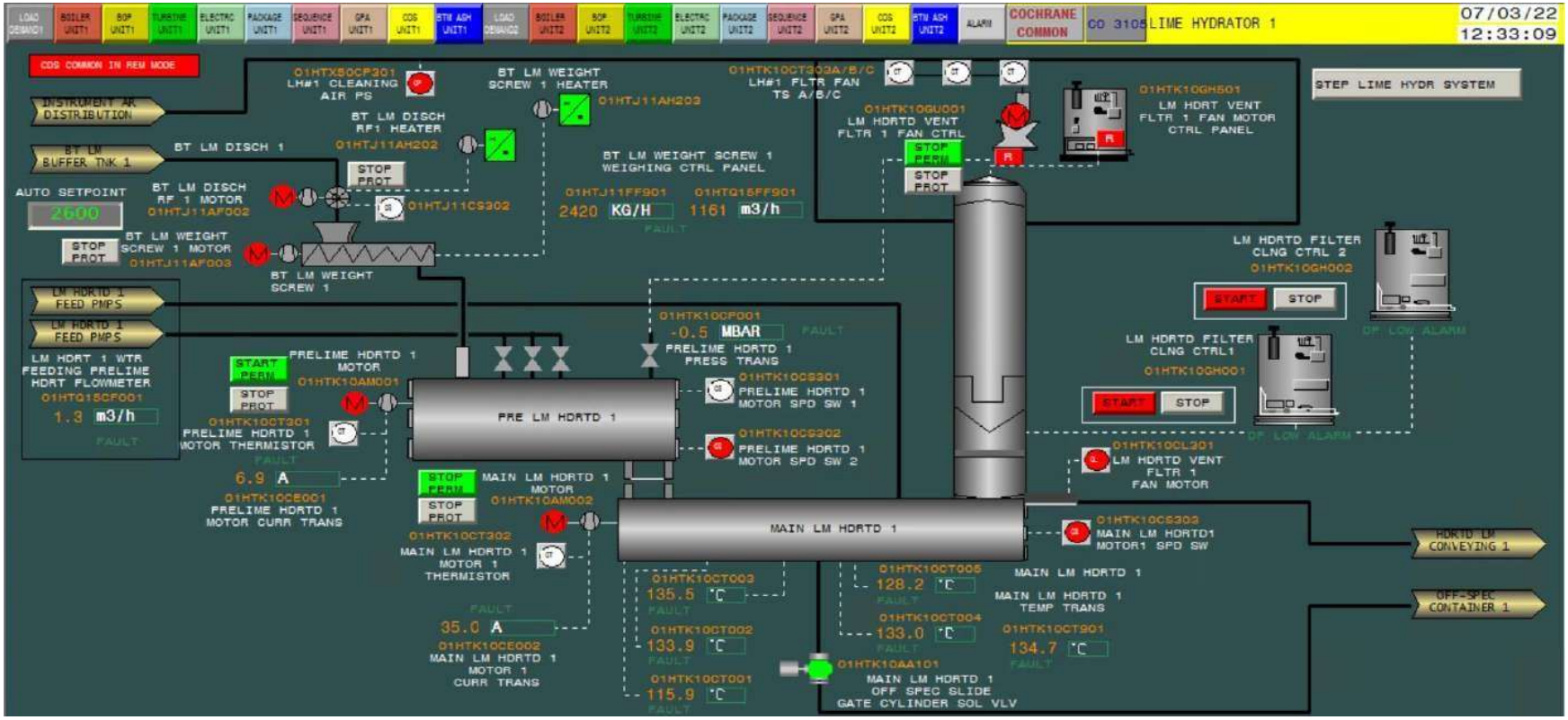

COCHRANE COMMON
CO 3100
AERATION AIR BLOWERS FOR LIME SILOS
07/03/22
12:31:44
CDS COMMON IN REM MODE
PRESEL 1/3
ON
OFF
1 START
3 START
1 STOP
3 STOP
PRESEL 2/3
ON
OFF
2 START
3 START
2 STOP
3 STOP
STOP PROT
READY TO RUN
ERROR ALARM
WARN ALARM
LOC START
LM ARTN BWR 2
LM ARTN BWR 3
LM ARTN BWR 1
01QEH12CP001
0.4 BAR
FAULT
01QEH12CT302
01QEH12CT001
63.9 °C
01QEH12AH001
LM SILO ARTN AR BWR AR HEATER 2
01QEH13AA102
LM SILO ARTN AR BWR 2 OR 3 SOL VLV
CLOSE PROT
01QEH13AA101
LM SILO ARTN AR BWR 1 OR 3 SOL VLV
01QEH11CP001
0.4 BAR
01QEH11CT302
01QEH11CT001
88.3 °C
01QEH11AH001
LM SILO ARTN AR BWR AR HEATER 1
U#1 STEP AER BLWRS LIME SILO
U#2 STEP AER BLWRS LIME SILO
UNIT 2 HDRTD LM SILO
BT LM UNLD & STRG 2
UNIT 1 HDRTD LM SILO
BT LM UNLD & STRG 1

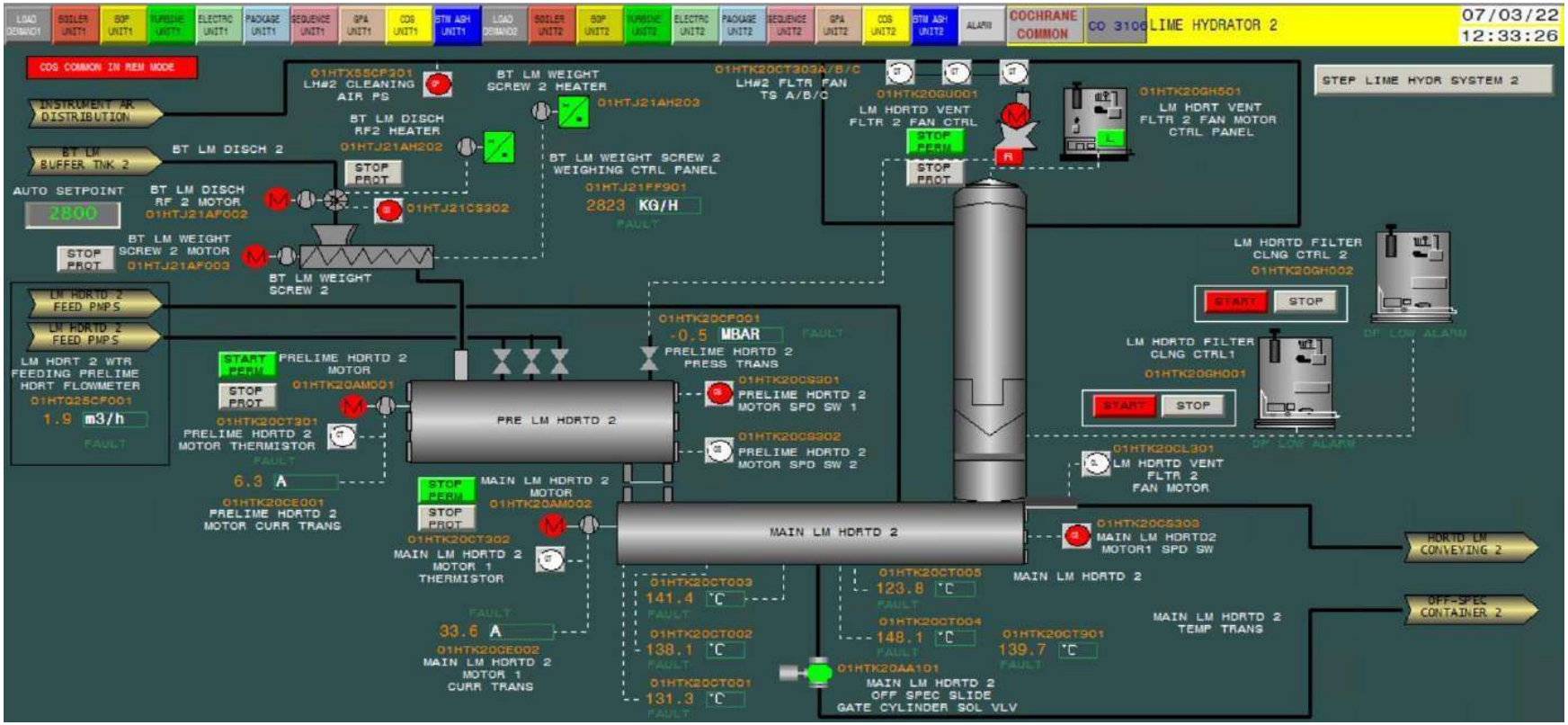

COCHRANE COMMON
CO 3101
BURNT LIME UNLOADING STORAGE 1
07/03/22
12:32:00
COS COMMON IN REM MODE
HDRYD LM CONVEYING 1
BT LM
UNLD COMP ON BOARD
01HTJ10AN001
BT LM SILO 1 VENT FILTER FAN MOTOR
STOP PERM
BT LM SILO 1 FILTER DPS
01HTJ10CP302
BT LM SILO 1 FILTER
01HTJ10GH502
BT LM SILO 1 LVL SW
01HTJ10CL301
01HTJ10CL001
63.0 %
FAULT
BT LM SILO 1 LVL TRANS
SERVICE AIR SUPPLYING
BURNT LIME SILO 1
01HTJ10CW001
393.0 Tonn
FAULT
BT LM SILO 1 WEIGHING SYS TRANS
START PERM
STOP PROT
BT LM DISCH 1
01HTJ11AF001
01HTJ11CS301
BT LM SILO 1 RF MOTOR SPD SW
BTLM SILO 1 BTM FLDZTN
BUFFER TANK UNIT SUPPLY OPEN TIME
3.000
E
SEC
BUFFER TANK UNIT SUPPLY CLOSE TIME
8.000
E
SEC
BT LM BUFFER TNK 1 LVL SW
01HTJ11CL301
BURNT LIME BUFFER TANK 1
BT LM BUFFER TNK 1 WEIGHING SYS TRANS
01HTJ11CW001
468.8 KG
FAULT
01HTJ11AA401
BT LM BUFFER TNK 1 UNIT SUPPLY
LM HDRY 1 BTM FLDZTN

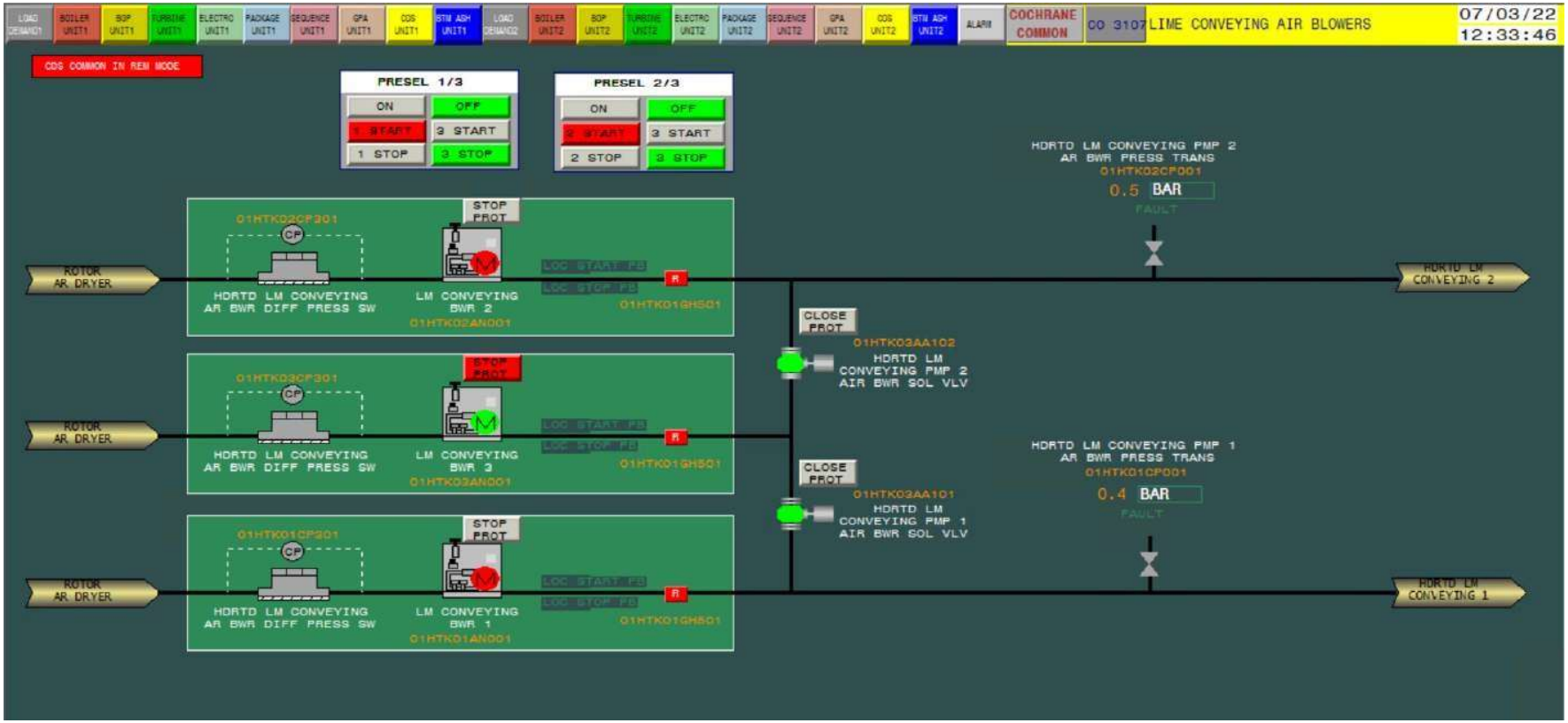

COCHRANE
COMMON
CO 3102
BURNT LIME UNLOADING STORAGE 2
07/03/22
12:32:16
CDS COMMON IN REM MODE
BT LM
UNLD COMP
ON BOARD
SERVICE AIR
SUPPLYING
01HTJ20AN001
BT LM SILO 2
VENT FILTER FAN MOTOR
STOP
PERM
BT LM SILO 2 FILTER
01HTJ20GH502
BT LM SILO 2
FILTER DPS
01HTJ20CP302
BT LM SILO 2 LVL SW
01HTJ20CL301
01HTJ20CL001
12.4
%
FAULT
BT LM SILO 2 LVL TRANS
BURNT LIME SILO 2
01HTJ20CW001
395.2
KG
FAULT
BT LM SILO 2
WEIGHING SYS TRANS
START
PERM
STOP
PROT
BT LM DISCH 2
01HTJ21AF001
01HTJ21CS201
BT LM SILO 2 RF
MOTOR SPD SW
BUFFER TANK UNIT
SUPPLY OPEN TIME
3.000
E
SEC
BUFFER TANK UNIT
SUPPLY CLOSE TIME
8.000
E
SEC
01HTJ12AA401
BT LM BUFFER
TNK 2 UNIT SUPPLY
BT LM BUFFER
TNK 2 LVL SW
01HTJ21CL301
BURNT LIME
BUFFER TANK 2
BT LM BUFFER TNK 2
WEIGHING SYS TRANS
01HTJ21CW001
336.0
KG
FAULT

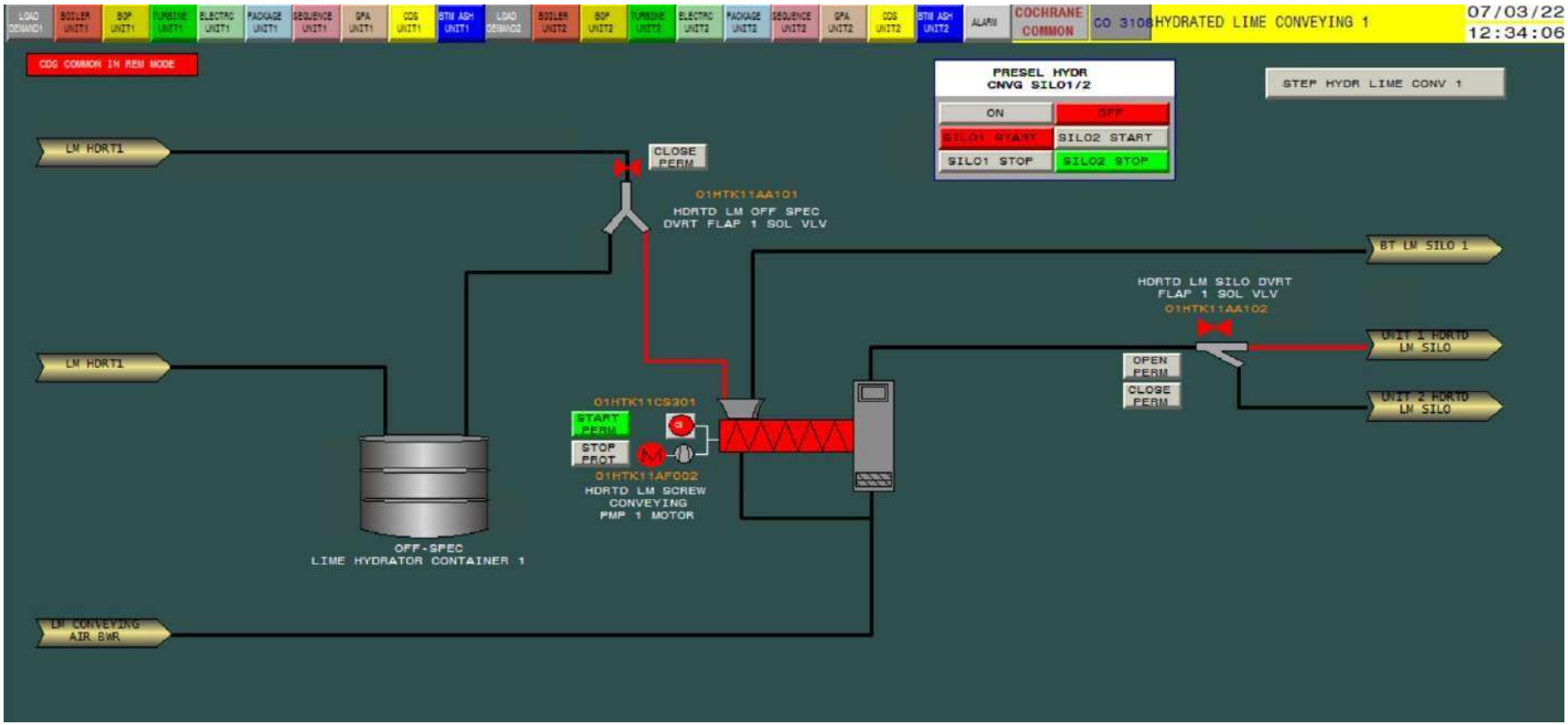

LOAD DEMAND
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRC UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
GPA UNIT1
CDS UNIT1
DTN ASH UNIT1
LOAD DEMAND
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRC UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
GPA UNIT2
CDS UNIT2
DTN ASH UNIT2
ALARM
COCHRANE COMMON
CO 3103
BURNT LIME SILO 1 BOTTOM FLUIDIZATIO
07/03/22
12:32:36
CDS COMMON IN REM MODE
STEP AER VLV BURN SILO1
BT LM SILO 1
01HTJ10AA111
BT LM SILO 1 BTM
ARTN LEFT SOL VLV
01HTJ10AA112
BT LM SILO 1 BTM
ARTN RIGHT SOL VLV
LM ARTN BWR
01QEH11AA102
BT LM SILO 1 TOP
ARTN SOL VLV
BT LM SILO 1

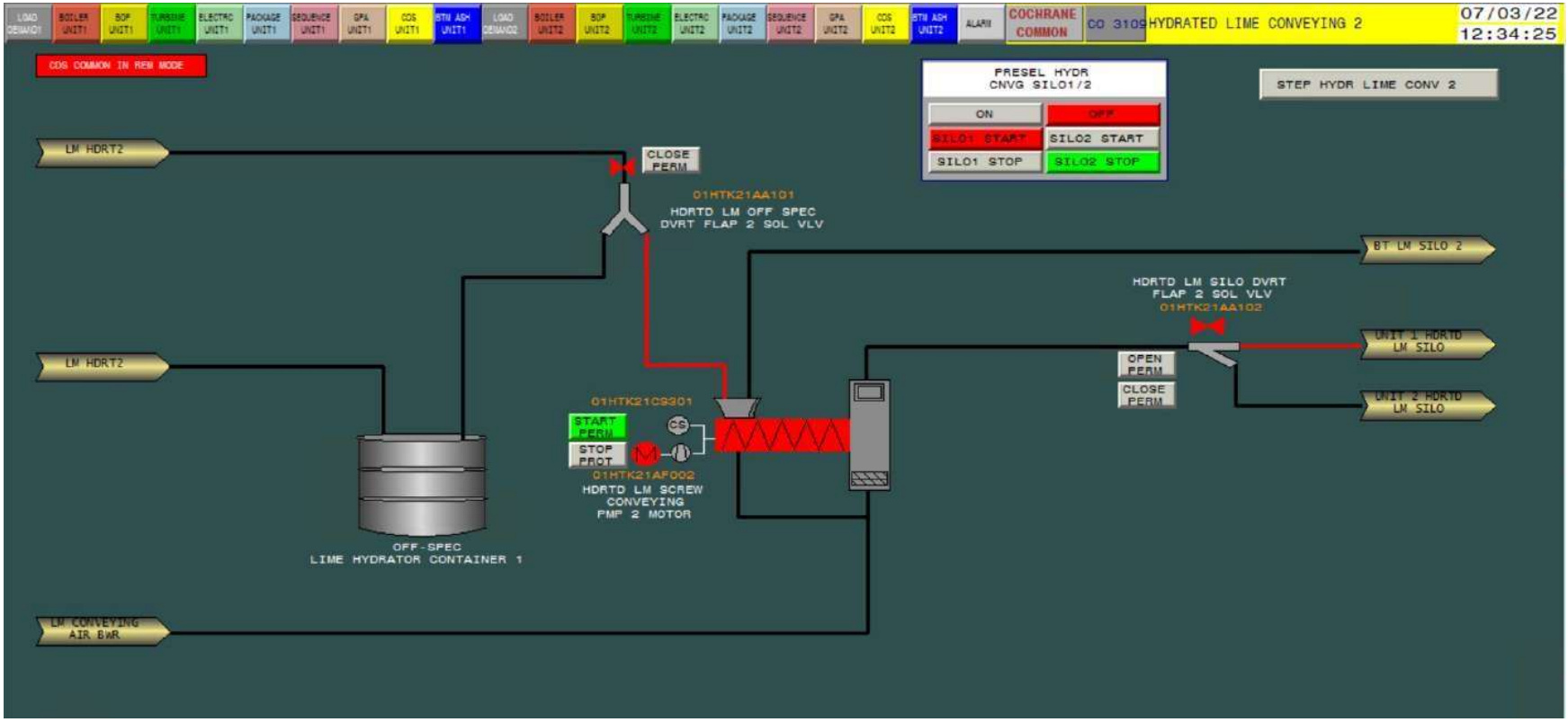

COCHRANE
COMMON
BURNT LIME SILO 2 BOTTOM FLUIDIZATIO
07/03/22
12:32:51
COS COMMON IN REM MODE
STEP AER VLV BURN SILO2
BT LM SILO 2
01HTJ20AA111
BT LM SILO 2 BTM
ARTN LEFT SOL VLV
01HTJ20AA112
BT LM SILO 2 BTM
ARTN RIGHT SOL VLV
LM ARTN BWR
01QEH12AA102
BT LM SILO 2 TOP
ARTN SOL VLV
BT LM SILO 2

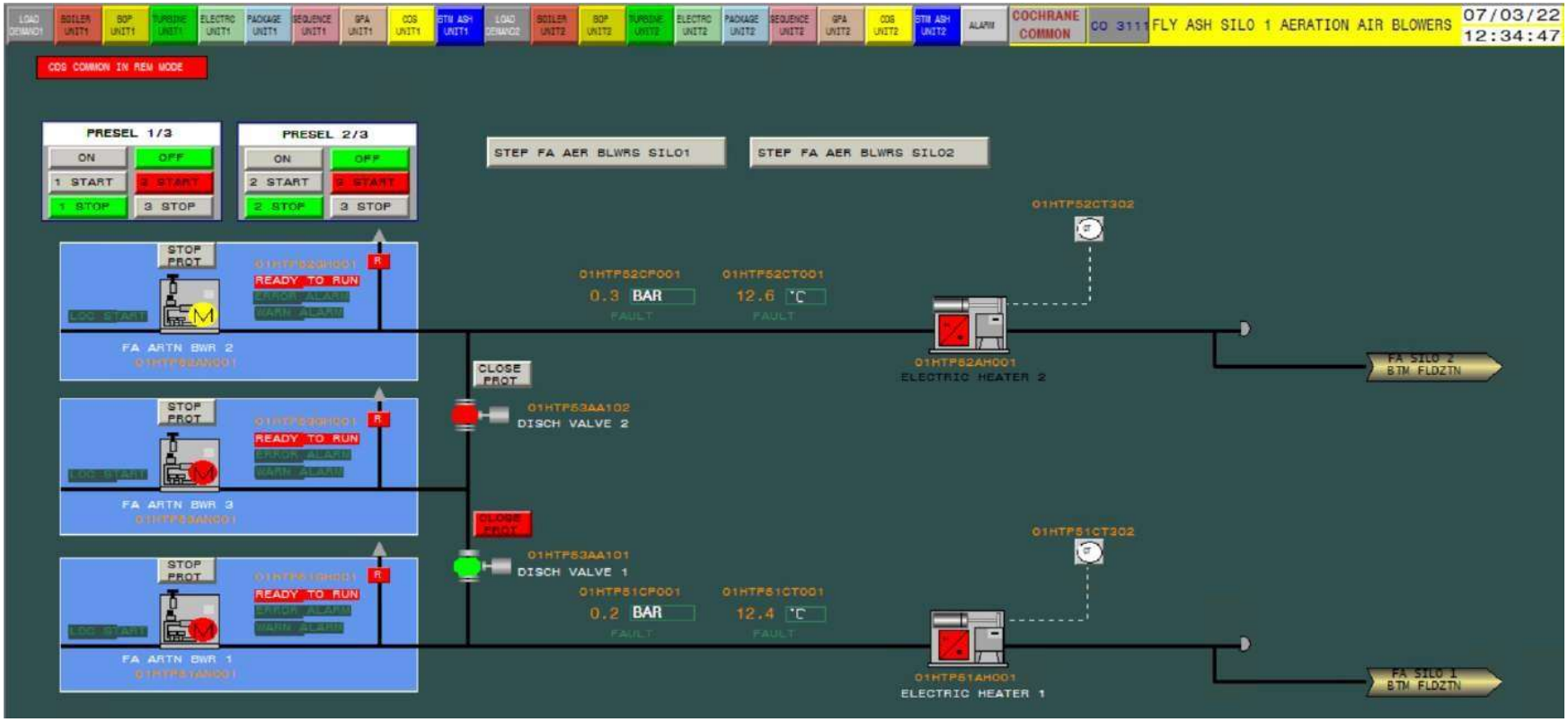

COCHRANE COMMON
CO 3105
LIME HYDRATOR 1
07/03/22
12:33:09
CDS COMMON IN REM MODE
INSTRUMENT AIR DISTRIBUTION
BT LM BUFFER TNK 1
BT LM DISCH 1
AUTO SETPOINT
2600
BT LM DISCH RF 1 MOTOR
01HTJ11AF002
BT LM WEIGHT SCREW 1 MOTOR
01HTJ11AF003
BT LM WEIGHT SCREW 1
01HTX50CP301
LH#1 CLEANING AIR PS
BT LM WEIGHT SCREW 1 HEATER
01HTJ11AH203
BT LM DISCH RF1 HEATER
01HTJ11AH202
BT LM WEIGHT SCREW 1 WEIGHING CTRL PANEL
01HTJ11FF901
2420 KG/H
01HTQ15FF901
1161 m3/h
01HTK10CT303A/B/C
LH#1 FLTR FAN TS A/B/C
01HTK10GU001
LM HDRTD VENT FLTR 1 FAN CTRL
01HTK10GH501
LM HDRT VENT FLTR 1 FAN MOTOR CTRL PANEL
STEP LIME HYDR SYSTEM
LM HDRTD FILTER CLNG CTRL 2
01HTK10GH002
LM HDRTD FILTER CLNG CTRL1
01HTK10GH001
LM HDRTD 1 FEED PMPS
LM HDRTD 1 FEED PMPS
LM HDRT 1 WTR FEEDING PRELIME HDRT FLOWMETER
01HTQ15CF001
1.3 m3/h
PRELIME HDRTD 1 MOTOR
01HTK10AM001
01HTK10CT301
PRELIME HDRTD 1 MOTOR THERMISTOR
6.9 A
01HTK10CE001
PRELIME HDRTD 1 MOTOR CURR TRANS
PRE LM HDRTD 1
01HTK10CP001
-0.5 MBAR
PRELIME HDRTD 1 PRESS TRANS
01HTK10CS301
PRELIME HDRTD 1 MOTOR SPD SW 1
01HTK10CS302
PRELIME HDRTD 1 MOTOR SPD SW 2
MAIN LM HDRTD 1 MOTOR
01HTK10AM002
01HTK10CT302
MAIN LM HDRTD 1 MOTOR 1 THERMISTOR
35.0 A
01HTK10CE002
MAIN LM HDRTD 1 MOTOR 1 CURR TRANS
MAIN LM HDRTD 1
01HTK10CT003
135.5 °C
01HTK10CT002
133.9 °C
01HTK10CT001
115.9 °C
01HTK10CT005
128.2 °C
01HTK10CT004
133.0 °C
01HTK10CT901
134.7 °C
MAIN LM HDRTD 1 TEMP TRANS
01HTK10AA101
MAIN LM HDRTD 1 OFF SPEC SLIDE GATE CYLINDER SOL VLV
01HTK10CL301
LM HDRTD VENT FLTR 1 FAN MOTOR
01HTK10CS302
MAIN LM HDRTD1 MOTOR1 SPD SW
HDRTD LM CONVEYING 1
OFF-SPEC CONTAINER 1

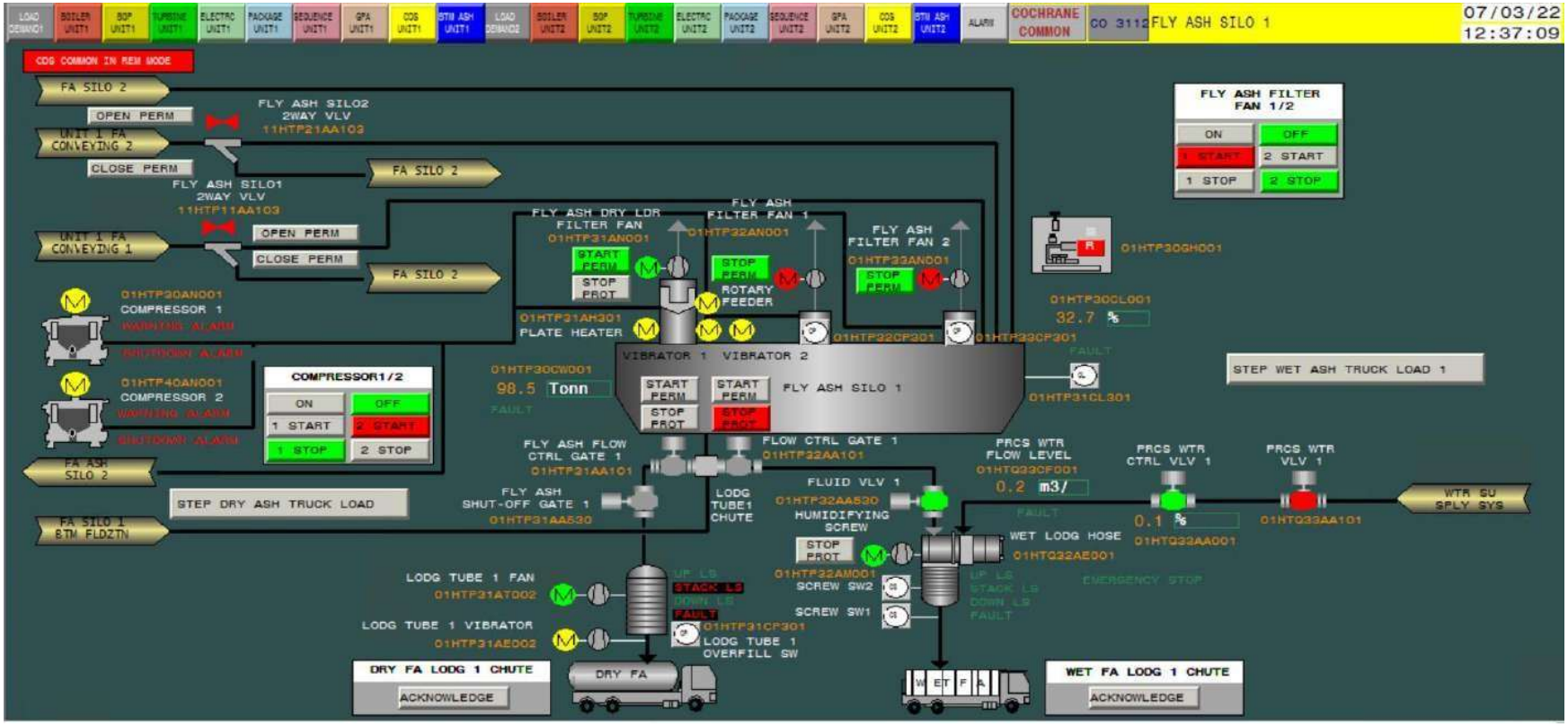

COCHRANE
COMMON
LIME HYDRATOR 2
07/03/22
12:33:26
STEP LIME HYDR SYSTEM 2
CDS COMMON IN REM MODE
INSTRUMENT AIR DISTRIBUTION
BT LM BUFFER TNK 2
BT LM DISCH 2
AUTO SETPOINT
2800
BT LM DISCH RF 2 MOTOR
01HTJ21AF002
BT LM WEIGHT SCREW 2 MOTOR
01HTJ21AF003
BT LM WEIGHT SCREW 2
01HTX55CP201
LH#2 CLEANING AIR PS
BT LM WEIGHT SCREW 2 HEATER
01HTJ21AH203
BT LM DISCH RF2 HEATER
01HTJ21AH202
BT LM WEIGHT SCREW 2 WEIGHING CTRL PANEL
01HTJ21FF901
2823 KG/H
01HTK20CT303A/B/C
LH#2 FLTR FAN TS A/B/C
01HTK20GU001
LM HDRTD VENT FLTR 2 FAN CTRL
01HTK20GH501
LM HDRT VENT FLTR 2 FAN MOTOR CTRL PANEL
LM HDRTD FILTER CLNG CTRL 2
01HTK20GH002
LM HDRTD FILTER CLNG CTRL1
01HTK20GH001
LM HDRTD 2 FEED PMPS
LM HDRTD 2 FEED PMPS
LM HDRT 2 WTR FEEDING PRELIME HDRT FLOWMETER
01HTQ2SCF001
1.9 m3/h
PRELIME HDRTD 2 MOTOR
01HTK20AM001
PRELIME HDRTD 2 MOTOR THERMISTOR
01HTK20CT301
6.3 A
01HTK20CE001
PRELIME HDRTD 2 MOTOR CURR TRANS
01HTK20CF001
-0.5 MBAR
PRELIME HDRTD 2 PRESS TRANS
PRE LM HDRTD 2
01HTK20CS301
PRELIME HDRTD 2 MOTOR SPD SW 1
01HTK20CS302
PRELIME HDRTD 2 MOTOR SPD SW 2
MAIN LM HDRTD 2 MOTOR
01HTK20AM002
01HTK20CT302
MAIN LM HDRTD 2 MOTOR 1 THERMISTOR
33.6 A
01HTK20CE002
MAIN LM HDRTD 2 MOTOR 1 CURR TRANS
MAIN LM HDRTD 2
01HTK20CT003
141.4 °C
01HTK20CT002
138.1 °C
01HTK20CT001
131.3 °C
01HTK20CT005
123.8 °C
01HTK20CT004
148.1 °C
01HTK20CT901
139.7 °C
MAIN LM HDRTD 2 TEMP TRANS
01HTK20AA101
MAIN LM HDRTD 2 OFF SPEC SLIDE GATE CYLINDER SOL VLV
01HTK20CL301
LM HDRTD VENT FLTR 2 FAN MOTOR
01HTK20CS303
MAIN LM HDRTD2 MOTOR1 SPD SW
HDRTD LM CONVEYING 2
OFF-SPEC CONTAINER 2

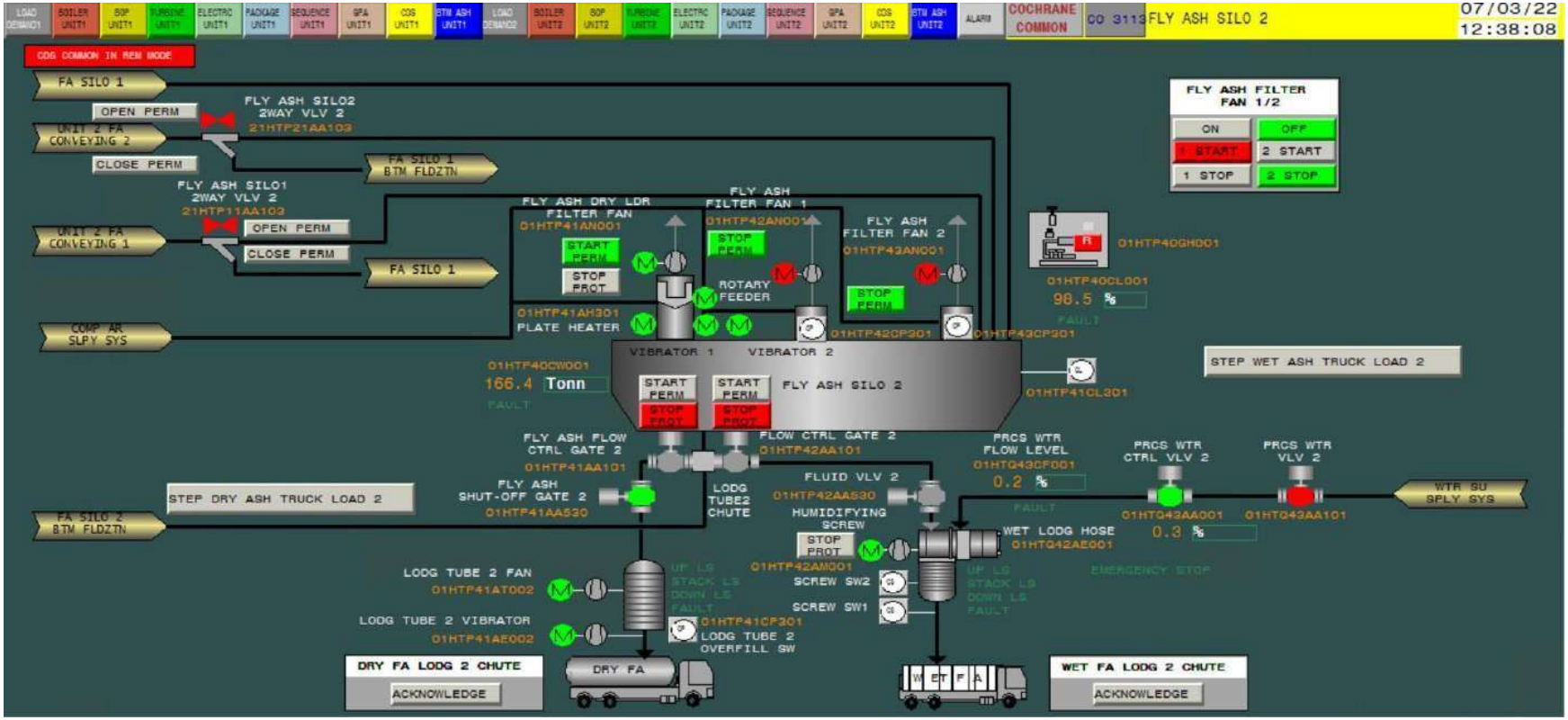

COCHRANE COMMON
CO 3107
LIME CONVEYING AIR BLOWERS
07/03/22
12:33:46
CDS COMMON IN REM MODE
PRESEL 1/3
ON
OFF
1 START
3 START
1 STOP
3 STOP
PRESEL 2/3
ON
OFF
2 START
3 START
2 STOP
3 STOP
HDRTD LM CONVEYING PMP 2
AR BWR PRESS TRANS
01HTK02CP001
0.5 BAR
FAULT
01HTK02CF301
STOP PROT
ROTOR AR DRYER
HDRTD LM CONVEYING AR BWR DIFF PRESS SW
LM CONVEYING BWR 2
01HTK02AN001
LOC START FB
LOC STOP FB
01HTK01GH501
HDRTD LM CONVEYING 2
CLOSE PROT
01HTK03AA102
HDRTD LM CONVEYING PMP 2 AIR BWR SOL VLV
01HTK03CF301
HDRTD LM CONVEYING AR BWR DIFF PRESS SW
LM CONVEYING BWR 3
01HTK03AN001
HDRTD LM CONVEYING PMP 1
AR BWR PRESS TRANS
01HTK01CP001
0.4 BAR
FAULT
01HTK03AA101
HDRTD LM CONVEYING PMP 1 AIR BWR SOL VLV
01HTK01CF301
HDRTD LM CONVEYING AR BWR DIFF PRESS SW
LM CONVEYING BWR 1
01HTK01AN001
HDRTD LM CONVEYING 1

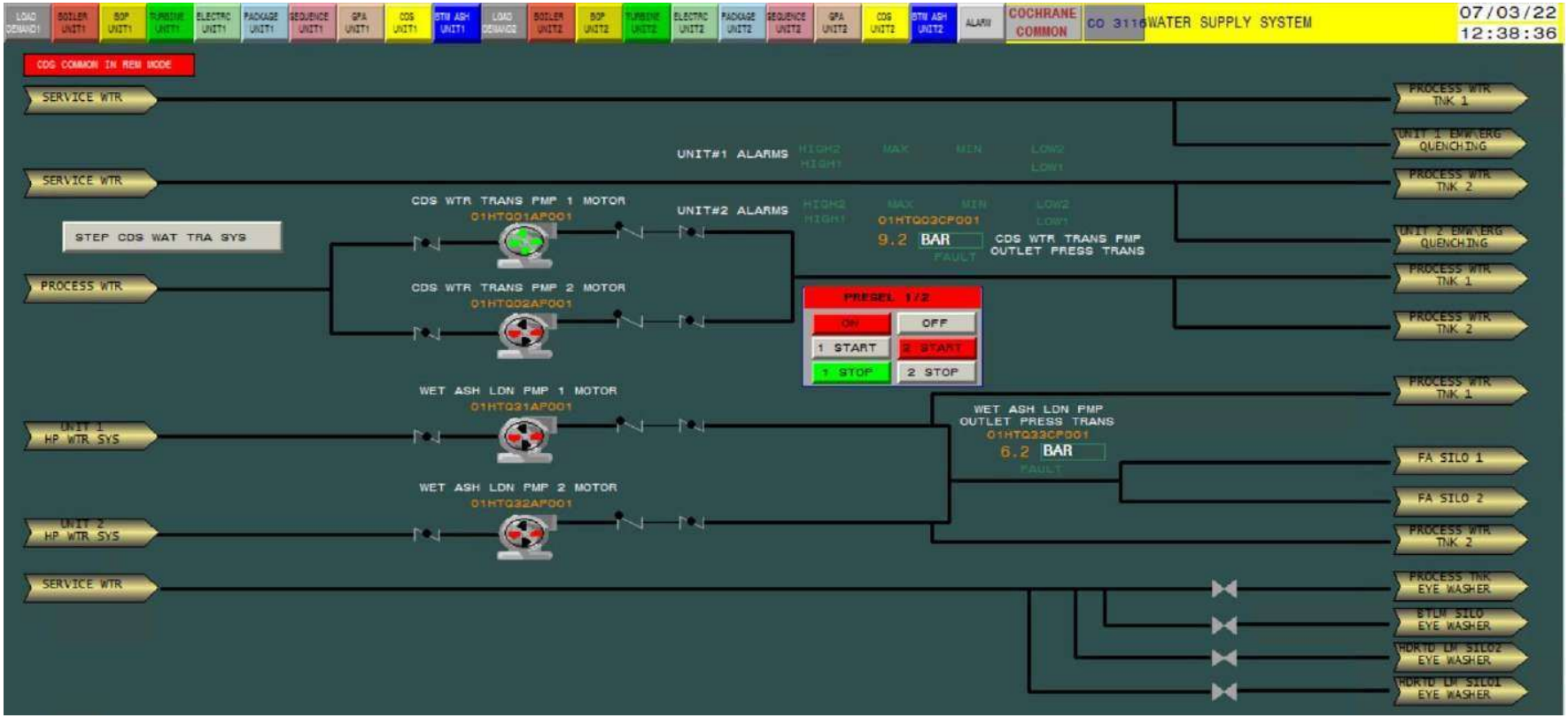

COCHRANE COMMON
CO 3108
HYDRATED LIME CONVEYING 1
07/03/22
12:34:06
CDS COMMON IN REM MODE
PRESEL HYDR CNVG SILO1/2
ON
OFF
SILO1 START
SILO2 START
SILO1 STOP
SILO2 STOP
STEP HYDR LIME CONV 1
LM HDRT1
CLOSE PERM
01HTK11AA101
HDRTD LM OFF SPEC DVRT FLAP 1 SOL VLV
BT LM SILO 1
HDRTD LM SILO DVRT FLAP 1 SOL VLV
01HTK11AA102
UNIT 1 HDRTD LM SILO
UNIT 2 HDRTD LM SILO
OPEN PERM
CLOSE PERM
LM HDRT1
01HTK11CS301
START PERM
STOP PROT
01HTK11AF002
HDRTD LM SCREW CONVEYING PMP 1 MOTOR
OFF-SPEC LIME HYDRATOR CONTAINER 1
LM CONVEYING AIR BWR

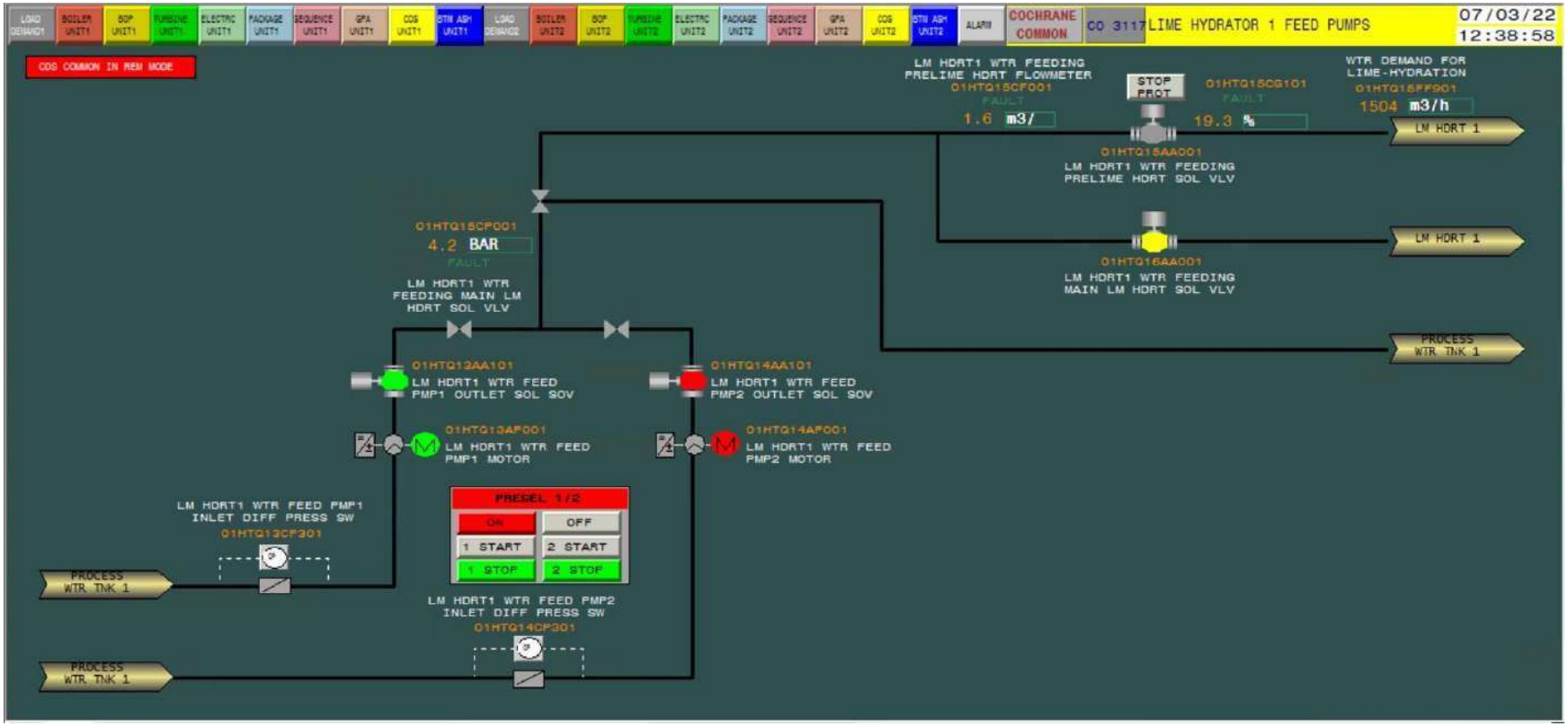

COCHRANE COMMON
CO 3109
HYDRATED LIME CONVEYING 2
07/03/22
12:34:25
CDS COMMON IN REM MODE
PRESEL HYDR CNVG SILO1/2
ON
OFF
SILO1 START
SILO2 START
SILO1 STOP
SILO2 STOP
STEP HYDR LIME CONV 2
LM HDRT2
CLOSE PERM
01HTK21AA101
HDRTD LM OFF SPEC DVRT FLAP 2 SOL VLV
BT LM SILO 2
HDRTD LM SILO DVRT FLAP 2 SOL VLV
01HTK21AA102
UNIT 1 HDRTD LM SILO
UNIT 2 HDRTD LM SILO
OPEN PERM
CLOSE PERM
LM HDRT2
01HTK21CS301
START PERM
STOP PROT
CS
01HTK21AF002
HDRTD LM SCREW CONVEYING PMP 2 MOTOR
OFF-SPEC LIME HYDRATOR CONTAINER 1
LM CONVEYING AIR BWR

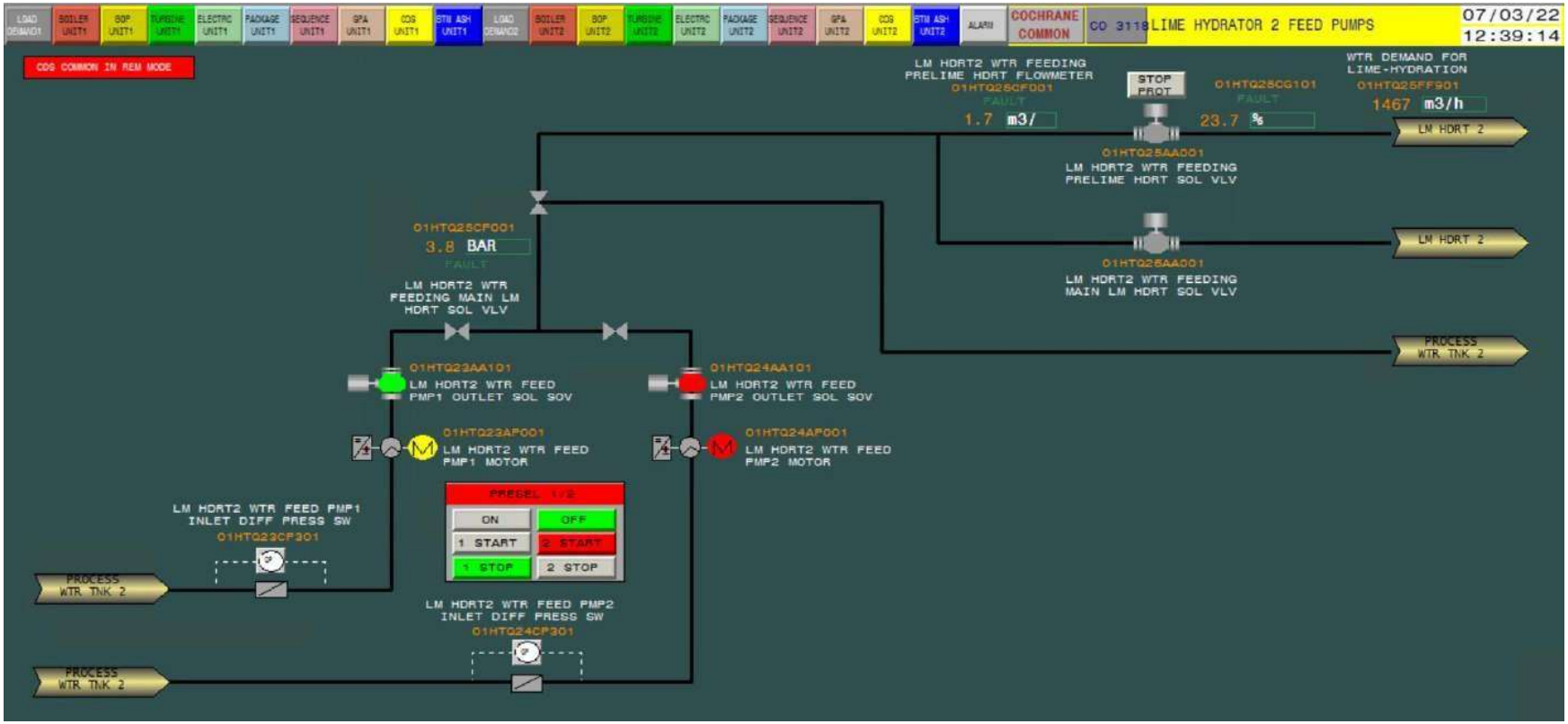

COCHRANE COMMON
CO 3111
FLY ASH SILO 1 AERATION AIR BLOWERS
07/03/22
12:34:47
CDS COMMON IN REM MODE
PRESEL 1/3
ON
OFF
1 START
2 START
1 STOP
3 STOP
PRESEL 2/3
ON
OFF
2 START
2 START
2 STOP
3 STOP
STEP FA AER BLWRS SILO1
STEP FA AER BLWRS SILO2
STOP PROT
READY TO RUN
ERROR ALARM
WARN ALARM
FA ARTN BWR 2
FA ARTN BWR 3
FA ARTN BWR 1
CLOSE PROT
01HTP53AA102
DISCH VALVE 2
01HTP53AA101
DISCH VALVE 1
01HTP52CP001
0.3 BAR
FAULT
01HTP52CT001
12.6 °C
FAULT
01HTP52CT302
01HTP52AH001
ELECTRIC HEATER 2
01HTP51CP001
0.2 BAR
FAULT
01HTP51CT001
12.4 °C
FAULT
01HTP51CT302
01HTP51AH001
ELECTRIC HEATER 1
FA SILO 2 BTM FLDZTN
FA SILO 1 BTM FLDZTN

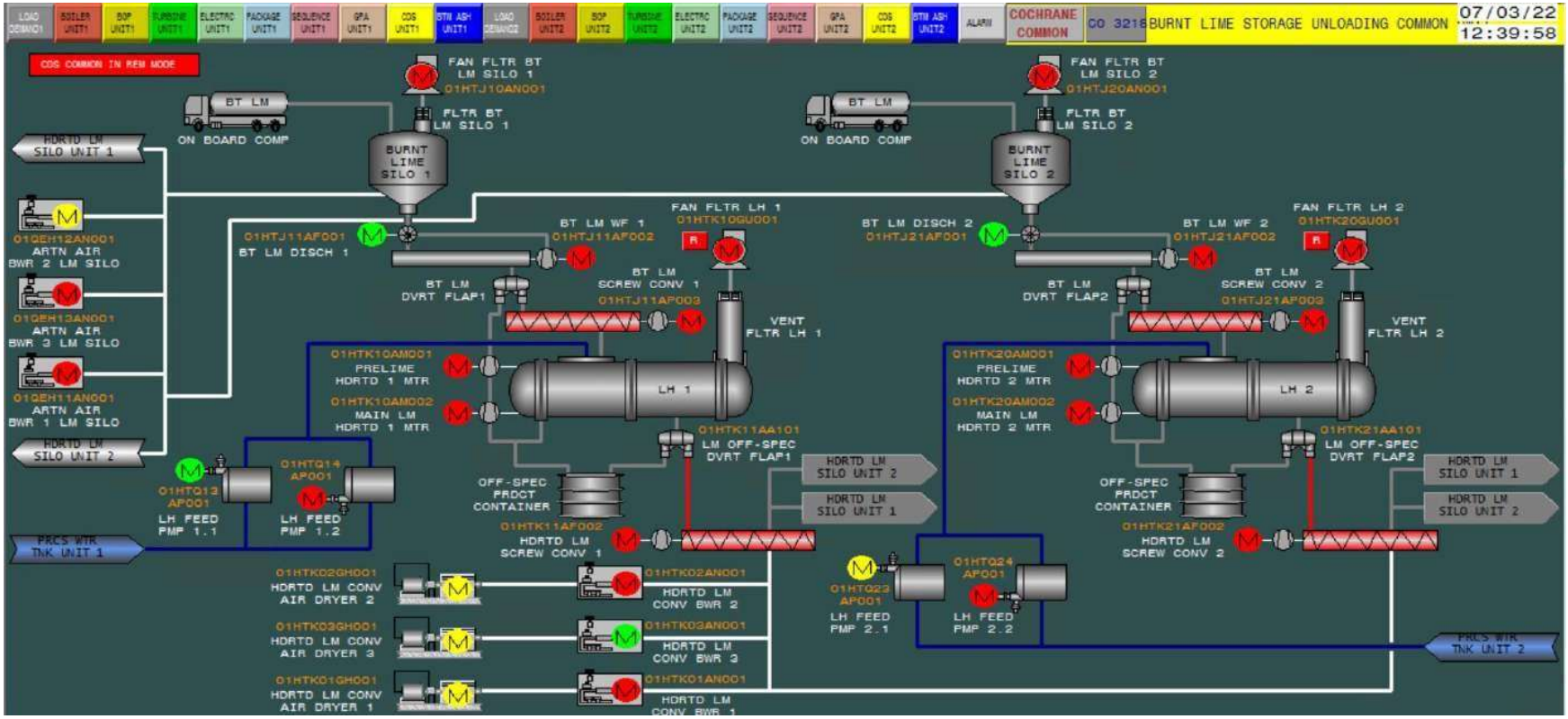

COCHRANE COMMON
CO 3112
FLY ASH SILO 1
07/03/22
12:37:09
CDS COMMON IN REM MODE
FA SILO 2
OPEN PERM
FLY ASH SILO2 2WAY VLV
11HTP21AA103
UNIT 1 FA CONVEYING 2
CLOSE PERM
FA SILO 2
FLY ASH SILO1 2WAY VLV
11HTP11AA103
OPEN PERM
UNIT 1 FA CONVEYING 1
CLOSE PERM
FA SILO 2
FLY ASH FILTER FAN 1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
FLY ASH DRY LDR FILTER FAN
01HTP31AN001
FLY ASH FILTER FAN 1
01HTP32AN001
FLY ASH FILTER FAN 2
01HTP33AN001
START PERM
STOP PROT
STOP PERM
ROTARY FEEDER
01HTP30GH001
01HTP30AN001
COMPRESSOR 1
WARNING ALARM
SHUTDOWN ALARM
01HTP21AH301
PLATE HEATER
01HTP22CP301
01HTP33CP301
01HTP30CL001
32.7 %
FAULT
01HTP40AN001
COMPRESSOR 2
WARNING ALARM
SHUTDOWN ALARM
COMPRESSOR1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
VIBRATOR 1
VIBRATOR 2
START PERM
STOP PROT
FLY ASH SILO 1
01HTP30CW001
98.5 Tonn
FAULT
01HTP31CL301
STEP WET ASH TRUCK LOAD 1
FA ASH SILO 2
STEP DRY ASH TRUCK LOAD
FA SILO 1 &TM FLDZTN
FLY ASH FLOW CTRL GATE 1
01HTP21AA101
FLOW CTRL GATE 1
01HTP32AA101
FLY ASH SHUT-OFF GATE 1
01HTP31AA830
LODG TUBE1 CHUTE
FLUID VLV 1
01HTP32AA830
HUMIDIFYING SCREW
PRCS WTR FLOW LEVEL
01HTQ33CF001
0.2 m3/
PRCS WTR CTRL VLV 1
0.1 %
01HTQ33AA001
PRCS WTR VLV 1
01HTQ33AA101
WTR SU SFLY SYS
WET LODG HOSE
01HTQ32AE001
STOP PROT
01HTP32AM001
SCREW SW2
SCREW SW1
EMERGENCY STOP
LODG TUBE 1 FAN
01HTP31AT002
LODG TUBE 1 VIBRATOR
01HTP31AE002
UP LS
STACK LS
DOWN LS
FAULT
01HTP31CP301
LODG TUBE 1 OVERFILL SW
DRY FA LODG 1 CHUTE
ACKNOWLEDGE
DRY FA
WET FA
WET FA LODG 1 CHUTE
ACKNOWLEDGE

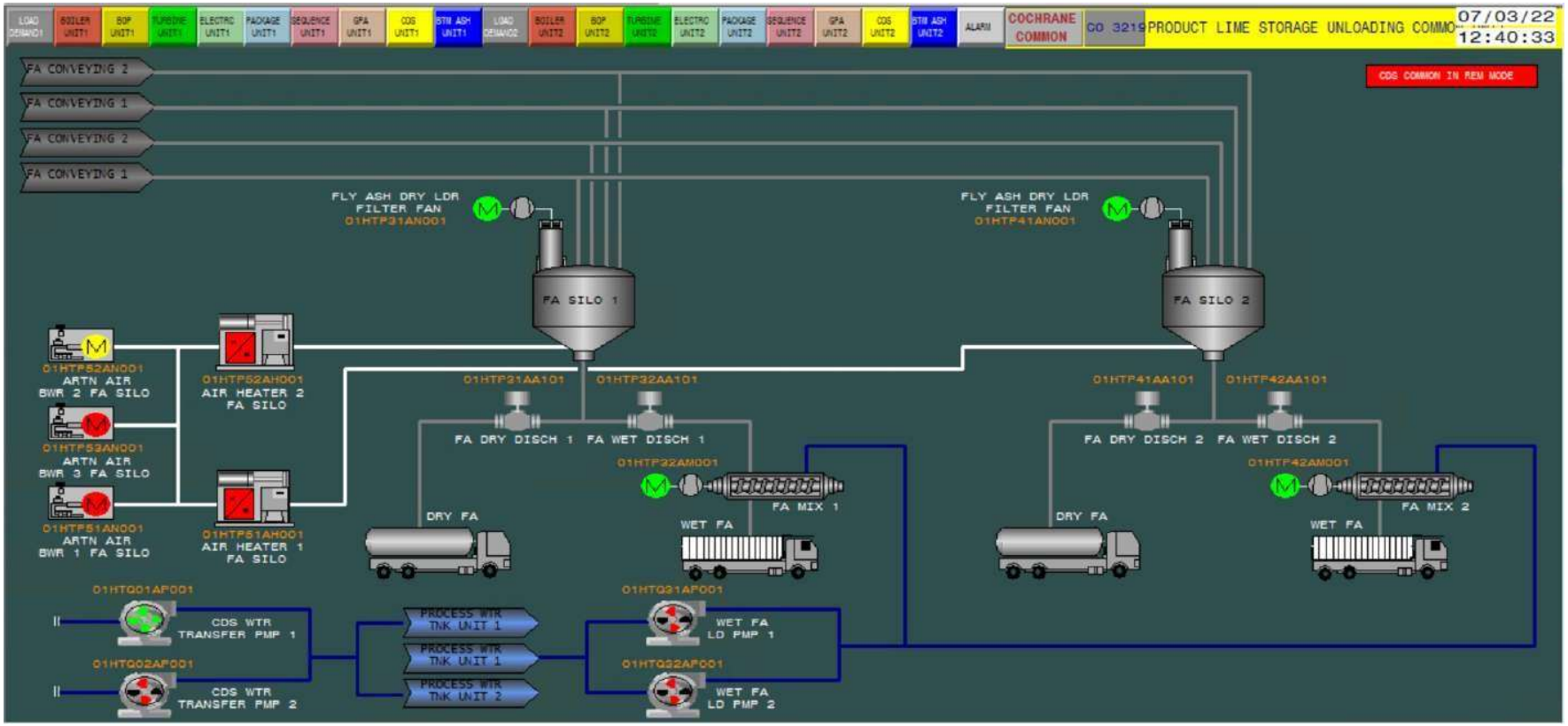

COCHRANE COMMON
CO 3113
FLY ASH SILO 2
07/03/22
12:38:08
CDS COMMON IN REM MODE
FA SILO 1
OPEN PERM
FLY ASH SILO2 2WAY VLV 2
21HTP21AA103
UNIT 2 FA CONVEYING 2
CLOSE PERM
FA SILO 1 BTM FLDZTN
FLY ASH SILO1 2WAY VLV 2
21HTP11AA103
OPEN PERM
UNIT 2 FA CONVEYING 1
CLOSE PERM
FA SILO 1
COMP AR SLPY SYS
FLY ASH DRY LDR FILTER FAN
01HTP41AN001
START PERM
STOP PROT
FLY ASH FILTER FAN 1
01HTP42AN001
STOP PERM
FLY ASH FILTER FAN 2
01HTP43AN001
STOP PERM
ROTARY FEEDER
01HTP41AH301
PLATE HEATER
01HTP42CP301
01HTP43CP301
FLY ASH FILTER FAN 1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
01HTP40GH001
01HTP40CL001
98.5 %
FAULT
VIBRATOR 1
VIBRATOR 2
01HTP40CW001
166.4 Tonn
FAULT
START PERM
START PERM
FLY ASH SILO 2
STOP PROT
STOP PROT
01HTP41CL301
STEP WET ASH TRUCK LOAD 2
FLY ASH FLOW CTRL GATE 2
01HTP41AA101
FLOW CTRL GATE 2
01HTP42AA101
PRCS WTR FLOW LEVEL
01HTQ43CF001
0.2 %
FAULT
PRCS WTR CTRL VLV 2
PRCS WTR VLV 2
WTR SU SPLY SYS
STEP DRY ASH TRUCK LOAD 2
FLY ASH SHUT-OFF GATE 2
01HTP41AA530
LODG TUBE2 CHUTE
FLUID VLV 2
01HTP42AA530
HUMIDIFYING SCREW
01HTQ43AA001
01HTQ43AA101
FA SILO 2 BTM FLDZTN
WET LODG HOSE
01HTQ42AE001
0.3 %
STOP PROT
01HTP42AM001
SCREW SW2
SCREW SW1
UP LS
STACK LS
DOWN LS
FAULT
EMERGENCY STOP
LODG TUBE 2 FAN
01HTP41AT002
LODG TUBE 2 VIBRATOR
01HTP41AE002
01HTP41CP301
LODG TUBE 2 OVERFILL SW
DRY FA LODG 2 CHUTE
ACKNOWLEDGE
DRY FA
WET FA
WET FA LODG 2 CHUTE
ACKNOWLEDGE

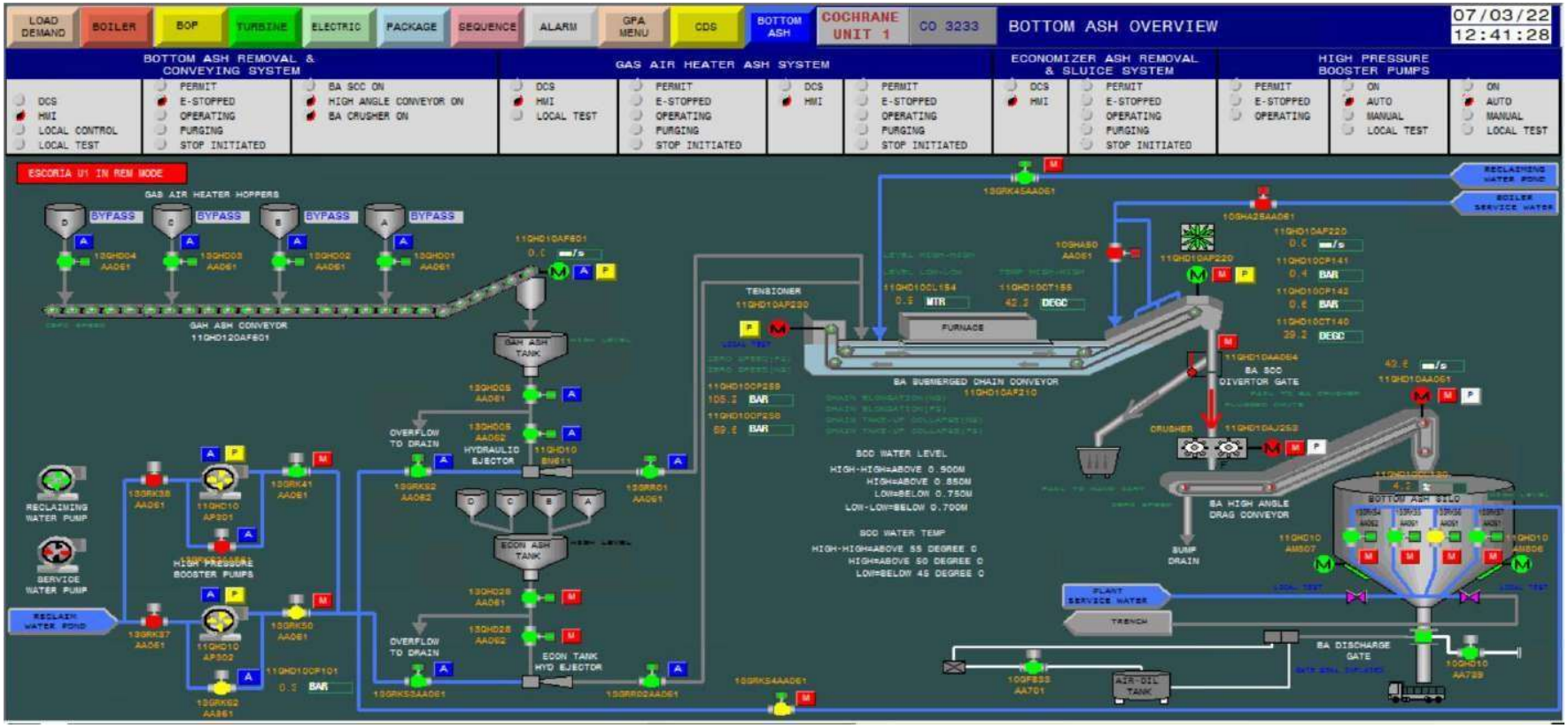

COCHRANE COMMON
CO 3116
WATER SUPPLY SYSTEM
07/03/22
12:38:36
CDS COMMON IN REM MODE
SERVICE WTR
SERVICE WTR
STEP CDS WAT TRA SYS
PROCESS WTR
UNIT 1 HP WTR SYS
UNIT 2 HP WTR SYS
SERVICE WTR
CDS WTR TRANS PMP 1 MOTOR
01HTQ01AP001
CDS WTR TRANS PMP 2 MOTOR
01HTQ02AP001
WET ASH LDN PMP 1 MOTOR
01HTQ31AP001
WET ASH LDN PMP 2 MOTOR
01HTQ32AP001
UNIT#1 ALARMS
UNIT#2 ALARMS
HIGH2
HIGH1
MAX
MIN
LOW2
LOW1
01HTQ03CP001
9.2 BAR
FAULT
CDS WTR TRANS PMP OUTLET PRESS TRANS
PRESEL 1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
WET ASH LDN PMP OUTLET PRESS TRANS
01HTQ33CP001
6.2 BAR
FAULT
PROCESS WTR TNK 1
UNIT 1 EMW ERG QUENCHING
PROCESS WTR TNK 2
UNIT 2 EMW ERG QUENCHING
PROCESS WTR TNK 1
PROCESS WTR TNK 2
PROCESS WTR TNK 1
FA SILO 1
FA SILO 2
PROCESS WTR TNK 2
PROCESS TNK EYE WASHER
BTM SILO EYE WASHER
HDR'D LM SILO2 EYE WASHER
HDR'D LM SILO1 EYE WASHER


COCHRANE COMMON
CO 3117
LIME HYDRATOR 1 FEED PUMPS
07/03/22
12:38:58
CDS COMMON IN REM MODE
LM HDRT1 WTR FEEDING PRELIME HDRT FLOWMETER
01HTQ15CF001
1.6 m3/
STOP PROT
01HTQ15CG101
19.3 %
WTR DEMAND FOR LIME-HYDRATION
01HTQ15FF901
1504 m3/h
LM HDRT 1
01HTQ15AA001
LM HDRT1 WTR FEEDING PRELIME HDRT SOL VLV
LM HDRT 1
01HTQ16AA001
LM HDRT1 WTR FEEDING MAIN LM HDRT SOL VLV
PROCESS WTR TNK 1
01HTQ15CP001
4.2 BAR
FAULT
LM HDRT1 WTR FEEDING MAIN LM HDRT SOL VLV
01HTQ12AA101
LM HDRT1 WTR FEED PMP1 OUTLET SOL SOV
01HTQ14AA101
LM HDRT1 WTR FEED PMP2 OUTLET SOL SOV
01HTQ13AF001
LM HDRT1 WTR FEED PMP1 MOTOR
01HTQ14AF001
LM HDRT1 WTR FEED PMP2 MOTOR
PRESEL 1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
LM HDRT1 WTR FEED PMP1 INLET DIFF PRESS SW
01HTQ13CP201
PROCESS WTR TNK 1
LM HDRT1 WTR FEED PMP2 INLET DIFF PRESS SW
01HTQ14CP301
PROCESS WTR TNK 1

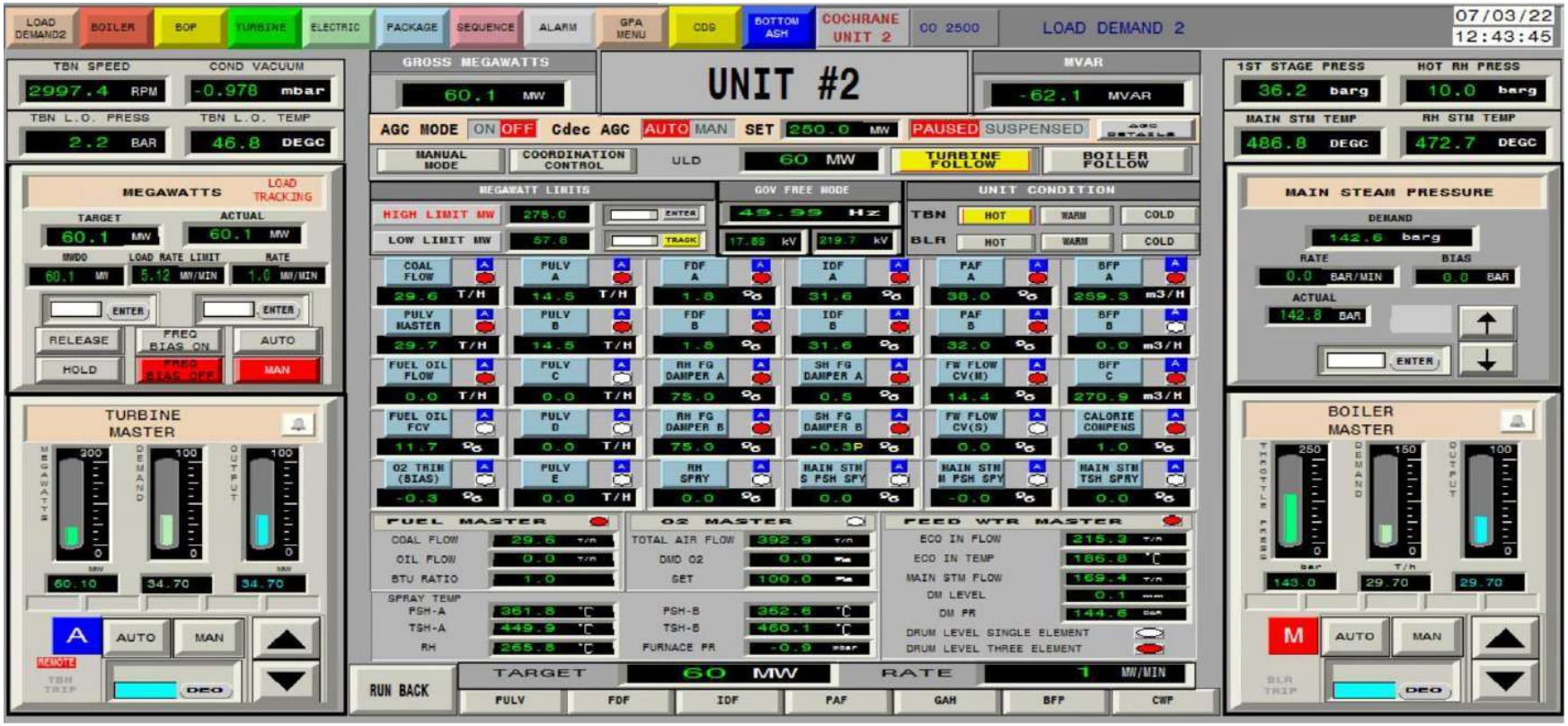

LOAD DEMAND1
BOILER UNIT1
BOP UNIT1
TURBINE UNIT1
ELECTRIC UNIT1
PACKAGE UNIT1
SEQUENCE UNIT1
SPA UNIT1
COS UNIT1
STN ASH UNIT1
LOAD DEMAND2
BOILER UNIT2
BOP UNIT2
TURBINE UNIT2
ELECTRIC UNIT2
PACKAGE UNIT2
SEQUENCE UNIT2
SPA UNIT2
COS UNIT2
STN ASH UNIT2
ALARM
COCHRANE COMMON
CO 3119
LIME HYDRATOR 2 FEED PUMPS
07/03/22
12:39:14
COS COMMON IN REM MODE
LM HDRT2 WTR FEEDING PRELIME HDRT FLOWMETER
01HTQ26CF001
FAULT
1.7 m3/
STOP ERROR
01HTQ26CG101
FAULT
23.7 %
WTR DEMAND FOR LIME-HYDRATION
01HTQ25FF901
1467 m3/h
LM HDRT 2
01HTQ25AA001
LM HDRT2 WTR FEEDING PRELIME HDRT SOL VLV
LM HDRT 2
01HTQ26AA001
LM HDRT2 WTR FEEDING MAIN LM HDRT SOL VLV
01HTQ25CF001
3.8 BAR
FAULT
LM HDRT2 WTR FEEDING MAIN LM HDRT SOL VLV
PROCESS WTR TNK 2
01HTQ23AA101
LM HDRT2 WTR FEED PMP1 OUTLET SOL SOV
01HTQ24AA101
LM HDRT2 WTR FEED PMP2 OUTLET SOL SOV
01HTQ23AF001
LM HDRT2 WTR FEED PMP1 MOTOR
01HTQ24AF001
LM HDRT2 WTR FEED PMP2 MOTOR
PRESEL 1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
LM HDRT2 WTR FEED PMP1 INLET DIFF PRESS SW
01HTQ23CF301
PROCESS WTR TNK 2
LM HDRT2 WTR FEED PMP2 INLET DIFF PRESS SW
01HTQ24CF301
PROCESS WTR TNK 2

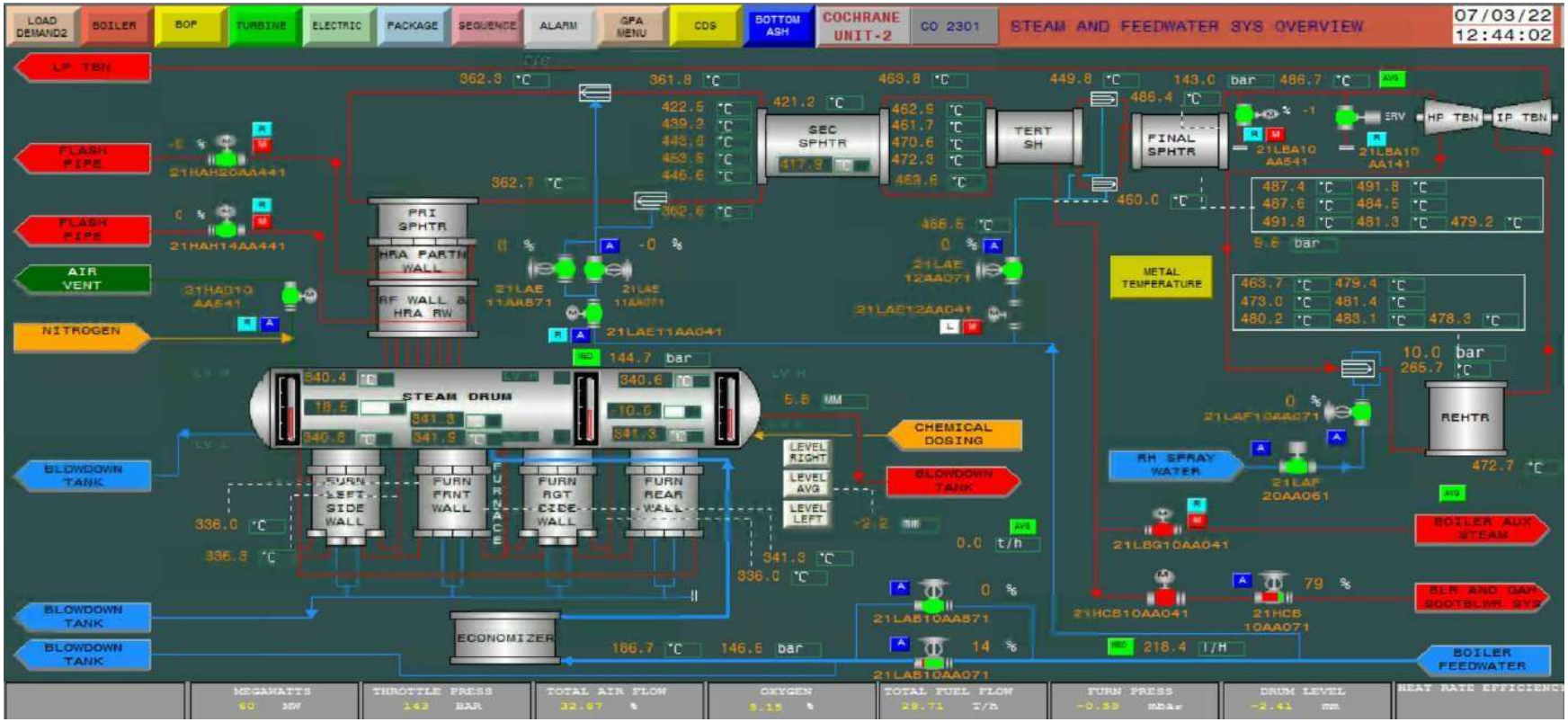

COCHRANE COMMON
CO 3218
BURNT LIME STORAGE UNLOADING COMMON
07/03/22
12:39:58
COS COMMON IN REM MODE
FAN FLTR BT LM SILO 1
01HTJ10AN001
FAN FLTR BT LM SILO 2
01HTJ20AN001
BT LM
ON BOARD COMP
FLTR BT LM SILO 1
FLTR BT LM SILO 2
HDRTD LM SILO UNIT 1
BURNT LIME SILO 1
BURNT LIME SILO 2
FAN FLTR LH 1
01HTK10GU001
FAN FLTR LH 2
01HTK20GU001
01QEH12AN001
ARTN AIR BWR 2 LM SILO
01QEH13AN001
ARTN AIR BWR 3 LM SILO
01QEH11AN001
ARTN AIR BWR 1 LM SILO
01HTJ11AF001
BT LM DISCH 1
BT LM WF 1
01HTJ11AF002
BT LM DISCH 2
01HTJ21AF001
BT LM WF 2
01HTJ21AF002
BT LM DVRT FLAP1
BT LM SCREW CONV 1
01HTJ11AP003
BT LM DVRT FLAP2
BT LM SCREW CONV 2
01HTJ21AP003
VENT FLTR LH 1
VENT FLTR LH 2
01HTK10AM001
PRELIME HDRTD 1 MTR
01HTK10AM002
MAIN LM HDRTD 1 MTR
LH 1
LH 2
01HTK20AM001
PRELIME HDRTD 2 MTR
01HTK20AM002
MAIN LM HDRTD 2 MTR
01HTK11AA101
LM OFF-SPEC DVRT FLAP1
01HTK21AA101
LM OFF-SPEC DVRT FLAP2
HDRTD LM SILO UNIT 2
HDRTD LM SILO UNIT 1
OFF-SPEC PRDCT CONTAINER
01HTK11AF002
HDRTD LM SCREW CONV 1
01HTK21AF002
HDRTD LM SCREW CONV 2
PRCS WTR TNK UNIT 1
01HTQ13 AP001
LH FEED PMP 1.1
01HTQ14 AP001
LH FEED PMP 1.2
01HTQ23 AP001
LH FEED PMP 2.1
01HTQ24 AP001
LH FEED PMP 2.2
PRCS WTR TNK UNIT 2
01HTK02GH001
HDRTD LM CONV AIR DRYER 2
01HTK02AN001
HDRTD LM CONV BWR 2
01HTK03GH001
HDRTD LM CONV AIR DRYER 3
01HTK03AN001
HDRTD LM CONV BWR 3
01HTK01GH001
HDRTD LM CONV AIR DRYER 1
01HTK01AN001
HDRTD LM CONV BWR 1

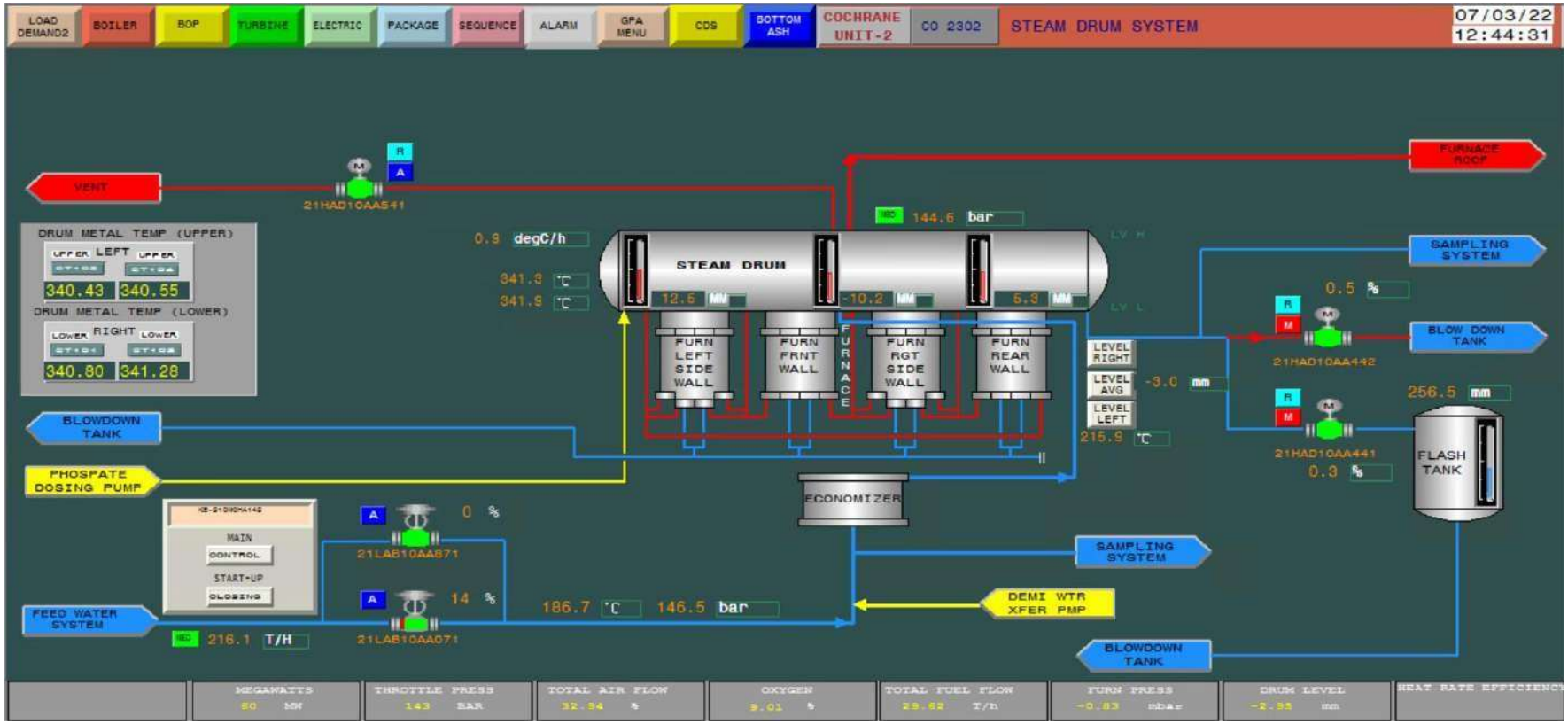

COCHRANE COMMON
CO 3219
PRODUCT LIME STORAGE UNLOADING COMMO
07/03/22
12:40:33
CDS COMMON IN REM MODE
FA CONVEYING 2
FA CONVEYING 1
FA CONVEYING 2
FA CONVEYING 1
FLY ASH DRY LDR FILTER FAN
01HTP31AN001
FLY ASH DRY LDR FILTER FAN
01HTP41AN001
FA SILO 1
FA SILO 2
01HTP52AN001
ARTN AIR BWR 2 FA SILO
01HTP52AH001
AIR HEATER 2 FA SILO
01HTP53AN001
ARTN AIR BWR 3 FA SILO
01HTP51AN001
ARTN AIR BWR 1 FA SILO
01HTP51AH001
AIR HEATER 1 FA SILO
01HTP31AA101
01HTP32AA101
FA DRY DISCH 1
FA WET DISCH 1
01HTP41AA101
01HTP42AA101
FA DRY DISCH 2
FA WET DISCH 2
01HTP32AM001
FA MIX 1
01HTP42AM001
FA MIX 2
DRY FA
WET FA
DRY FA
WET FA
01HTQ01AP001
CDS WTR TRANSFER PMP 1
01HTQ02AP001
CDS WTR TRANSFER PMP 2
PROCESS WTR TNK UNIT 1
PROCESS WTR TNK UNIT 1
PROCESS WTR TNK UNIT 2
01HTQ31AP001
WET FA LD PMP 1
01HTQ32AP001
WET FA LD PMP 2

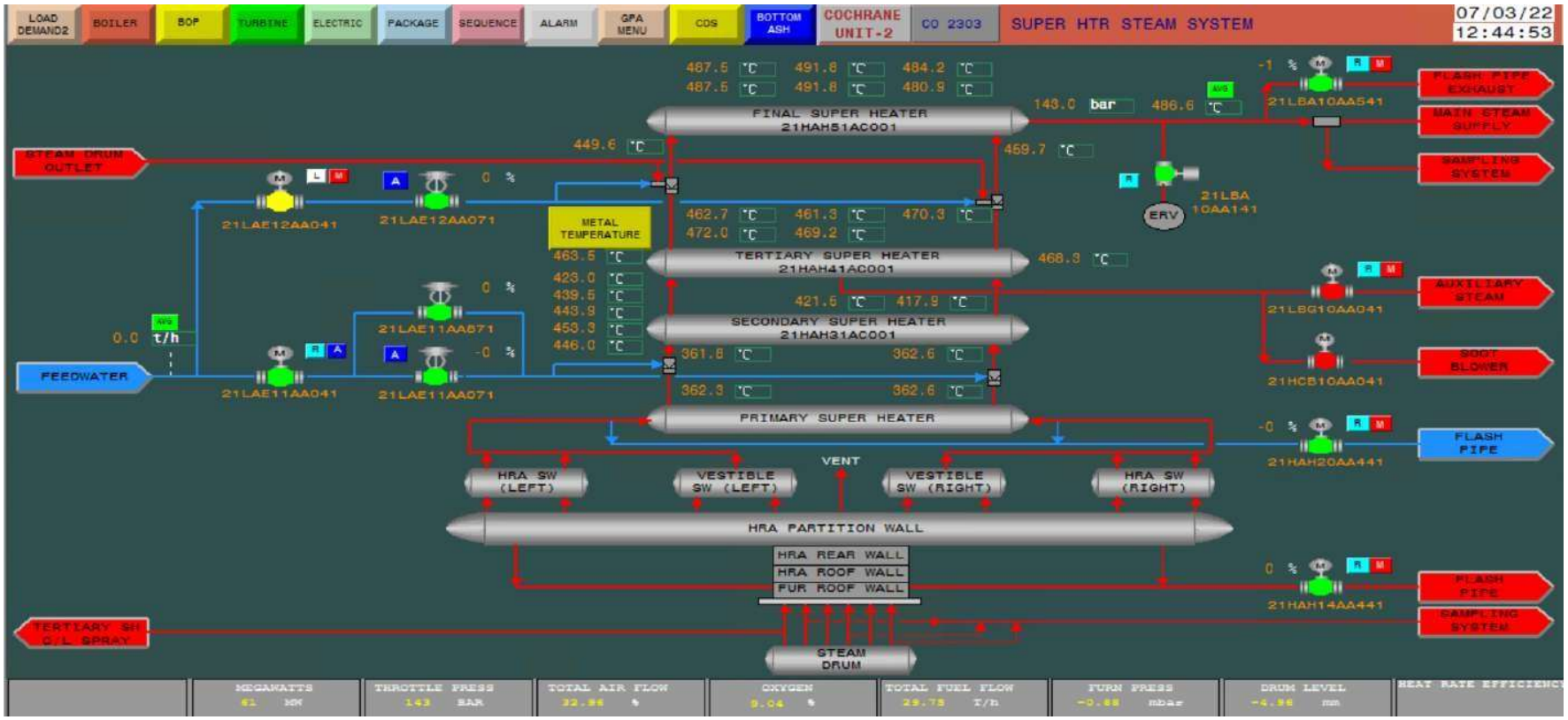

LOAD DEMAND
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 1
CO 3233
BOTTOM ASH OVERVIEW
07/03/22
12:41:28
BOTTOM ASH REMOVAL & CONVEYING SYSTEM
GAS AIR HEATER ASH SYSTEM
ECONOMIZER ASH REMOVAL & SLUICE SYSTEM
HIGH PRESSURE BOOSTER PUMPS
ESCORIA U1 IN REM MODE
GAS AIR HEATER HOPPERS
BYPASS
GAH ASH CONVEYOR
GAH ASH TANK
ECON ASH TANK
OVERFLOW TD DRAIN
HYDRAULIC EJECTOR
ECON TANK HYD EJECTOR
RECLAIMING WATER PUMP
SERVICE WATER PUMP
RECLAIM WATER POND
HIGH PRESSURE BOOSTER PUMPS
TENSIONER
FURNACE
BA SUBMERGED DRAIN CONVEYOR
SCC WATER LEVEL
HIGH-HIGH=ABOVE 0.900M
HIGH=ABOVE 0.850M
LOW=BELOW 0.750M
LOW-LOW=BELOW 0.700M
SCC WATER TEMP
HIGH-HIGH=ABOVE 55 DEGREE C
HIGH=ABOVE 50 DEGREE C
LOW=BELOW 45 DEGREE C
BA SCC DIVERTOR GATE
CRUSHER
BA HIGH ANGLE DRAG CONVEYOR
BOTTOM ASH SILO
BUMP DRAIN
PLANT SERVICE WATER
TRENCH
BA DISCHARGE GATE
AIR-OIL TANK
RECLAIMING WATER POND
BOILER SERVICE WATER

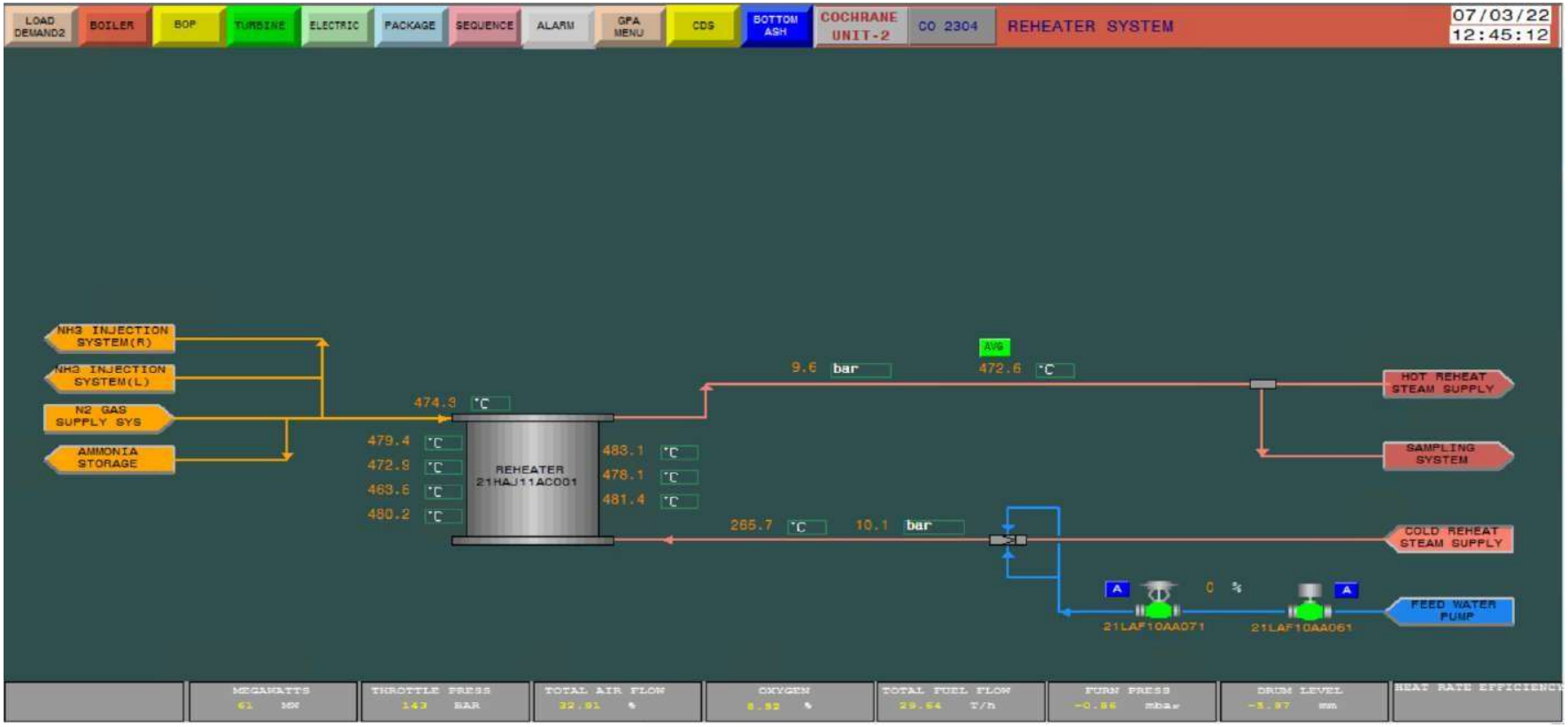
Anexo 3: Capturas de DCS Cochrane U2 en 60 MW

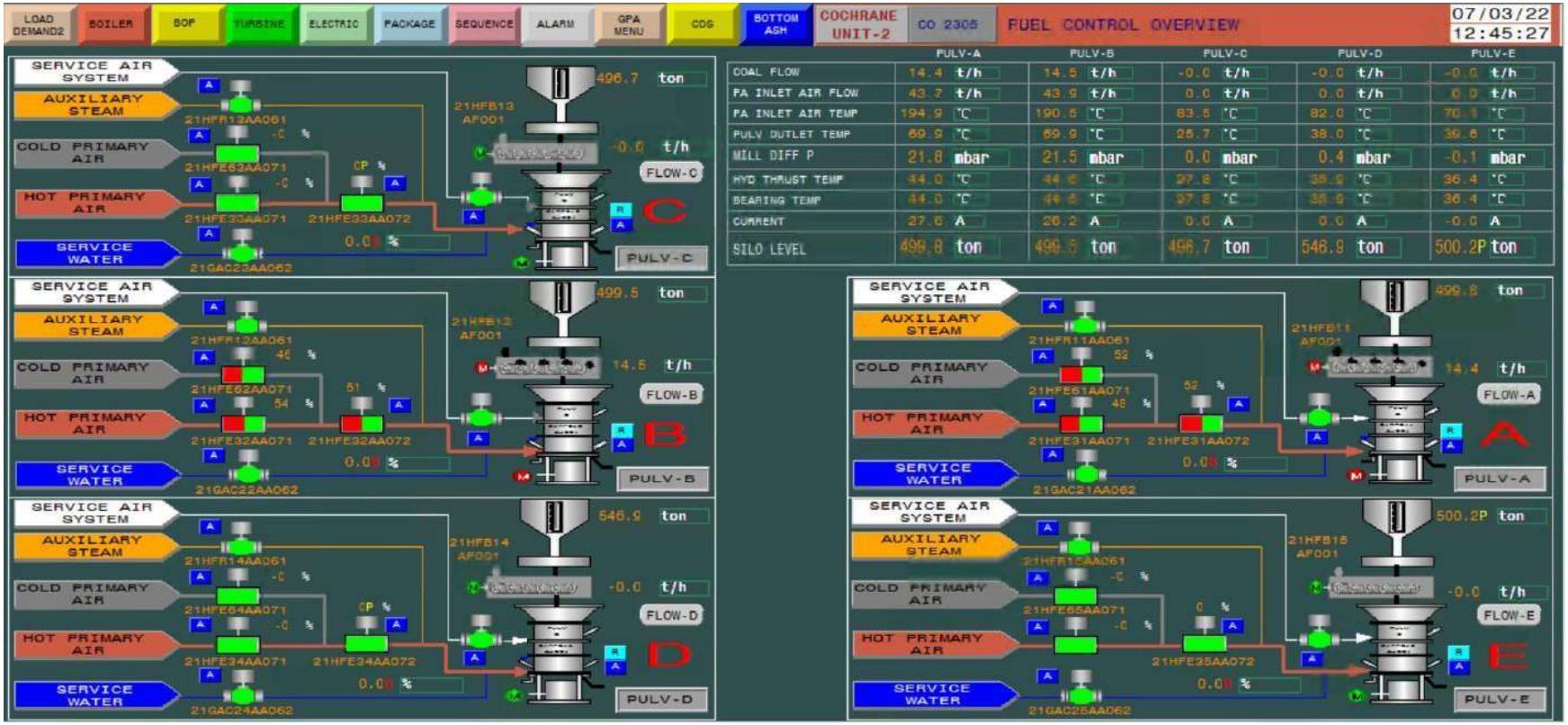


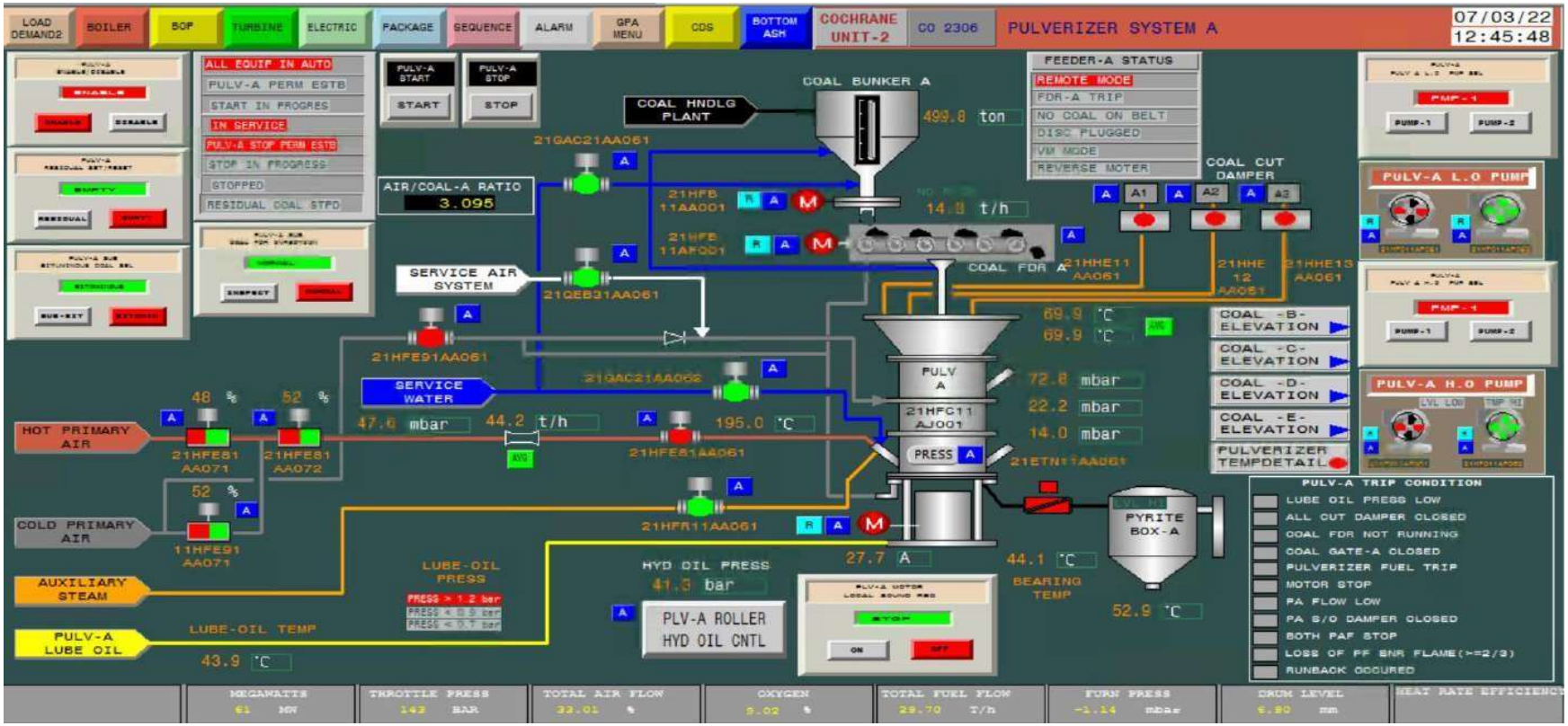

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2301
STEAM AND FEEDWATER SYS OVERVIEW
07/03/22
12:44:02
LP TBN
FLASH PIPE
FLASH PIPE
AIR VENT
NITROGEN
BLOWDOWN TANK
BLOWDOWN TANK
BLOWDOWN TANK
PRI SPHTR
HRA PARTN WALL
RF WALL & HRA RW
SEC SPHTR
TERT SH
FINAL SPHTR
HP TBN
IP TBN
ERV
METAL TEMPERATURE
STEAM DRUM
CHEMICAL DOSING
BLOWDOWN TANK
LEVEL RIGHT
LEVEL AVG
LEVEL LEFT
FURN LEFT SIDE WALL
FURN FRNT WALL
FURN RGT SIDE WALL
FURN REAR WALL
FURNACE
ECONOMIZER
REHTR
RH SPRAY WATER
BOILER AUX STEAM
BOILER FEEDWATER
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

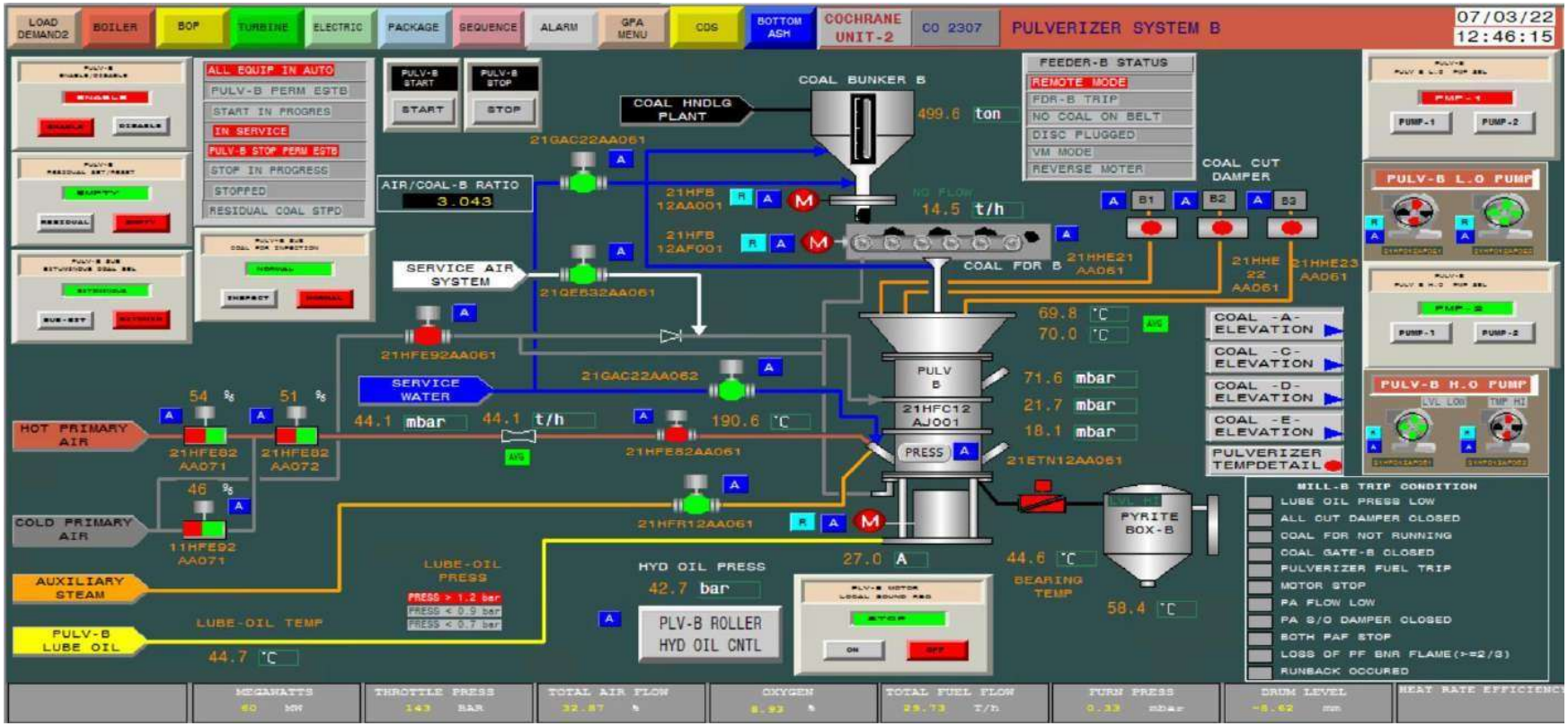

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2302
STEAM DRUM SYSTEM
07/03/22
12:44:31
VENT
21HAD10AA541
FURNACE ROOF
DRUM METAL TEMP (UPPER)
340.43
340.55
DRUM METAL TEMP (LOWER)
340.80
341.28
0.9 degC/h
341.3 °C
341.9 °C
144.6 bar
STEAM DRUM
12.5 MM
-10.2 MM
5.3 MM
FURN LEFT SIDE WALL
FURN FRNT WALL
FURNACE
FURN RGT SIDE WALL
FURN REAR WALL
LEVEL RIGHT
LEVEL AVG
LEVEL LEFT
-3.0 mm
215.9 °C
SAMPLING SYSTEM
0.5 %
BLOW DOWN TANK
21HAD10AA442
21HAD10AA441
0.3 %
256.5 mm
FLASH TANK
BLOWDOWN TANK
PHOSPATE DOSING PUMP
ECONOMIZER
MAIN CONTROL
START-UP CLOSING
0 %
21LAB10AA871
14 %
21LAB10AA071
186.7 °C
146.5 bar
SAMPLING SYSTEM
DEMI WTR XFER PMP
FEED WATER SYSTEM
216.1 T/H
BLOWDOWN TANK
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

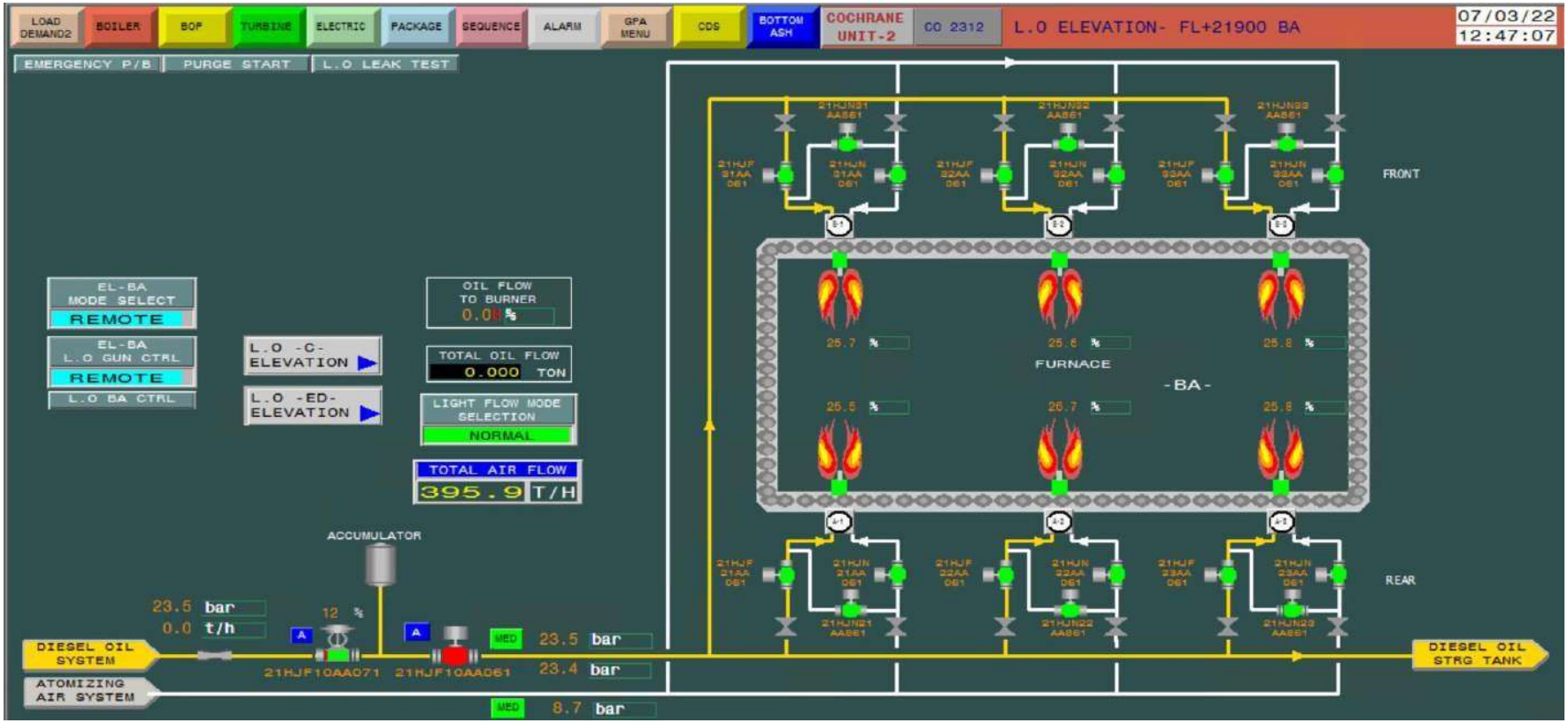

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2303
SUPER HTR STEAM SYSTEM
07/03/22
12:44:53
FINAL SUPER HEATER
21HAH51AC001
TERTIARY SUPER HEATER
21HAH41AC001
SECONDARY SUPER HEATER
21HAH31AC001
PRIMARY SUPER HEATER
METAL TEMPERATURE
STEAM DRUM OUTLET
FEEDWATER
143.0 bar
449.6 °C
459.7 °C
468.9 °C
0.0 t/h
21LAE12AA041
21LAE12AA071
21LAE11AA041
21LAE11AA071
21LAE11AA871
21LBA10AA141
ERV
21LBA10AA541
21LBG10AA041
21HCB10AA041
21HAH20AA441
21HAH14AA441
FLASH PIPE EXHAUST
MAIN STEAM SUPPLY
SAMPLING SYSTEM
AUXILIARY STEAM
SOOT BLOWER
FLASH PIPE
VENT
HRA SW (LEFT)
VESTIBLE SW (LEFT)
VESTIBLE SW (RIGHT)
HRA SW (RIGHT)
HRA PARTITION WALL
HRA REAR WALL
HRA ROOF WALL
FUR ROOF WALL
STEAM DRUM
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

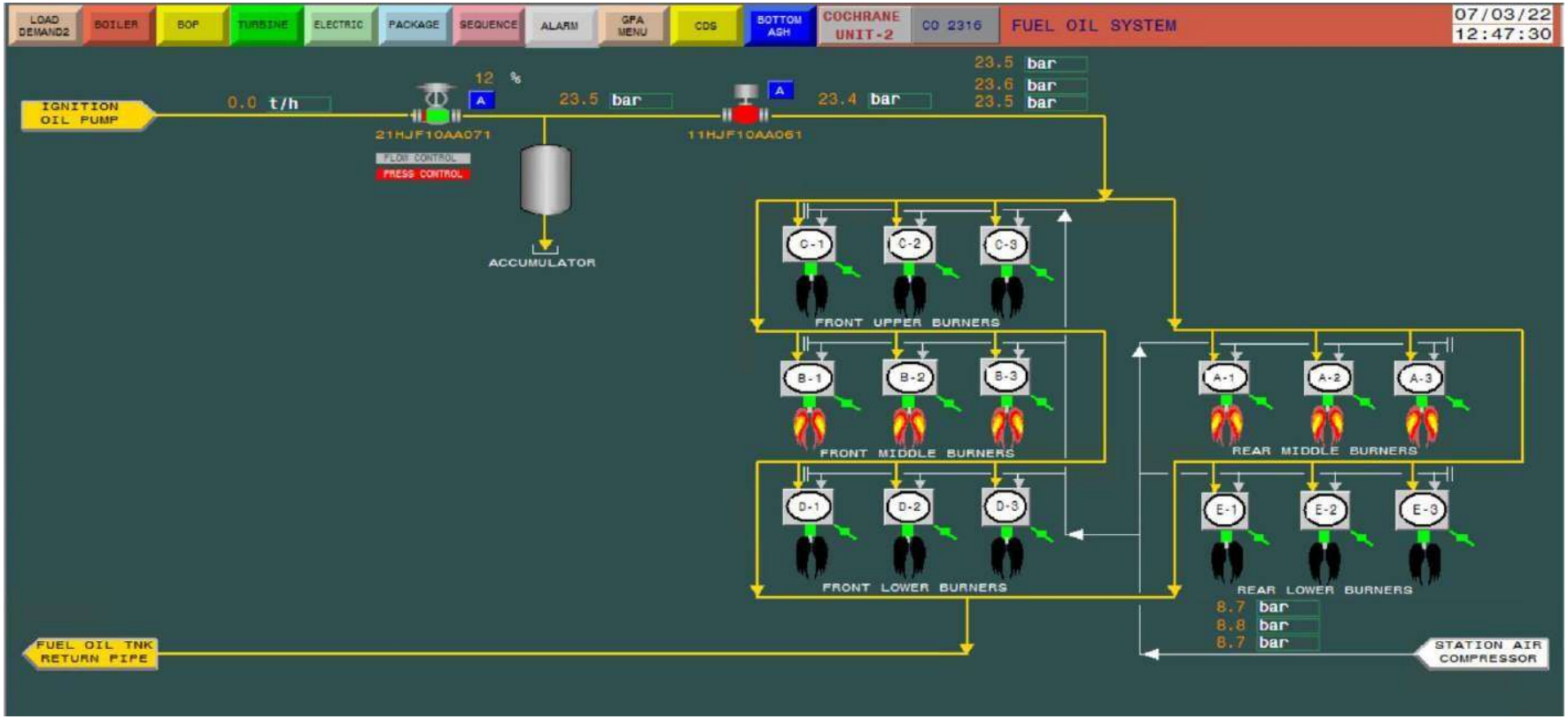

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2304
REHEATER SYSTEM
07/03/22
12:45:12
NH3 INJECTION SYSTEM(R)
NH3 INJECTION SYSTEM(L)
N2 GAS SUPPLY SYS
AMMONIA STORAGE
474.3 °C
479.4 °C
472.9 °C
463.6 °C
480.2 °C
REHEATER
21HAJ11AC001
483.1 °C
478.1 °C
481.4 °C
9.6 bar
AVG
472.6 °C
HOT REHEAT STEAM SUPPLY
SAMPLING SYSTEM
285.7 °C
10.1 bar
COLD REHEAT STEAM SUPPLY
A
0 %
A
FEED WATER PUMP
21LAF10AA071
21LAF10AA061
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
32.91 %
OXYGEN
8.52 %
TOTAL FUEL FLOW
29.64 T/h
FURN PRESS
-0.86 mbar
DRUM LEVEL
-5.87 mm
HEAT RATE EFFICIENCY

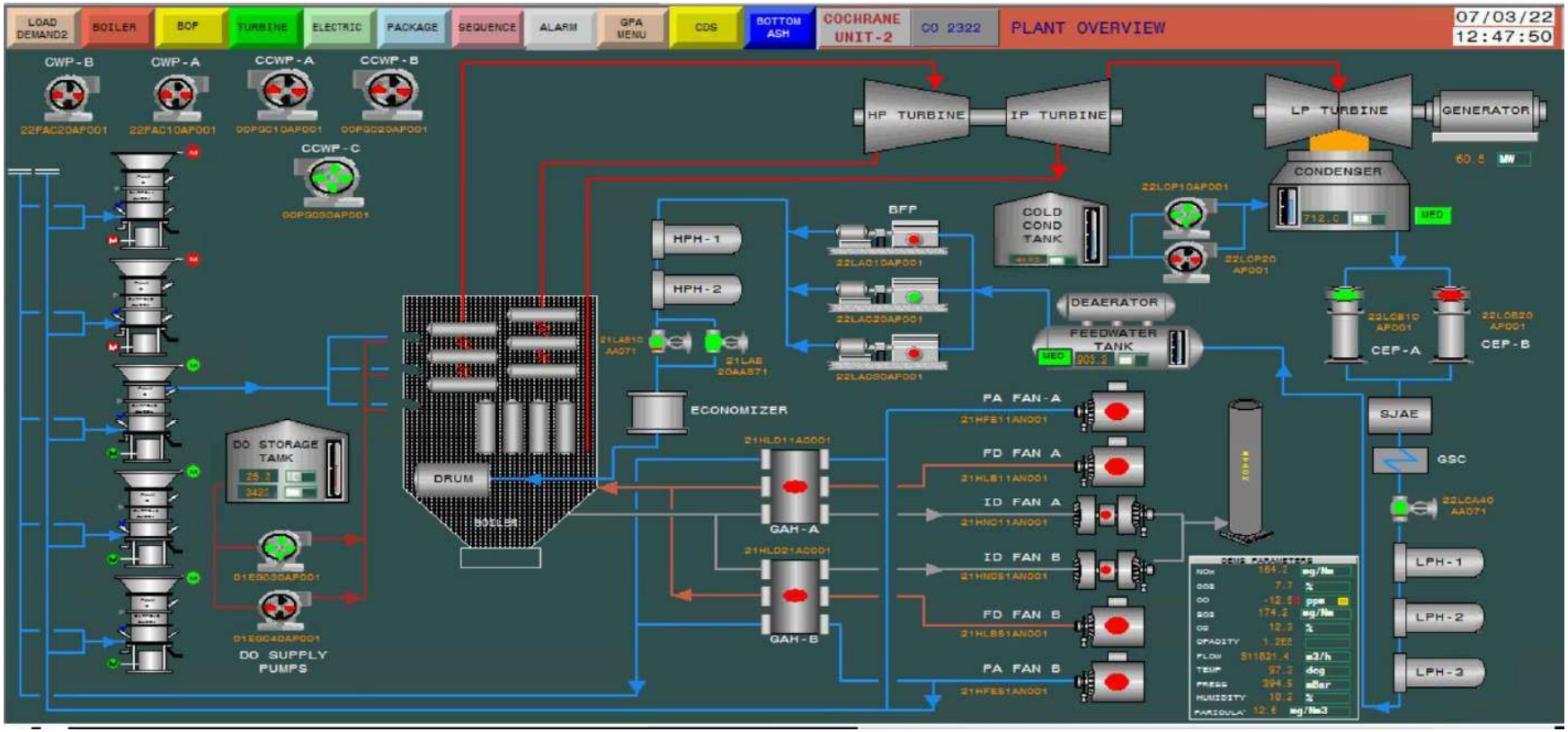

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2305
FUEL CONTROL OVERVIEW
07/03/22
12:45:27
PULV-A PULV-B PULV-C PULV-D PULV-E
COAL FLOW 14.4 t/h 14.5 t/h -0.0 t/h -0.0 t/h -0.0 t/h
PA INLET AIR FLOW 43.7 t/h 43.9 t/h 0.0 t/h 0.0 t/h 0.0 t/h
PA INLET AIR TEMP 194.9 °C 190.5 °C 83.5 °C 82.0 °C 70.1 °C
PULV OUTLET TEMP 69.9 °C 69.9 °C 25.7 °C 38.0 °C 36.6 °C
MILL DIFF P 21.8 mbar 21.5 mbar 0.0 mbar 0.4 mbar -0.1 mbar
HYD THRUST TEMP 44.0 °C 44.6 °C 97.8 °C 36.9 °C 36.4 °C
BEARING TEMP 44.0 °C 44.6 °C 97.8 °C 36.9 °C 36.4 °C
CURRENT 27.6 A 26.2 A 0.0 A 0.0 A -0.0 A
SILO LEVEL 499.8 ton 499.5 ton 496.7 ton 546.9 ton 500.2P ton
SERVICE AIR SYSTEM
AUXILIARY STEAM
COLD PRIMARY AIR
HOT PRIMARY AIR
SERVICE WATER
21HFR13AA061
21HFE63AA071
21HFE33AA071
21HFE33AA072
21GAC23AA062
21HFB13 AF001
496.7 ton
-0.0 t/h
FLOW-C
PULV-C
C
21HFR12AA061
21HFE62AA071
21HFE32AA071
21HFE32AA072
21GAC22AA062
21HFB12 AF001
499.5 ton
14.5 t/h
FLOW-B
PULV-B
B
21HFR14AA061
21HFE64AA071
21HFE34AA071
21HFE34AA072
21GAC24AA062
21HFB14 AF001
546.9 ton
-0.0 t/h
FLOW-D
PULV-D
D
21HFR11AA061
21HFE61AA071
21HFE31AA071
21HFE31AA072
21GAC21AA062
21HFB11 AF001
499.8 ton
14.4 t/h
FLOW-A
PULV-A
A
21HFR15AA061
21HFE65AA071
21HFE35AA072
21GAC25AA062
21HFB15 AF001
500.2P ton
-0.0 t/h
FLOW-E
PULV-E
E

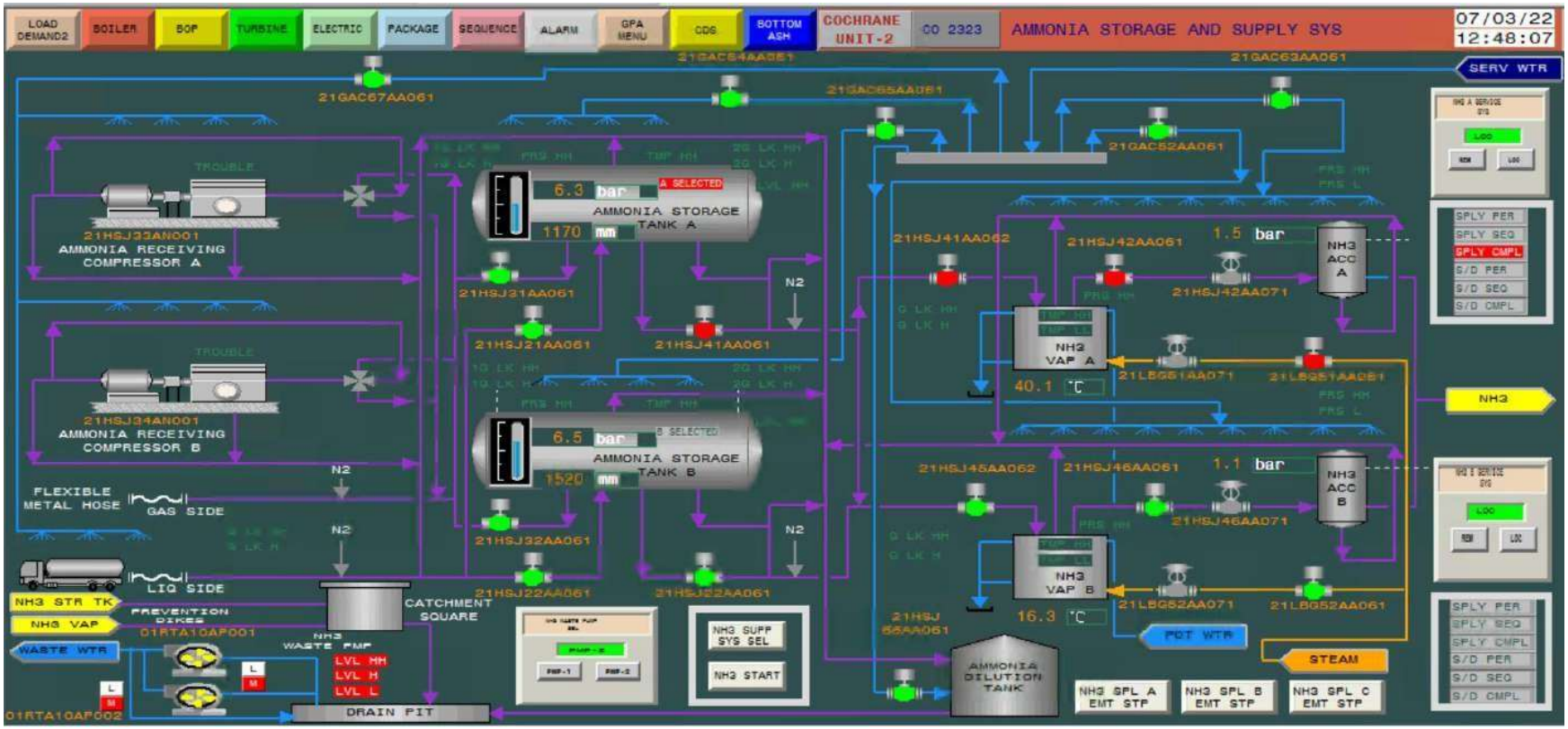

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2306
PULVERIZER SYSTEM A
07/03/22
12:45:48
ALL EQUIP IN AUTO
PULV-A PERM ESTB
START IN PROGRES
IN SERVICE
PULV-A STOP PERM ESTB
STOP IN PROGRESS
STOPPED
RESIDUAL COAL STPD
PULV-A START
START
PULV-A STOP
STOP
COAL BUNKER A
COAL HNDLG PLANT
499.8 ton
21GAC21AA061
AIR/COAL-A RATIO
3.095
21HFB 11AA001
14.8 t/h
21HFE 11AF001
FEEDER-A STATUS
REMOTE MODE
FDR-A TRIP
NO COAL ON BELT
DISC PLUGGED
VM MODE
REVERSE MOTER
COAL CUT DAMPER
A1
A2
A3
21HHE11 AA061
21HHE 12 AA061
21HHE13 AA061
COAL FDR A
SERVICE AIR SYSTEM
21QEB31AA061
21HFE91AA061
69.9 °C
69.9 °C
AVG
COAL -B- ELEVATION
COAL -C- ELEVATION
COAL -D- ELEVATION
COAL -E- ELEVATION
PULVERIZER TEMPDETAIL
PULV A
21HFC11 AJ001
72.8 mbar
22.2 mbar
14.0 mbar
PRESS
21ETN11AA061
SERVICE WATER
21GAC21AA062
48 %
52 %
HOT PRIMARY AIR
21HFE81 AA071
21HFE81 AA072
47.6 mbar
44.2 t/h
195.0 °C
21HFE81AA061
52 %
COLD PRIMARY AIR
11HFE91 AA071
21HFR11AA061
27.7 A
44.1 °C
BEARING TEMP
52.9 °C
PYRITE BOX-A
AUXILIARY STEAM
LUBE-OIL PRESS
PRESS > 1.2 bar
HYD OIL PRESS
41.3 bar
PULV-A ROLLER HYD OIL CNTL
PULV-A LUBE OIL
LUBE-OIL TEMP
43.9 °C
PULV-A TRIP CONDITION
LUBE OIL PRESS LOW
ALL CUT DAMPER CLOSED
COAL FDR NOT RUNNING
COAL GATE-A CLOSED
PULVERIZER FUEL TRIP
MOTOR STOP
PA FLOW LOW
PA S/O DAMPER CLOSED
BOTH PAF STOP
LOSS OF FF SNR FLAME(>=2/3)
RUNBACK OCCURED
PULV-A L.O PUMP
PULV-A H.O PUMP
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
32.01 %
OXYGEN
5.02 %
TOTAL FUEL FLOW
29.70 T/h
FURN PRESS
-1.14 mbar
DRUM LEVEL
6.80 mm
HEAT RATE EFFICIENCY

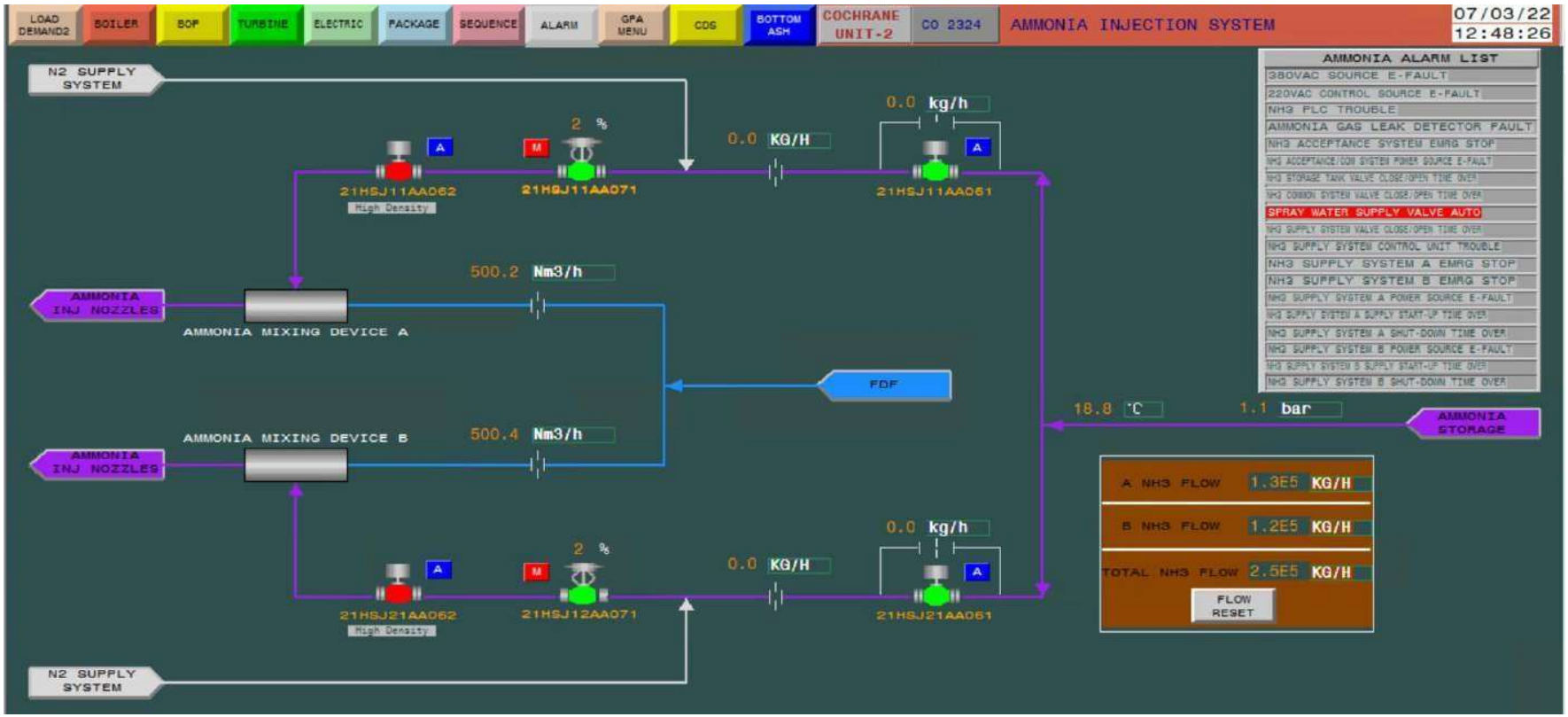

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2307
PULVERIZER SYSTEM B
07/03/22
12:46:15
ALL EQUIP IN AUTO
PULV-B PERM ESTB
START IN PROGRES
IN SERVICE
PULV-B STOP PERM ESTB
STOP IN PROGRESS
STOPPED
RESIDUAL COAL STPD
PULV-B START
START
PULV-B STOP
STOP
AIR/COAL-B RATIO
3.043
COAL HNDLG PLANT
COAL BUNKER B
499.6 ton
21GAC22AA061
21HFB 12AA001
21HFB 12AF001
NO FLOW
14.5 t/h
FEEDER-B STATUS
REMOTE MODE
FDR-B TRIP
NO COAL ON BELT
DISC PLUGGED
VM MODE
REVERSE MOTER
COAL CUT DAMPER
B1
B2
B3
21HHE21 AA061
21HHE 22 AA061
21HHE23 AA061
COAL FDR B
SERVICE AIR SYSTEM
21QE632AA061
21HFE92AA061
69.8 °C
70.0 °C
AVG
COAL -A- ELEVATION
COAL -C- ELEVATION
COAL -D- ELEVATION
COAL -E- ELEVATION
PULVERIZER TEMPDETAIL
PULV B
21HFC12 AJ001
PRESS
71.6 mbar
21.7 mbar
18.1 mbar
21ETN12AA061
SERVICE WATER
21GAC22AA062
44.1 mbar
44.1 t/h
190.6 °C
21HFE82AA061
54 %
51 %
HOT PRIMARY AIR
21HFE82 AA071
21HFE82 AA072
46 %
COLD PRIMARY AIR
11HFE92 AA071
21HFR12AA061
PYRITE BOX-B
LVL HI
27.0 A
44.6 °C
BEARING TEMP
58.4 °C
AUXILIARY STEAM
LUBE-OIL PRESS
PRESS > 1.2 bar
PRESS < 0.9 bar
PRESS < 0.7 bar
HYD OIL PRESS
42.7 bar
PULV-B ROLLER HYD OIL CNTL
PULV-B LUBE OIL
LUBE-OIL TEMP
44.7 °C
MILL-B TRIP CONDITION
LUBE OIL PRESS LOW
ALL CUT DAMPER CLOSED
COAL FDR NOT RUNNING
COAL GATE-B CLOSED
PULVERIZER FUEL TRIP
MOTOR STOP
PA FLOW LOW
PA S/O DAMPER CLOSED
BOTH PAF STOP
LOSS OF FF BNR FLAME(>=2/3)
RUNBACK OCCURED
PULV-B L.O PUMP
PUMP-1
PUMP-2
PULV-B H.O PUMP
LVL LOW
TMP HI
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

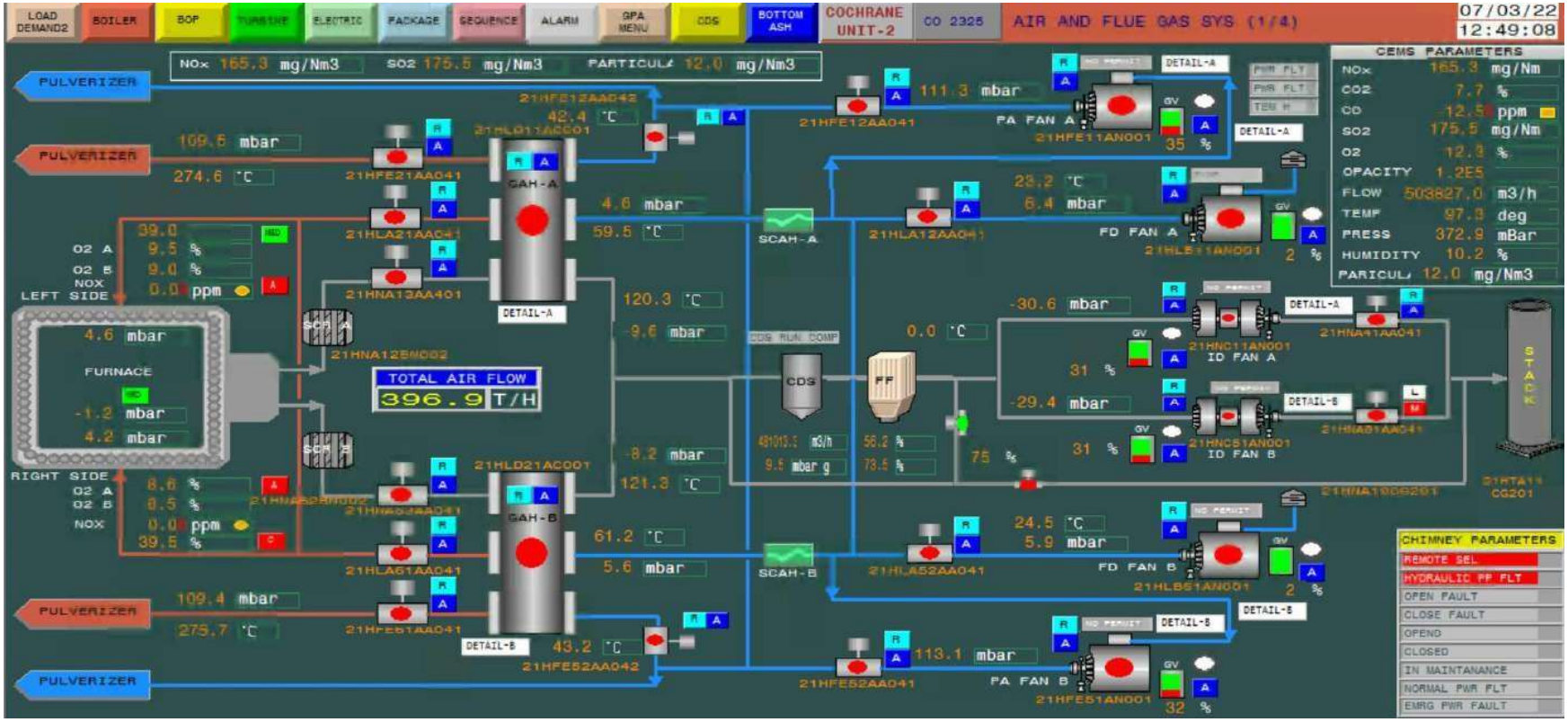

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2312
L.O ELEVATION- FL+21900 BA
07/03/22
12:47:07
EMERGENCY P/B
PURGE START
L.O LEAK TEST
EL-BA MODE SELECT
REMOTE
EL-BA L.O GUN CTRL
REMOTE
L.O BA CTRL
L.O -C- ELEVATION
L.O -ED- ELEVATION
OIL FLOW TO BURNER
TOTAL OIL FLOW
0.000 TON
LIGHT FLOW MODE SELECTION
NORMAL
TOTAL AIR FLOW
395.9 T/H
ACCUMULATOR
23.5 bar
0.0 t/h
12 %
DIESEL OIL SYSTEM
ATOMIZING AIR SYSTEM
21HJF10AA071
21HJF10AA061
23.5 bar
23.4 bar
8.7 bar
FRONT
REAR
FURNACE
-BA-
25.7 %
25.6 %
25.8 %
25.5 %
26.7 %
25.6 %
DIESEL OIL STRG TANK

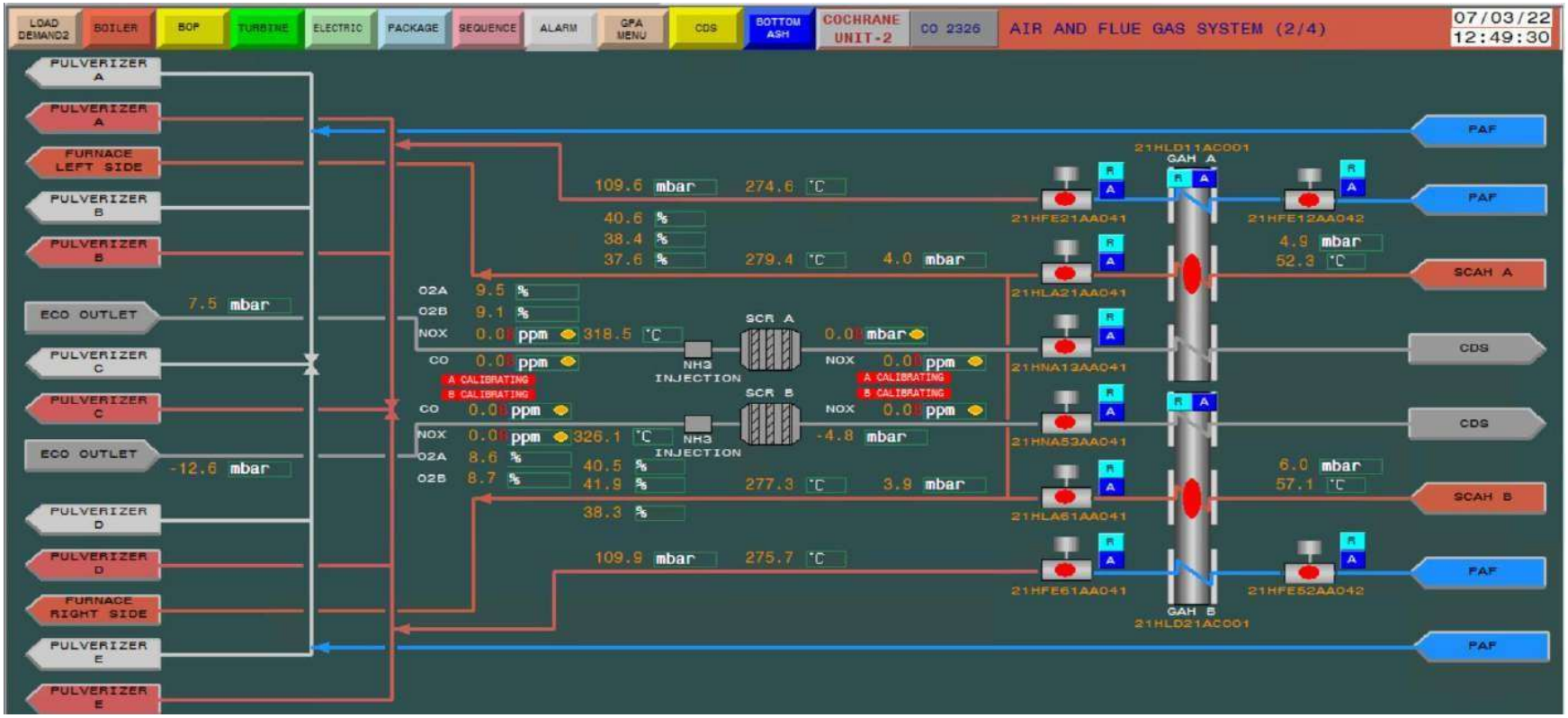

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2316
FUEL OIL SYSTEM
07/03/22
12:47:30
IGNITION OIL PUMP
0.0 t/h
12 %
A
23.5 bar
21HJF10AA071
FLOW CONTROL
PRESS CONTROL
ACCUMULATOR
A
23.4 bar
11HJF10AA061
23.5 bar
23.6 bar
23.5 bar
C-1
C-2
C-3
FRONT UPPER BURNERS
B-1
B-2
B-3
FRONT MIDDLE BURNERS
A-1
A-2
A-3
REAR MIDDLE BURNERS
D-1
D-2
D-3
FRONT LOWER BURNERS
E-1
E-2
E-3
REAR LOWER BURNERS
8.7 bar
8.8 bar
8.7 bar
FUEL OIL TNK RETURN PIPE
STATION AIR COMPRESSOR

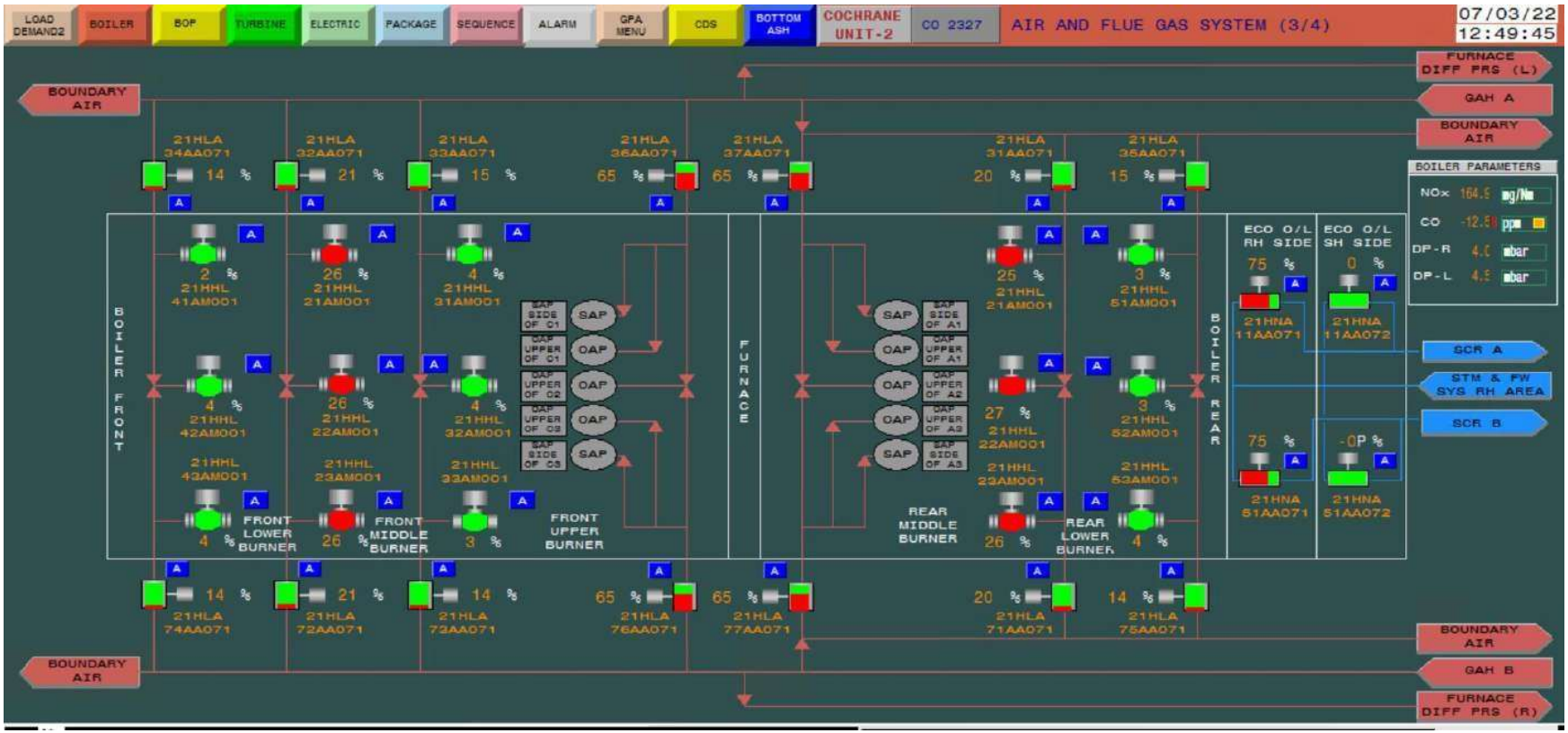

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2322
PLANT OVERVIEW
07/03/22
12:47:50
CWP-B
CWP-A
CCWP-A
CCWP-B
CCWP-C
HP TURBINE
IP TURBINE
LP TURBINE
GENERATOR
CONDENSER
COLD COND TANK
BFP
HPH-1
HPH-2
DEAERATOR
FEEDWATER TANK
CEP-A
CEP-B
SJAE
GSC
LPH-1
LPH-2
LPH-3
ECONOMIZER
DRUM
GAH-A
GAH-B
PA FAN-A
FD FAN A
ID FAN A
ID FAN B
FD FAN B
PA FAN B
DO STORAGE TANK
DO SUPPLY PUMPS

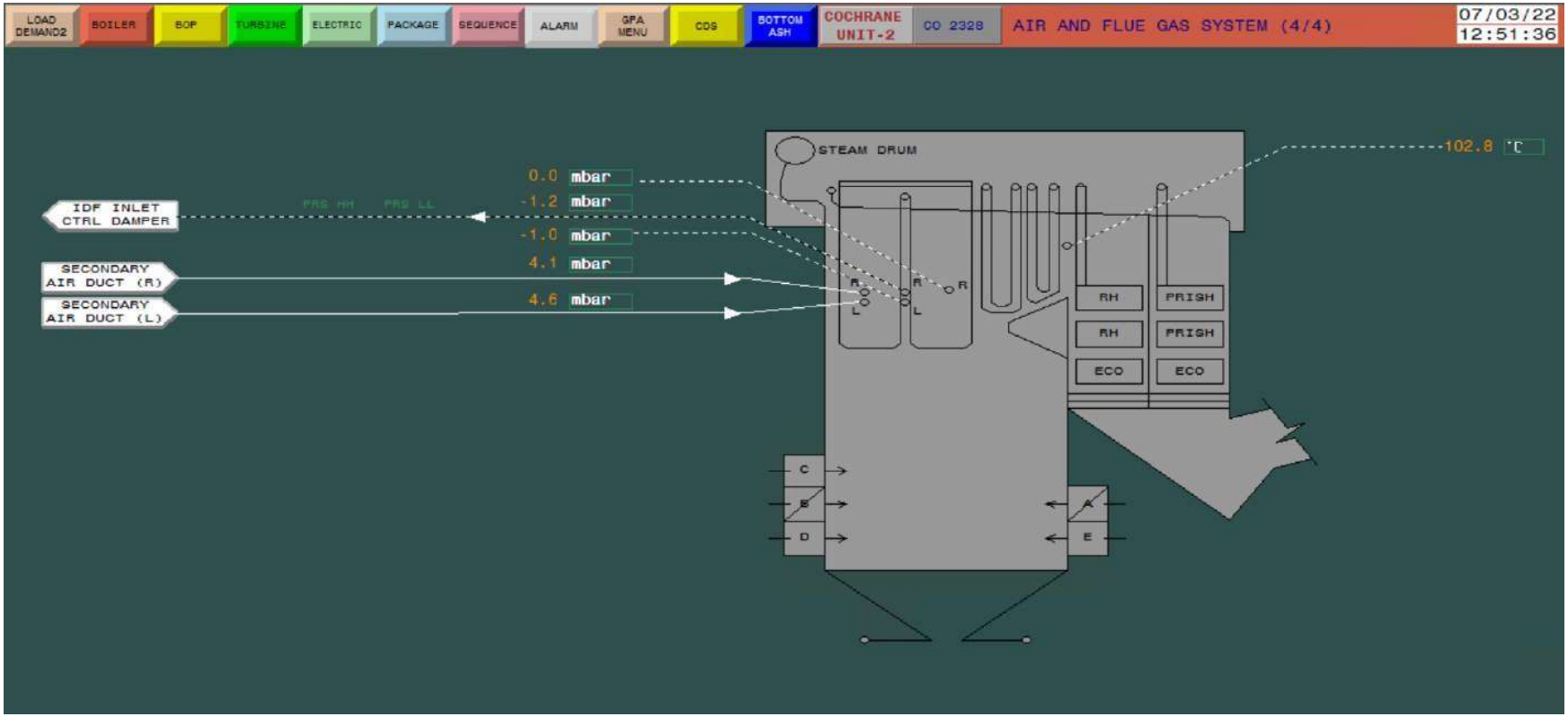

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2323
AMMONIA STORAGE AND SUPPLY SYS
07/03/22
12:48:07
21GAC64AA061
21GAC63AA061
SERV WTR
21GAC67AA061
21GAC65AA061
21GAC62AA061
TROUBLE
21HSJ33AN001
AMMONIA RECEIVING COMPRESSOR A
6.3 bar
A SELECTED
AMMONIA STORAGE TANK A
1170 mm
21HSJ31AA061
21HSJ21AA061
21HSJ41AA061
N2
21HSJ41AA062
21HSJ42AA061
1.5 bar
NH3 ACC A
21HSJ42AA071
NH3 VAP A
40.1 °C
21LBG51AA071
21LBG51AA081
NH3
TROUBLE
21HSJ34AN001
AMMONIA RECEIVING COMPRESSOR B
6.5 bar
B SELECTED
AMMONIA STORAGE TANK B
1520 mm
21HSJ32AA061
21HSJ22AA061
21HSJ45AA062
21HSJ46AA061
1.1 bar
NH3 ACC B
21HSJ46AA071
NH3 VAP B
16.3 °C
21LBG52AA071
21LBG52AA061
FLEXIBLE METAL HOSE
GAS SIDE
LIQ SIDE
NH3 STR TK
NH3 VAP
WASTE WTR
PREVENTION DIKES
01RTA10AP001
CATCHMENT SQUARE
NH3 WASTE PMP
LVL HH
LVL H
LVL L
DRAIN PIT
01RTA10AP002
NH3 SUPP SYS SEL
NH3 START
21HSJ 55AA061
AMMONIA DILUTION TANK
PDT WTR
STEAM
NH3 SPL A EMT STP
NH3 SPL B EMT STP
NH3 SPL C EMT STP
SPLY PER
SPLY SEQ
SPLY CMPL
S/D PER
S/D SEQ
S/D CMPL

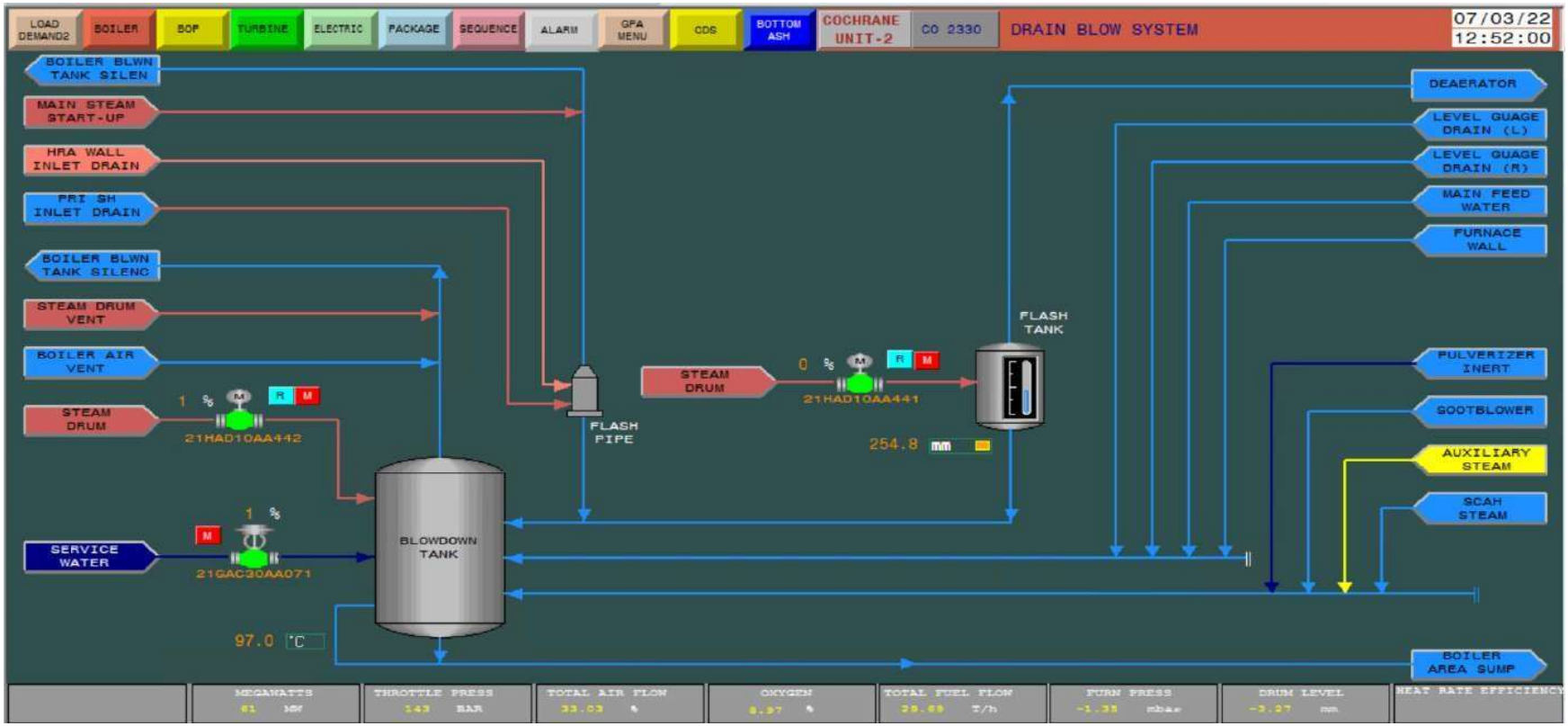

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2324
AMMONIA INJECTION SYSTEM
07/03/22
12:48:26
AMMONIA ALARM LIST
380VAC SOURCE E-FAULT
220VAC CONTROL SOURCE E-FAULT
NH3 PLC TROUBLE
AMMONIA GAS LEAK DETECTOR FAULT
NH3 ACCEPTANCE SYSTEM EMRG STOP
SPRAY WATER SUPPLY VALVE AUTO
NH3 SUPPLY SYSTEM A EMRG STOP
NH3 SUPPLY SYSTEM B EMRG STOP
N2 SUPPLY SYSTEM
2 %
0.0 KG/H
0.0 kg/h
21HSJ11AA062
High Density
21HSJ11AA071
21HSJ11AA061
500.2 Nm3/h
AMMONIA INJ NOZZLES
AMMONIA MIXING DEVICE A
FDF
AMMONIA MIXING DEVICE B
500.4 Nm3/h
18.8 ℃
1.1 bar
AMMONIA STORAGE
A NH3 FLOW 1.3E5 KG/H
B NH3 FLOW 1.2E5 KG/H
TOTAL NH3 FLOW 2.5E5 KG/H
FLOW RESET
21HSJ21AA062
21HSJ12AA071
21HSJ21AA061
N2 SUPPLY SYSTEM

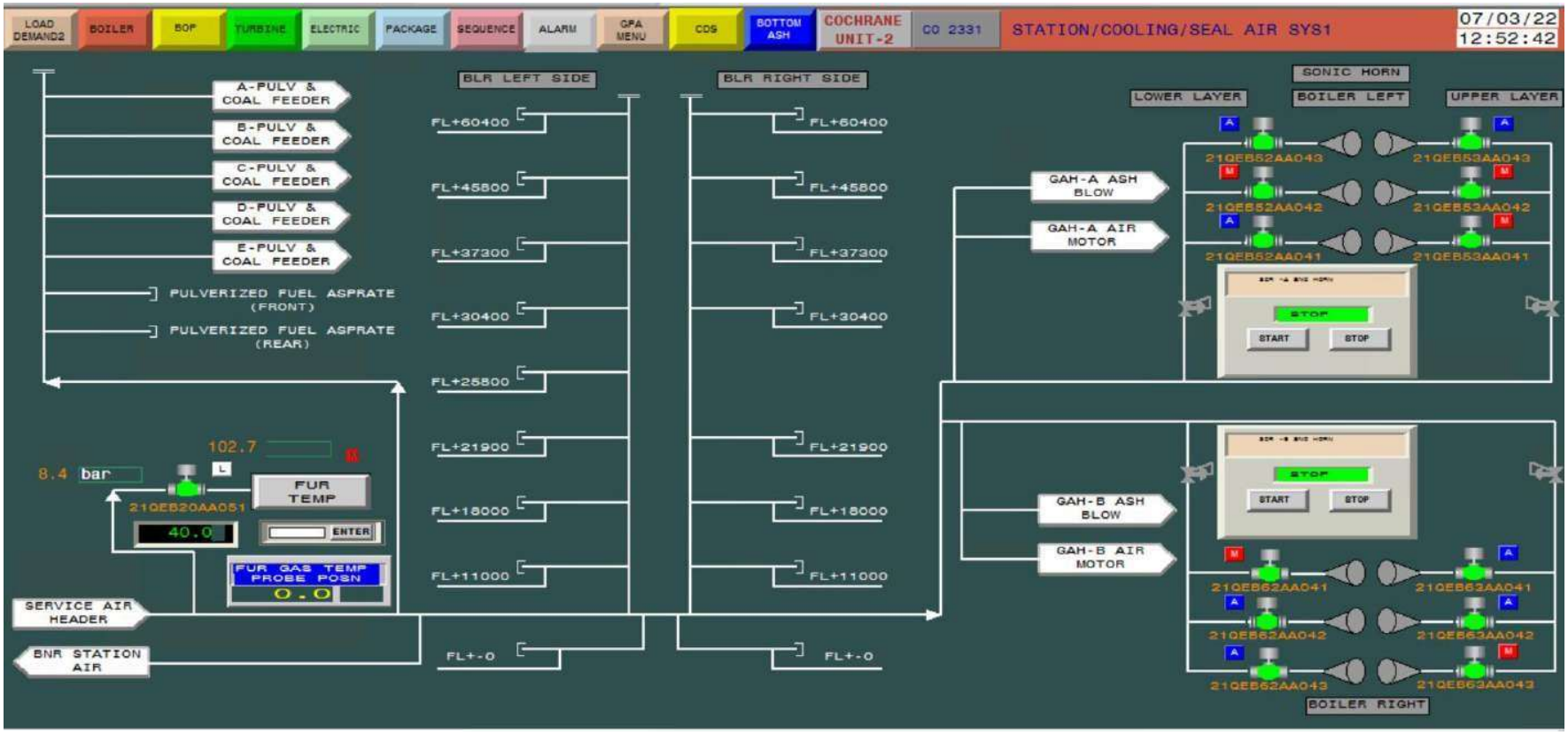

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2325
AIR AND FLUE GAS SYS (1/4)
07/03/22
12:49:08
NOx 165.3 mg/Nm3
SO2 175.5 mg/Nm3
PARTICULA 12.0 mg/Nm3
CEMS PARAMETERS
NOx 165.3 mg/Nm
CO2 7.7 %
CO 12.5 ppm
SO2 175.5 mg/Nm
O2 12.3 %
OPACITY 1.2E5
FLOW 503827.0 m3/h
TEMP 97.3 deg
PRESS 372.9 mBar
HUMIDITY 10.2 %
PARICUL 12.0 mg/Nm3
PULVERIZER
PULVERIZER
PULVERIZER
PULVERIZER
109.6 mbar
274.6 °C
109.4 mbar
275.7 °C
21HFE12AA042
42.4 °C
21HFE12AA041
111.3 mbar
PA FAN A
21HFE11AN001
35 %
DETAIL-A
21HFE21AA041
21HLA21AA041
21HNA13AA401
GAH-A
DETAIL-A
4.6 mbar
59.5 °C
120.3 °C
-9.6 mbar
SCAH-A
21HLA12AA041
23.2 °C
6.4 mbar
FD FAN A
21HLB11AN001
2 %
O2 A 39.0
O2 B 9.5 %
NOX 9.0 %
LEFT SIDE 0.0 ppm
SCR A
21HNA12BN002
4.6 mbar
FURNACE
-1.2 mbar
4.2 mbar
TOTAL AIR FLOW
396.9 T/H
CDS RUN COMP
CDS
FF
0.0 °C
-30.6 mbar
21HNC11AN001
ID FAN A
21HNA41AA041
DETAIL-A
31 %
-29.4 mbar
21HNC51AN001
ID FAN B
21HNA51AA041
DETAIL-B
31 %
75 %
21HNA10CB201
STACK
21HTA11 CG201
RIGHT SIDE
O2 A 8.6 %
O2 B 8.5 %
NOX 0.0 ppm
39.5 %
SCR B
21HNA22BN002
21HLD21AC001
GAH-B
-8.2 mbar
121.3 °C
61.2 °C
5.6 mbar
SCAH-B
21HLA61AA041
21HLA52AA041
24.5 °C
5.9 mbar
FD FAN B
21HLB51AN001
2 %
DETAIL-B
21HFE61AA041
DETAIL-B
43.2 °C
21HFE52AA042
21HFE52AA041
113.1 mbar
PA FAN B
21HFE51AN001
32 %
CHIMNEY PARAMETERS
REMOTE SEL
HYDRAULIC PP FLT
OPEN FAULT
CLOSE FAULT
OPEND
CLOSED
IN MAINTANANCE
NORMAL PWR FLT
EMRG PWR FAULT

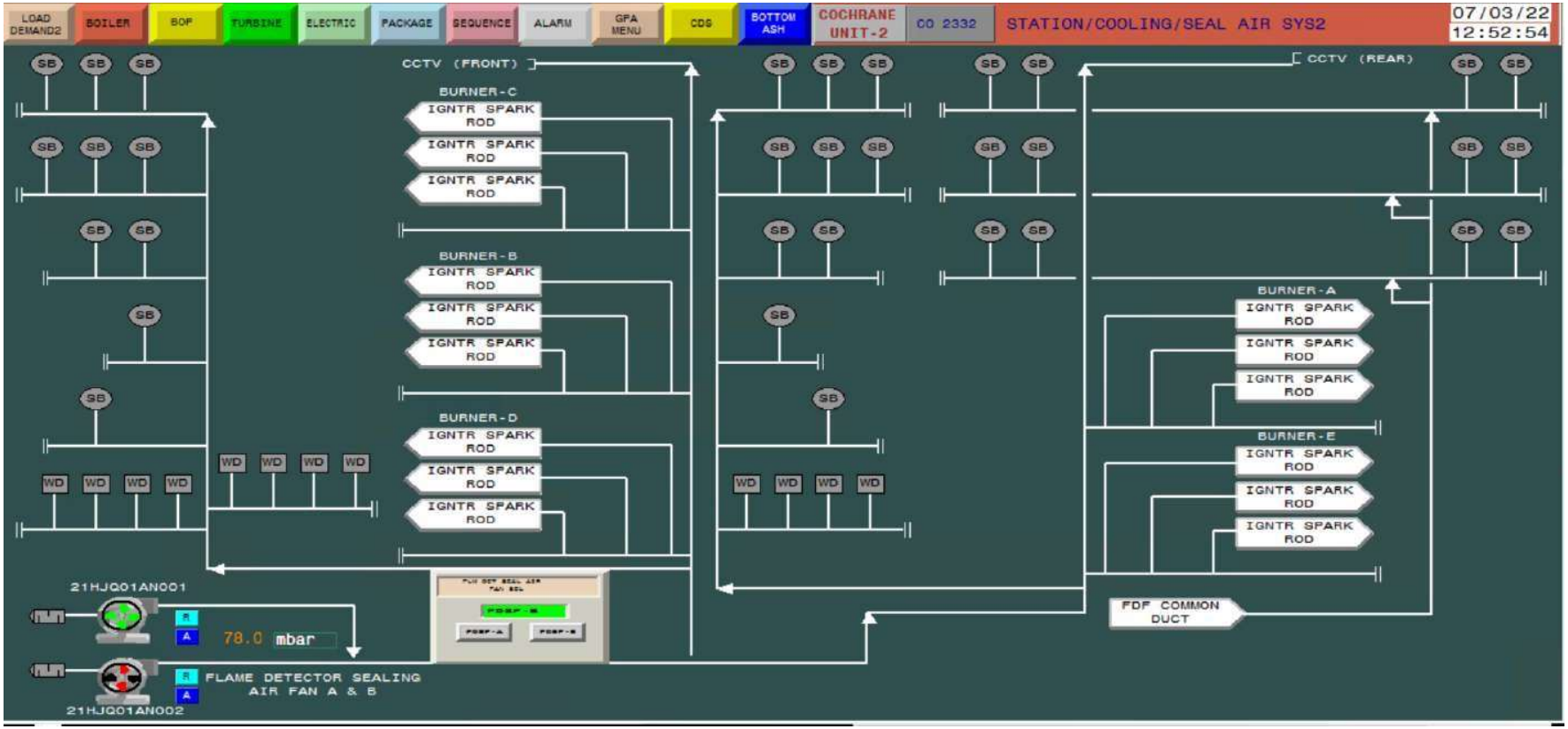

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2326
AIR AND FLUE GAS SYSTEM (2/4)
07/03/22
12:49:30
PULVERIZER A
PULVERIZER A
FURNACE LEFT SIDE
PULVERIZER B
PULVERIZER B
ECO OUTLET
7.5 mbar
PULVERIZER C
PULVERIZER C
ECO OUTLET
-12.6 mbar
PULVERIZER D
PULVERIZER D
FURNACE RIGHT SIDE
PULVERIZER E
PULVERIZER E
109.6 mbar
274.6 °C
40.6 %
38.4 %
37.6 %
279.4 °C
4.0 mbar
O2A 9.5 %
O2B 9.1 %
NOX 0.0 ppm
318.5 °C
CO 0.0 ppm
A CALIBRATING
B CALIBRATING
NH3 INJECTION
SCR A
0.0 mbar
NOX 0.0 ppm
A CALIBRATING
B CALIBRATING
CO 0.0 ppm
NOX 0.0 ppm
326.1 °C
NH3 INJECTION
SCR B
NOX 0.0 ppm
-4.8 mbar
O2A 8.6 %
O2B 8.7 %
40.5 %
41.9 %
38.3 %
277.3 °C
3.9 mbar
109.9 mbar
275.7 °C
21HLD11AC001
GAH A
21HFE21AA041
21HFE12AA042
21HLA21AA041
21HNA12AA041
21HNA53AA041
21HLA61AA041
21HFE61AA041
21HFE52AA042
GAH B
21HLD21AC001
4.9 mbar
52.3 °C
6.0 mbar
57.1 °C
PAF
PAF
SCAH A
CDS
CDS
SCAH B
PAF
PAF

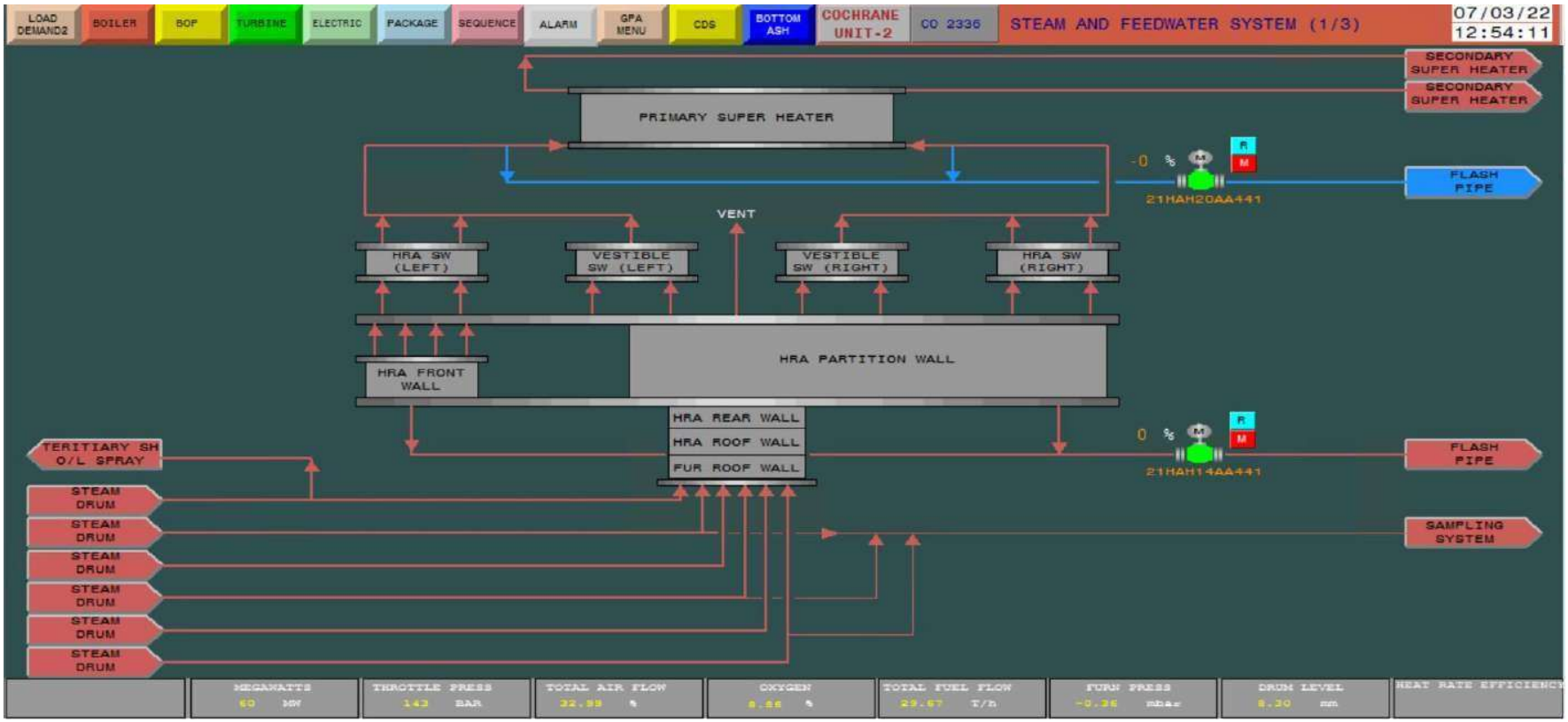

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2327
AIR AND FLUE GAS SYSTEM (3/4)
07/03/22
12:49:45
BOUNDARY AIR
FURNACE DIFF PRS (L)
GAH A
BOUNDARY AIR
BOILER PARAMETERS
NOx 164.5 mg/Nm
CO -12.5 ppm
DP-R 4.0 mbar
DP-L 4.5 mbar
BOILER FRONT
FURNACE
BOILER REAR
ECO O/L RH SIDE
ECO O/L SH SIDE
SCR A
STM & FW SYS RH AREA
SCR B
FRONT LOWER BURNER
FRONT MIDDLE BURNER
FRONT UPPER BURNER
REAR MIDDLE BURNER
REAR LOWER BURNER
SAP
OAP
BOUNDARY AIR
GAH B
FURNACE DIFF PRS (R)

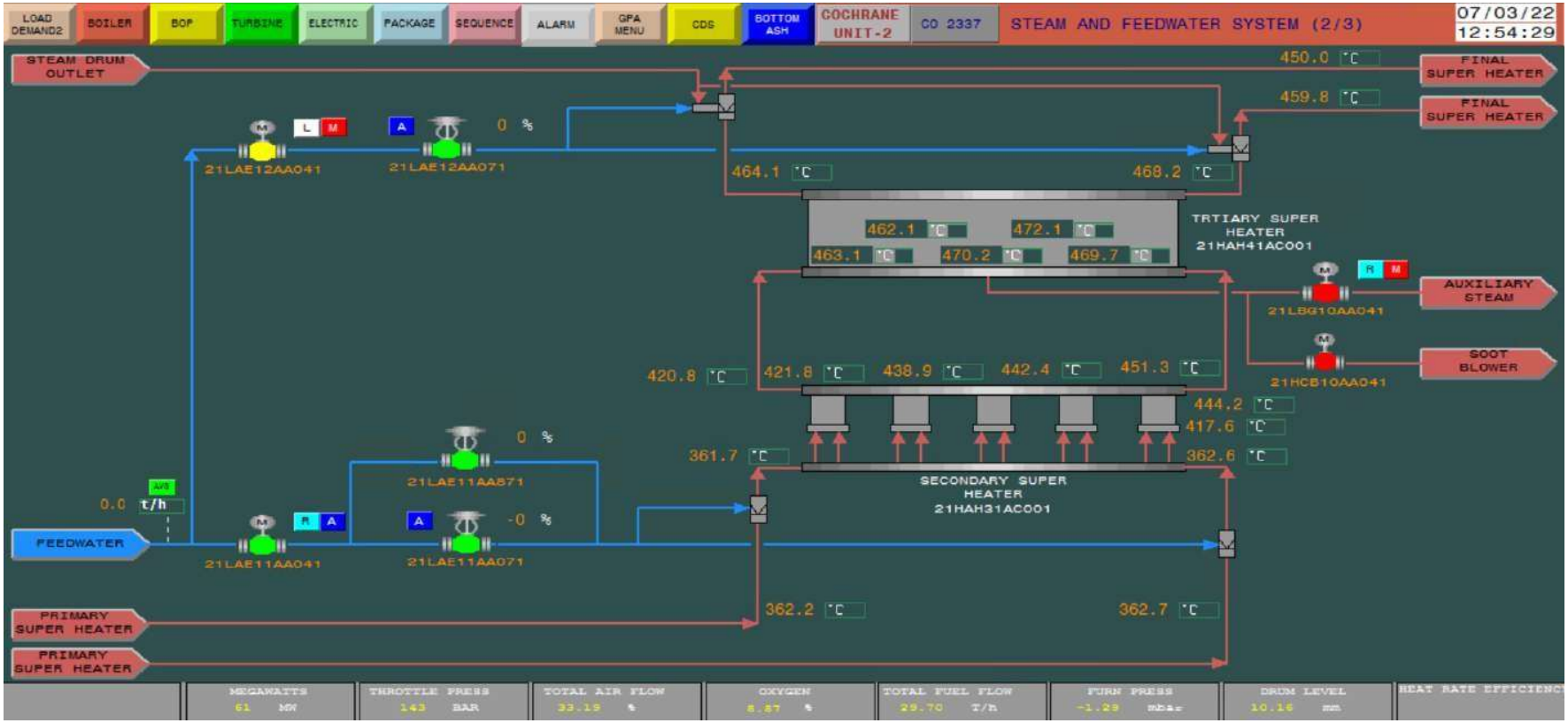

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2328
AIR AND FLUE GAS SYSTEM (4/4)
07/03/22
12:51:36
STEAM DRUM
102.8 °C
0.0 mbar
-1.2 mbar
-1.0 mbar
4.1 mbar
4.6 mbar
IDF INLET CTRL DAMPER
SECONDARY AIR DUCT (R)
SECONDARY AIR DUCT (L)
RH
PRISH
RH
PRISH
ECO
ECO
C
B
D
A
E

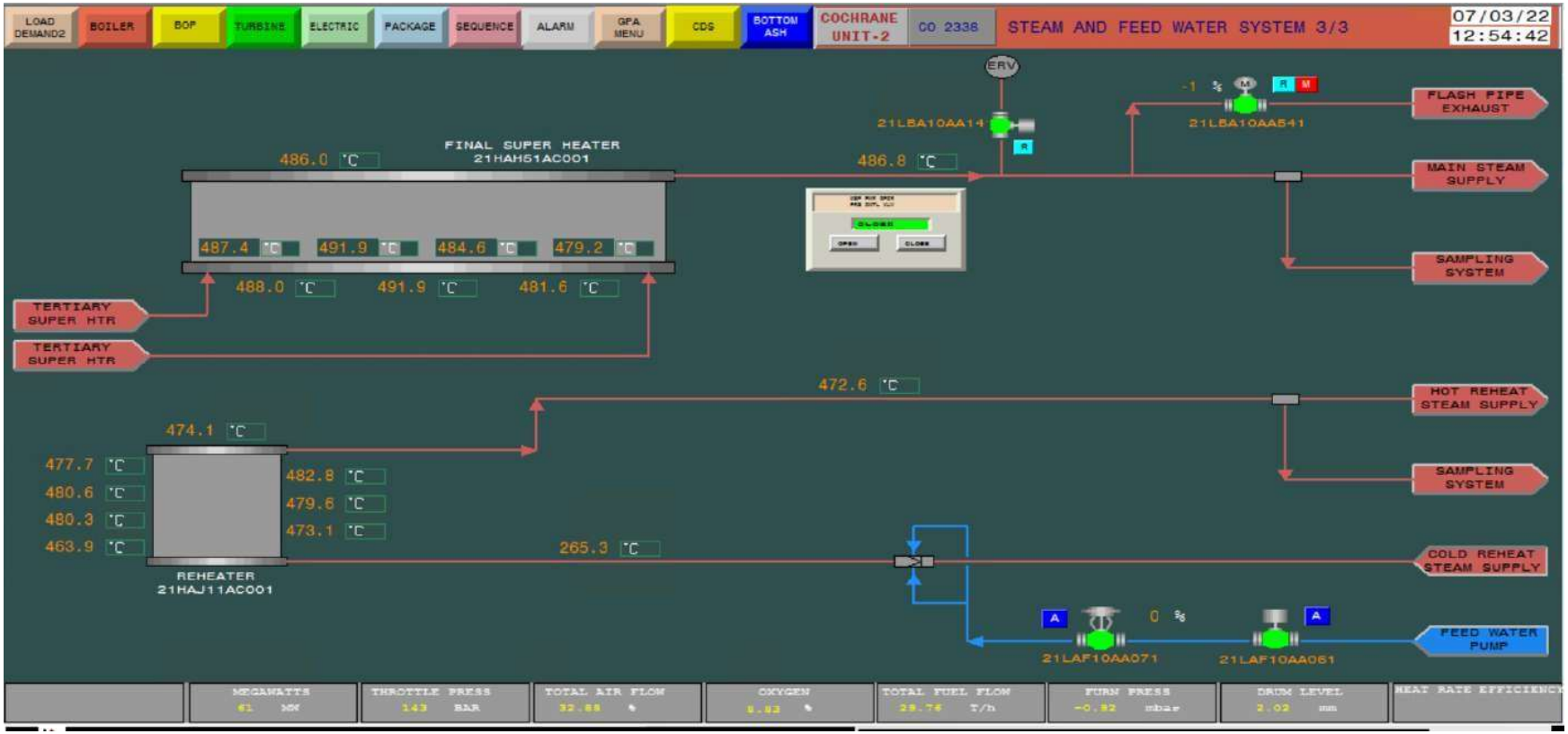

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2330
DRAIN BLOW SYSTEM
07/03/22
12:52:00
BOILER BLWN TANK SILEN
MAIN STEAM START-UP
HRA WALL INLET DRAIN
PRI SH INLET DRAIN
BOILER BLWN TANK SILENC
STEAM DRUM VENT
BOILER AIR VENT
STEAM DRUM
21HAD10AA442
SERVICE WATER
21GAC30AA071
BLOWDOWN TANK
97.0 °C
FLASH PIPE
STEAM DRUM
21HAD10AA441
FLASH TANK
254.8 mm
DEAERATOR
LEVEL GUAGE DRAIN (L)
LEVEL GUAGE DRAIN (R)
MAIN FEED WATER
FURNACE WALL
PULVERIZER INERT
SOOTBLOWER
AUXILIARY STEAM
SCAH STEAM
BOILER AREA SUMP
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

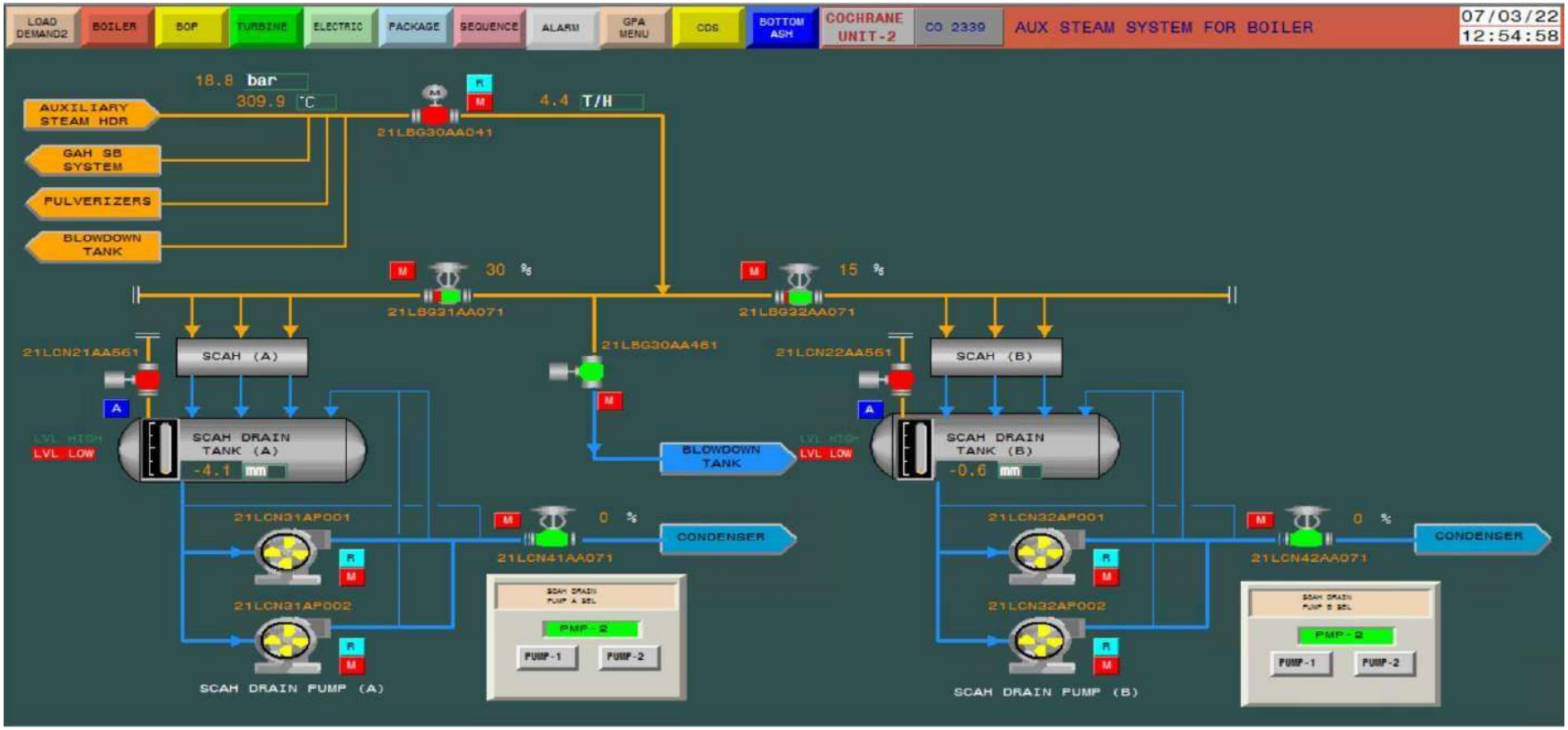

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2331
STATION/COOLING/SEAL AIR SYS1
07/03/22
12:52:42
A-PULV & COAL FEEDER
B-PULV & COAL FEEDER
C-PULV & COAL FEEDER
D-PULV & COAL FEEDER
E-PULV & COAL FEEDER
PULVERIZED FUEL ASPRATE (FRONT)
PULVERIZED FUEL ASPRATE (REAR)
BLR LEFT SIDE
BLR RIGHT SIDE
FL+60400
FL+45800
FL+37300
FL+30400
FL+25800
FL+21900
FL+18000
FL+11000
FL+-0
102.7
8.4 bar
FUR TEMP
21QEB20AA051
40.0
ENTER
FUR GAS TEMP PROBE POSN
0.0
SERVICE AIR HEADER
BNR STATION AIR
SONIC HORN
LOWER LAYER
BOILER LEFT
UPPER LAYER
GAH-A ASH BLOW
GAH-A AIR MOTOR
21QEB52AA043
21QEB53AA043
21QEB52AA042
21QEB53AA042
21QEB52AA041
21QEB53AA041
STOP
START
STOP
GAH-B ASH BLOW
GAH-B AIR MOTOR
21QEB62AA041
21QEB63AA041
21QEB62AA042
21QEB63AA042
21QEB62AA043
21QEB63AA043
BOILER RIGHT

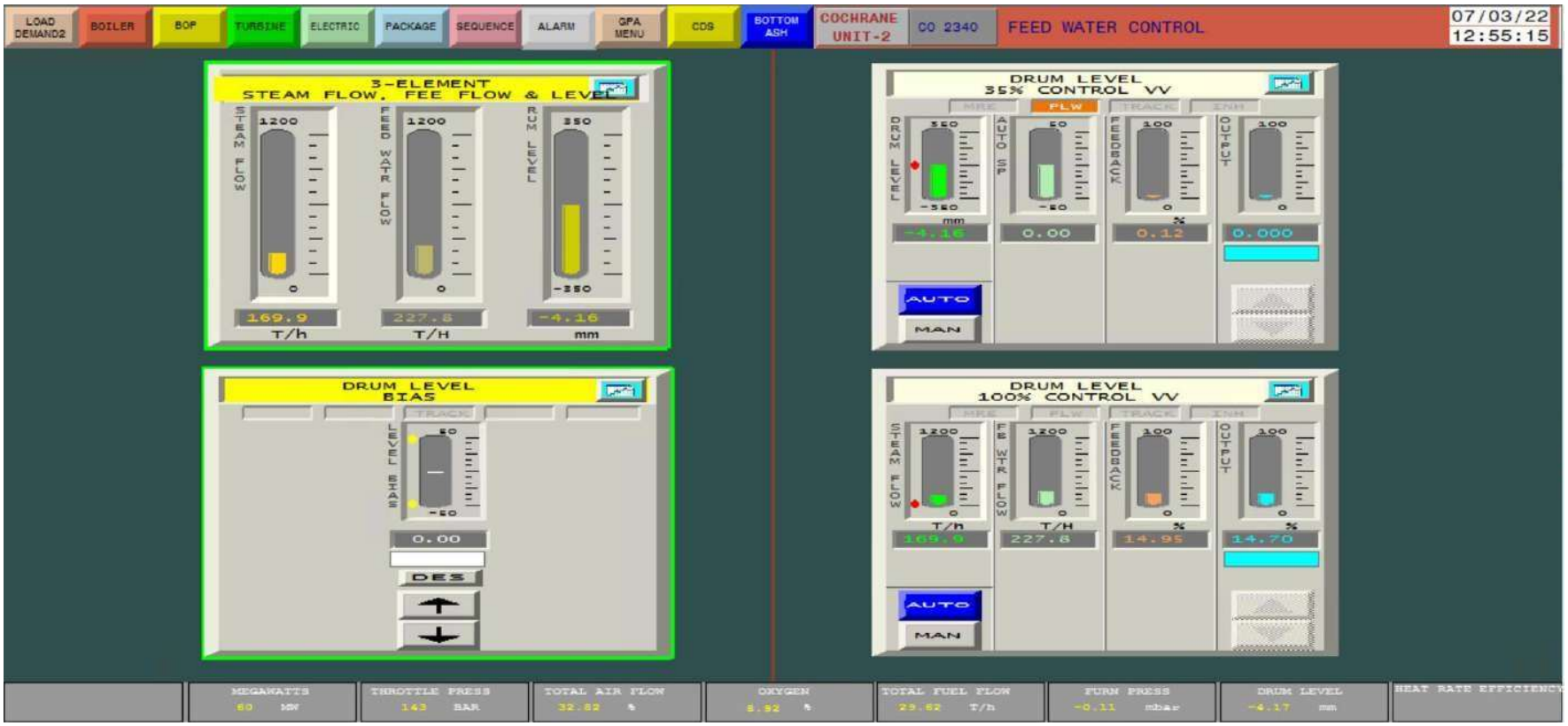

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2332
STATION/COOLING/SEAL AIR SYS2
07/03/22
12:52:54
CCTV (FRONT)
CCTV (REAR)
BURNER-C
BURNER-B
BURNER-D
BURNER-A
BURNER-E
IGNTR SPARK ROD
SB
WD
FDF COMMON DUCT
21HJQ01AN001
78.0 mbar
21HJQ01AN002
FLAME DETECTOR SEALING AIR FAN A & B

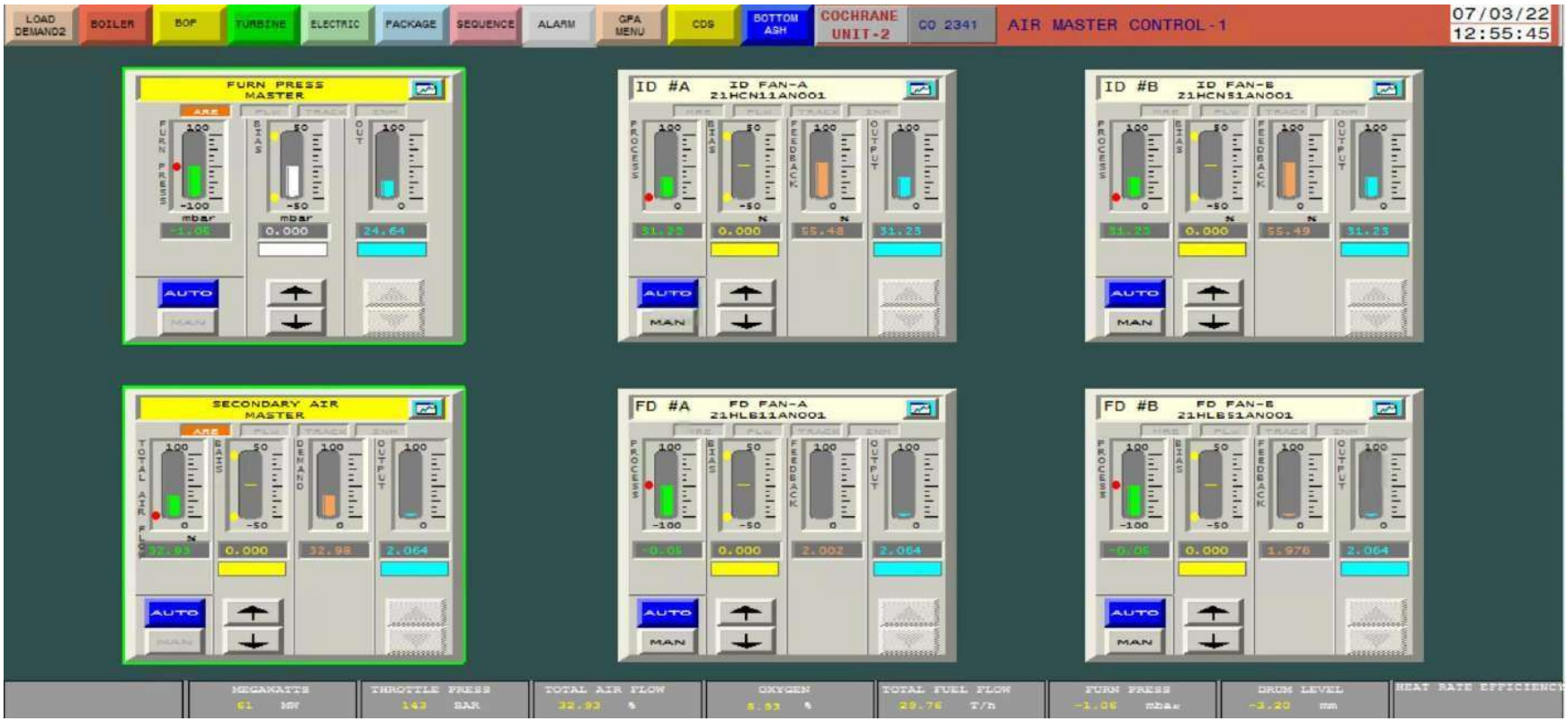

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2336
STEAM AND FEEDWATER SYSTEM (1/3)
07/03/22
12:54:11
SECONDARY SUPER HEATER
SECONDARY SUPER HEATER
PRIMARY SUPER HEATER
-0 %
21HAH20AA441
FLASH PIPE
VENT
HRA SW (LEFT)
VESTIBLE SW (LEFT)
VESTIBLE SW (RIGHT)
HRA SW (RIGHT)
HRA PARTITION WALL
HRA FRONT WALL
HRA REAR WALL
HRA ROOF WALL
FUR ROOF WALL
0 %
21HAH14AA441
FLASH PIPE
TERITIARY SH O/L SPRAY
STEAM DRUM
STEAM DRUM
STEAM DRUM
STEAM DRUM
STEAM DRUM
STEAM DRUM
SAMPLING SYSTEM
MEGAWATTS
60 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
32.99 %
OXYGEN
8.86 %
TOTAL FUEL FLOW
29.67 T/h
FURN PRESS
-0.26 mbar
DRUM LEVEL
8.30 mm
HEAT RATE EFFICIENCY

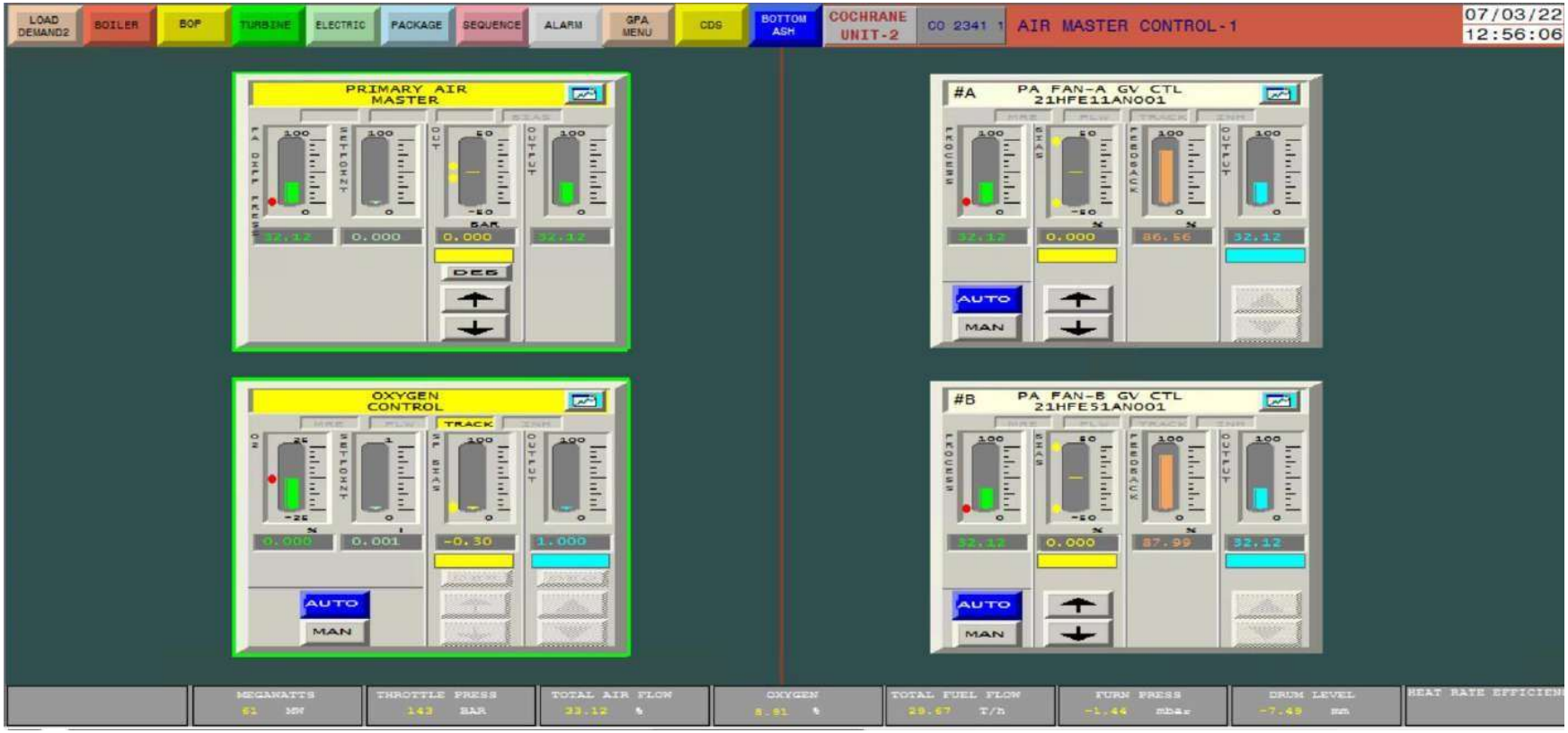

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2337
STEAM AND FEEDWATER SYSTEM (2/3)
07/03/22
12:54:29
STEAM DRUM OUTLET
450.0 °C
FINAL SUPER HEATER
459.8 °C
FINAL SUPER HEATER
21LAE12AA041
21LAE12AA071
0 %
464.1 °C
468.2 °C
462.1 °C
472.1 °C
463.1 °C
470.2 °C
469.7 °C
TRTIARY SUPER HEATER
21HAH41AC001
21LBG10AA041
AUXILIARY STEAM
21HCB10AA041
SOOT BLOWER
420.8 °C
421.8 °C
438.9 °C
442.4 °C
451.3 °C
444.2 °C
417.6 °C
362.6 °C
361.7 °C
SECONDARY SUPER HEATER
21HAH31AC001
0 %
21LAE11AA871
0.0 t/h
FEEDWATER
21LAE11AA041
-0 %
21LAE11AA071
362.2 °C
362.7 °C
PRIMARY SUPER HEATER
PRIMARY SUPER HEATER
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.19 %
OXYGEN
8.87 %
TOTAL FUEL FLOW
29.70 T/h
FURN PRESS
-1.29 mBar
DRUM LEVEL
10.16 mm
HEAT RATE EFFICIENCY

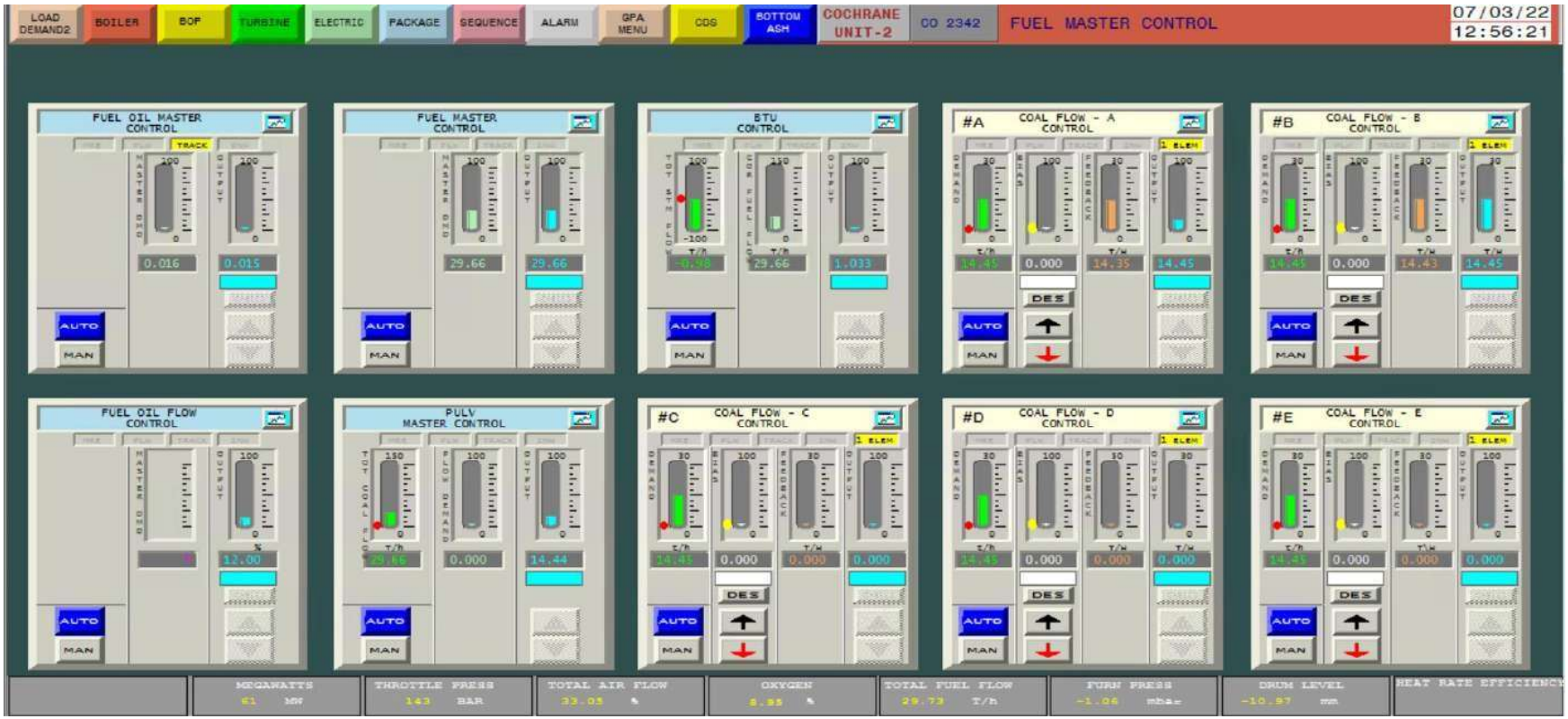

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2338
STEAM AND FEED WATER SYSTEM 3/3
07/03/22
12:54:42
ERV
21LBA10AA14
-1 %
21LBA10AA541
FLASH PIPE EXHAUST
MAIN STEAM SUPPLY
SAMPLING SYSTEM
FINAL SUPER HEATER
21HAH51AC001
486.0 °C
486.8 °C
487.4 °C
491.9 °C
484.6 °C
479.2 °C
488.0 °C
491.9 °C
481.6 °C
TERTIARY SUPER HTR
TERTIARY SUPER HTR
472.6 °C
HOT REHEAT STEAM SUPPLY
SAMPLING SYSTEM
474.1 °C
477.7 °C
480.6 °C
480.3 °C
463.9 °C
482.8 °C
479.6 °C
473.1 °C
265.3 °C
REHEATER
21HAJ11AC001
COLD REHEAT STEAM SUPPLY
0 %
21LAF10AA071
21LAF10AA061
FEED WATER PUMP
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
32.88 %
OXYGEN
8.83 %
TOTAL FUEL FLOW
28.76 T/h
FURN PRESS
-0.82 mbar
DRUM LEVEL
2.02 mm
HEAT RATE EFFICIENCY

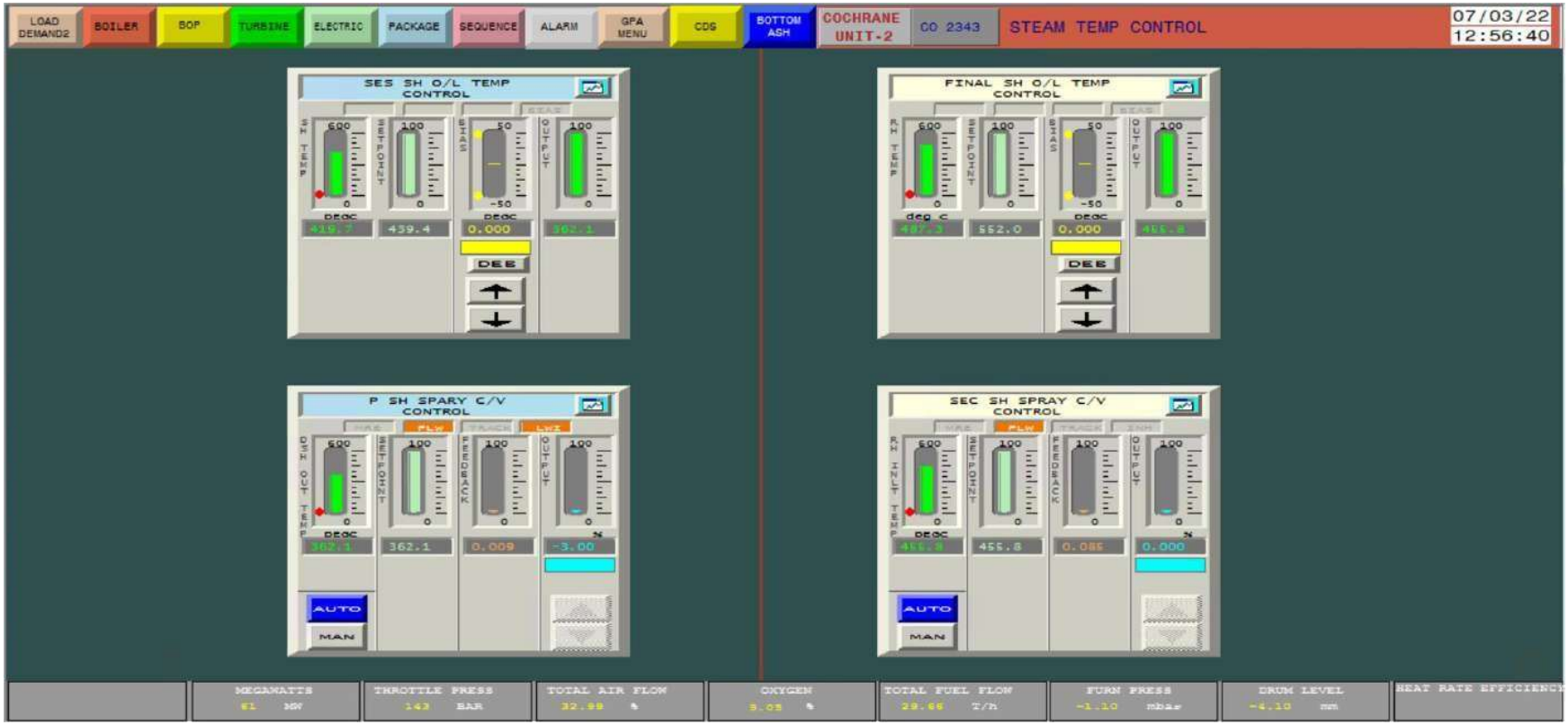

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2339
AUX STEAM SYSTEM FOR BOILER
07/03/22
12:54:58
18.8 bar
309.9 °C
4.4 T/H
21LBG30AA041
AUXILIARY STEAM HDR
GAH SB SYSTEM
PULVERIZERS
BLOWDOWN TANK
30 %
15 %
21LBG31AA071
21LBG32AA071
21LBG30AA461
21LCN21AA561
21LCN22AA561
SCAH (A)
SCAH (B)
SCAH DRAIN TANK (A)
-4.1 mm
SCAH DRAIN TANK (B)
-0.6 mm
LVL HIGH
LVL LOW
BLOWDOWN TANK
21LCN31AP001
21LCN31AP002
21LCN41AA071
0 %
CONDENSER
SCAH DRAIN PUMP (A)
PMP-2
PUMP-1
PUMP-2
21LCN32AP001
21LCN32AP002
21LCN42AA071
SCAH DRAIN PUMP (B)

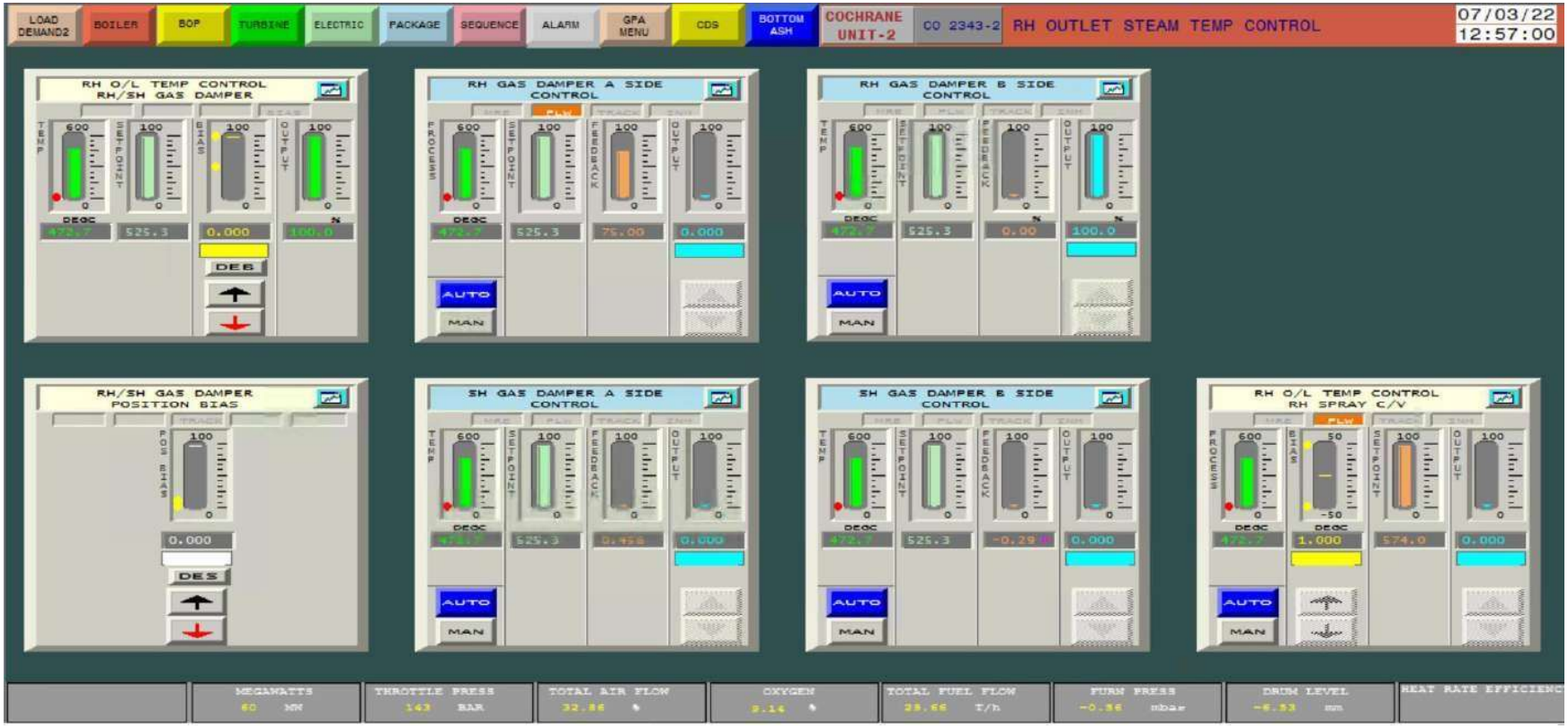

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
QPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2340
FEED WATER CONTROL
07/03/22
12:55:15
3-ELEMENT STEAM FLOW, FEE FLOW & LEVEL
STEAM FLOW
FEED WATER FLOW
DRUM LEVEL
1200
350
-350
169.9
T/h
227.8
T/H
-4.16
mm
DRUM LEVEL BIAS
TRACK
LEVEL BIAS
50
-50
0.00
DES
DRUM LEVEL 35% CONTROL VV
MRE
FLW
TRACK
ENH
DRUM LEVEL
AUTO SP
FEEDBACK
OUTPUT
100
0
-4.16
0.00
0.12
0.000
AUTO
MAN
DRUM LEVEL 100% CONTROL VV
STEAM FLOW
FE WTR FLOW
169.9
227.8
14.95
14.70
MEGAWATTS
60 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
32.82 %
OXYGEN
8.92 %
TOTAL FUEL FLOW
29.62 T/h
FURN PRESS
-0.11 mbar
DRUM LEVEL
-4.17 mm
HEAT RATE EFFICIENCY

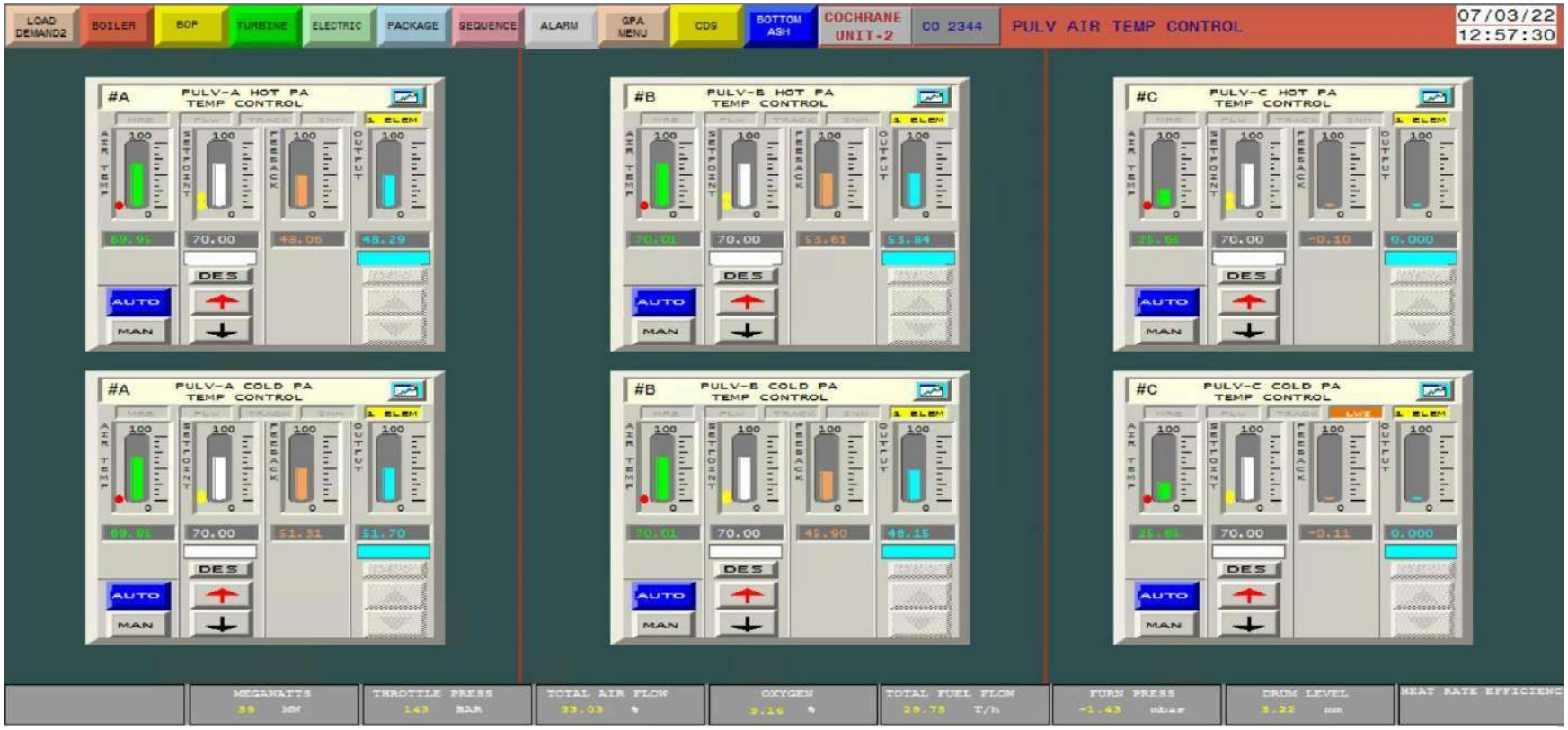

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2341
AIR MASTER CONTROL-1
07/03/22
12:55:45
FURN PRESS MASTER
ID #A
ID FAN-A
21HCN11AN001
ID #B
ID FAN-B
21HCN51AN001
SECONDARY AIR MASTER
FD #A
FD FAN-A
21HLB11AN001
FD #B
FD FAN-B
21HLB51AN001
AUTO
MAN
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

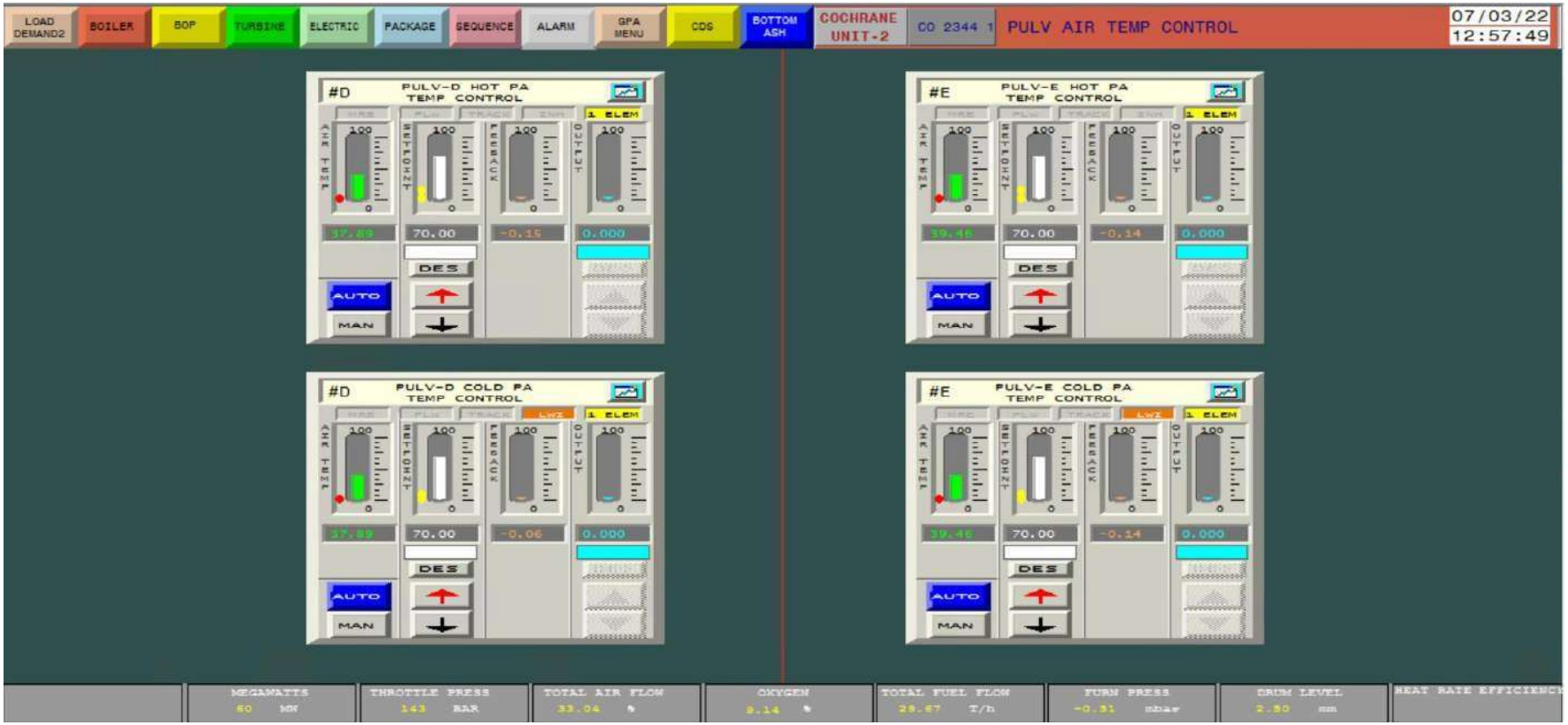

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2341 1
AIR MASTER CONTROL-1
07/03/22
12:56:06
PRIMARY AIR MASTER
0.000
DES
OXYGEN CONTROL
TRACK
0.000
0.001
-0.30
1.000
AUTO
MAN
#A
PA FAN-A GV CTL
21HFE11AN001
32.12
0.000
86.56
32.12
#B
PA FAN-B GV CTL
21HFE51AN001
32.12
0.000
87.99
32.12
MEGAWATTS
61 MW
THROTTLE PRESS
143 BAR
TOTAL AIR FLOW
33.12 %
OXYGEN
8.81 %
TOTAL FUEL FLOW
29.67 T/h
FURN PRESS
-1.44 mbar
DRUM LEVEL
-7.49 mm
HEAT RATE EFFICIEN


LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2342
FUEL MASTER CONTROL
07/03/22
12:56:21
FUEL OIL MASTER CONTROL
FUEL MASTER CONTROL
BTU CONTROL
#A COAL FLOW - A CONTROL
#B COAL FLOW - B CONTROL
FUEL OIL FLOW CONTROL
PULV MASTER CONTROL
#C COAL FLOW - C CONTROL
#D COAL FLOW - D CONTROL
#E COAL FLOW - E CONTROL
AUTO
MAN
DES
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

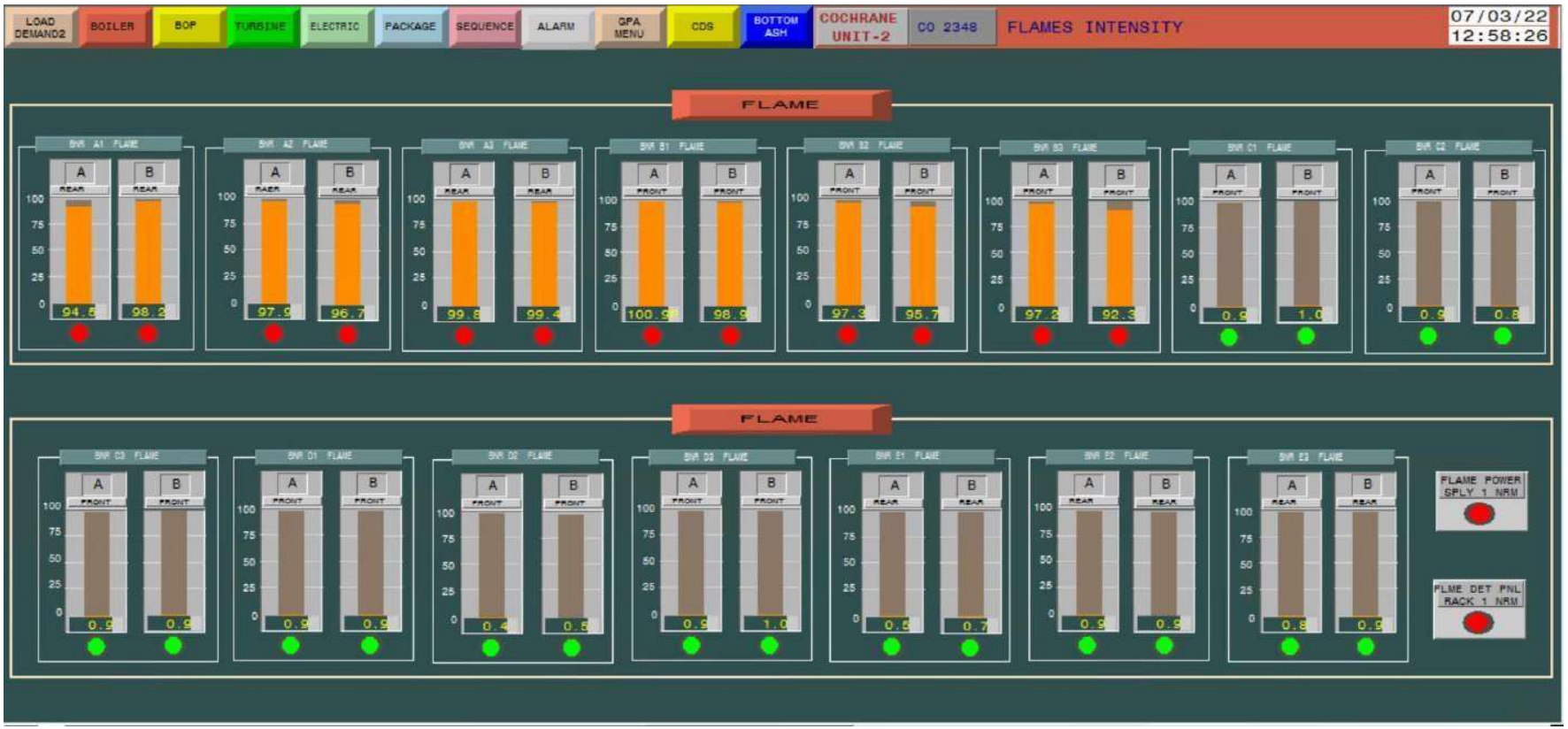

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2343
STEAM TEMP CONTROL
07/03/22
12:56:40
SES SH O/L TEMP CONTROL
FINAL SH O/L TEMP CONTROL
P SH SPARY C/V CONTROL
SEC SH SPRAY C/V CONTROL
AUTO
MAN
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

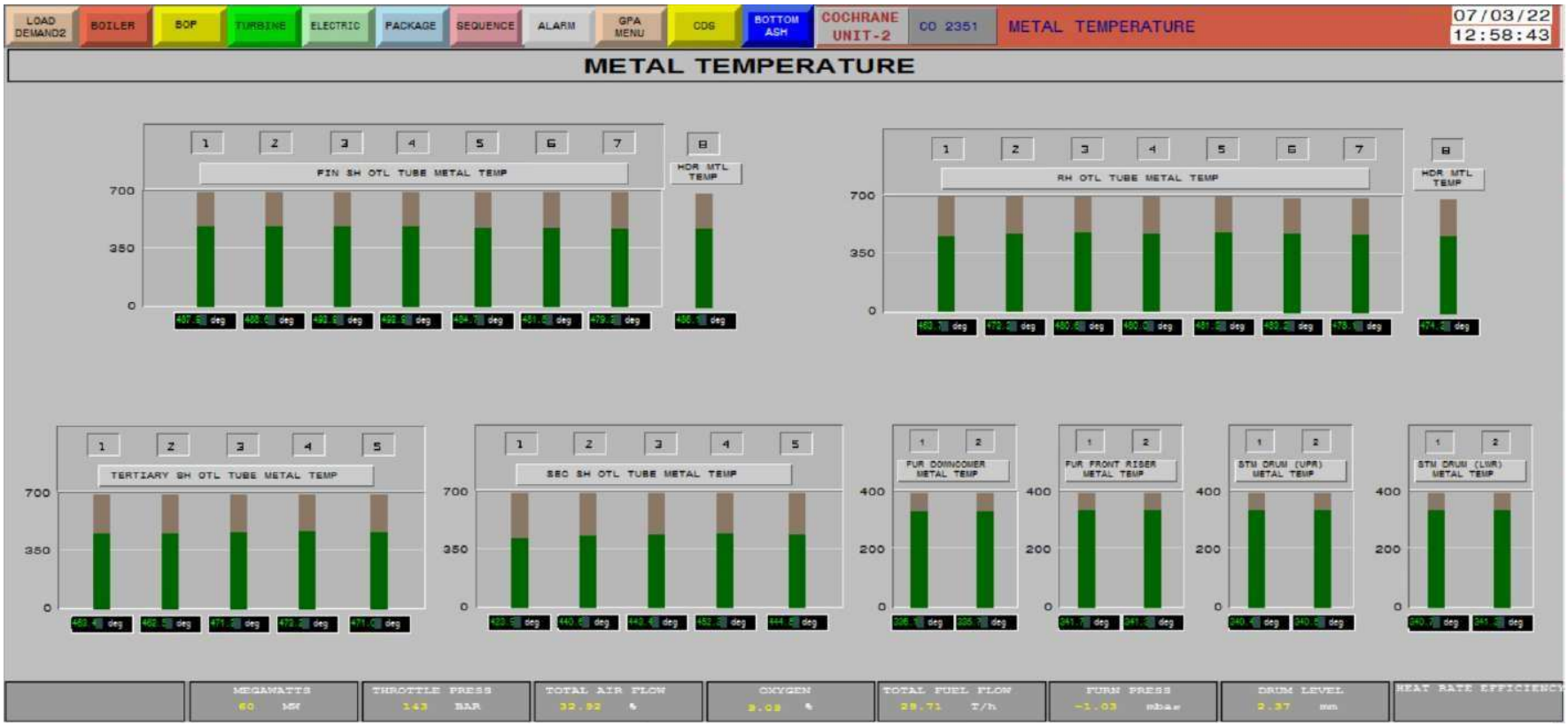

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2343-2
RH OUTLET STEAM TEMP CONTROL
07/03/22
12:57:00
RH O/L TEMP CONTROL
RH/SH GAS DAMPER
RH GAS DAMPER A SIDE CONTROL
RH GAS DAMPER B SIDE CONTROL
RH/SH GAS DAMPER POSITION BIAS
SH GAS DAMPER A SIDE CONTROL
SH GAS DAMPER B SIDE CONTROL
RH O/L TEMP CONTROL
RH SPRAY C/V
AUTO
MAN
DEB
DES
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENC

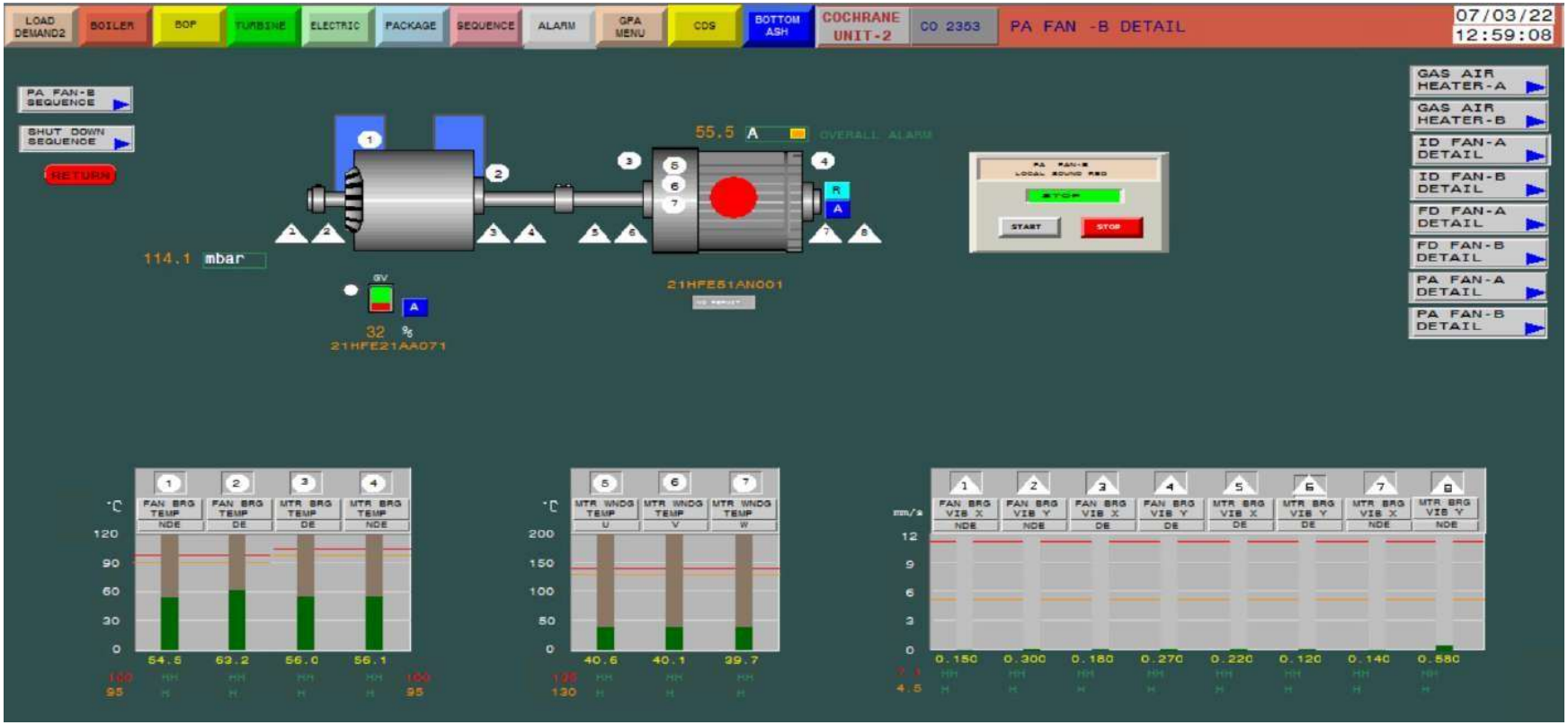

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2344
PULV AIR TEMP CONTROL
07/03/22
12:57:30
#A PULV-A HOT PA TEMP CONTROL
#B PULV-B HOT PA TEMP CONTROL
#C PULV-C HOT PA TEMP CONTROL
#A PULV-A COLD PA TEMP CONTROL
#B PULV-B COLD PA TEMP CONTROL
#C PULV-C COLD PA TEMP CONTROL
AUTO
MAN
DES
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENC

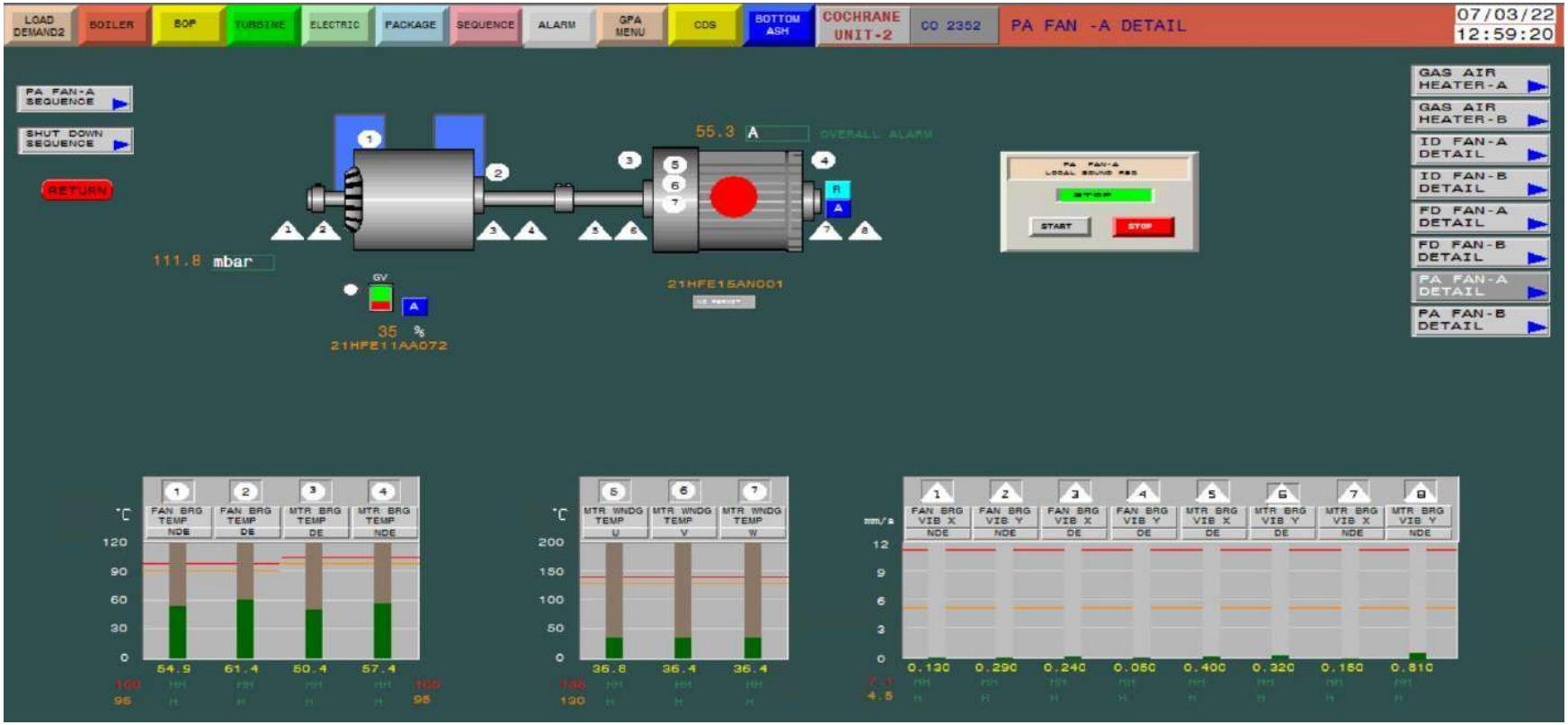

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2344 1
PULV AIR TEMP CONTROL
07/03/22
12:57:49
#D PULV-D HOT PA TEMP CONTROL
#E PULV-E HOT PA TEMP CONTROL
#D PULV-D COLD PA TEMP CONTROL
#E PULV-E COLD PA TEMP CONTROL
AUTO
MAN
DES
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

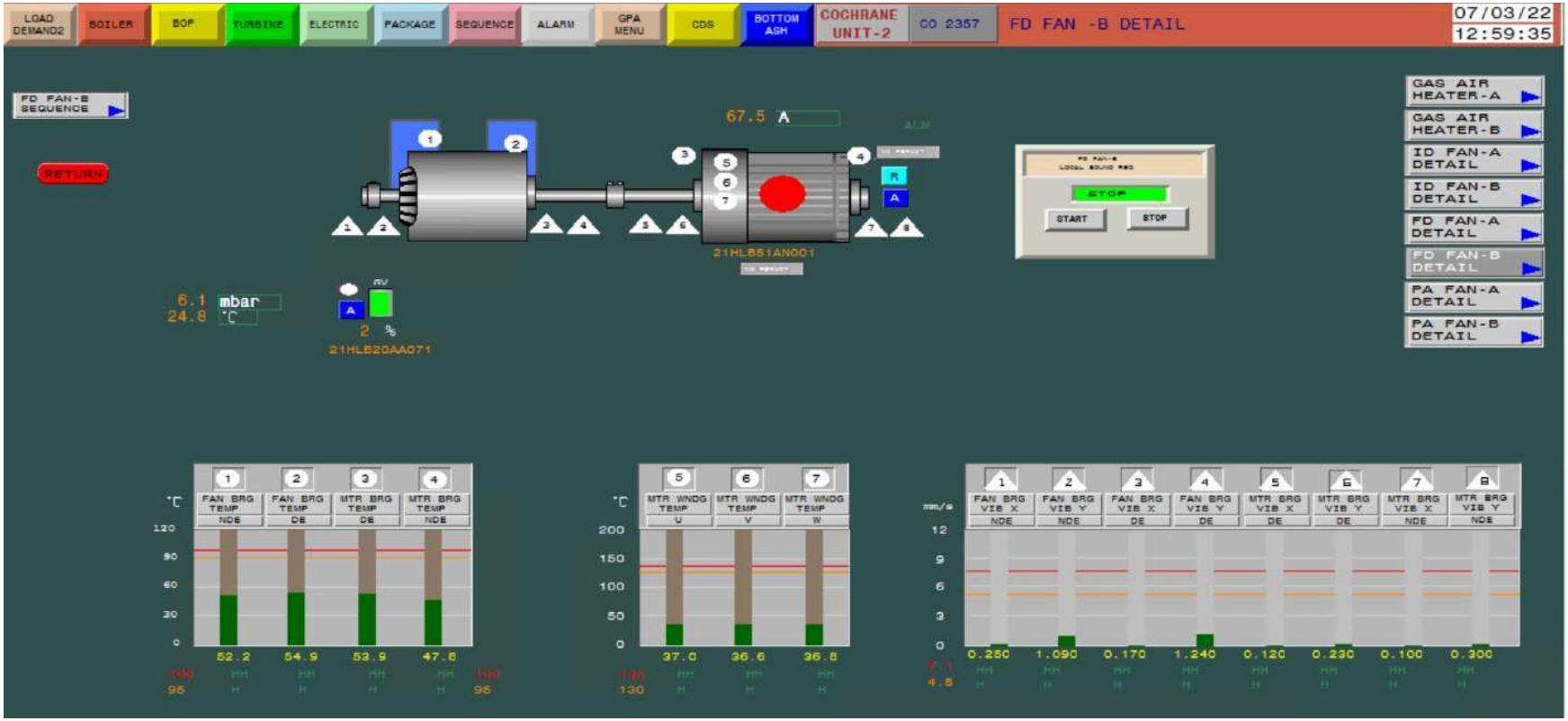

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2347
PULVERIZER TEMP DETAIL
07/03/22
12:58:06
PULVERIZER -A
31.6
34.0
42.8
42.4
43.1
PULVERIZER -B
29.6
28.7
42.1
41.2
41.9
PULVERIZER -C
20.3
16.5
18.4
18.2
18.4
PULVERIZER -D
23.5
20.4
23.4
23.3
23.2
PULVERIZER -E
25.1
21.9
25.9
25.8
24.9
COAL -A- ELEVATION
COAL -B- ELEVATION
COAL -C- ELEVATION
COAL -D- ELEVATION
COAL -E- ELEVATION

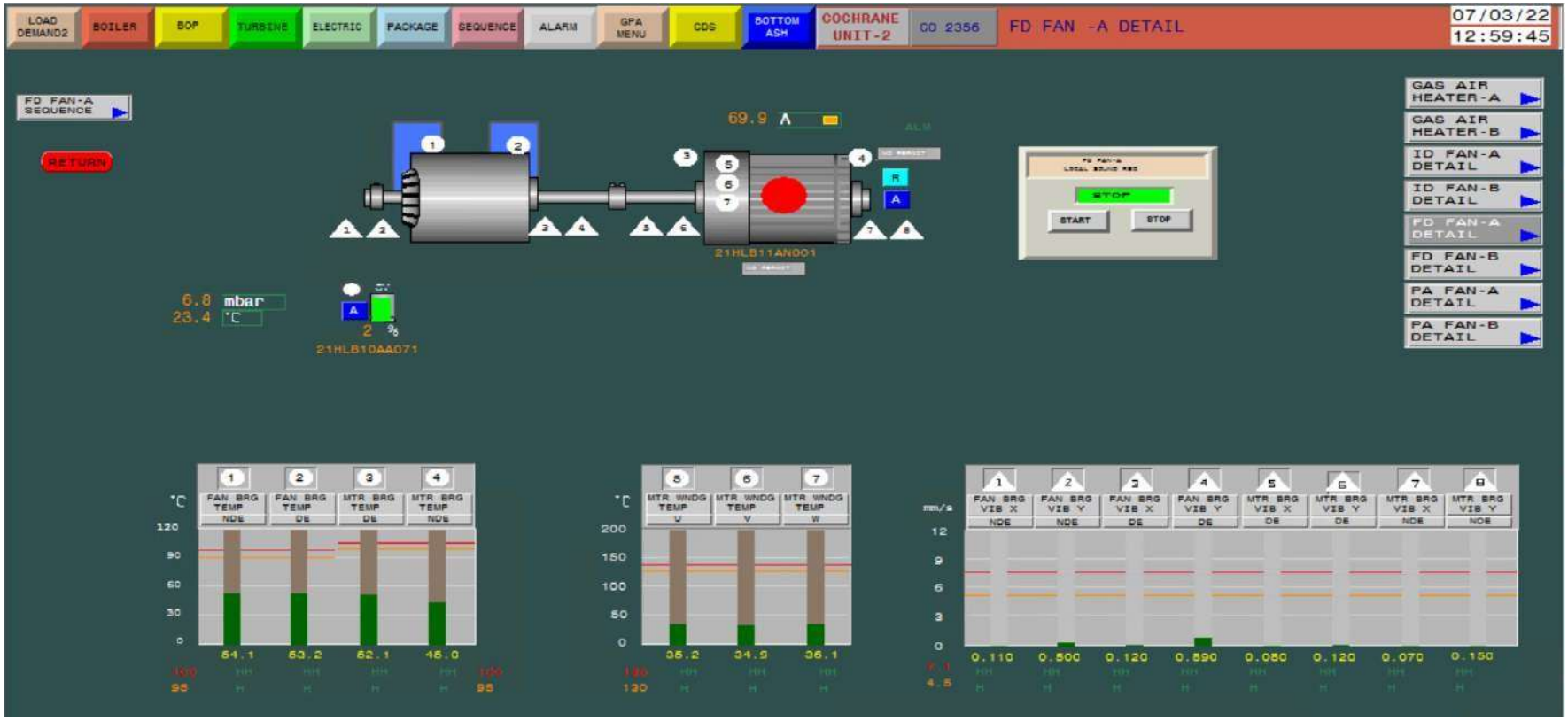

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2348
FLAMES INTENSITY
07/03/22
12:58:26
FLAME
FLAME
FLAME POWER SPLY 1 NRM
FLME DET PNL RACK 1 NRM

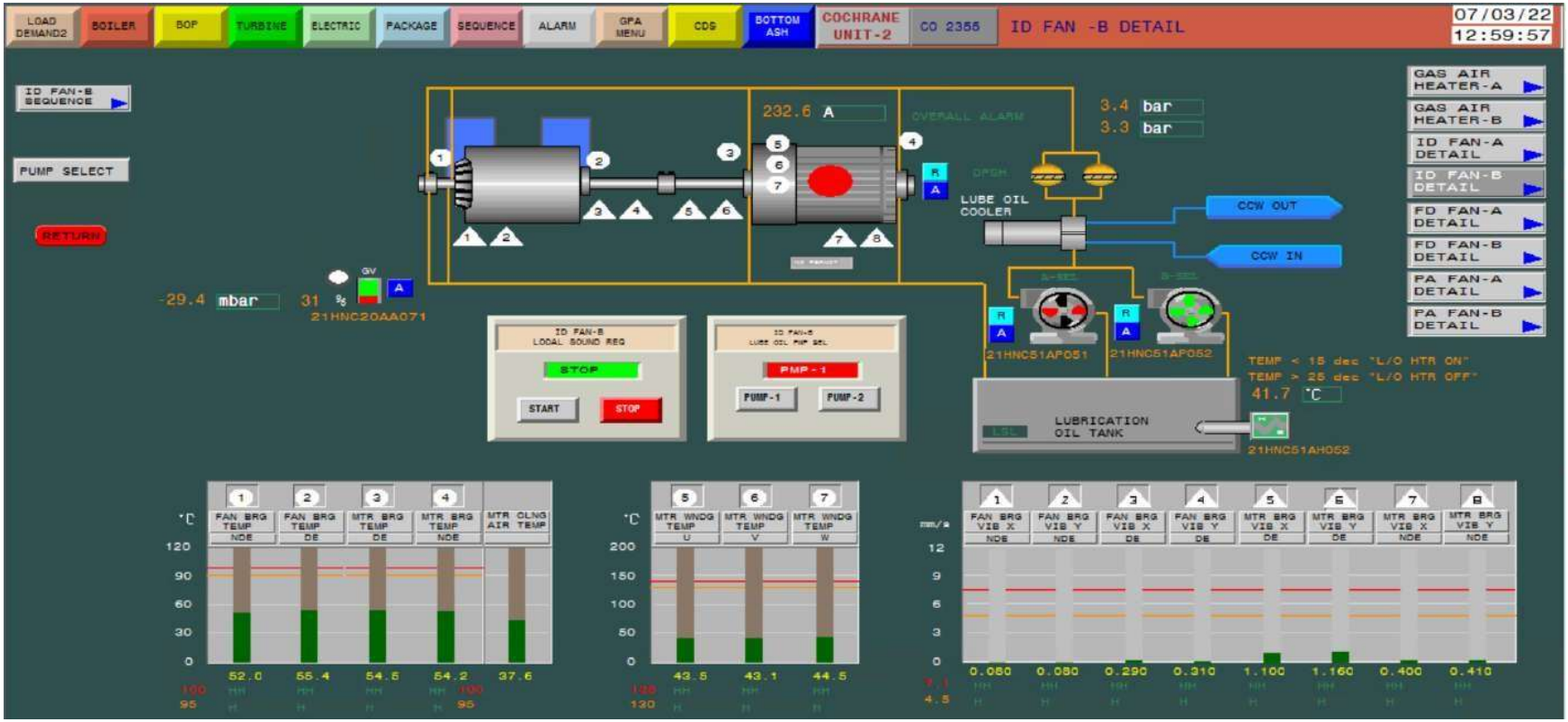

LOAD DEMAND2
BOILER
SOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2351
METAL TEMPERATURE
07/03/22
12:58:43
METAL TEMPERATURE
FIN SH OTL TUBE METAL TEMP
HDR MTL TEMP
RH OTL TUBE METAL TEMP
TERTIARY SH OTL TUBE METAL TEMP
SEC SH OTL TUBE METAL TEMP
FUR DOWNCOMER METAL TEMP
FUR FRONT RISER METAL TEMP
STM DRUM (UPR) METAL TEMP
STM DRUM (LWR) METAL TEMP
MEGAWATTS
THROTTLE PRESS
TOTAL AIR FLOW
OXYGEN
TOTAL FUEL FLOW
FURN PRESS
DRUM LEVEL
HEAT RATE EFFICIENCY

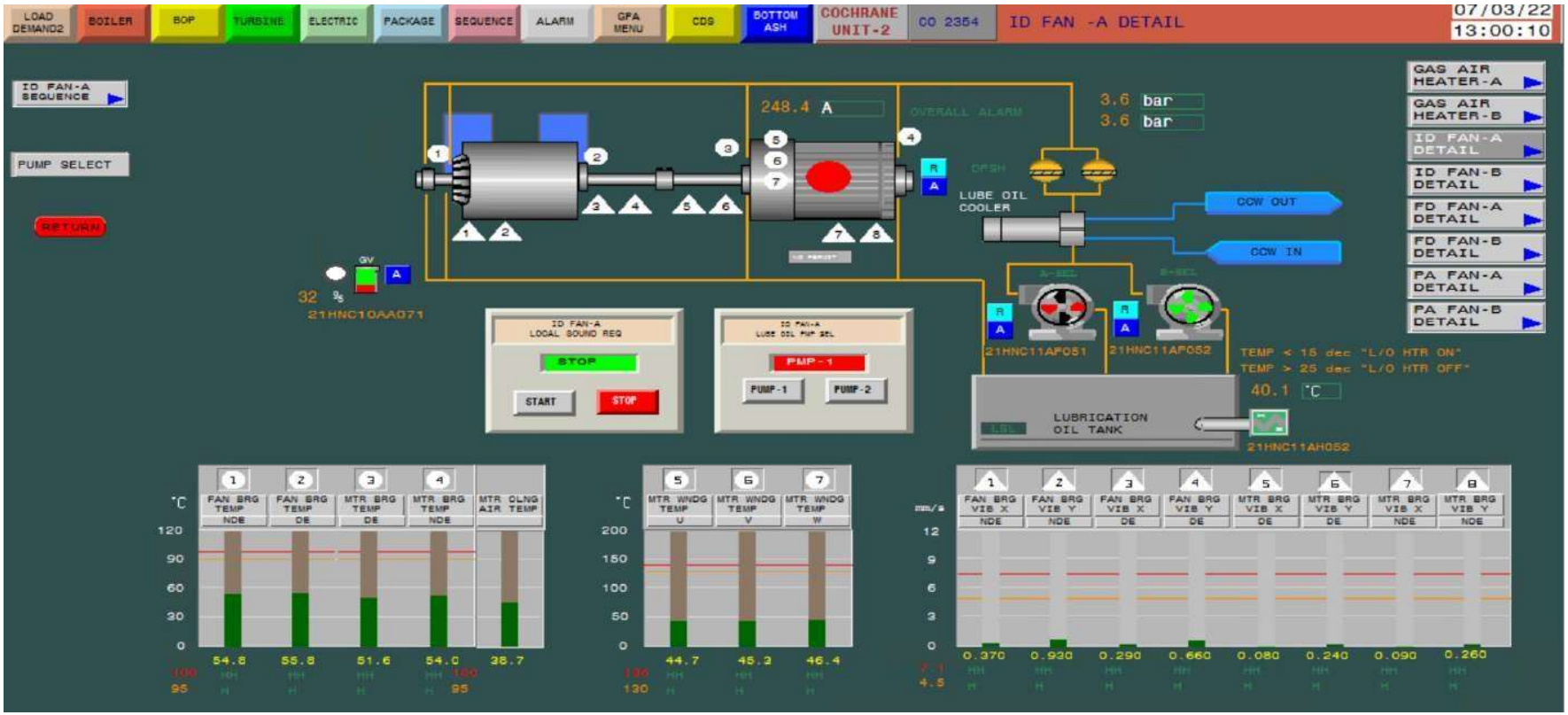

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2353
PA FAN -B DETAIL
07/03/22
12:59:08
PA FAN-B SEQUENCE
SHUT DOWN SEQUENCE
RETURN
55.5 A
OVERALL ALARM
114.1 mbar
21HFE51AN001
32 %
21HFE21AA071
START
STOP
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
54.6
62.2
56.0
56.1
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
40.6
40.1
39.7
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.150
0.300
0.180
0.270
0.220
0.120
0.140
0.580

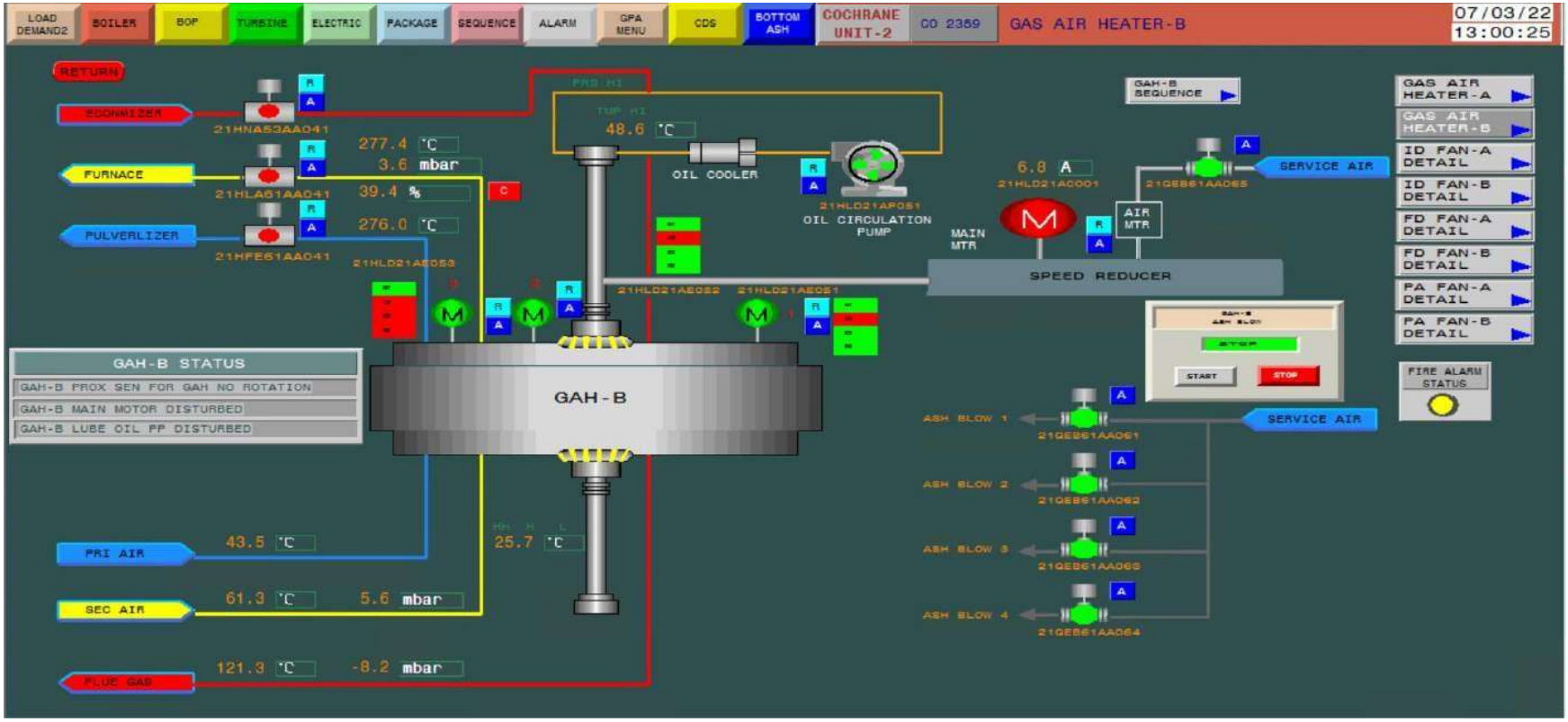

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2352
PA FAN -A DETAIL
07/03/22
12:59:20
PA FAN-A SEQUENCE
SHUT DOWN SEQUENCE
RETURN
55.3 A
OVERALL ALARM
111.8 mbar
35 %
21HFE11AA072
21HFE15AN001
START
STOP
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
54.9
61.4
50.4
57.4
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
36.8
36.4
36.4
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.130
0.290
0.240
0.050
0.400
0.320
0.150
0.810

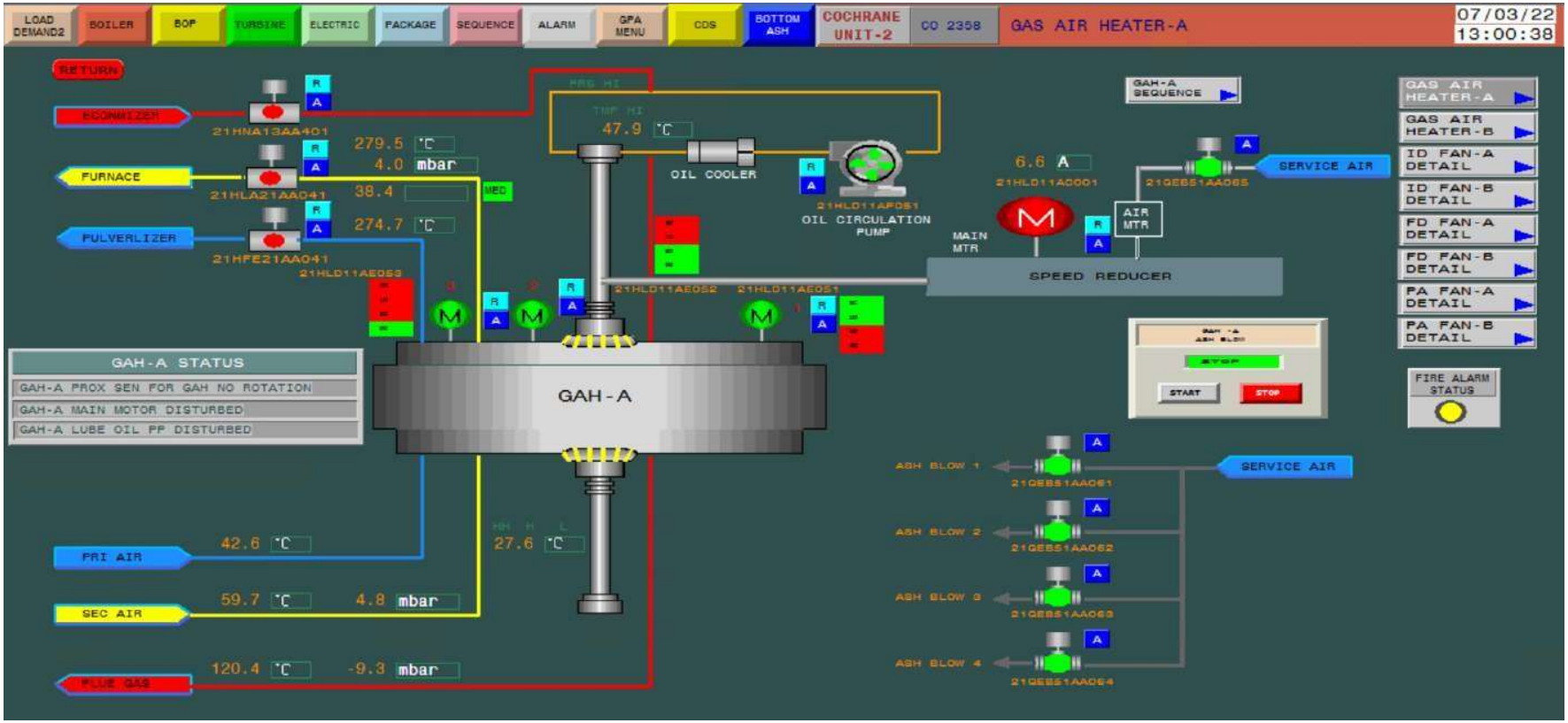

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2357
FD FAN -B DETAIL
07/03/22
12:59:35
FD FAN-B SEQUENCE
RETURN
67.5 A
21HLB51AN001
6.1 mbar
24.8 °C
2 %
21HLB20AA071
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
START
STOP
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
52.2
54.9
53.9
47.8
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
37.0
36.6
36.8
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.250
1.090
0.170
1.240
0.120
0.230
0.100
0.300

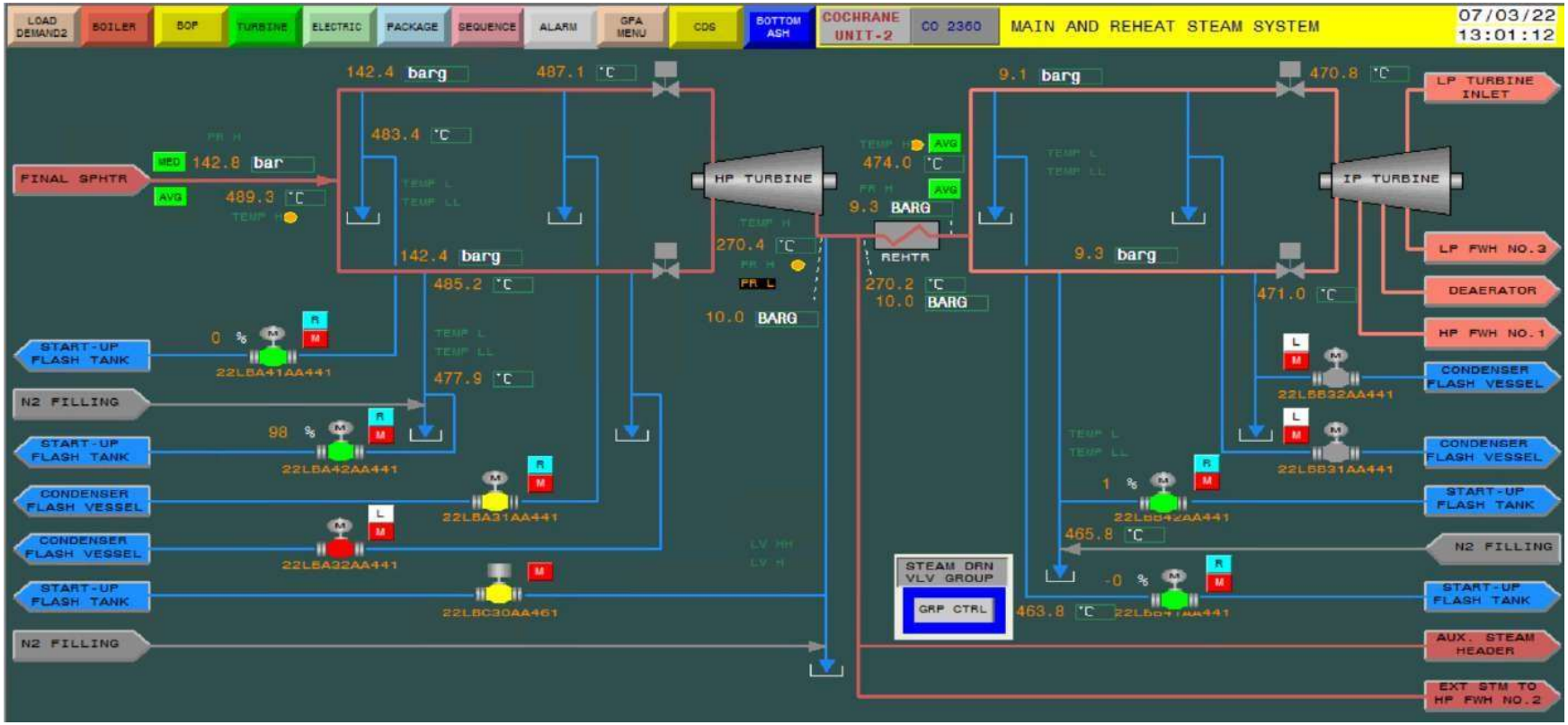

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2356
FD FAN -A DETAIL
07/03/22
12:59:45
FD FAN-A SEQUENCE
RETURN
69.9 A
21HLB11AN001
6.8 mbar
23.4 °C
21HLB10AA071
START
STOP
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
54.1
53.2
52.1
46.0
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
35.2
34.9
36.1
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.110
0.500
0.120
0.890
0.080
0.120
0.070
0.150

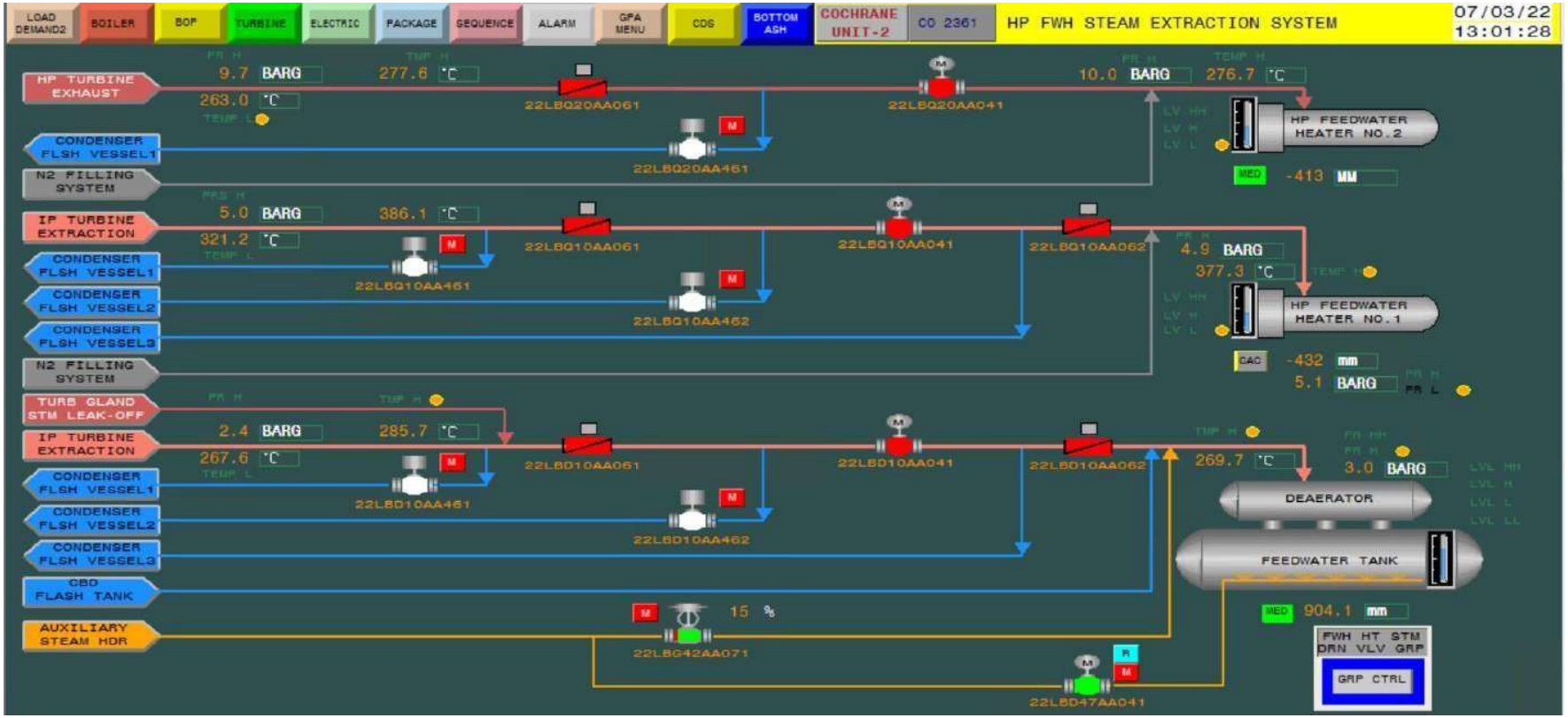

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2355
ID FAN -B DETAIL
07/03/22
12:59:57
ID FAN-B SEQUENCE
PUMP SELECT
RETURN
232.6 A
OVERALL ALARM
3.4 bar
3.3 bar
LUBE OIL COOLER
CCW OUT
CCW IN
-29.4 mbar
31 %
21HNC20AA071
21HNC51AP051
21HNC51AP052
TEMP < 15 dec "L/O HTR ON"
TEMP > 25 dec "L/O HTR OFF"
41.7 °C
LUBRICATION OIL TANK
21HNC51AH052
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
ID FAN-B LOCAL SOUND REQ
STOP
START
STOP
PUMP-1
PUMP-1
PUMP-2
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR CLNG AIR TEMP
52.0
55.4
54.5
54.2
37.6
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
43.5
43.1
44.5
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.080
0.080
0.290
0.310
1.100
1.160
0.400
0.410

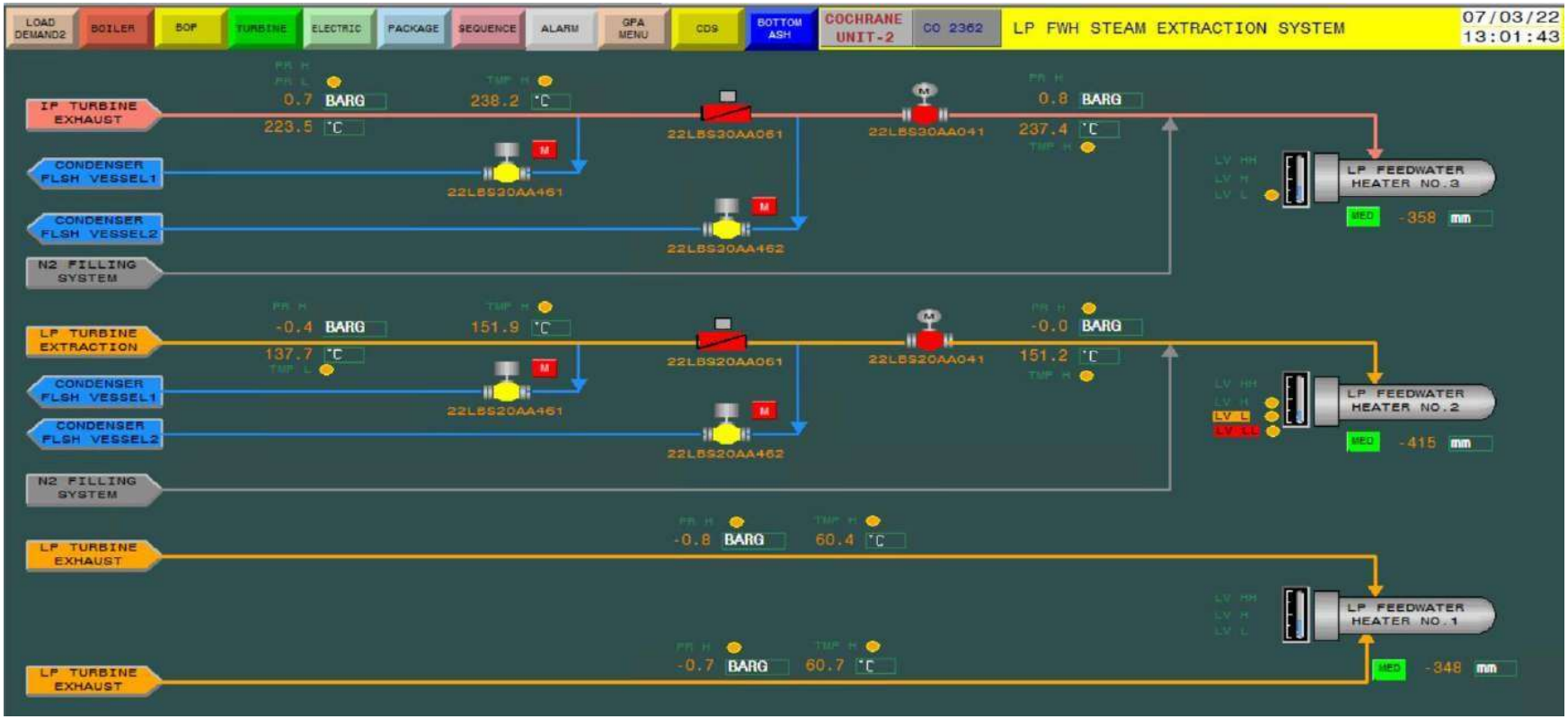

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2354
ID FAN -A DETAIL
07/03/22
13:00:10
ID FAN-A SEQUENCE
PUMP SELECT
RETURN
248.4 A
OVERALL ALARM
3.6 bar
3.6 bar
LUBE OIL COOLER
CCW OUT
CCW IN
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
32 %
21HNC10AA071
ID FAN-A LOCAL SOUND REQ
STOP
START
STOP
PUMP-1
PUMP-1
PUMP-2
21HNC11AF051
21HNC11AF052
TEMP < 15 dec "L/O HTR ON"
TEMP > 25 dec "L/O HTR OFF"
40.1 °C
LUBRICATION OIL TANK
21HNC11AH052
FAN BRG TEMP NDE
FAN BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR CLNG AIR TEMP
54.8
55.8
51.6
54.0
38.7
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
44.7
45.2
46.4
FAN BRG VIB X NDE
FAN BRG VIB Y NDE
FAN BRG VIB X DE
FAN BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
0.370
0.930
0.290
0.660
0.080
0.240
0.090
0.260

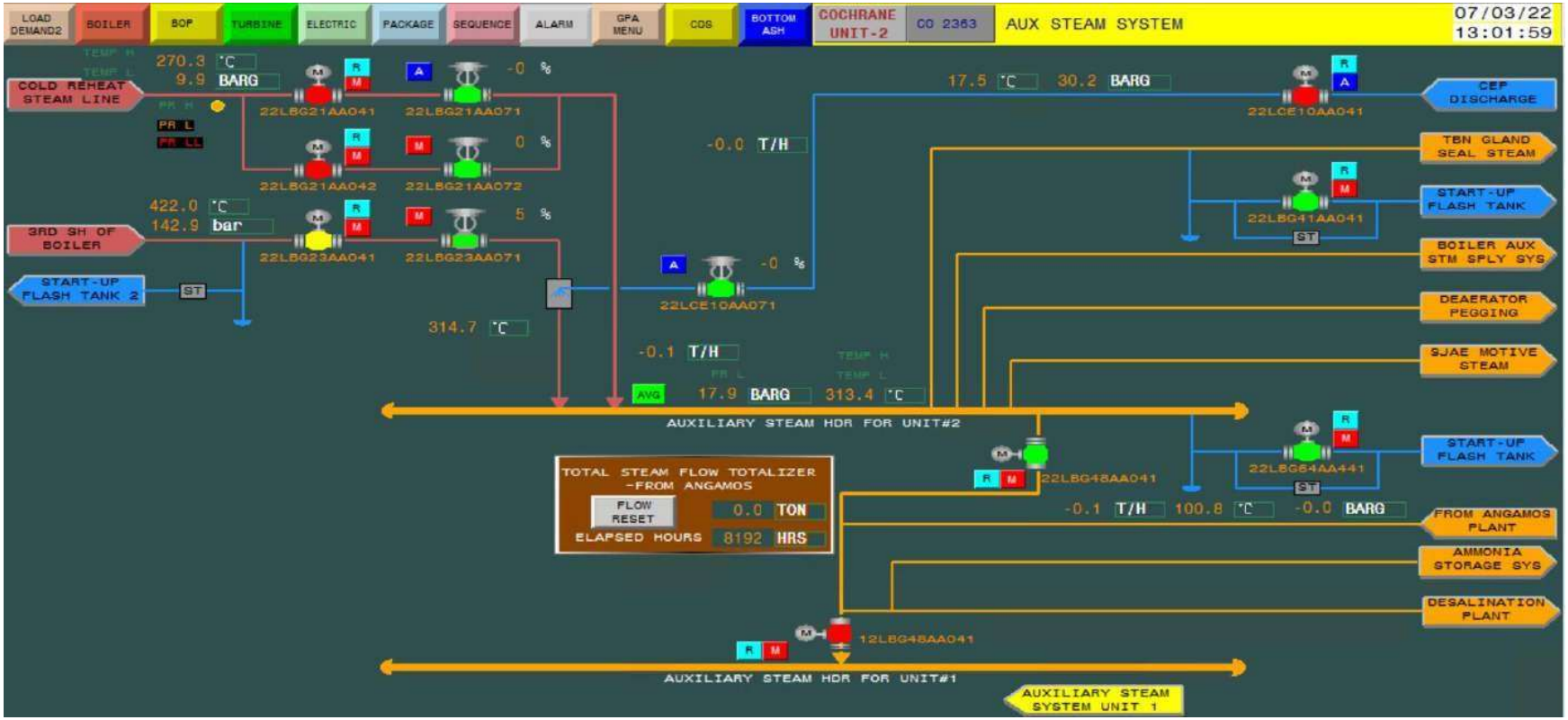

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2359
GAS AIR HEATER-B
07/03/22
13:00:25
RETURN
ECONMIZER
21HNA53AA041
277.4 °C
3.6 mbar
FURNACE
21HLA61AA041
39.4 %
PULVERLIZER
21HFE61AA041
276.0 °C
21HLD21AE053
48.6 °C
OIL COOLER
21HLD21AP051
OIL CIRCULATION PUMP
21HLD21AE052
21HLD21AE051
GAH-B SEQUENCE
6.8 A
21HLD21AC001
MAIN MTR
AIR MTR
SPEED REDUCER
21GEB61AA065
SERVICE AIR
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
FIRE ALARM STATUS
GAH-B STATUS
GAH-B PROX SEN FOR GAH NO ROTATION
GAH-B MAIN MOTOR DISTURBED
GAH-B LUBE OIL PP DISTURBED
GAH-B
START
STOP
ASH BLOW 1
21GEB61AA061
ASH BLOW 2
21GEB61AA062
ASH BLOW 3
21GEB61AA063
ASH BLOW 4
21GEB61AA064
PRI AIR
43.5 °C
25.7 °C
SEC AIR
61.3 °C
5.6 mbar
FLUE GAS
121.3 °C
-8.2 mbar

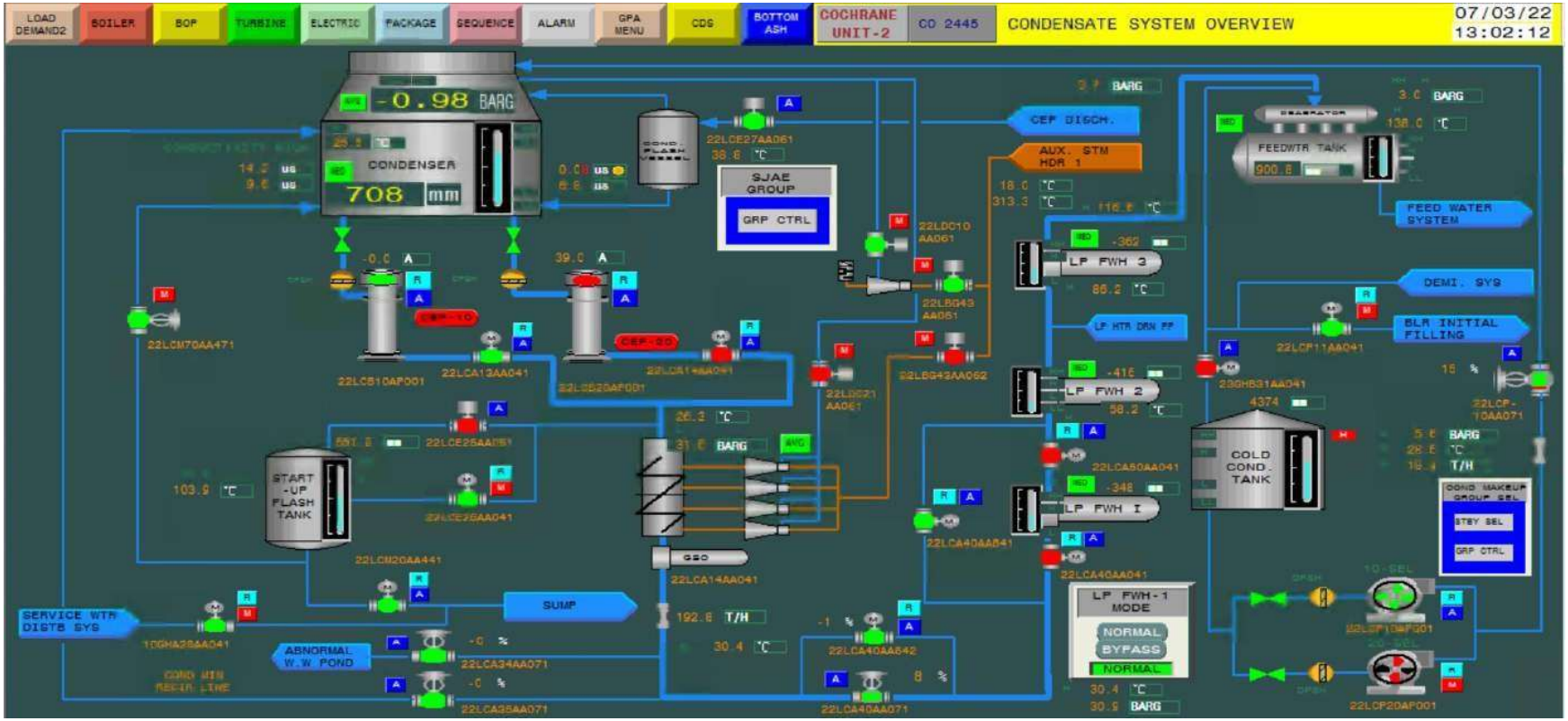

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2358
GAS AIR HEATER-A
07/03/22
13:00:38
RETURN
ECONMIZER
21HNA13AA401
279.5 °C
4.0 mbar
FURNACE
21HLA21AA041
38.4
PULVERLIZER
21HFE21AA041
274.7 °C
21HLD11AE053
47.9 °C
OIL COOLER
21HLD11AP051
OIL CIRCULATION PUMP
21HLD11AE052
21HLD11AE051
6.6 A
21HLD11AC001
MAIN MTR
AIR MTR
SPEED REDUCER
21GEB51AA065
SERVICE AIR
GAH-A SEQUENCE
GAS AIR HEATER-A
GAS AIR HEATER-B
ID FAN-A DETAIL
ID FAN-B DETAIL
FD FAN-A DETAIL
FD FAN-B DETAIL
PA FAN-A DETAIL
PA FAN-B DETAIL
GAH-A STATUS
GAH-A PROX SEN FOR GAH NO ROTATION
GAH-A MAIN MOTOR DISTURBED
GAH-A LUBE OIL PP DISTURBED
GAH-A
START
STOP
FIRE ALARM STATUS
ASH BLOW 1
ASH BLOW 2
ASH BLOW 3
ASH BLOW 4
21GEB51AA061
21GEB51AA062
21GEB51AA063
21GEB51AA064
SERVICE AIR
PRI AIR
42.6 °C
27.6 °C
SEC AIR
59.7 °C
4.8 mbar
FLUE GAS
120.4 °C
-9.3 mbar

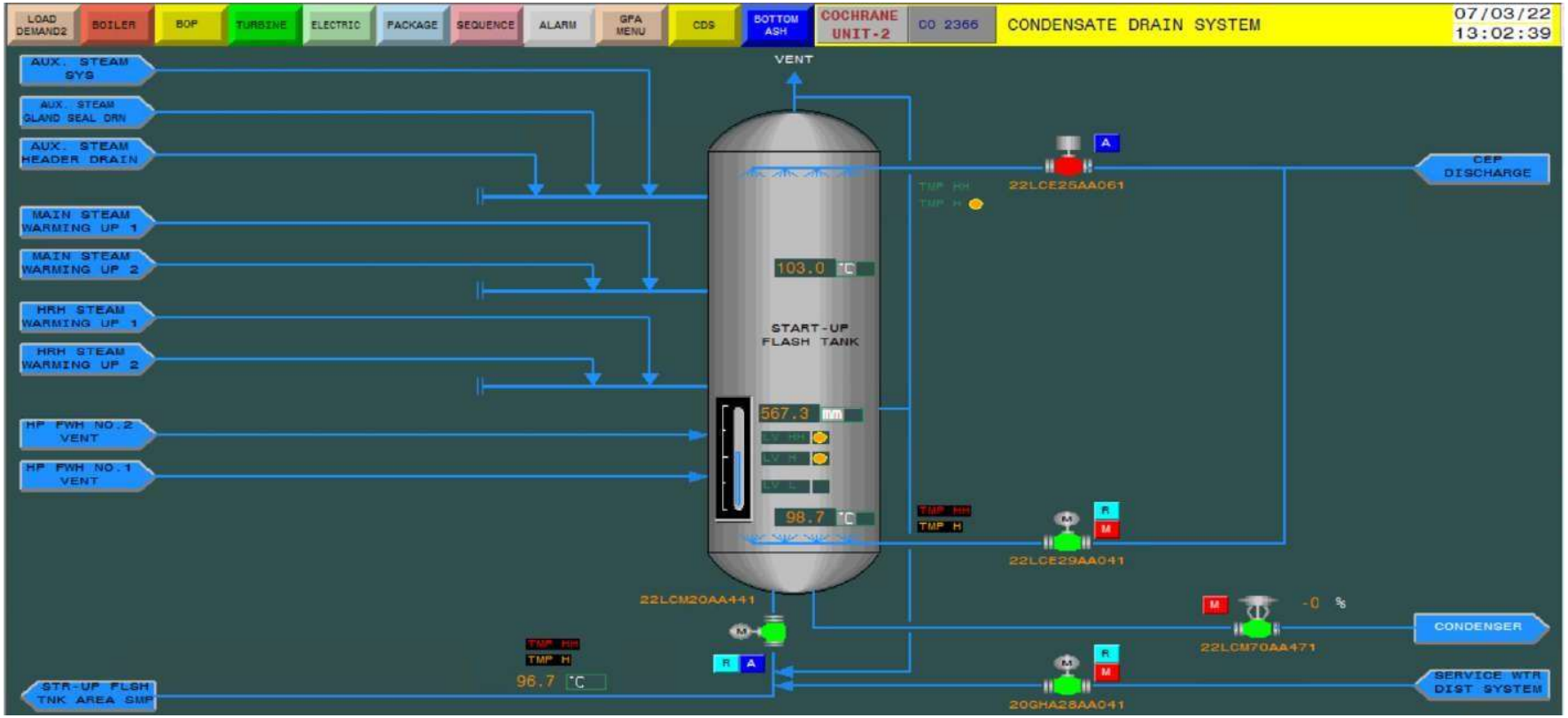

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2360
MAIN AND REHEAT STEAM SYSTEM
07/03/22
13:01:12
142.4 barg
487.1 °C
483.4 °C
142.4 barg
485.2 °C
477.9 °C
FINAL SPHTR
MED
142.8 bar
AVG
489.3 °C
HP TURBINE
270.4 °C
10.0 BARG
474.0 °C
9.3 BARG
REHTR
270.2 °C
10.0 BARG
9.1 barg
470.8 °C
9.3 barg
471.0 °C
IP TURBINE
LP TURBINE INLET
LP FWH NO.3
DEAERATOR
HP FWH NO.1
CONDENSER FLASH VESSEL
CONDENSER FLASH VESSEL
START-UP FLASH TANK
START-UP FLASH TANK
N2 FILLING
START-UP FLASH TANK
N2 FILLING
0 %
22LBA41AA441
98 %
22LBA42AA441
22LBA31AA441
22LBA32AA441
22LBC30AA461
22LBB32AA441
22LBB31AA441
1 %
22LBB42AA441
465.8 °C
-0 %
463.8 °C
STEAM DRN VLV GROUP
GRP CTRL
START-UP FLASH TANK
AUX. STEAM HEADER
EXT STM TO HP FWH NO.2

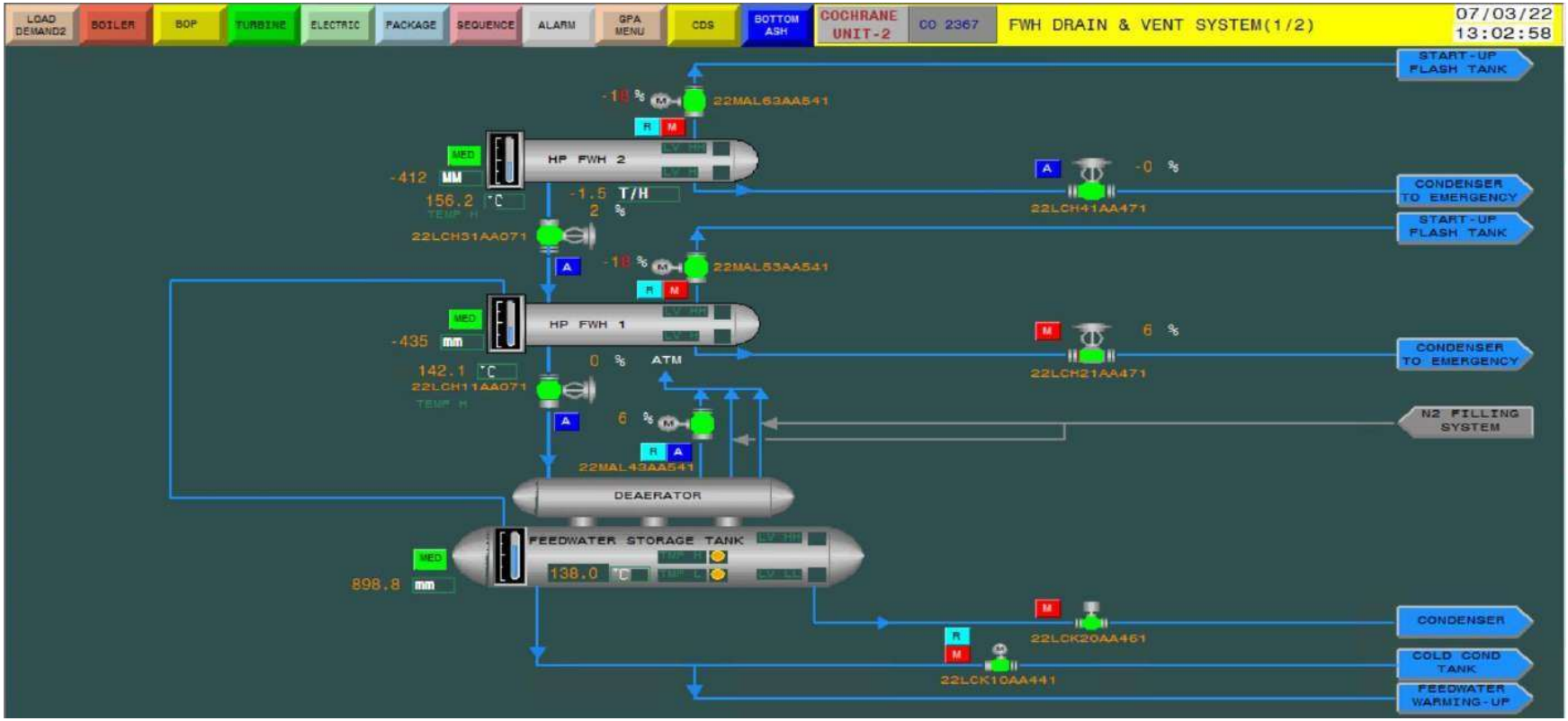

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CC 2361
HP FWH STEAM EXTRACTION SYSTEM
07/03/22
13:01:28
HP TURBINE EXHAUST
9.7 BARG
263.0 °C
277.6 °C
22LBQ20AA061
22LBQ20AA041
10.0 BARG
276.7 °C
HP FEEDWATER HEATER NO.2
-413 MM
CONDENSER FLSH VESSEL1
N2 FILLING SYSTEM
22LBQ20AA461
IP TURBINE EXTRACTION
5.0 BARG
321.2 °C
386.1 °C
22LBQ10AA061
22LBQ10AA041
22LBQ10AA062
22LBQ10AA461
22LBQ10AA462
CONDENSER FLSH VESSEL2
CONDENSER FLSH VESSEL3
4.9 BARG
377.3 °C
HP FEEDWATER HEATER NO.1
-432 mm
5.1 BARG
TURB GLAND STM LEAK-OFF
2.4 BARG
IP TURBINE EXTRACTION
267.6 °C
285.7 °C
22LBD10AA061
22LBD10AA041
22LBD10AA062
22LBD10AA461
22LBD10AA462
269.7 °C
3.0 BARG
DEAERATOR
FEEDWATER TANK
CBD FLASH TANK
AUXILIARY STEAM HDR
15 %
22LBG42AA071
904.1 mm
FWH HT STM DRN VLV GRP
GRP CTRL
22LBD47AA041

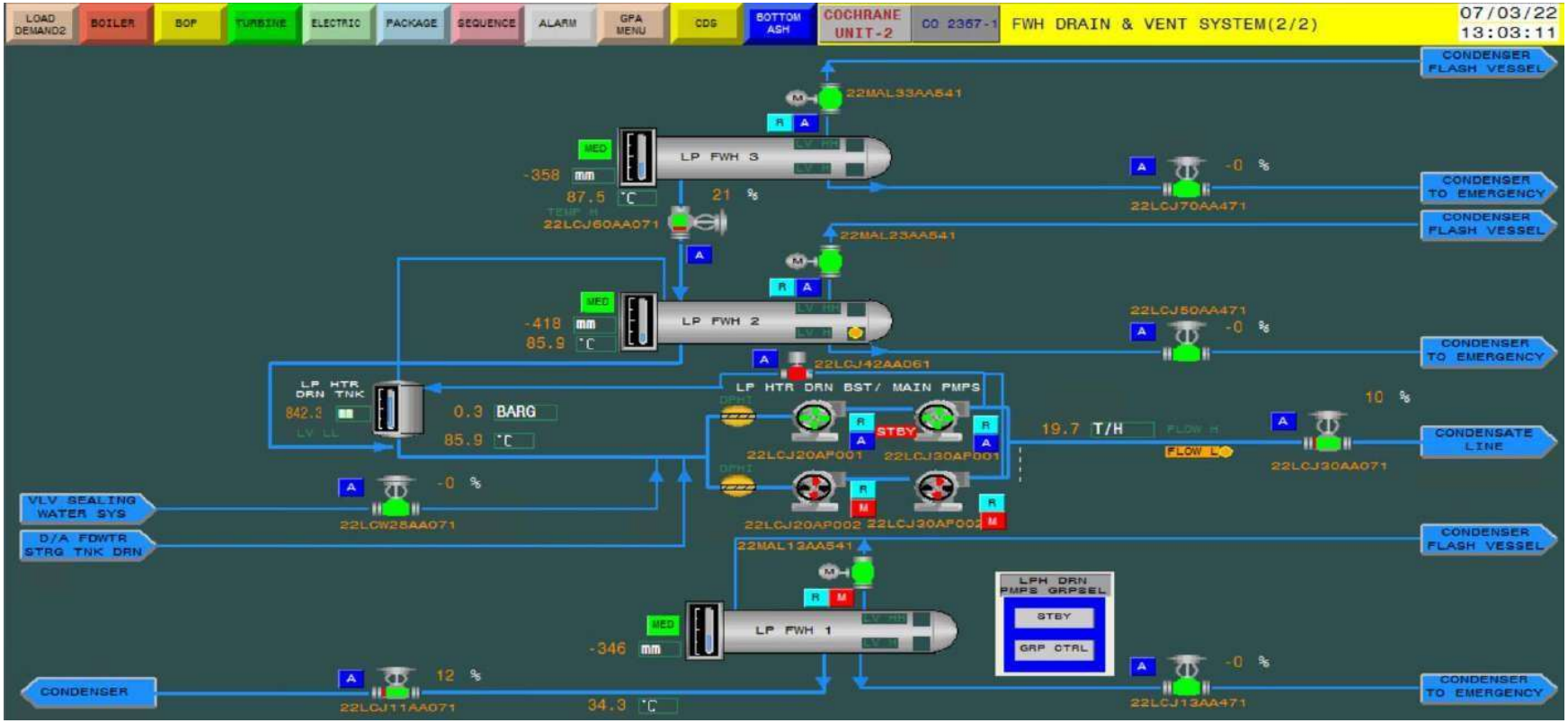

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2362
LP FWH STEAM EXTRACTION SYSTEM
07/03/22
13:01:43
IP TURBINE EXHAUST
0.7 BARG
238.2 °C
223.5 °C
22LBS30AA061
22LBS30AA041
0.8 BARG
237.4 °C
CONDENSER FLSH VESSEL1
22LBS30AA461
CONDENSER FLSH VESSEL2
22LBS30AA462
N2 FILLING SYSTEM
LP FEEDWATER HEATER NO.3
-358 mm
LP TURBINE EXTRACTION
-0.4 BARG
151.9 °C
137.7 °C
22LBS20AA061
22LBS20AA041
-0.0 BARG
151.2 °C
22LBS20AA461
22LBS20AA462
LP FEEDWATER HEATER NO.2
-415 mm
LP TURBINE EXHAUST
-0.8 BARG
60.4 °C
LP FEEDWATER HEATER NO.1
-0.7 BARG
60.7 °C
-348 mm

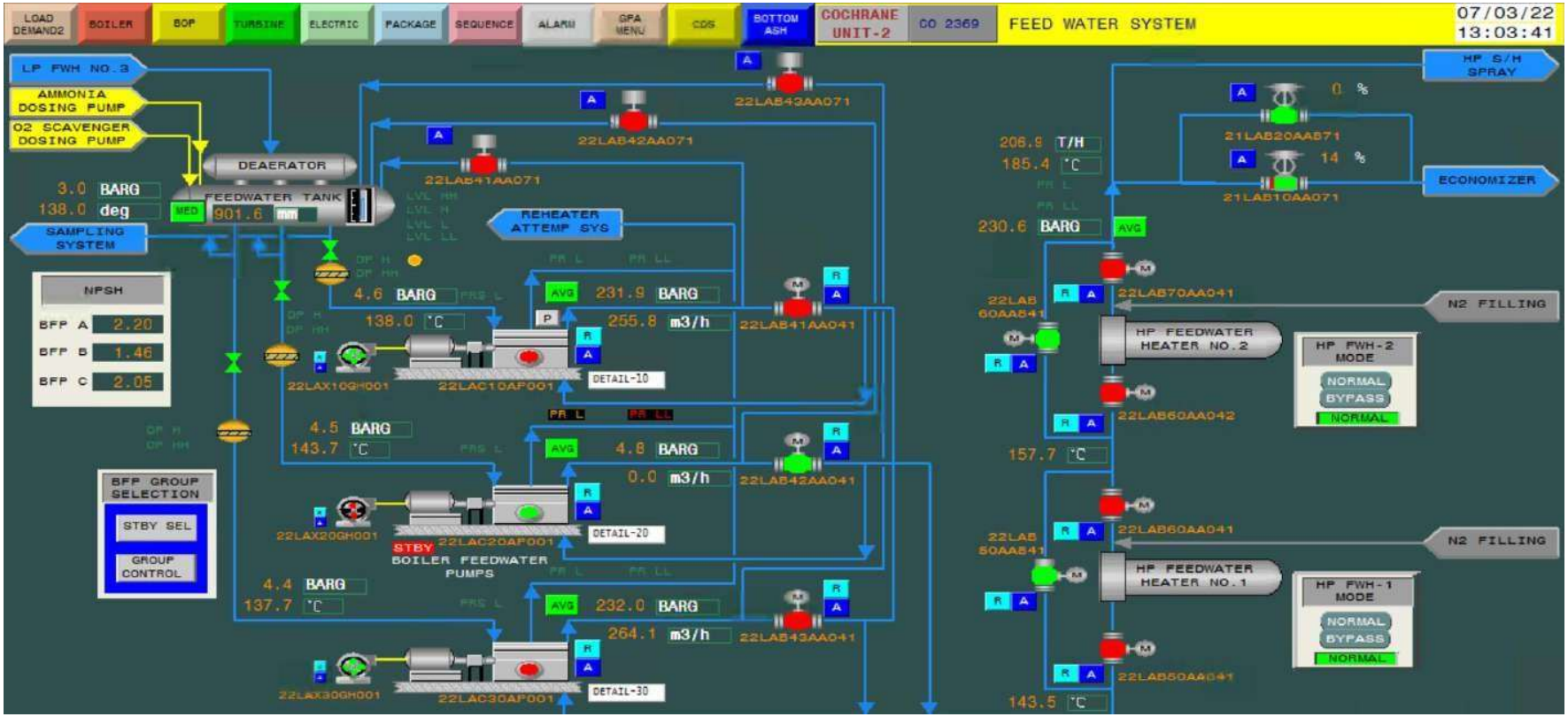

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
COS
BOTTOM ASH
COCHRANE UNIT-2
CO 2363
AUX STEAM SYSTEM
07/03/22
13:01:59
COLD REHEAT STEAM LINE
270.3 °C
9.9 BARG
22LBG21AA041
22LBG21AA071
-0 %
22LBG21AA042
22LBG21AA072
0 %
3RD SH OF BOILER
422.0 °C
142.9 bar
22LBG23AA041
22LBG23AA071
5 %
START-UP FLASH TANK 2
ST
22LCE10AA071
-0 %
-0.0 T/H
314.7 °C
-0.1 T/H
17.9 BARG
313.4 °C
AUXILIARY STEAM HDR FOR UNIT#2
17.5 °C
30.2 BARG
22LCE10AA041
CEP DISCHARGE
TBN GLAND SEAL STEAM
22LBG41AA041
START-UP FLASH TANK
BOILER AUX STM SPLY SYS
DEAERATOR PEGGING
SJAE MOTIVE STEAM
22LBG48AA041
22LBG64AA441
START-UP FLASH TANK
TOTAL STEAM FLOW TOTALIZER -FROM ANGAMOS
FLOW RESET
0.0 TON
ELAPSED HOURS 8192 HRS
-0.1 T/H
100.8 °C
-0.0 BARG
FROM ANGAMOS PLANT
AMMONIA STORAGE SYS
DESALINATION PLANT
12LBG48AA041
AUXILIARY STEAM HDR FOR UNIT#1
AUXILIARY STEAM SYSTEM UNIT 1

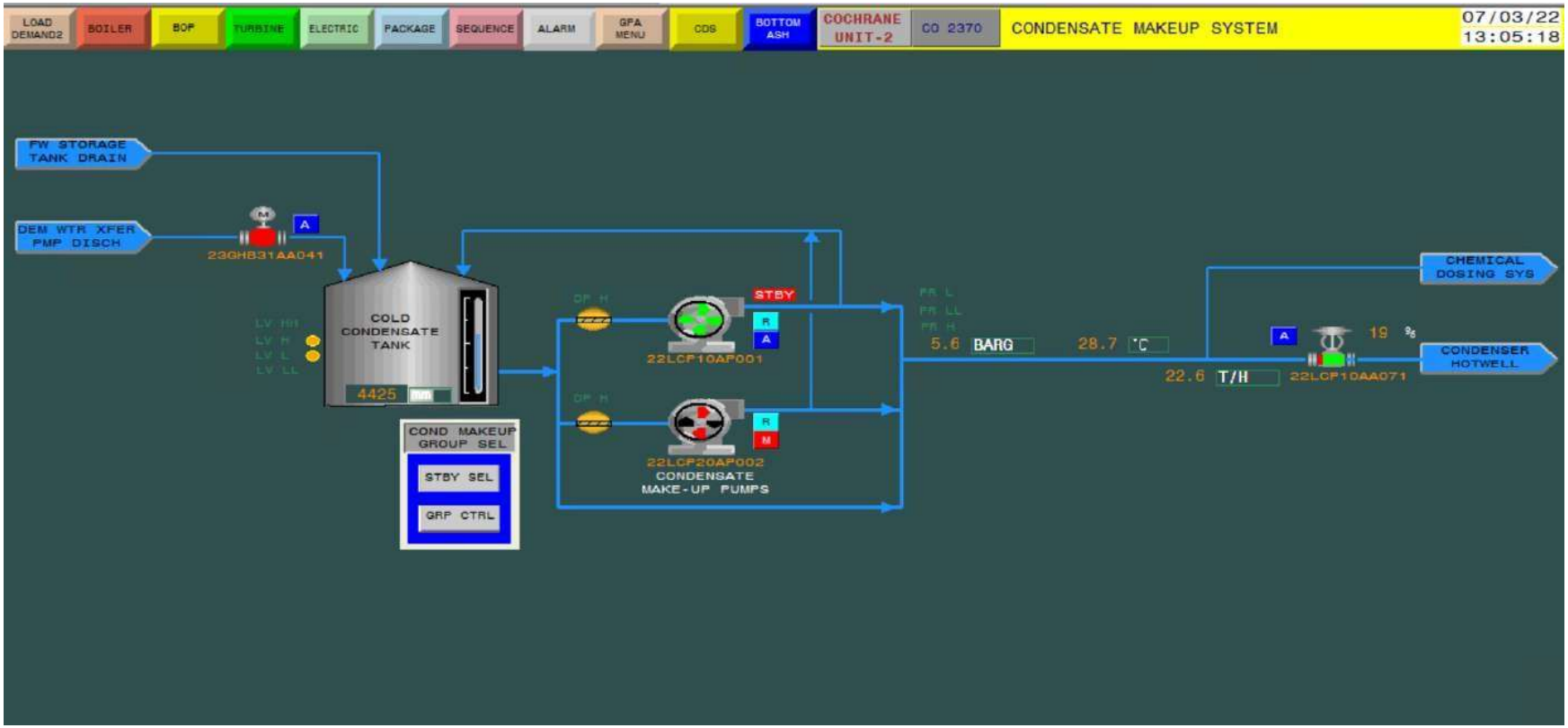

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2445
CONDENSATE SYSTEM OVERVIEW
07/03/22
13:02:12
-0.98 BARG
CONDENSER
708 mm
SJAE GROUP
GRP CTRL
CEP DISCH.
AUX. STM HDR 1
FEEDWTR TANK
FEED WATER SYSTEM
DEMI. SYS
BLR INITIAL FILLING
LP FWH 3
LP FWH 2
LP FWH 1
LP HTR DRN FP
COLD COND. TANK
START -UP FLASH TANK
SUMP
SERVICE WTR DISTB SYS
ABNORMAL W.W POND
LP FWH-1 MODE
NORMAL
BYPASS
NORMAL
COND MAKEUP GROUP SEL
STBY SEL
GRP CTRL

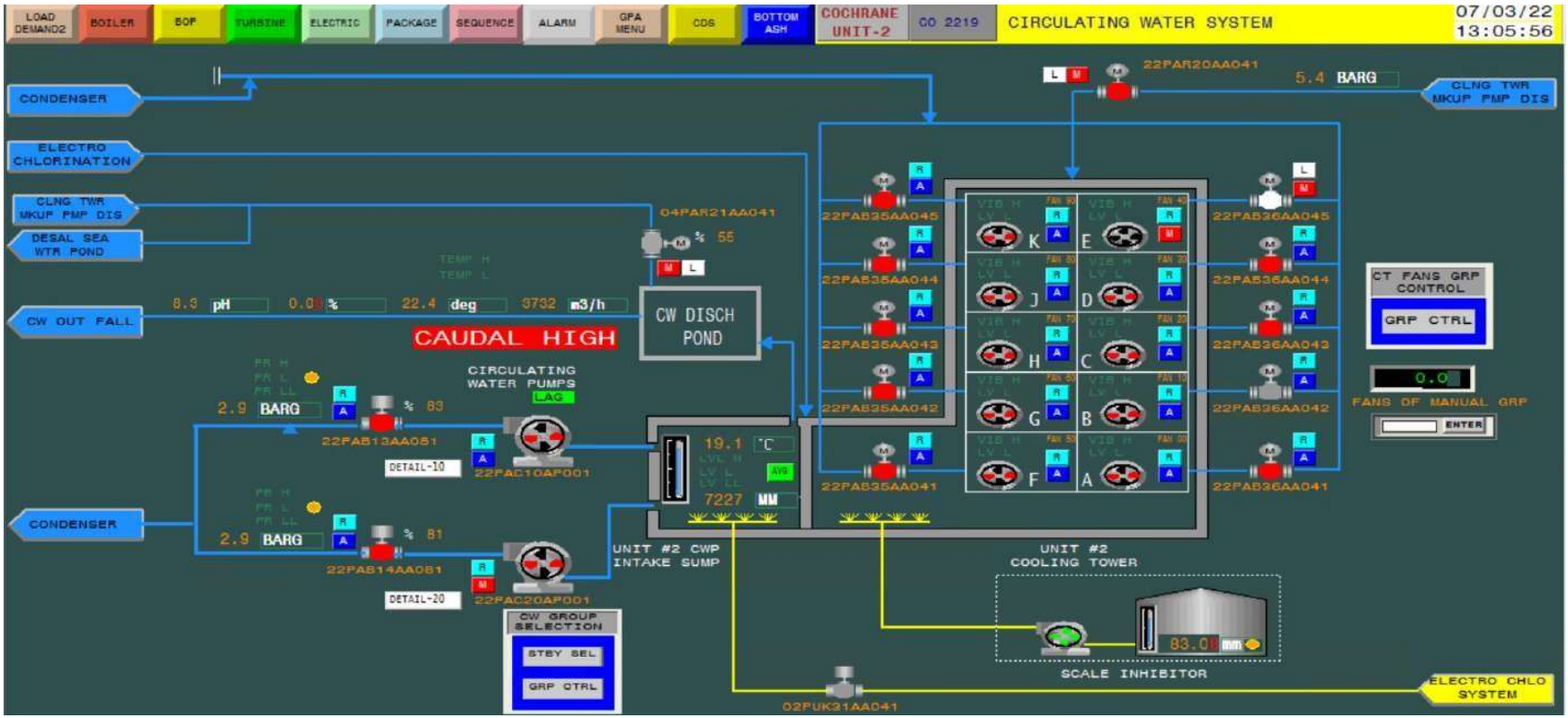

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2366
CONDENSATE DRAIN SYSTEM
07/03/22
13:02:39
AUX. STEAM SYS
AUX. STEAM GLAND SEAL DRN
AUX. STEAM HEADER DRAIN
MAIN STEAM WARMING UP 1
MAIN STEAM WARMING UP 2
HRH STEAM WARMING UP 1
HRH STEAM WARMING UP 2
HP FWH NO.2 VENT
HP FWH NO.1 VENT
VENT
103.0 °C
START-UP FLASH TANK
567.3 mm
98.7 °C
22LCE25AA061
CEP DISCHARGE
22LCE29AA041
22LCM20AA441
22LCM70AA471
-0 %
CONDENSER
20GHA28AA041
SERVICE WTR DIST SYSTEM
STR-UP FLSH TNK AREA SMP
96.7 °C

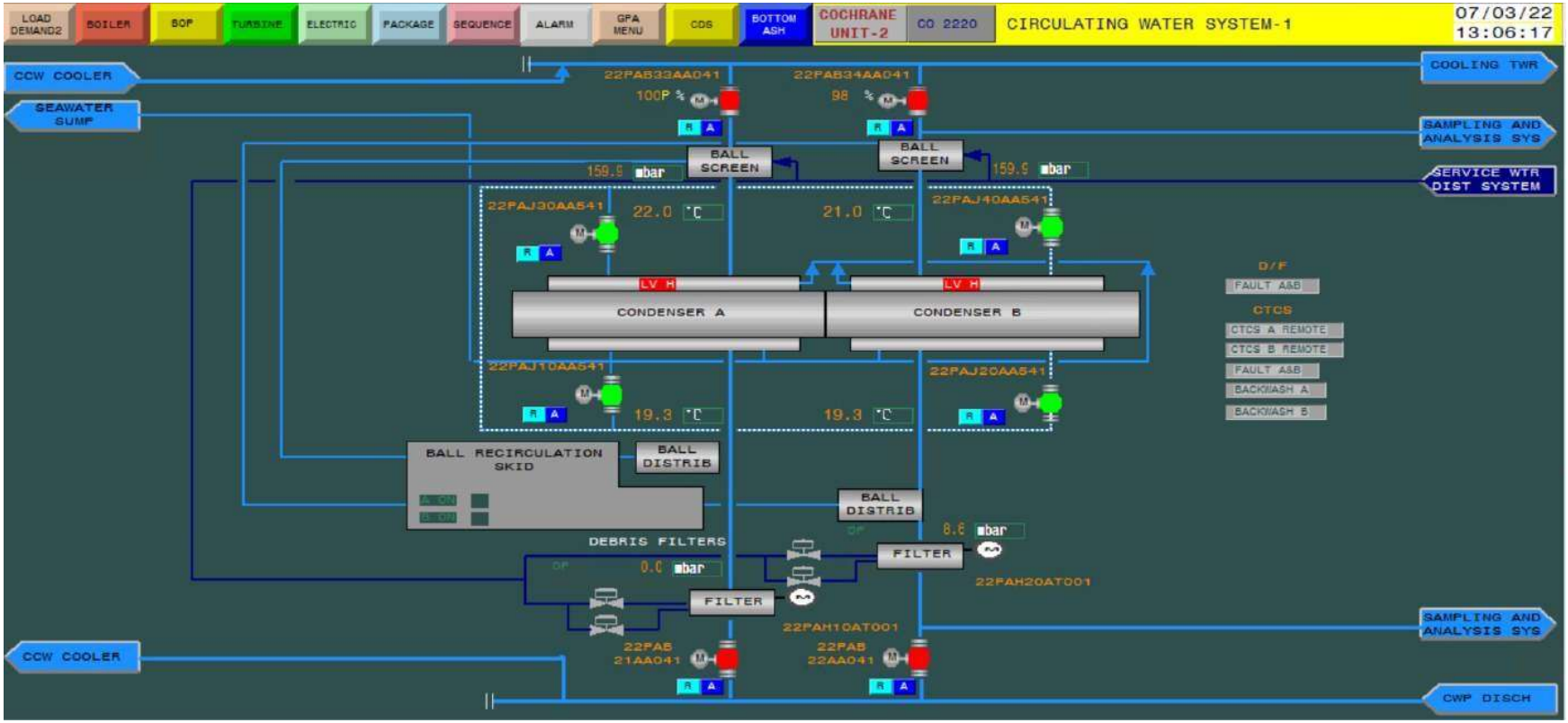

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2367
FWH DRAIN & VENT SYSTEM(1/2)
07/03/22
13:02:58
START-UP FLASH TANK
22MAL63AA541
HP FWH 2
-412 MM
156.2 °C
-1.5 T/H
2 %
22LCH31AA071
22LCH41AA471
CONDENSER TO EMERGENCY
START-UP FLASH TANK
22MAL53AA541
HP FWH 1
-435 mm
142.1 °C
0 % ATM
22LCH11AA071
22LCH21AA471
CONDENSER TO EMERGENCY
N2 FILLING SYSTEM
22MAL43AA541
DEAERATOR
FEEDWATER STORAGE TANK
898.8 mm
138.0 °C
22LCK20AA461
CONDENSER
22LCK10AA441
COLD COND TANK
FEEDWATER WARMING-UP

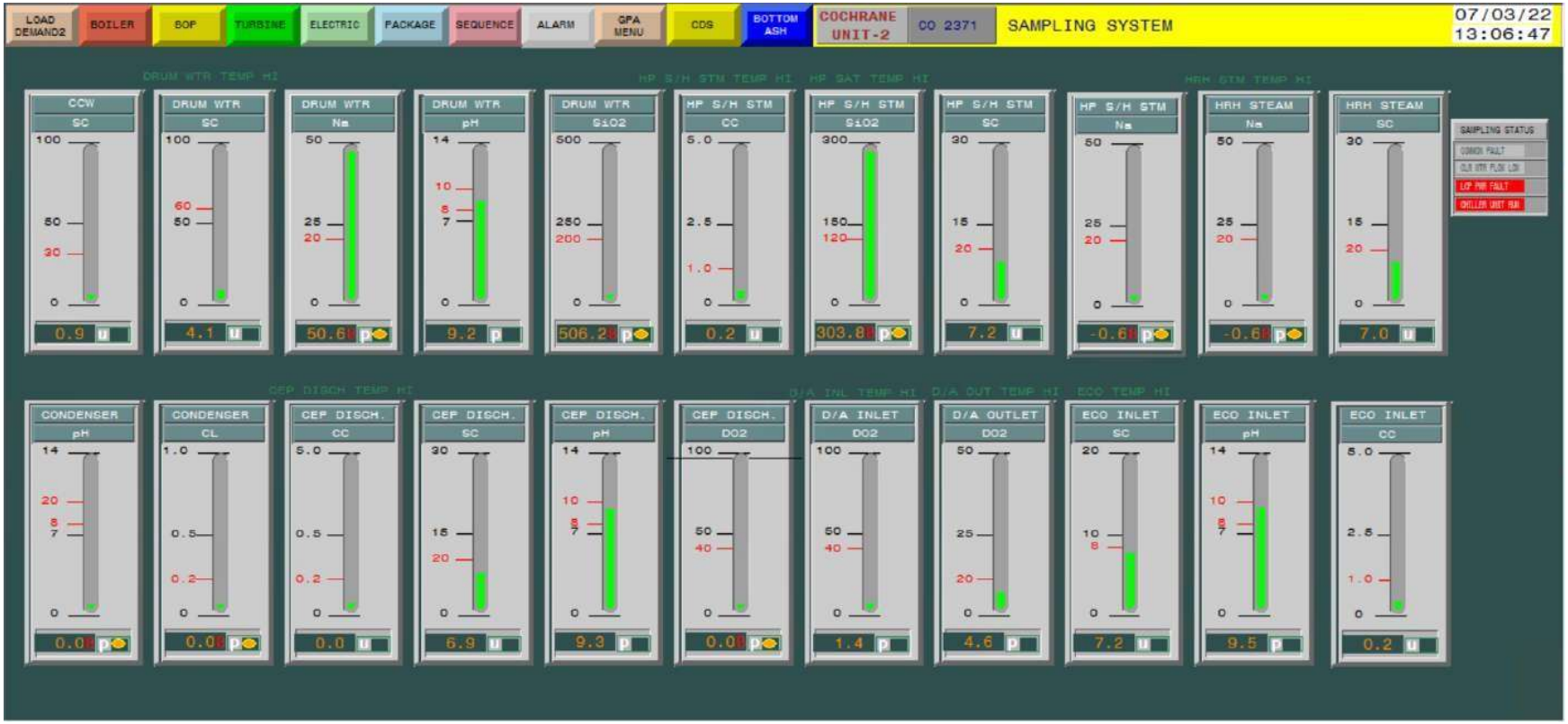

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDG
BOTTOM ASH
COCHRANE UNIT-2
CO 2367-1
FWH DRAIN & VENT SYSTEM(2/2)
07/03/22
13:03:11
CONDENSER FLASH VESSEL
22MAL33AA541
LP FWH 3
-358 mm
87.5 °C
21 %
22LCJ60AA071
22LCJ70AA471
-0 %
CONDENSER TO EMERGENCY
CONDENSER FLASH VESSEL
22MAL23AA541
LP FWH 2
-418 mm
85.9 °C
22LCJ50AA471
22LCJ42AA061
LP HTR DRN TNK
842.3
LV LL
0.3 BARG
85.9 °C
LP HTR DRN BST/ MAIN PMPS
22LCJ20AP001
STBY
22LCJ30AP001
19.7 T/H
10 %
22LCJ30AA071
CONDENSATE LINE
VLV SEALING WATER SYS
D/A FDWTR STRG TNK DRN
22LCW28AA071
22LCJ20AP002
22LCJ30AP002
22MAL13AA541
LP FWH 1
-346 mm
LPH DRN PMPS GRPSEL
STBY
GRP CTRL
CONDENSER
12 %
22LCJ11AA071
34.3 °C
22LCJ13AA471

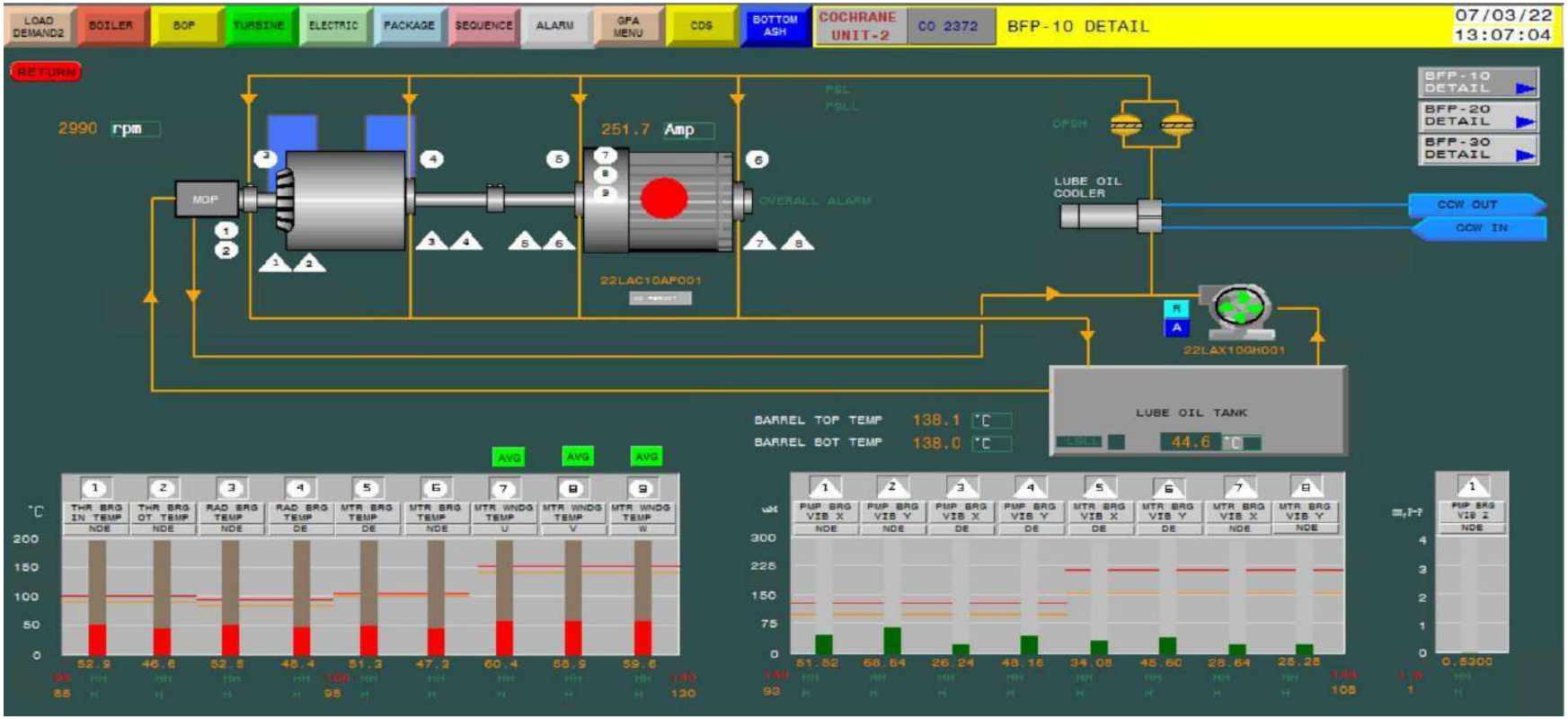

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2369
FEED WATER SYSTEM
07/03/22
13:03:41
LP FWH NO.3
AMMONIA DOSING PUMP
O2 SCAVENGER DOSING PUMP
SAMPLING SYSTEM
DEAERATOR
FEEDWATER TANK
3.0 BARG
138.0 deg
MED
901.6 mm
REHEATER ATTEMP SYS
NPSH
BFP A 2.20
BFP B 1.46
BFP C 2.05
BFP GROUP SELECTION
STBY SEL
GROUP CONTROL
22LAB43AA071
22LAB42AA071
22LAB41AA071
4.6 BARG
138.0 °C
231.9 BARG
255.8 m3/h
22LAB41AA041
22LAX10GH001
22LAC10AP001
DETAIL-10
4.5 BARG
143.7 °C
4.8 BARG
0.0 m3/h
22LAB42AA041
22LAX20GH001
STBY
22LAC20AP001
BOILER FEEDWATER PUMPS
DETAIL-20
4.4 BARG
137.7 °C
232.0 BARG
264.1 m3/h
22LAB43AA041
22LAX30GH001
22LAC30AP001
DETAIL-30
HP S/H SPRAY
0 %
21LAB20AA871
14 %
21LAB10AA071
ECONOMIZER
206.9 T/H
185.4 °C
230.6 BARG
22LAB70AA041
N2 FILLING
HP FEEDWATER HEATER NO.2
HP FWH-2 MODE
NORMAL
BYPASS
NORMAL
22LAB60AA042
157.7 °C
22LAB60AA041
N2 FILLING
HP FEEDWATER HEATER NO.1
HP FWH-1 MODE
NORMAL
BYPASS
NORMAL
143.5 °C

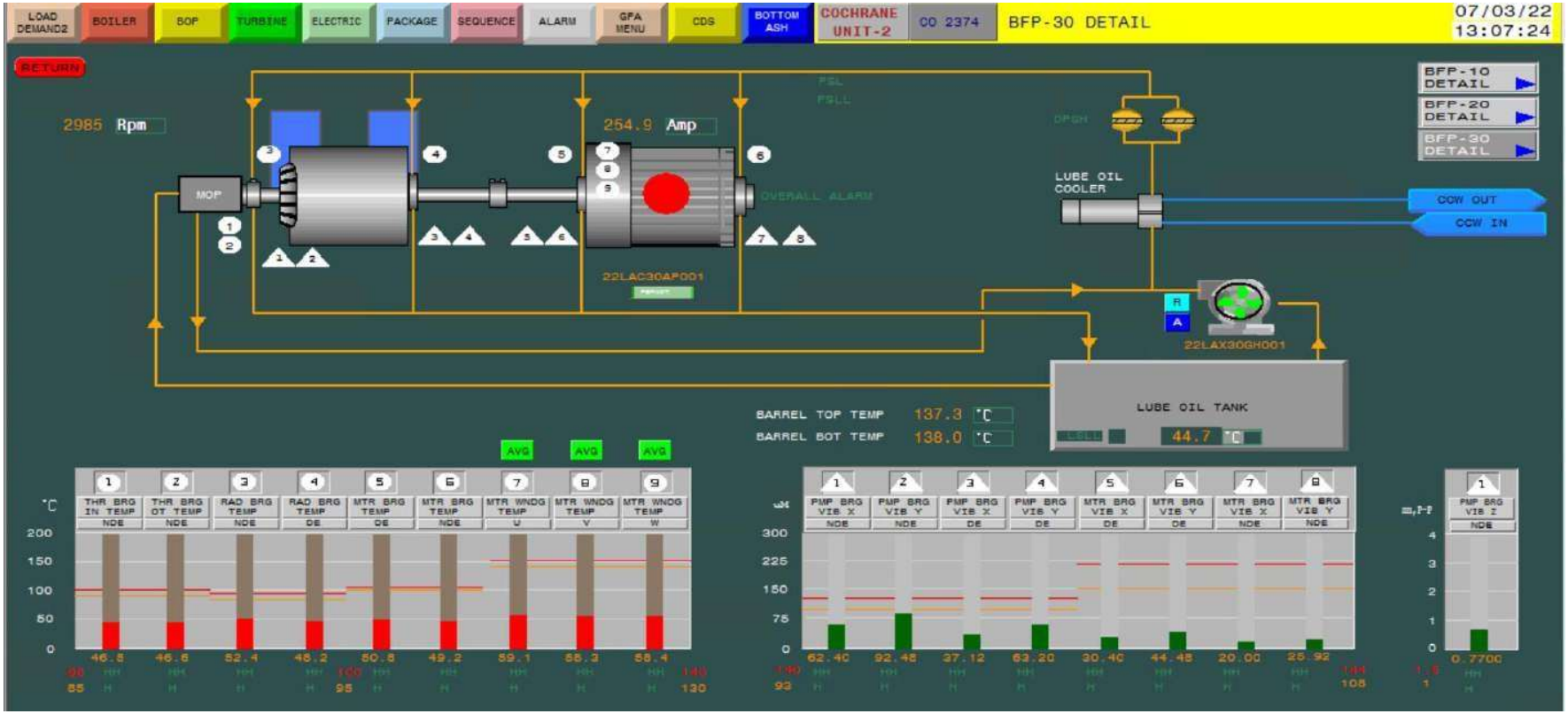

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2370
CONDENSATE MAKEUP SYSTEM
07/03/22
13:05:18
FW STORAGE TANK DRAIN
DEM WTR XFER PMP DISCH
23GHB31AA041
A
COLD CONDENSATE TANK
4425
LV HH
LV H
LV L
LV LL
COND MAKEUP GROUP SEL
STBY SEL
GRP CTRL
STBY
22LCP10AP001
22LCP20AP002
CONDENSATE MAKE-UP PUMPS
5.6 BARG
28.7 °C
22.6 T/H
22LCP10AA071
19 %
CHEMICAL DOSING SYS
CONDENSER HOTWELL

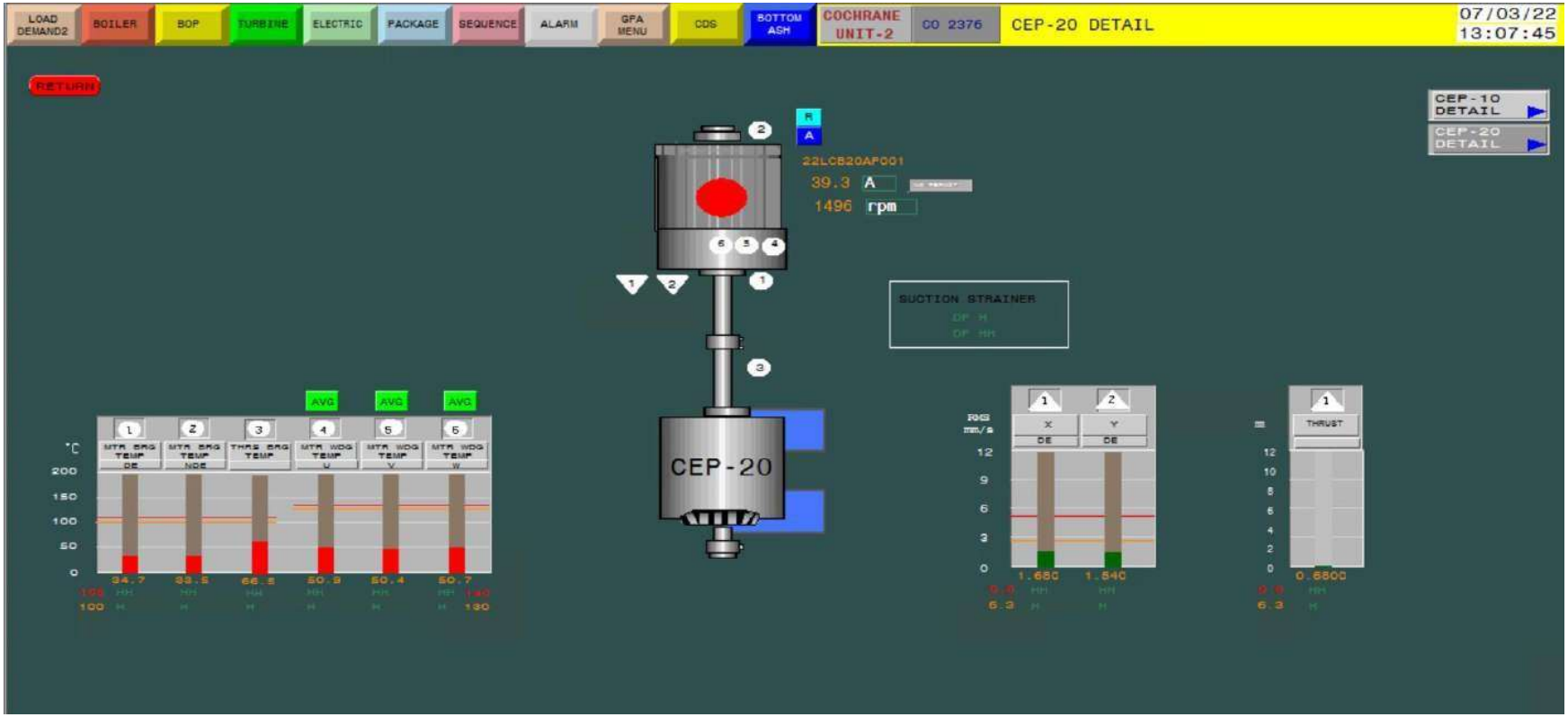

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2219
CIRCULATING WATER SYSTEM
07/03/22
13:05:56
CONDENSER
ELECTRO CHLORINATION
CLNG TWR MKUP PMP DIS
DESAL SEA WTR POND
CW OUT FALL
8.3 pH
0.0 %
22.4 deg
3732 m3/h
CAUDAL HIGH
CW DISCH POND
04PAR21AA041
% 55
22PAR20AA041
5.4 BARG
CLNG TWR MKUP PMP DIS
22PAB35AA045
22PAB35AA044
22PAB35AA043
22PAB35AA042
22PAB35AA041
22PAB36AA045
22PAB36AA044
22PAB36AA043
22PAB36AA042
22PAB36AA041
CT FANS GRP CONTROL
GRP CTRL
0.0
FANS OF MANUAL GRP
ENTER
CIRCULATING WATER PUMPS
LAG
2.9 BARG
% 83
22PAB13AA081
DETAIL-10
22PAC10AP001
19.1 °C
AVG
7227 MM
CONDENSER
2.9 BARG
% 81
22PAB14AA081
DETAIL-20
22PAC20AP001
UNIT #2 CWP INTAKE SUMP
CW GROUP SELECTION
STBY SEL
GRP CTRL
UNIT #2 COOLING TOWER
83.0 mm
SCALE INHIBITOR
02PUK31AA041
ELECTRO CHLO SYSTEM

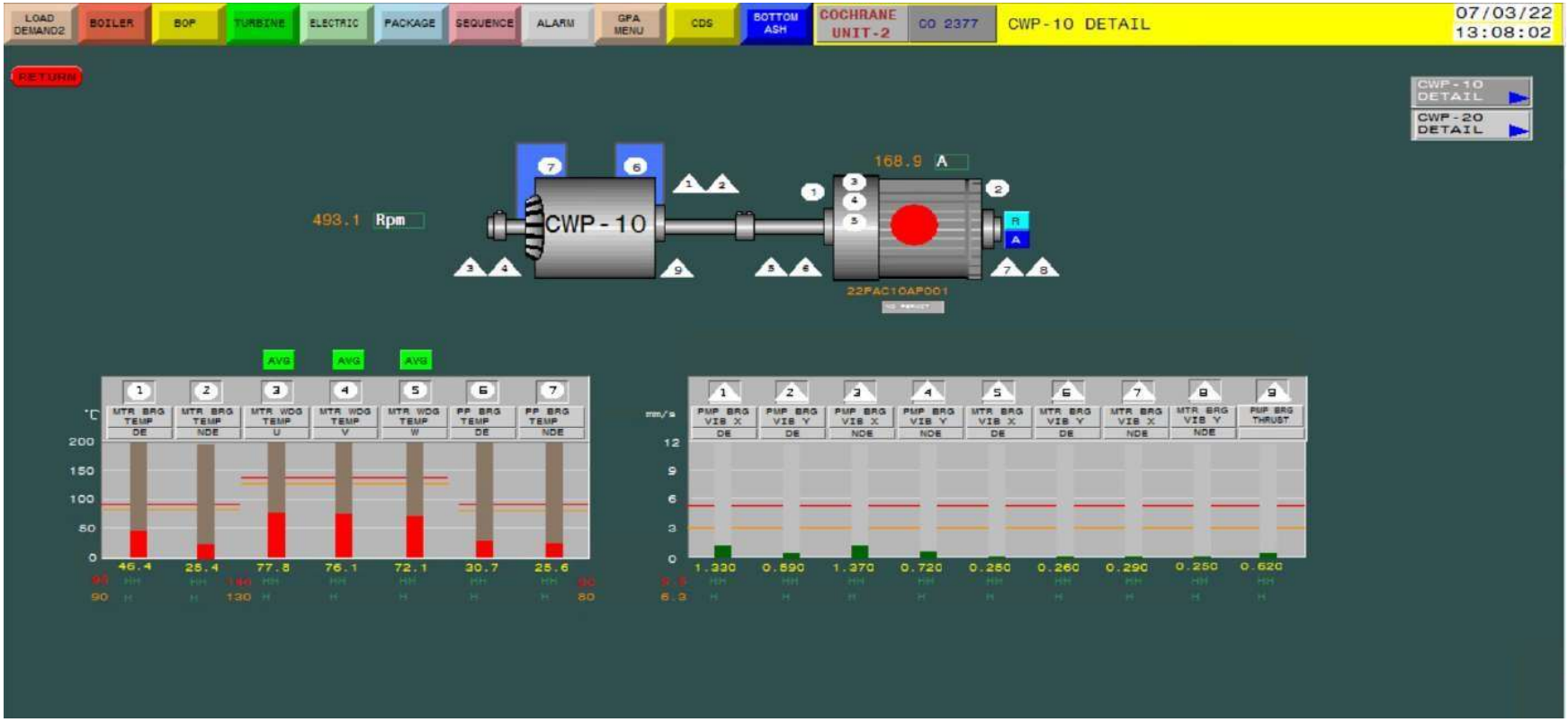

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2220
CIRCULATING WATER SYSTEM-1
07/03/22 13:06:17
CCW COOLER
SEAWATER SUMP
22PAB33AA041
100P %
22PAB34AA041
98 %
COOLING TWR
SAMPLING AND ANALYSIS SYS
BALL SCREEN
BALL SCREEN
159.9 mbar
159.9 mbar
SERVICE WTR DIST SYSTEM
22PAJ30AA541
22.0 °C
21.0 °C
22PAJ40AA541
LV H
LV H
CONDENSER A
CONDENSER B
D/F
FAULT A&B
CTCS
CTCS A REMOTE
CTCS B REMOTE
FAULT A&B
BACKWASH A
BACKWASH B
22PAJ10AA541
22PAJ20AA541
19.3 °C
19.3 °C
BALL RECIRCULATION SKID
BALL DISTRIB
BALL DISTRIB
8.8 mbar
DEBRIS FILTERS
FILTER
22PAH20AT001
0.0 mbar
FILTER
22PAH10AT001
SAMPLING AND ANALYSIS SYS
CCW COOLER
22PAB 21AA041
22PAB 22AA041
CWP DISCH

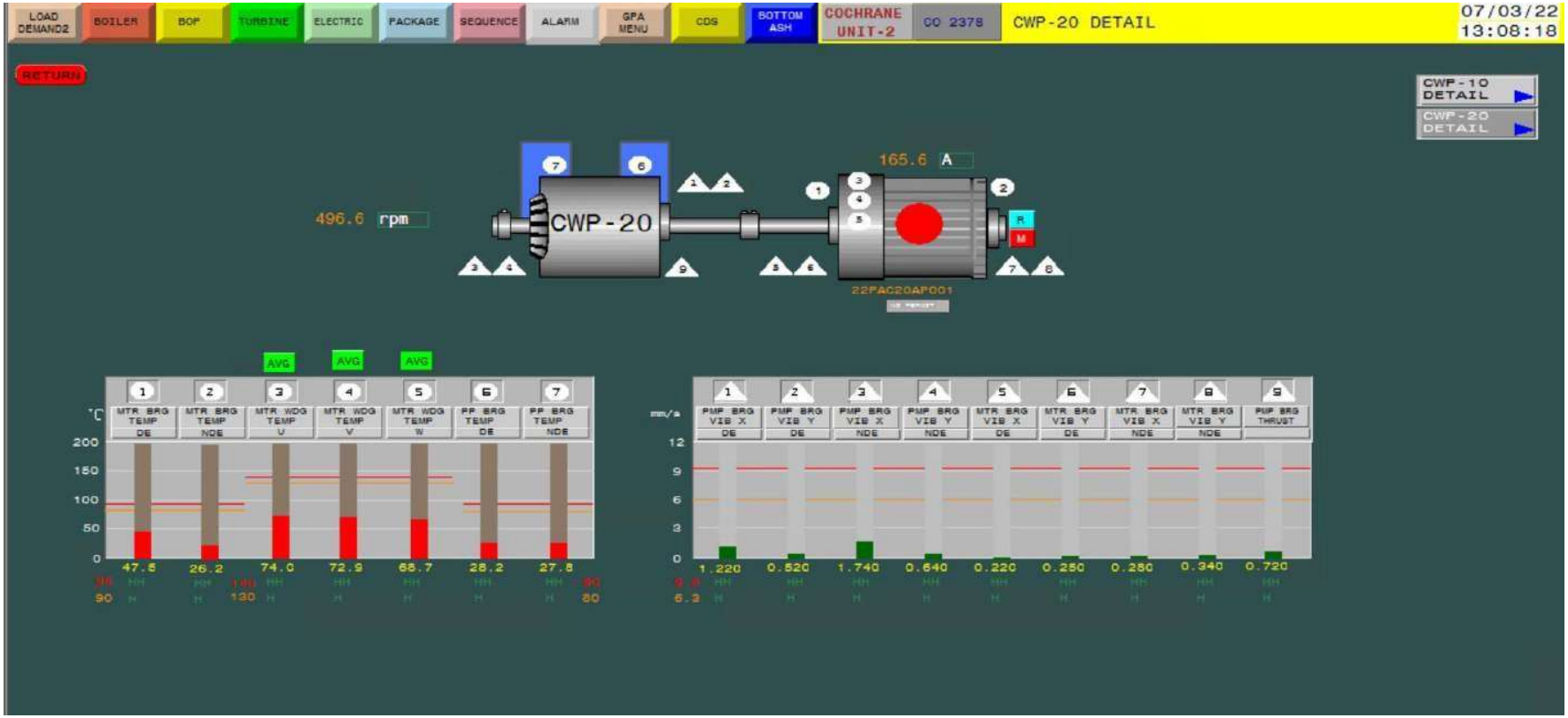

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2371
SAMPLING SYSTEM
07/03/22
13:06:47
DRUM WTR TEMP HI
HP S/H STM TEMP HI
HP SAT TEMP HI
HRH STM TEMP HI
CCW SC 0.9
DRUM WTR SC 4.1
DRUM WTR Na 50.6
DRUM WTR pH 9.2
DRUM WTR SiO2 506.2
HP S/H STM CC 0.2
HP S/H STM SiO2 303.8
HP S/H STM SC 7.2
HP S/H STM Na -0.6
HRH STEAM Na -0.6
HRH STEAM SC 7.0
SAMPLING STATUS
COMMON FAULT
CLR WTR FLOW LOW
LCP PWR FAULT
CHILLER UNIT RUN
CEP DISCH TEMP HI
D/A INL TEMP HI
D/A OUT TEMP HI
ECO TEMP HI
CONDENSER pH 0.0
CONDENSER CL 0.0
CEP DISCH. CC 0.0
CEP DISCH. SC 6.9
CEP DISCH. pH 9.3
CEP DISCH. DO2 0.0
D/A INLET DO2 1.4
D/A OUTLET DO2 4.6
ECO INLET SC 7.2
ECO INLET pH 9.5
ECO INLET CC 0.2

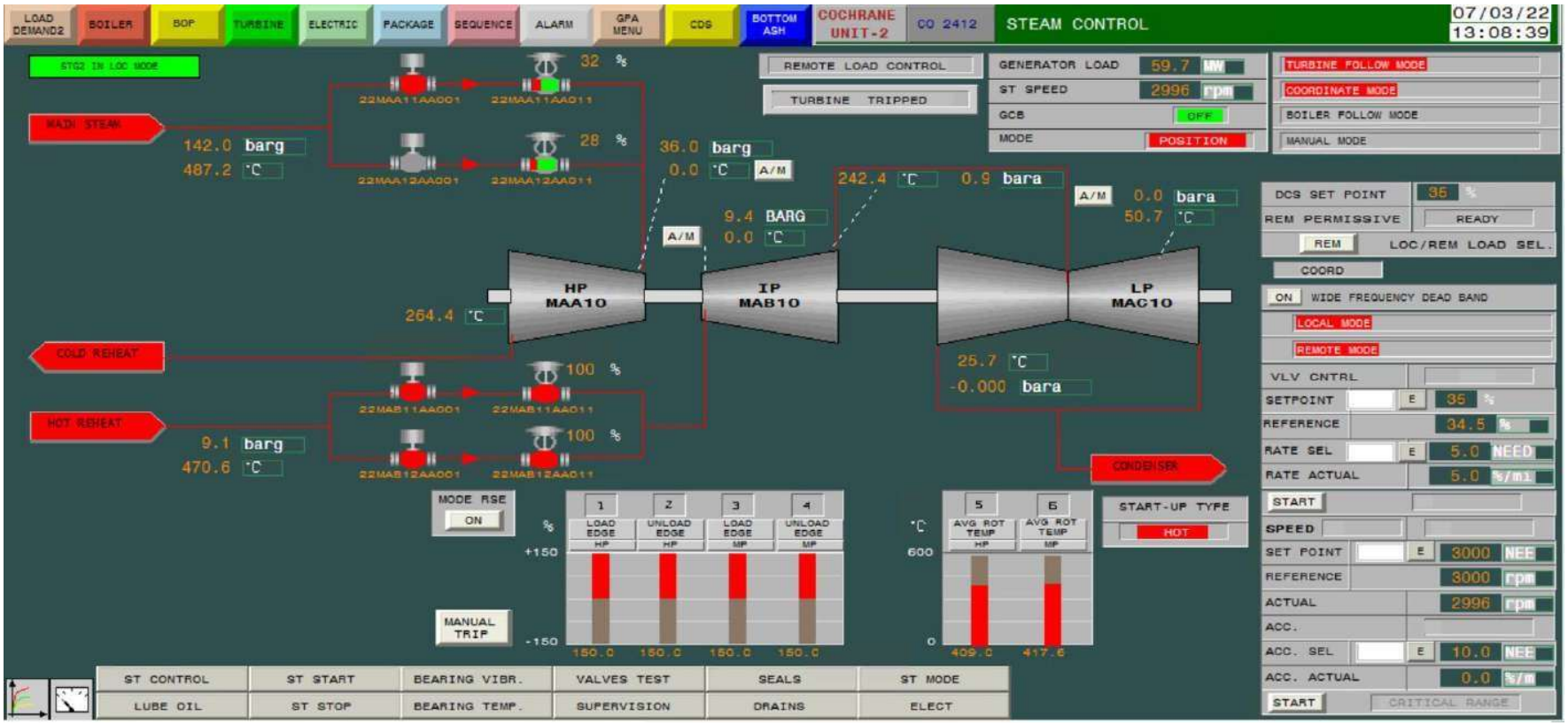

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2372
BFP-10 DETAIL
07/03/22
13:07:04
RETURN
2990 rpm
251.7 Amp
MOP
22LAC10AP001
OVERALL ALARM
LUBE OIL COOLER
CCW OUT
CCW IN
22LAX10GH001
LUBE OIL TANK
44.6 °C
BARREL TOP TEMP 138.1 °C
BARREL BOT TEMP 138.0 °C
BFP-10 DETAIL
BFP-20 DETAIL
BFP-30 DETAIL
THR BRG IN TEMP
THR BRG OT TEMP
RAD BRG TEMP
MTR BRG TEMP
MTR WNDG TEMP
PMP BRG VIB X
PMP BRG VIB Y
MTR BRG VIB X
MTR BRG VIB Y
AVG
52.9
46.6
52.5
48.4
51.3
47.2
60.4
58.9
59.6
51.52
68.64
26.24
48.16
34.08
45.60
28.64
25.28
0.5300

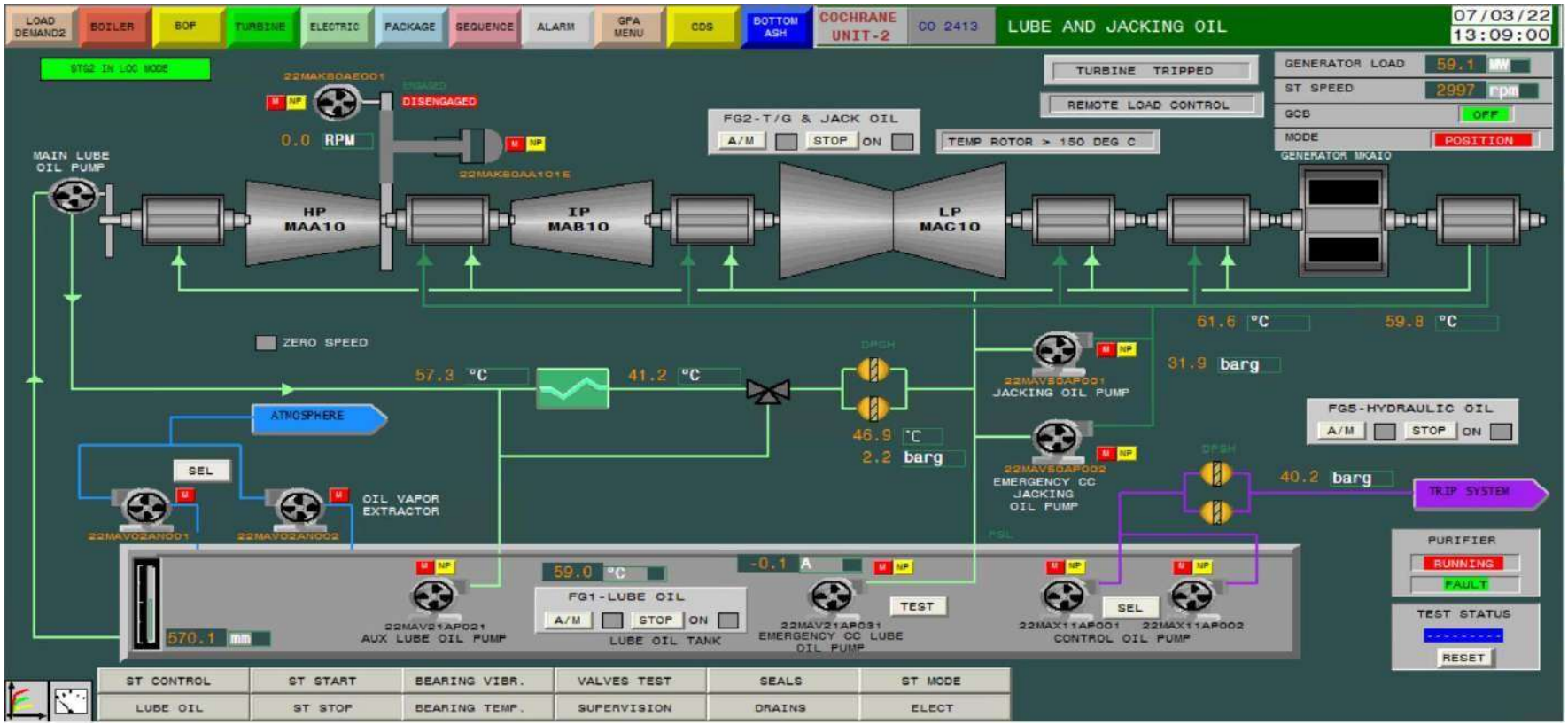

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2374
BFP-30 DETAIL
07/03/22 13:07:24
RETURN
2985 Rpm
254.9 Amp
MOP
22LAC30AP001
OVERALL ALARM
LUBE OIL COOLER
CCW OUT
CCW IN
BFP-10 DETAIL
BFP-20 DETAIL
BFP-30 DETAIL
22LAX30GH001
LUBE OIL TANK
44.7 °C
BARREL TOP TEMP 137.3 °C
BARREL BOT TEMP 138.0 °C
THR BRG IN TEMP NDE
THR BRG OT TEMP NDE
RAD BRG TEMP NDE
RAD BRG TEMP DE
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR WNDG TEMP U
MTR WNDG TEMP V
MTR WNDG TEMP W
46.8 46.6 52.4 48.2 50.8 49.2 59.1 58.3 58.4
PMP BRG VIB X NDE
PMP BRG VIB Y NDE
PMP BRG VIB X DE
PMP BRG VIB Y DE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
62.40 92.48 27.12 63.20 30.40 44.48 20.00 25.92
PMP BRG VIB I NDE
0.7700

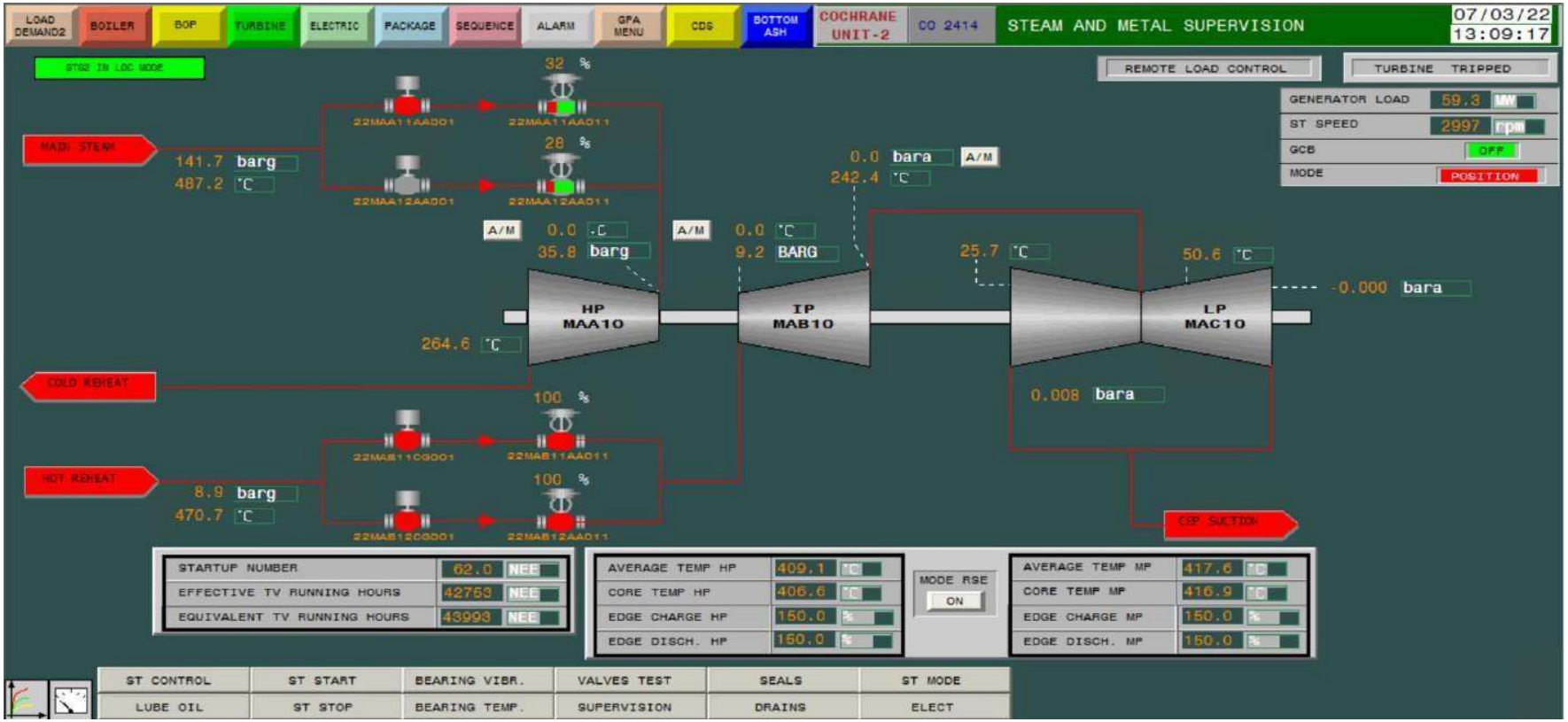

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2376
CEP-20 DETAIL
07/03/22
13:07:45
RETURN
CEP-10 DETAIL
CEP-20 DETAIL
22LCB20AP001
39.3 A
1496 rpm
SUCTION STRAINER
CEP-20
AVG
AVG
AVG
THRUST

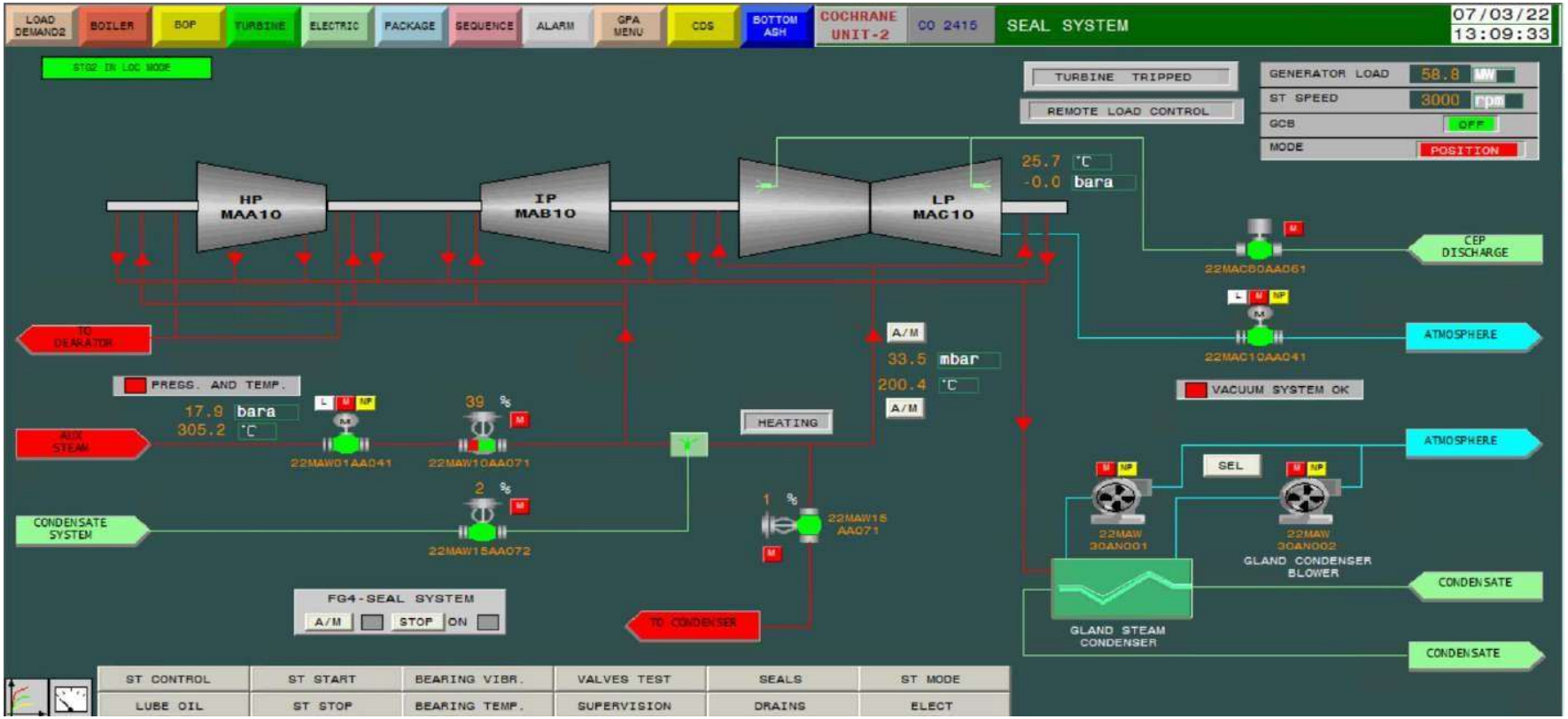

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2377
CWP-10 DETAIL
07/03/22
13:08:02
RETURN
CWP-10 DETAIL
CWP-20 DETAIL
493.1 Rpm
CWP-10
168.9 A
22PAC10AP001
AVG
AVG
AVG
°C
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR WDG TEMP U
MTR WDG TEMP V
MTR WDG TEMP W
PP BRG TEMP DE
PP BRG TEMP NDE
200
150
100
50
0
46.4
25.4
77.8
76.1
72.1
30.7
25.6
mm/s
PMP BRG VIB X DE
PMP BRG VIB Y DE
PMP BRG VIB X NDE
PMP BRG VIB Y NDE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
PMP BRG THRUST
12
9
6
3
0
1.330
0.590
1.370
0.720
0.250
0.260
0.290
0.250
0.620

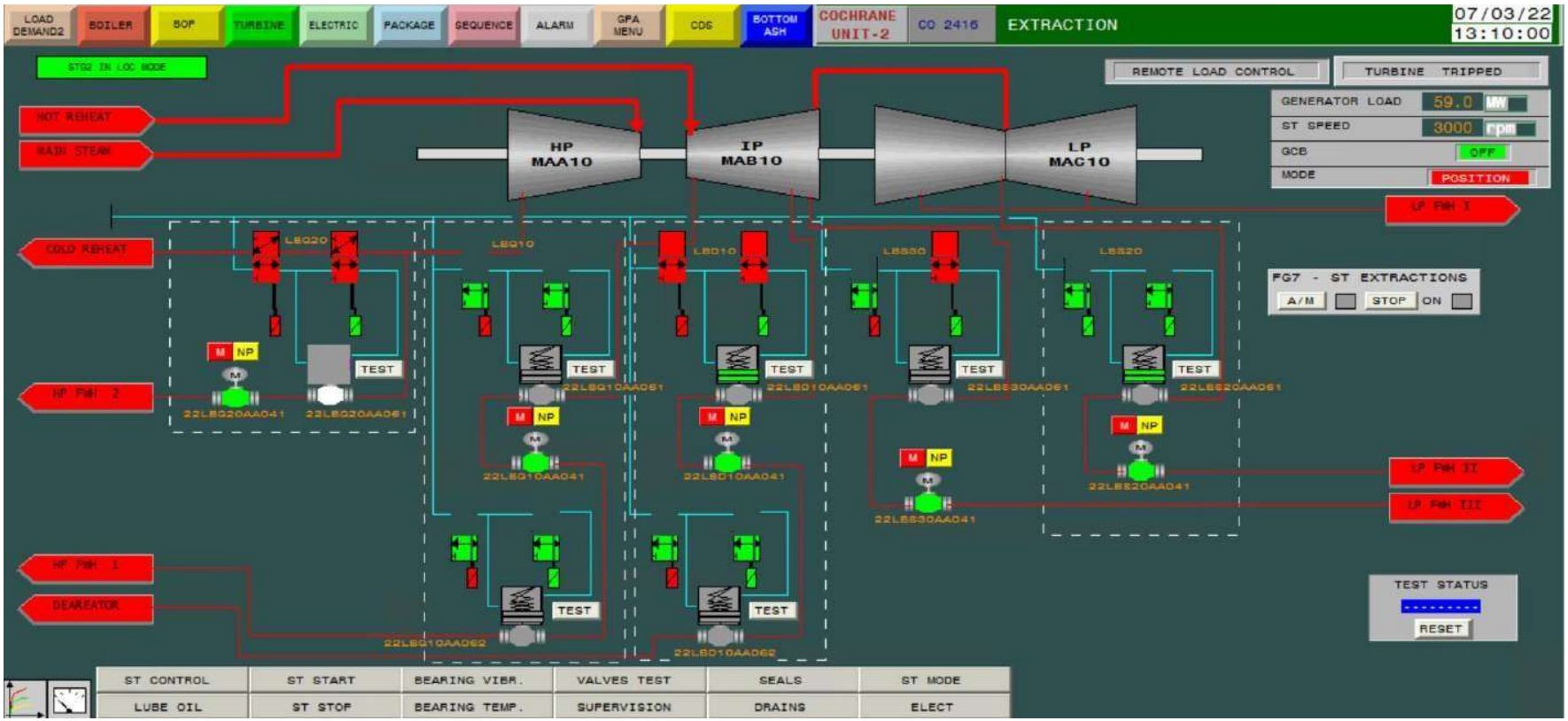

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2378
CWP-20 DETAIL
07/03/22
13:08:18
RETURN
CWP-10 DETAIL
CWP-20 DETAIL
496.6 rpm
CWP-20
165.6 A
22PAC20AP001
AVG
AVG
AVG
°C
MTR BRG TEMP DE
MTR BRG TEMP NDE
MTR WDG TEMP U
MTR WDG TEMP V
MTR WDG TEMP W
PP BRG TEMP DE
PP BRG TEMP NDE
200
150
100
50
0
47.6
26.2
74.0
72.9
68.7
28.2
27.8
mm/s
PMP BRG VIB X DE
PMP BRG VIB Y DE
PMP BRG VIB X NDE
PMP BRG VIB Y NDE
MTR BRG VIB X DE
MTR BRG VIB Y DE
MTR BRG VIB X NDE
MTR BRG VIB Y NDE
PMP BRG THRUST
12
9
6
3
0
1.220
0.520
1.740
0.640
0.220
0.250
0.280
0.340
0.720

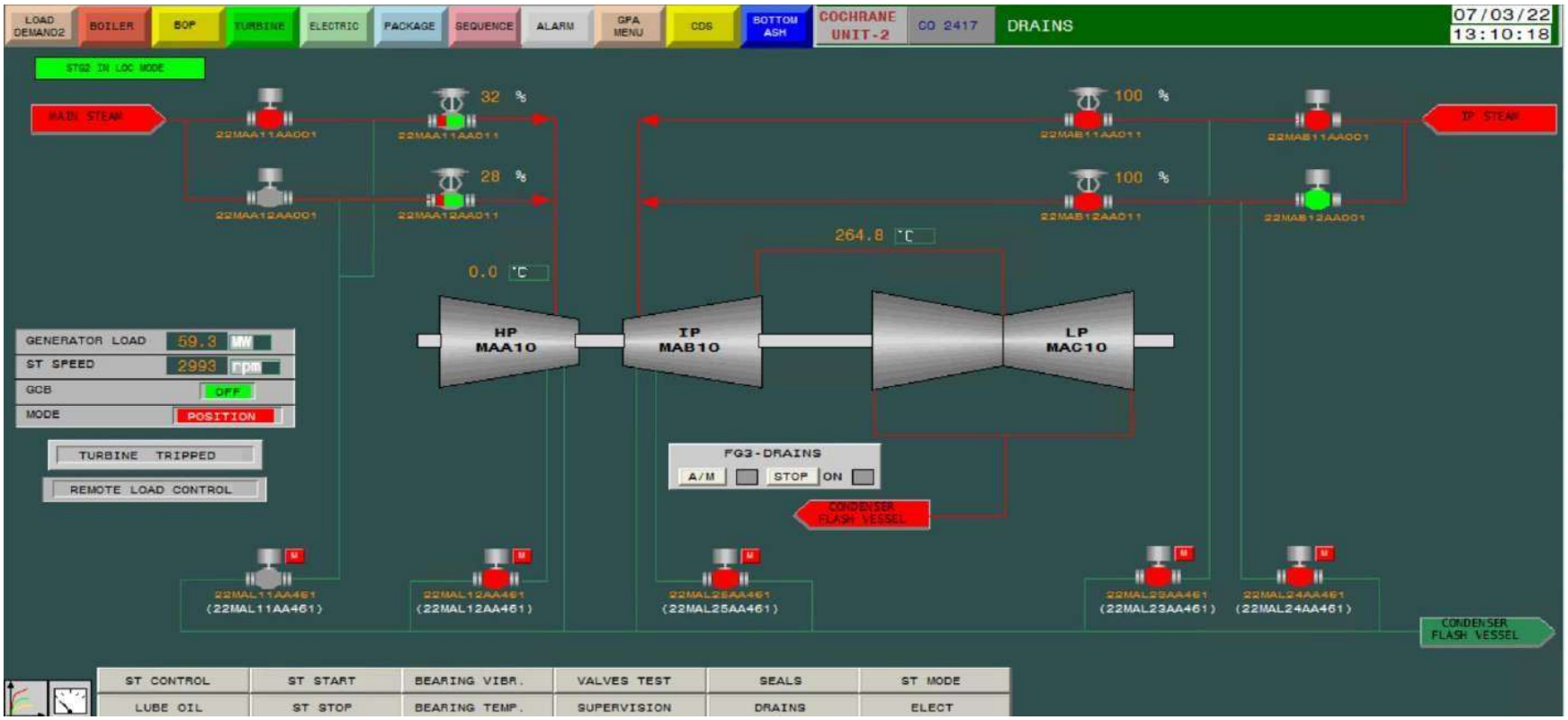

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2412
STEAM CONTROL
07/03/22
13:08:39
STG2 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD 59.7 MW
ST SPEED 2996 rpm
GCB OFF
MODE POSITION
TURBINE FOLLOW MODE
COORDINATE MODE
BOILER FOLLOW MODE
MANUAL MODE
MAIN STEAM
142.0 barg
487.2 °C
32 %
28 %
22MAA11AA001
22MAA11AA011
22MAA12AA001
22MAA12AA011
36.0 barg
0.0 °C
A/M
9.4 BARG
0.0 °C
242.4 °C
0.9 bara
A/M
0.0 bara
50.7 °C
HP MAA10
IP MAB10
LP MAC10
264.4 °C
COLD REHEAT
HOT REHEAT
9.1 barg
470.6 °C
100 %
100 %
22MAB11AA001
22MAB11AA011
22MAB12AA001
22MAB12AA011
25.7 °C
-0.000 bara
CONDENSER
DCS SET POINT 35 %
REM PERMISSIVE READY
REM LOC/REM LOAD SEL.
COORD
ON WIDE FREQUENCY DEAD BAND
LOCAL MODE
REMOTE MODE
VLV CNTRL
SETPOINT E 35 %
REFERENCE 34.5 %
RATE SEL E 5.0 %/mi
RATE ACTUAL 5.0 %/mi
START
SPEED
SET POINT E 3000 rpm
REFERENCE 3000 rpm
ACTUAL 2996 rpm
ACC.
ACC. SEL E 10.0 %/m
ACC. ACTUAL 0.0 %/m
START
CRITICAL RANGE
MODE RSE
ON
MANUAL TRIP
%
+150
-150
1 LOAD EDGE HP
2 UNLOAD EDGE HP
3 LOAD EDGE MP
4 UNLOAD EDGE MP
150.0 150.0 150.0 150.0
°C
600
0
5 AVG ROT TEMP HP
6 AVG ROT TEMP MP
409.0 417.6
START-UP TYPE
HOT
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

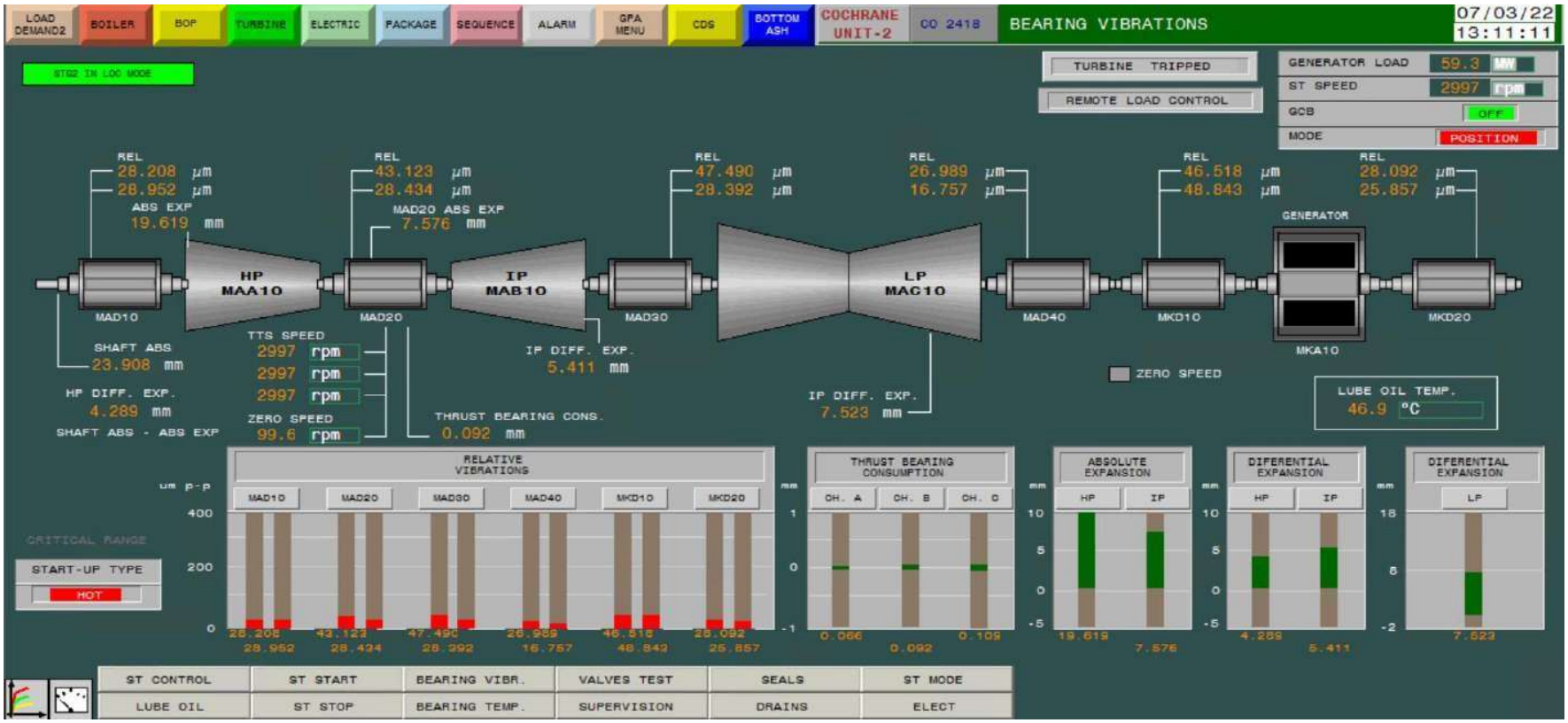

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2413
LUBE AND JACKING OIL
07/03/22
13:09:00
ST02 IN LOC MODE
22MAK80AE001
DISENGAGED
0.0 RPM
22MAK80AA101E
TURBINE TRIPPED
REMOTE LOAD CONTROL
FG2-T/G & JACK OIL
A/M
STOP
ON
TEMP ROTOR > 150 DEG C
GENERATOR LOAD 59.1 MW
ST SPEED 2997 rpm
GCB OFF
MODE POSITION
GENERATOR MKA10
MAIN LUBE OIL PUMP
HP MAA10
IP MAB10
LP MAC10
ZERO SPEED
57.3 °C
41.2 °C
61.6 °C
59.8 °C
31.9 barg
22MAV80AP001
JACKING OIL PUMP
22MAV80AP002
EMERGENCY CC JACKING OIL PUMP
46.9 °C
2.2 barg
40.2 barg
FG5-HYDRAULIC OIL
A/M
STOP
ON
TRIP SYSTEM
ATMOSPHERE
SEL
OIL VAPOR EXTRACTOR
22MAV02AN001
22MAV02AN002
570.1 mm
22MAV21AP021
AUX LUBE OIL PUMP
59.0 °C
FG1-LUBE OIL
A/M
STOP
ON
LUBE OIL TANK
-0.1 A
TEST
22MAV21AP031
EMERGENCY CC LUBE OIL PUMP
SEL
22MAX11AP001
22MAX11AP002
CONTROL OIL PUMP
PURIFIER
RUNNING
FAULT
TEST STATUS
RESET
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

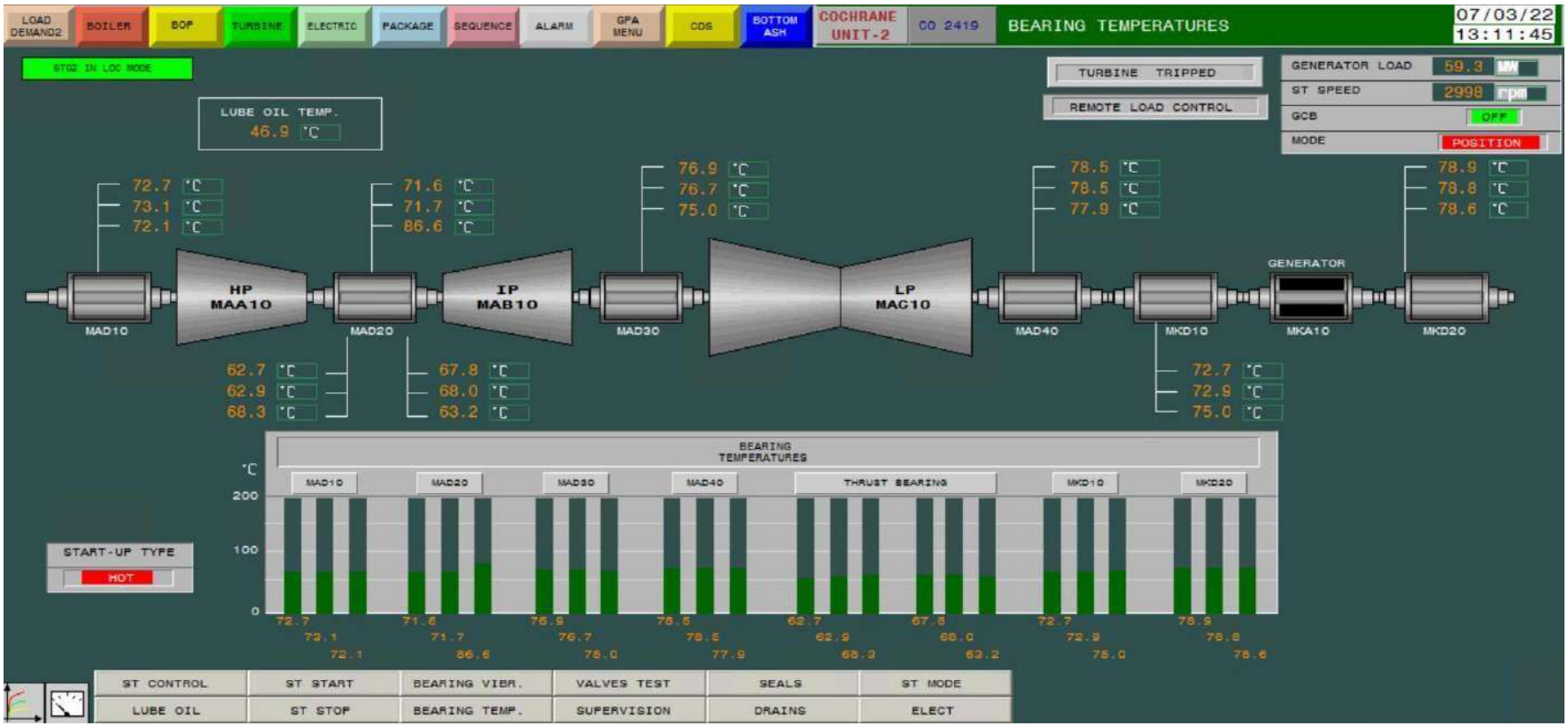

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2414
STEAM AND METAL SUPERVISION
07/03/22
13:09:17
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD 59.3 MW
ST SPEED 2997 rpm
GCB OFF
MODE POSITION
MAIN STEAM
141.7 barg
487.2 °C
32 %
28 %
22MAA11AA001
22MAA11AA011
22MAA12AA001
22MAA12AA011
0.0 bara
242.4 °C
A/M
35.8 barg
9.2 BARG
25.7 °C
50.6 °C
-0.000 bara
HP MAA10
IP MAB10
LP MAC10
264.6 °C
COLD REHEAT
0.008 bara
100 %
22MAB11CG001
22MAB11AA011
HOT REHEAT
8.9 barg
470.7 °C
22MAB12CG001
22MAB12AA011
CEP SUCTION
STARTUP NUMBER 62.0 NEE
EFFECTIVE TV RUNNING HOURS 42753 NEE
EQUIVALENT TV RUNNING HOURS 43993 NEE
AVERAGE TEMP HP 409.1 °C
CORE TEMP HP 406.6 °C
EDGE CHARGE HP 150.0 %
EDGE DISCH. HP 150.0 %
MODE RSE ON
AVERAGE TEMP MP 417.6 °C
CORE TEMP MP 416.9 °C
EDGE CHARGE MP 150.0 %
EDGE DISCH. MP 150.0 %
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

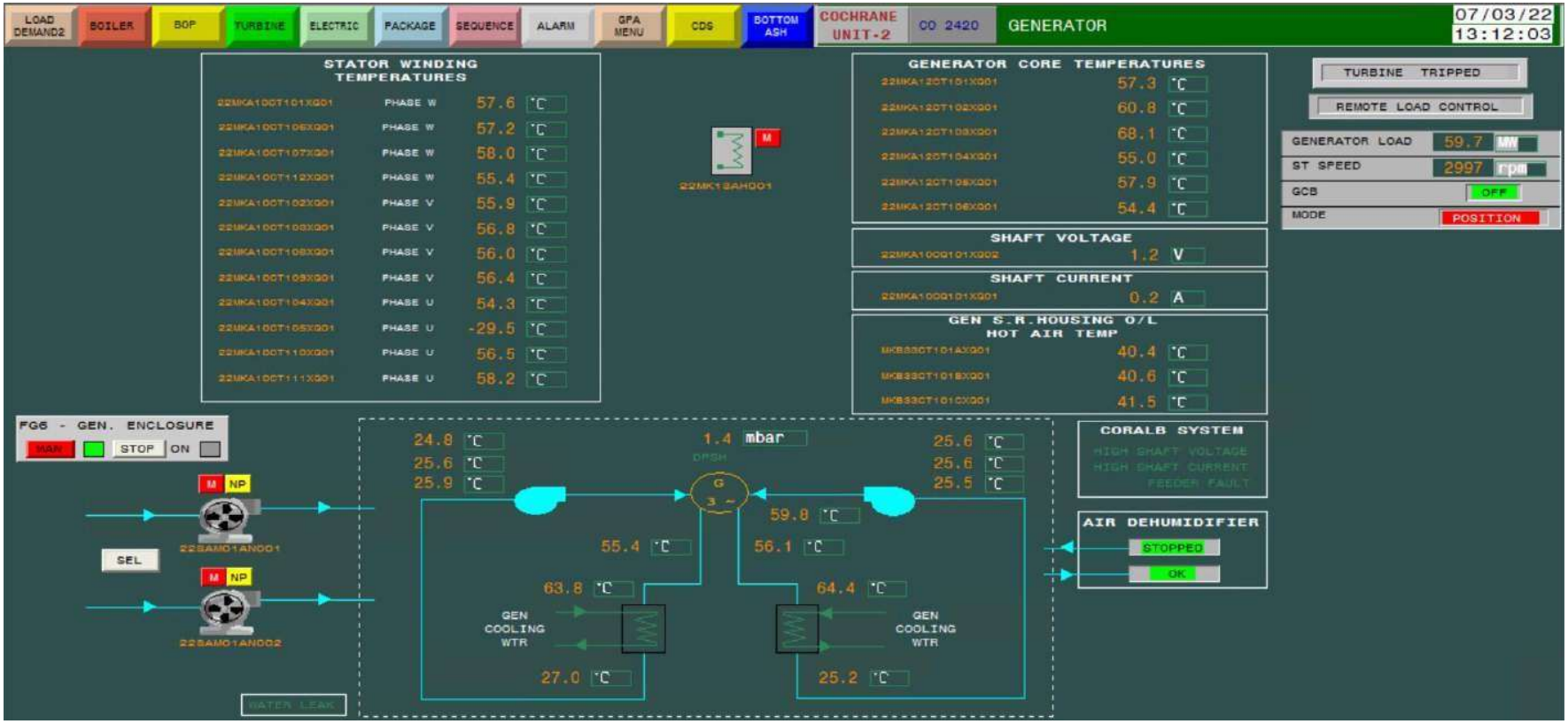

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2415
SEAL SYSTEM
07/03/22
13:09:33
STG2 IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 58.8 MW
ST SPEED 3000 rpm
GCB OFF
MODE POSITION
HP MAA10
IP MAB10
LP MAC10
25.7 °C
-0.0 bara
22MAC80AA061
CEP DISCHARGE
22MAC10AA041
ATMOSPHERE
TO DEARATOR
A/M
33.5 mbar
200.4 °C
A/M
VACUUM SYSTEM OK
PREGS. AND TEMP.
17.9 bara
305.2 °C
AUX STEAM
39 %
22MAW01AA041
22MAW10AA071
HEATING
ATMOSPHERE
SEL
22MAW 30AN001
22MAW 30AN002
GLAND CONDENSER BLOWER
2 %
22MAW15AA072
1 %
22MAW15 AA071
CONDENSATE SYSTEM
FG4-SEAL SYSTEM
A/M
STOP
ON
TO CONDENSER
GLAND STEAM CONDENSER
CONDENSATE
CONDENSATE
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

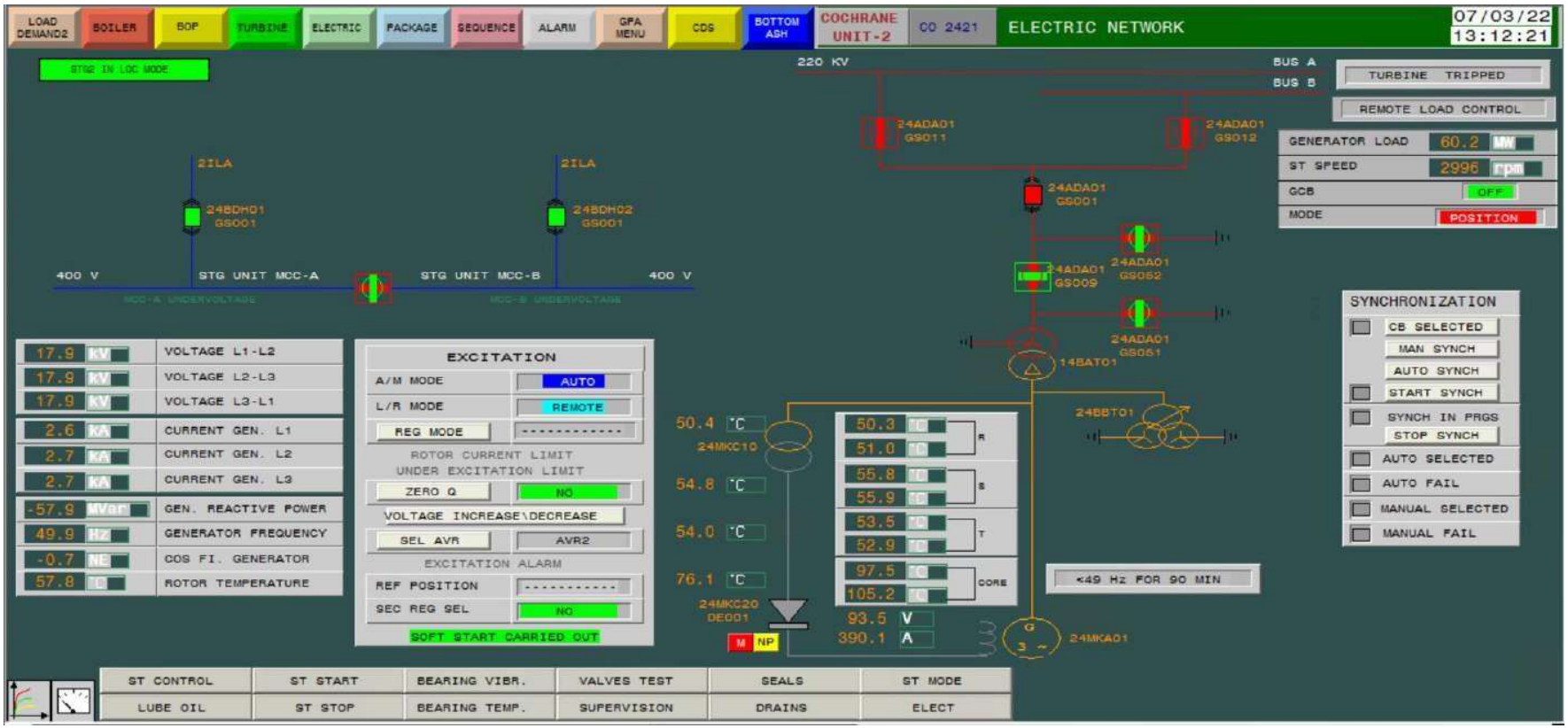

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2416
EXTRACTION
07/03/22
13:10:00
STG2 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD 59.0 MW
ST SPEED 3000 rpm
GCB OFF
MODE POSITION
HOT REHEAT
MAIN STEAM
HP MAA10
IP MAB10
LP MAC10
LP FWH I
COLD REHEAT
LBQ20
LBQ10
LBD10
LBS30
LBS20
FG7 - ST EXTRACTIONS
A/M
STOP
ON
M NP
TEST
22LBQ20AA041
22LBQ20AA061
22LBQ10AA061
22LBQ10AA041
22LBD10AA061
22LBD10AA041
22LBS30AA061
22LBS30AA041
22LBS20AA061
22LBS20AA041
HP FWH 2
LP FWH II
LP FWH III
HP FWH 1
DEAERATOR
22LBQ10AA062
22LBD10AA062
TEST STATUS
RESET
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

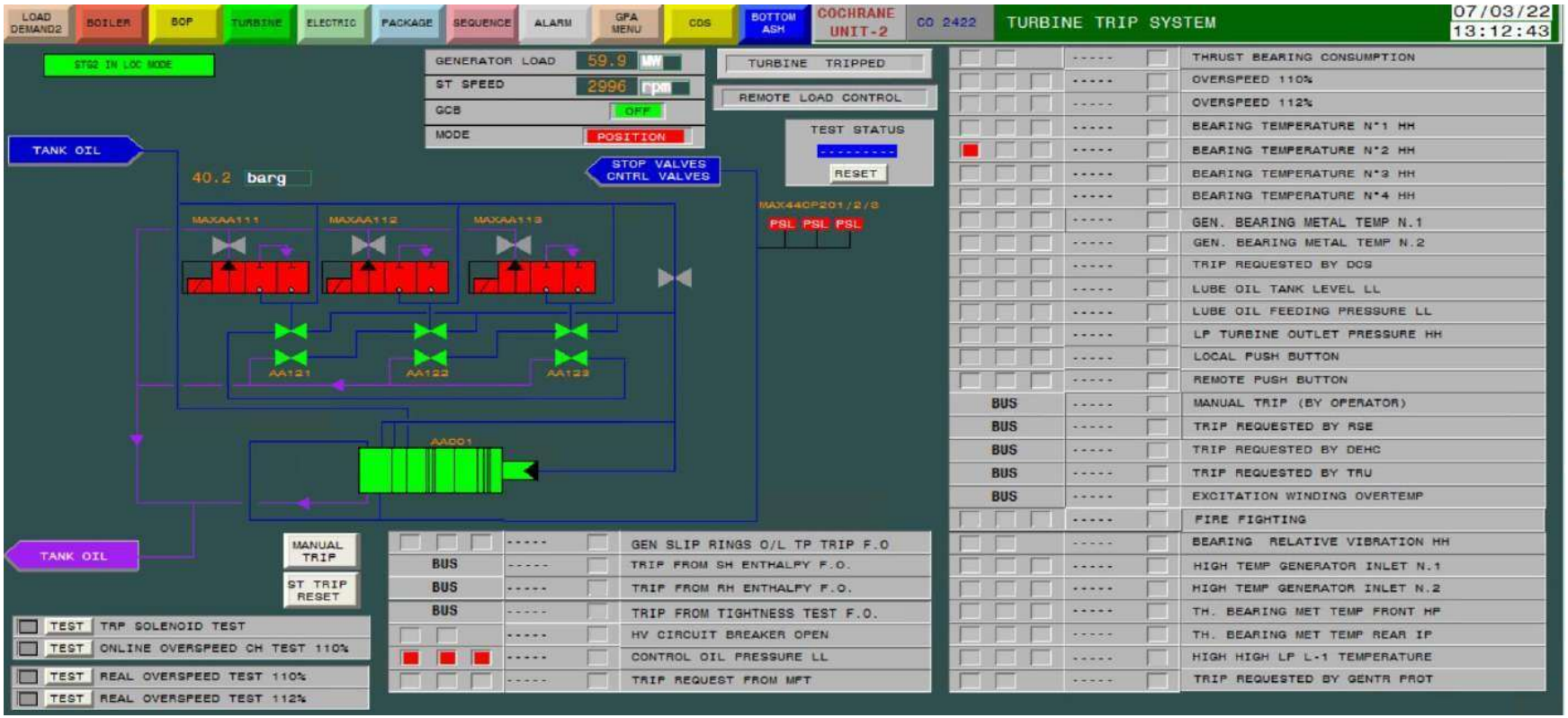

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2417
DRAINS
07/03/22
13:10:18
STG2 IN LOC MODE
MAIN STEAM
32 %
28 %
100 %
100 %
IP STEAM
0.0 °C
264.8 °C
HP MAA10
IP MAB10
LP MAC10
GENERATOR LOAD 59.3 MW
ST SPEED 2993 rpm
GCB OFF
MODE POSITION
TURBINE TRIPPED
REMOTE LOAD CONTROL
FG3-DRAINS
A/M
STOP
ON
CONDENSER FLASH VESSEL
22MAL11AA461 (22MAL11AA461)
22MAL12AA461 (22MAL12AA461)
22MAL25AA461 (22MAL25AA461)
22MAL23AA461 (22MAL23AA461)
22MAL24AA461 (22MAL24AA461)
CONDENSER FLASH VESSEL
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

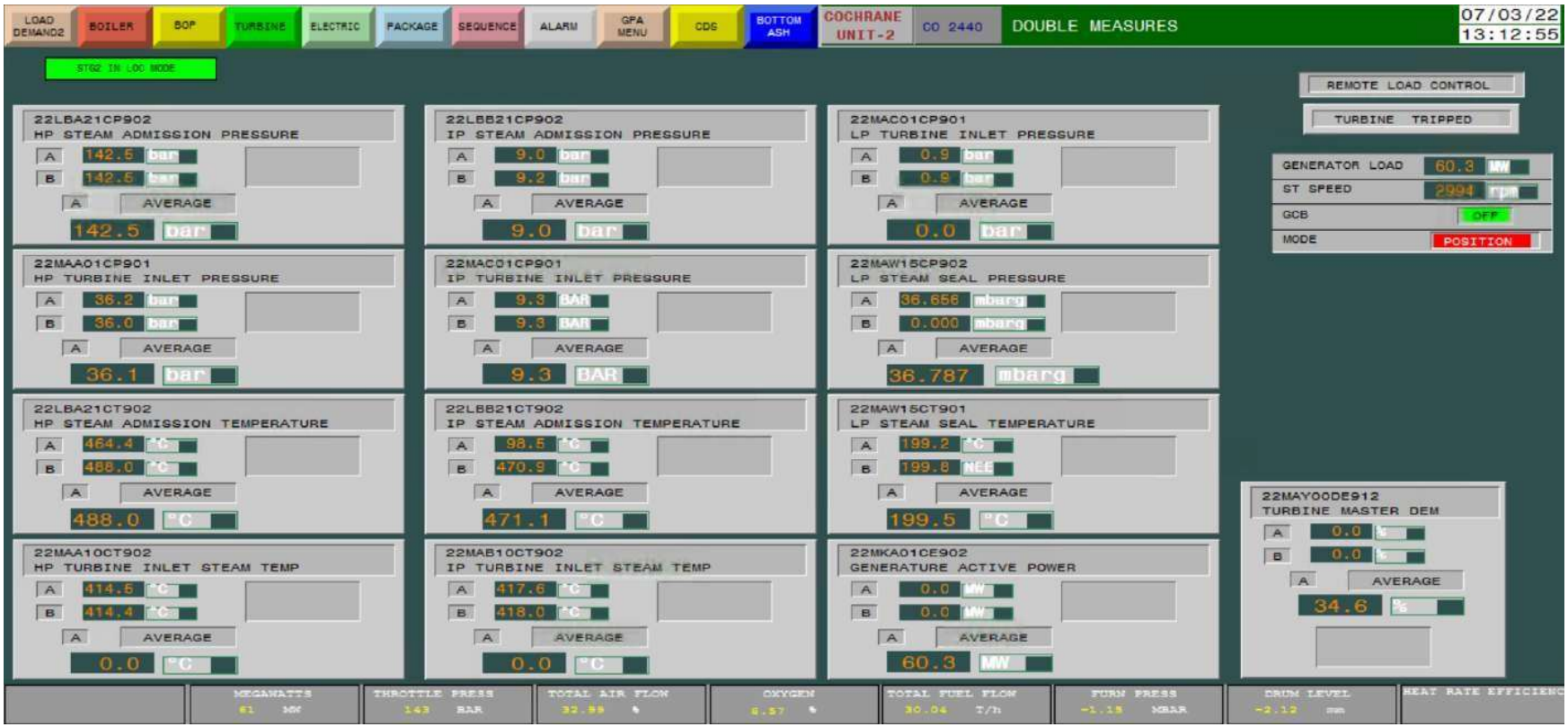

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2418
BEARING VIBRATIONS
07/03/22
13:11:11
STG2 IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 59.3 MW
ST SPEED 2997 rpm
GCB OFF
MODE POSITION
REL 28.208 µm
28.952 µm
ABS EXP 19.619 mm
REL 43.123 µm
28.434 µm
MAD20 ABS EXP 7.576 mm
REL 47.490 µm
28.392 µm
REL 26.989 µm
16.757 µm
REL 46.518 µm
48.843 µm
REL 28.092 µm
25.857 µm
GENERATOR
HP MAA10
IP MAB10
LP MAC10
MAD10
MAD20
MAD30
MAD40
MKD10
MKD20
MKA10
SHAFT ABS 23.908 mm
HP DIFF. EXP. 4.289 mm
SHAFT ABS - ABS EXP
TTS SPEED 2997 rpm
2997 rpm
2997 rpm
ZERO SPEED 99.6 rpm
THRUST BEARING CONS. 0.092 mm
IP DIFF. EXP. 5.411 mm
IP DIFF. EXP. 7.523 mm
ZERO SPEED
LUBE OIL TEMP. 46.9 °C
RELATIVE VIBRATIONS
um p-p
400
200
0
CRITICAL RANGE
MAD10
MAD20
MAD30
MAD40
MKD10
MKD20
28.208
28.952
43.123
28.434
47.490
28.392
26.989
16.757
46.518
48.843
28.092
25.857
START-UP TYPE
HOT
THRUST BEARING CONSUMPTION
mm
1
0
-1
CH. A
CH. B
CH. C
0.066
0.092
0.109
ABSOLUTE EXPANSION
mm
10
5
0
-5
HP
IP
19.619
7.576
DIFERENTIAL EXPANSION
mm
10
5
0
-5
HP
IP
4.289
5.411
DIFERENTIAL EXPANSION
mm
15
5
-2
LP
7.523
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT


LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2419
BEARING TEMPERATURES
07/03/22
13:11:45
STOP IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 59.3 MW
ST SPEED 2998 rpm
GCB OFF
MODE POSITION
LUBE OIL TEMP.
46.9 °C
72.7 °C
73.1 °C
72.1 °C
71.6 °C
71.7 °C
86.6 °C
76.9 °C
76.7 °C
75.0 °C
78.5 °C
78.5 °C
77.9 °C
78.9 °C
78.8 °C
78.6 °C
HP MAA10
IP MAB10
LP MAC10
GENERATOR
MAD10
MAD20
MAD30
MAD40
MKD10
MKA10
MKD20
62.7 °C
62.9 °C
68.3 °C
67.8 °C
68.0 °C
63.2 °C
72.7 °C
72.9 °C
75.0 °C
BEARING TEMPERATURES
°C
200
100
0
MAD10
MAD20
MAD30
MAD40
THRUST BEARING
MKD10
MKD20
START-UP TYPE
HOT
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

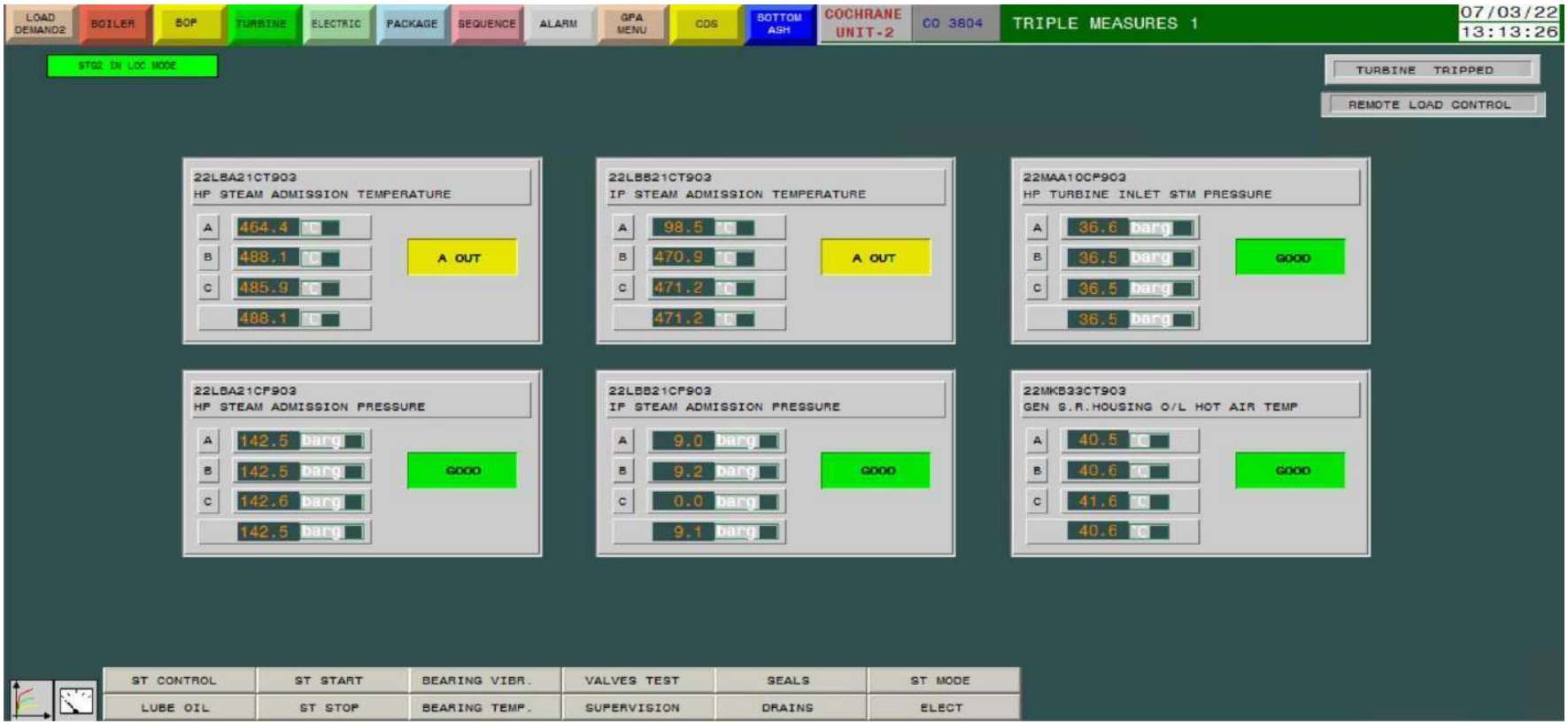

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2420
GENERATOR
07/03/22
13:12:03
STATOR WINDING TEMPERATURES
22MKA10CT101XQ01 PHASE W 57.6 °C
22MKA10CT106XQ01 PHASE W 57.2 °C
22MKA10CT107XQ01 PHASE W 58.0 °C
22MKA10CT112XQ01 PHASE W 55.4 °C
22MKA10CT102XQ01 PHASE V 55.9 °C
22MKA10CT103XQ01 PHASE V 56.8 °C
22MKA10CT108XQ01 PHASE V 56.0 °C
22MKA10CT109XQ01 PHASE V 56.4 °C
22MKA10CT104XQ01 PHASE U 54.3 °C
22MKA10CT105XQ01 PHASE U -29.5 °C
22MKA10CT110XQ01 PHASE U 56.5 °C
22MKA10CT111XQ01 PHASE U 58.2 °C
22MK12AH001
GENERATOR CORE TEMPERATURES
22MKA12CT101XQ01 57.3 °C
22MKA12CT102XQ01 60.8 °C
22MKA12CT103XQ01 68.1 °C
22MKA12CT104XQ01 55.0 °C
22MKA12CT105XQ01 57.9 °C
22MKA12CT106XQ01 54.4 °C
SHAFT VOLTAGE
22MKA10CQ101XQ02 1.2 V
SHAFT CURRENT
22MKA10CQ101XQ01 0.2 A
GEN S.R.HOUSING O/L HOT AIR TEMP
MKB33CT101AXQ01 40.4 °C
MKB33CT101BXQ01 40.6 °C
MKB33CT101CXQ01 41.5 °C
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 59.7 MW
ST SPEED 2997 rpm
GCB OFF
MODE POSITION
FG6 - GEN. ENCLOSURE
MAN STOP ON
M NP
22SAM01AN001
SEL
M NP
22SAM01AN002
WATER LEAK
24.8 °C
25.6 °C
25.9 °C
1.4 mbar
DPSH
25.6 °C
25.6 °C
25.5 °C
59.8 °C
55.4 °C
56.1 °C
63.8 °C
64.4 °C
GEN COOLING WTR
GEN COOLING WTR
27.0 °C
25.2 °C
CORALB SYSTEM
HIGH SHAFT VOLTAGE
HIGH SHAFT CURRENT
FEEDER FAULT
AIR DEHUMIDIFIER
STOPPED
OK

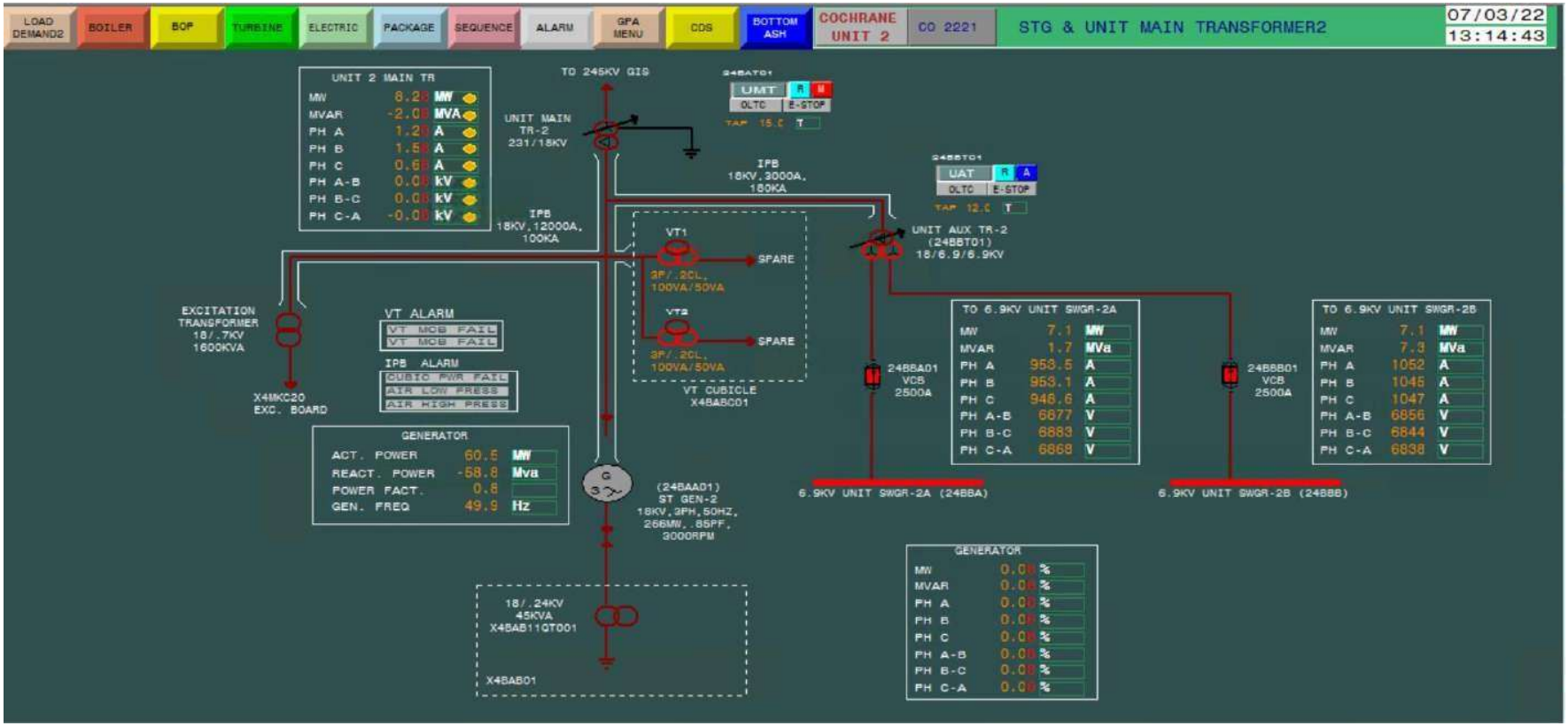

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2421
ELECTRIC NETWORK
07/03/22
13:12:21
STG2 IN LOC MODE
220 KV
BUS A
BUS B
TURBINE TRIPPED
REMOTE LOAD CONTROL
GENERATOR LOAD 60.2 MW
ST SPEED 2996 rpm
GCB OFF
MODE POSITION
24ADA01 GS011
24ADA01 GS012
24ADA01 GS001
24ADA01 GS009
24ADA01 GS052
24ADA01 GS051
14BAT01
24BBT01
2ILA
24BDH01 GS001
2ILA
24BDH02 GS001
400 V
STG UNIT MCC-A
STG UNIT MCC-B
400 V
MCC-A UNDERVOLTAGE
MCC-B UNDERVOLTAGE
17.9 kV VOLTAGE L1-L2
17.9 kV VOLTAGE L2-L3
17.9 kV VOLTAGE L3-L1
2.6 kA CURRENT GEN. L1
2.7 kA CURRENT GEN. L2
2.7 kA CURRENT GEN. L3
-57.9 MVar GEN. REACTIVE POWER
49.9 Hz GENERATOR FREQUENCY
-0.7 NE COS FI. GENERATOR
57.8 °C ROTOR TEMPERATURE
EXCITATION
A/M MODE AUTO
L/R MODE REMOTE
REG MODE
ROTOR CURRENT LIMIT
UNDER EXCITATION LIMIT
ZERO Q NO
VOLTAGE INCREASE\DECREASE
SEL AVR AVR2
EXCITATION ALARM
REF POSITION
SEC REG SEL NO
SOFT START CARRIED OUT
50.4 °C 24MKC10
54.8 °C
54.0 °C
76.1 °C 24MKC20 DE001
50.3 °C
51.0 °C R
55.8 °C
55.9 °C S
53.5 °C
52.9 °C T
97.5 °C
105.2 °C CORE
93.5 V
390.1 A
24MKA01
<49 Hz FOR 90 MIN
SYNCHRONIZATION
CB SELECTED
MAN SYNCH
AUTO SYNCH
START SYNCH
SYNCH IN PRGS
STOP SYNCH
AUTO SELECTED
AUTO FAIL
MANUAL SELECTED
MANUAL FAIL
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

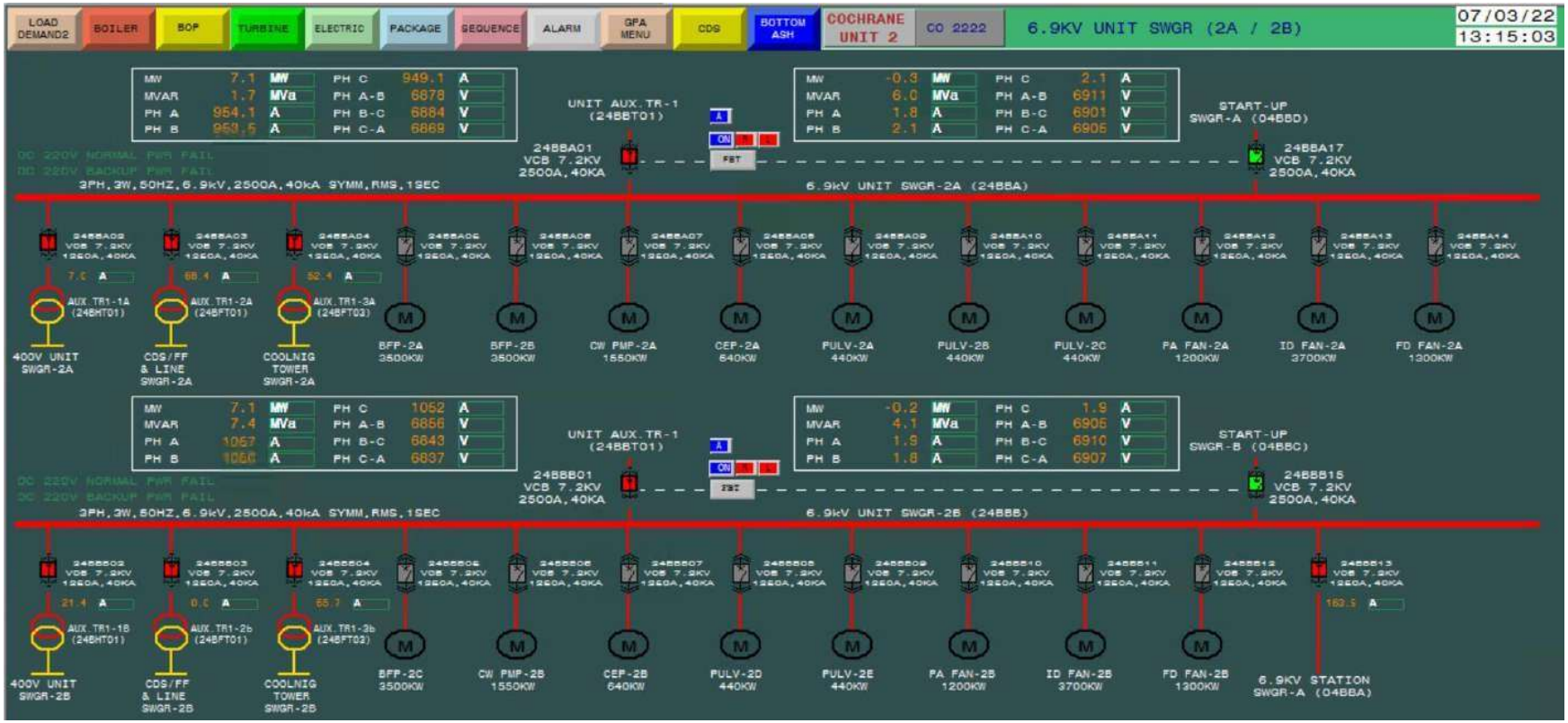

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
COS
BOTTOM ASH
COCHRANE UNIT-2
CO 2422
TURBINE TRIP SYSTEM
07/03/22
13:12:43
STG2 IN LOC MODE
GENERATOR LOAD 59.9 MW
ST SPEED 2996 rpm
GCB OFF
MODE POSITION
TURBINE TRIPPED
REMOTE LOAD CONTROL
TEST STATUS
RESET
TANK OIL
40.2 barg
STOP VALVES CNTRL VALVES
MAXAA111
MAXAA112
MAXAA113
MAX44CP201/2/3
PSL PSL PSL
AA121
AA122
AA123
AA001
TANK OIL
MANUAL TRIP
ST TRIP RESET
TEST TRP SOLENOID TEST
TEST ONLINE OVERSPEED CH TEST 110%
TEST REAL OVERSPEED TEST 110%
TEST REAL OVERSPEED TEST 112%
GEN SLIP RINGS O/L TP TRIP F.O
BUS TRIP FROM SH ENTHALPY F.O.
BUS TRIP FROM RH ENTHALPY F.O.
BUS TRIP FROM TIGHTNESS TEST F.O.
HV CIRCUIT BREAKER OPEN
CONTROL OIL PRESSURE LL
TRIP REQUEST FROM MFT
THRUST BEARING CONSUMPTION
OVERSPEED 110%
OVERSPEED 112%
BEARING TEMPERATURE N°1 HH
BEARING TEMPERATURE N°2 HH
BEARING TEMPERATURE N°3 HH
BEARING TEMPERATURE N°4 HH
GEN. BEARING METAL TEMP N.1
GEN. BEARING METAL TEMP N.2
TRIP REQUESTED BY DCS
LUBE OIL TANK LEVEL LL
LUBE OIL FEEDING PRESSURE LL
LP TURBINE OUTLET PRESSURE HH
LOCAL PUSH BUTTON
REMOTE PUSH BUTTON
BUS MANUAL TRIP (BY OPERATOR)
BUS TRIP REQUESTED BY RSE
BUS TRIP REQUESTED BY DEHC
BUS TRIP REQUESTED BY TRU
BUS EXCITATION WINDING OVERTEMP
FIRE FIGHTING
BEARING RELATIVE VIBRATION HH
HIGH TEMP GENERATOR INLET N.1
HIGH TEMP GENERATOR INLET N.2
TH. BEARING MET TEMP FRONT HP
TH. BEARING MET TEMP REAR IP
HIGH HIGH LP L-1 TEMPERATURE
TRIP REQUESTED BY GENTR PROT

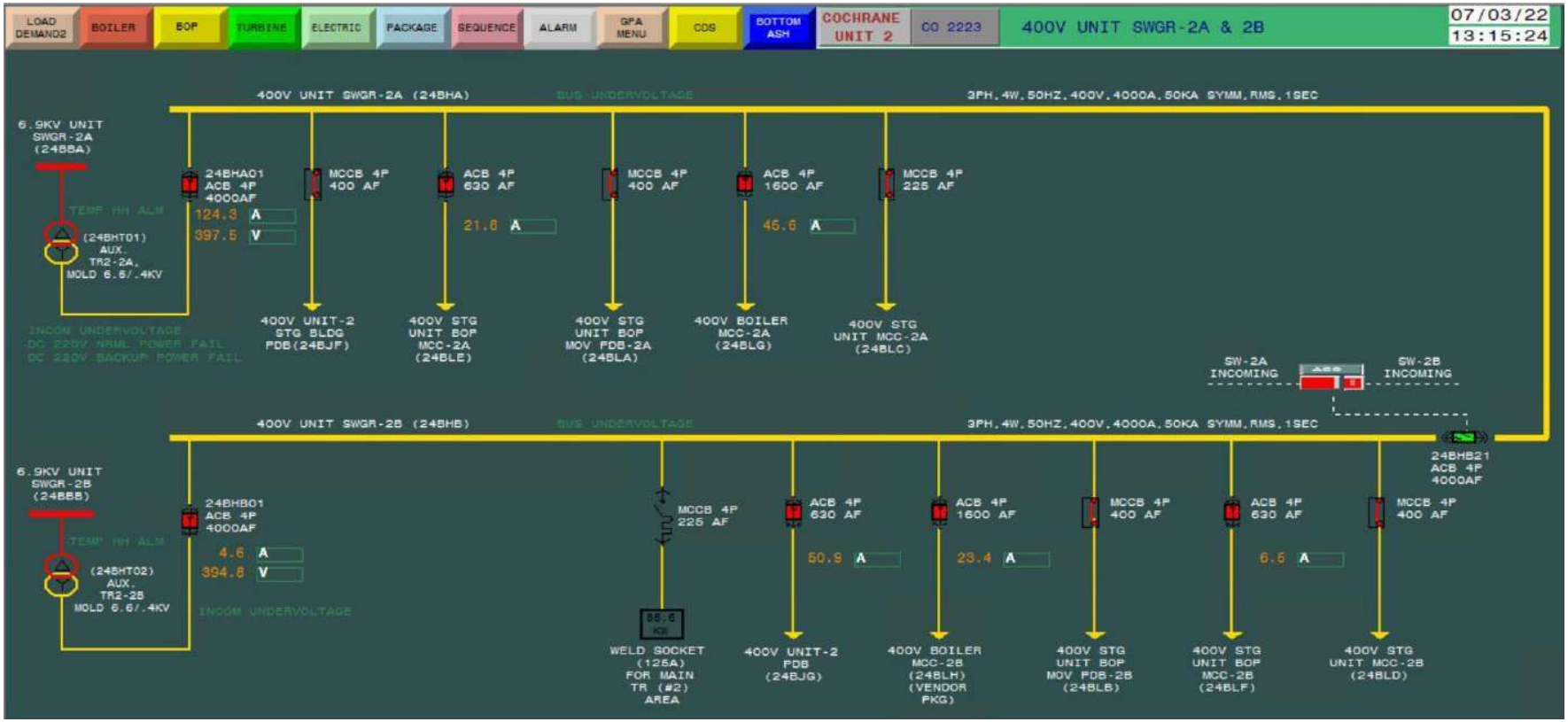

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2440
DOUBLE MEASURES
07/03/22
13:12:55
STG2 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
GENERATOR LOAD 60.3 MW
ST SPEED 2994 rpm
GCB OFF
MODE POSITION
22LBA21CP902
HP STEAM ADMISSION PRESSURE
A 142.5 bar
B 142.5 bar
A AVERAGE
142.5 bar
22LBB21CP902
IP STEAM ADMISSION PRESSURE
A 9.0 bar
B 9.2 bar
A AVERAGE
9.0 bar
22MAC01CP901
LP TURBINE INLET PRESSURE
A 0.9 bar
B 0.9 bar
A AVERAGE
0.0 bar
22MAA01CP901
HP TURBINE INLET PRESSURE
A 36.2 bar
B 36.0 bar
A AVERAGE
36.1 bar
22MAC01CP901
IP TURBINE INLET PRESSURE
A 9.3 BAR
B 9.3 BAR
A AVERAGE
9.3 BAR
22MAW15CP902
LP STEAM SEAL PRESSURE
A 36.656 mbarg
B 0.000 mbarg
A AVERAGE
36.787 mbarg
22LBA21CT902
HP STEAM ADMISSION TEMPERATURE
A 464.4 °C
B 488.0 °C
A AVERAGE
488.0 °C
22LBB21CT902
IP STEAM ADMISSION TEMPERATURE
A 98.5 °C
B 470.9 °C
A AVERAGE
471.1 °C
22MAW15CT901
LP STEAM SEAL TEMPERATURE
A 199.2 °C
B 199.8 DEG
A AVERAGE
199.5 °C
22MAA10CT902
HP TURBINE INLET STEAM TEMP
A 414.5 °C
B 414.4 °C
A AVERAGE
0.0 °C
22MAB10CT902
IP TURBINE INLET STEAM TEMP
A 417.6 °C
B 418.0 °C
A AVERAGE
0.0 °C
22MKA01CE902
GENERATURE ACTIVE POWER
A 0.0 MW
B 0.0 MW
A AVERAGE
60.3 MW
22MAY00DE912
TURBINE MASTER DEM
A 0.0 %
B 0.0 %
A AVERAGE
34.6 %
MEGAWATTS 61 MW
THROTTLE PRESS 143 BAR
TOTAL AIR FLOW 32.89 %
OXYGEN 6.57 %
TOTAL FUEL FLOW 30.04 T/h
FURN PRESS -1.15 MBAR
DRUM LEVEL -2.12 mm
HEAT RATE EFFICIENC

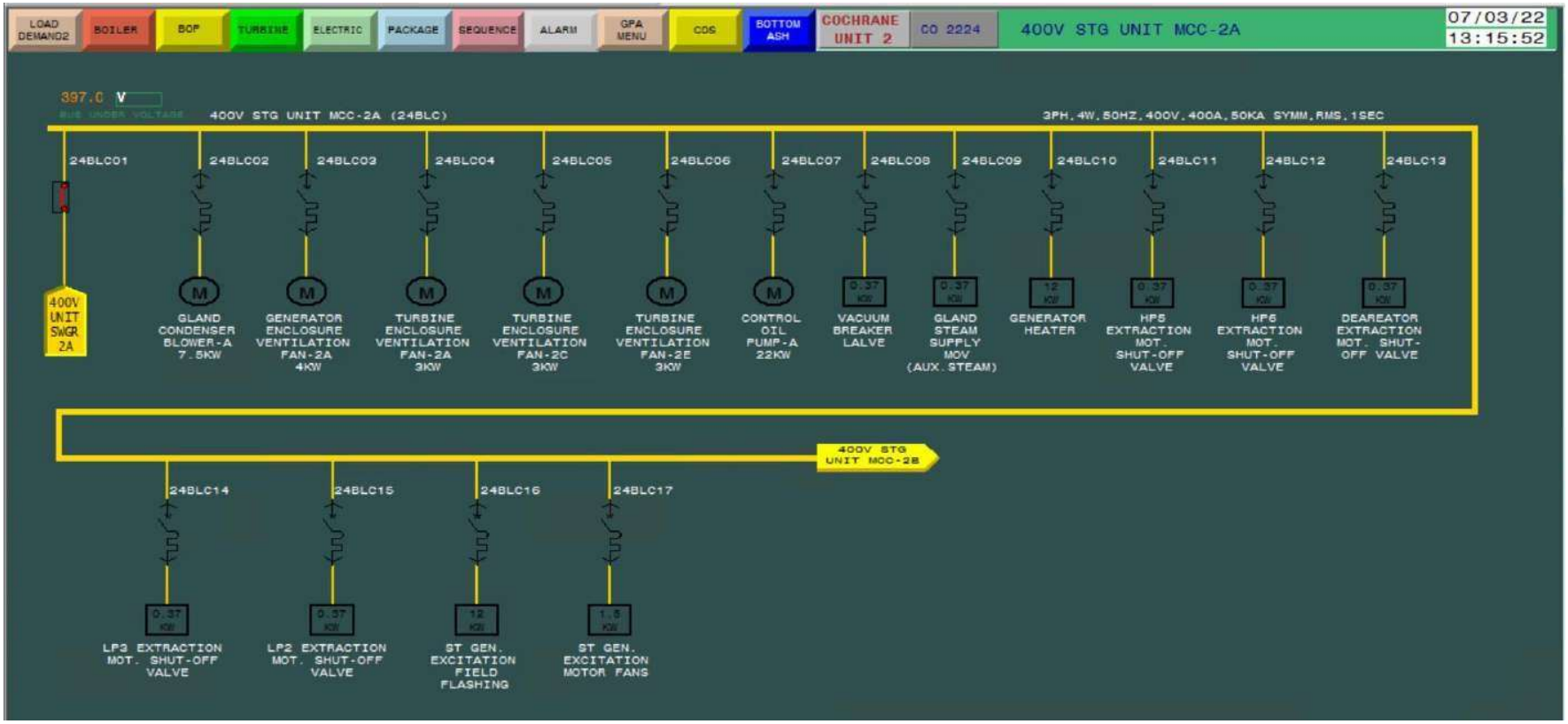

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 2441
TRIPLE MEASURES
07/03/22
13:13:10
ST02 IN LOC MODE
REMOTE LOAD CONTROL
TURBINE TRIPPED
22MAD20CS903
STEAM TURBINE SPEED
A 2994 rpm
B 2994 rpm
C 2994 rpm
GOOD
2995 rpm
22MAC10CT902
LP L-1 STAGE TEMPERATURE
A 51.0 °C
B 51.2 °C
C 50.9 °C
GOOD
51.0 °C
22MAC10CP901
LP TURBINE OUTLET STEAM PRESS
A 0.008 bara
B -0.000 bara
C -0.013 bara
GOOD
-0.000 bara
22MAV40CP903
LUBE OIL FEEDING PRESSURE
A 2.2 bar
B 2.2 bar
C 2.2 bar
GOOD
2.2 bar
22MAV02CL903
LUBE OIL TANK LEVEL
A 570.0 mm
B 566.5 mm
C 570.5 mm
GOOD
570.0 mm
22MAD20FY903
ST THRUST BEARING CONSUMPTION
A 0.0 mm
B 0.0 mm
C 0.1 mm
GOOD
0.092 mm
GENERATOR LOAD 60.3 MW
ST SPEED 2995 rpm
GCB OFF
MODE POSITION
MEGAWATTS 61 MW
THROTTLE PRESS 143 BAR
TOTAL AIR FLOW 33.13 %
OXYGEN 8.58 %
TOTAL FUEL FLOW 29.94 T/h
FURN PRESS -0.74 MBAR
DRUM LEVEL 0.26 mm
HEAT RATE EFFICIENCY

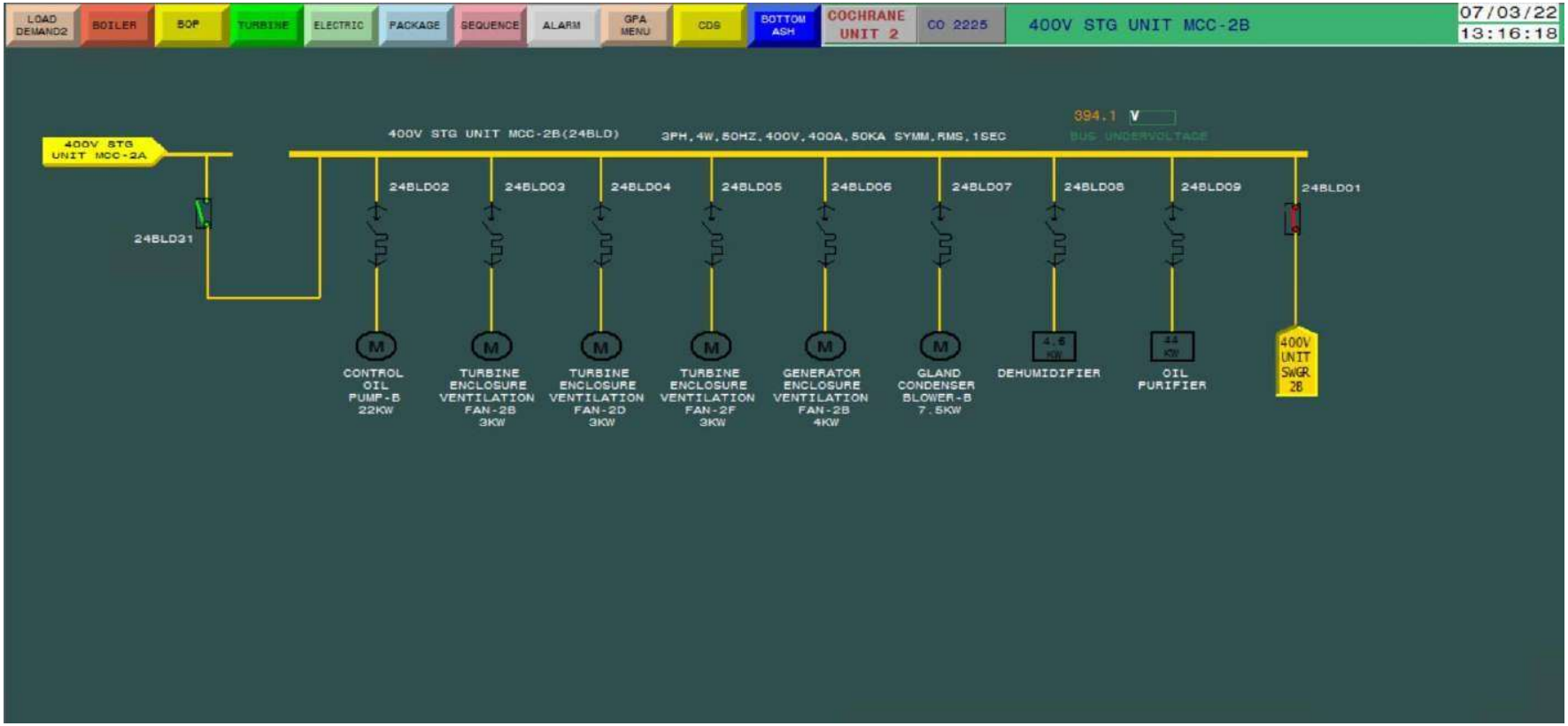

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT-2
CO 3804
TRIPLE MEASURES 1
07/03/22
13:13:26
STG2 IN LOC MODE
TURBINE TRIPPED
REMOTE LOAD CONTROL
22LBA21CT903
HP STEAM ADMISSION TEMPERATURE
A 464.4 °C
B 488.1 °C
C 485.9 °C
488.1 °C
A OUT
22LB521CT903
IP STEAM ADMISSION TEMPERATURE
A 98.5 °C
B 470.9 °C
C 471.2 °C
471.2 °C
A OUT
22MAA10CP903
HP TURBINE INLET STM PRESSURE
A 36.6 barg
B 36.5 barg
C 36.5 barg
36.5 barg
GOOD
22LBA21CP903
HP STEAM ADMISSION PRESSURE
A 142.5 barg
B 142.5 barg
C 142.6 barg
142.5 barg
GOOD
22LB521CP903
IP STEAM ADMISSION PRESSURE
A 9.0 barg
B 9.2 barg
C 0.0 barg
9.1 barg
GOOD
22MKB33CT903
GEN S.R.HOUSING O/L HOT AIR TEMP
A 40.5 °C
B 40.6 °C
C 41.6 °C
40.6 °C
GOOD
ST CONTROL
ST START
BEARING VIBR.
VALVES TEST
SEALS
ST MODE
LUBE OIL
ST STOP
BEARING TEMP.
SUPERVISION
DRAINS
ELECT

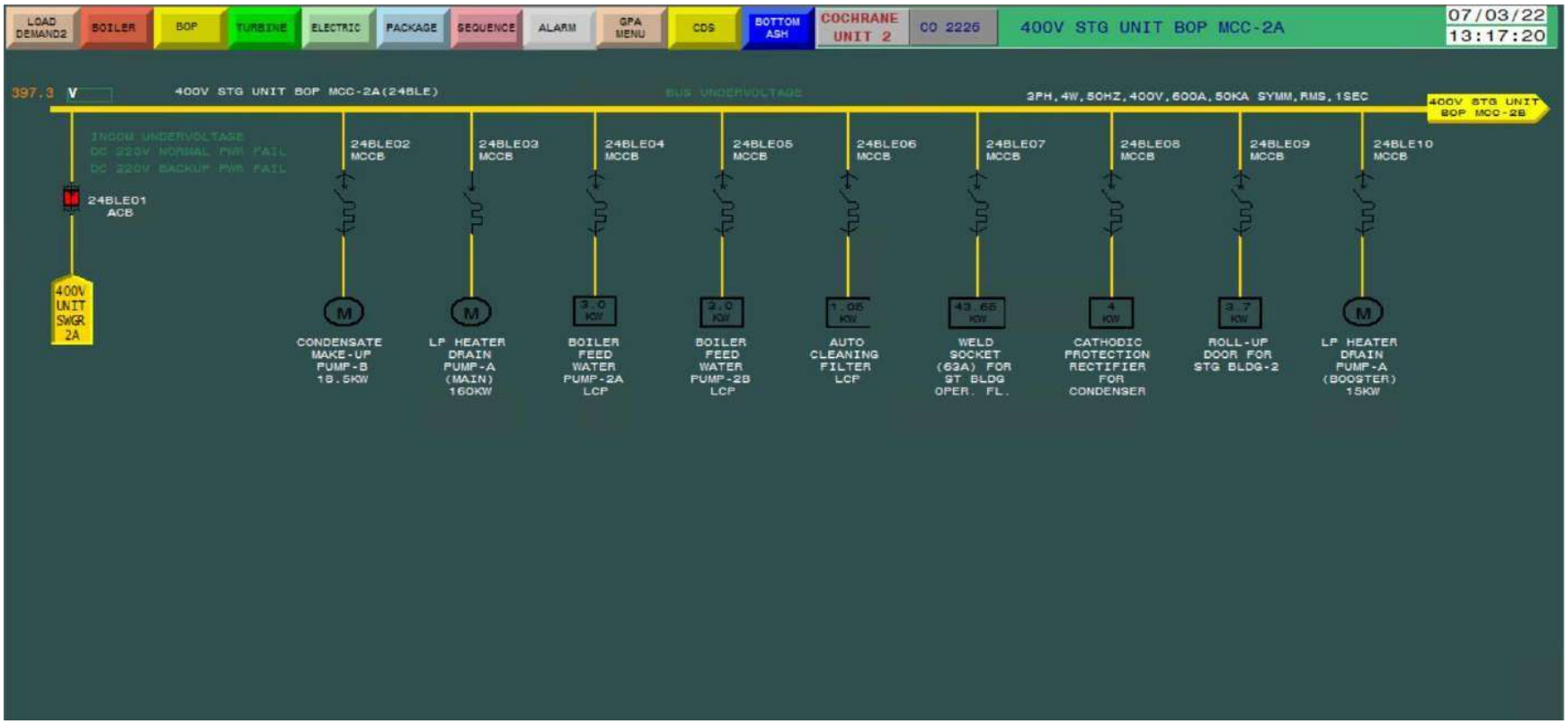

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2221
STG & UNIT MAIN TRANSFORMER2
07/03/22
13:14:43
UNIT 2 MAIN TR
MW 8.28 MW
MVAR -2.08 MVA
PH A 1.20 A
PH B 1.58 A
PH C 0.68 A
PH A-B 0.00 kV
PH B-C 0.00 kV
PH C-A -0.00 kV
TO 245KV GIS
UNIT MAIN TR-2 231/18KV
IPB 18KV,12000A, 100KA
IPB 18KV,3000A, 180KA
UMT
OLTC
E-STOP
UAT
UNIT AUX TR-2 (24BBT01) 18/6.9/6.9KV
VT1
3P/.2CL, 100VA/50VA
SPARE
VT2
3P/.2CL, 100VA/50VA
SPARE
VT CUBICLE X48AB001
EXCITATION TRANSFORMER 18/.7KV 1600KVA
X48MCC20 EXC. BOARD
VT ALARM
VT MCB FAIL
VT MCB FAIL
IPB ALARM
CUBIC PWR FAIL
AIR LOW PRESS
AIR HIGH PRESS
GENERATOR
ACT. POWER 60.5 MW
REACT. POWER -58.8 Mva
POWER FACT. 0.8
GEN. FREQ 49.9 Hz
(24BAA01) ST GEN-2 18KV,3PH,50HZ, 266MW,.85PF, 3000RPM
18/.24KV 45KVA X48AB11GT001
X48AB01
TO 6.9KV UNIT SWGR-2A
MW 7.1 MW
MVAR 1.7 MVa
PH A 953.5 A
PH B 953.1 A
PH C 948.6 A
PH A-B 6877 V
PH B-C 6883 V
PH C-A 6868 V
TO 6.9KV UNIT SWGR-2B
MW 7.1 MW
MVAR 7.3 MVa
PH A 1052 A
PH B 1045 A
PH C 1047 A
PH A-B 6856 V
PH B-C 6844 V
PH C-A 6838 V
24BBA01 VCB 2500A
24BBB01 VCB 2500A
6.9KV UNIT SWGR-2A (24BBA)
6.9KV UNIT SWGR-2B (24BBB)
GENERATOR
MW 0.00 %
MVAR 0.00 %
PH A 0.00 %
PH B 0.00 %
PH C 0.00 %
PH A-B 0.00 %
PH B-C 0.00 %
PH C-A 0.00 %

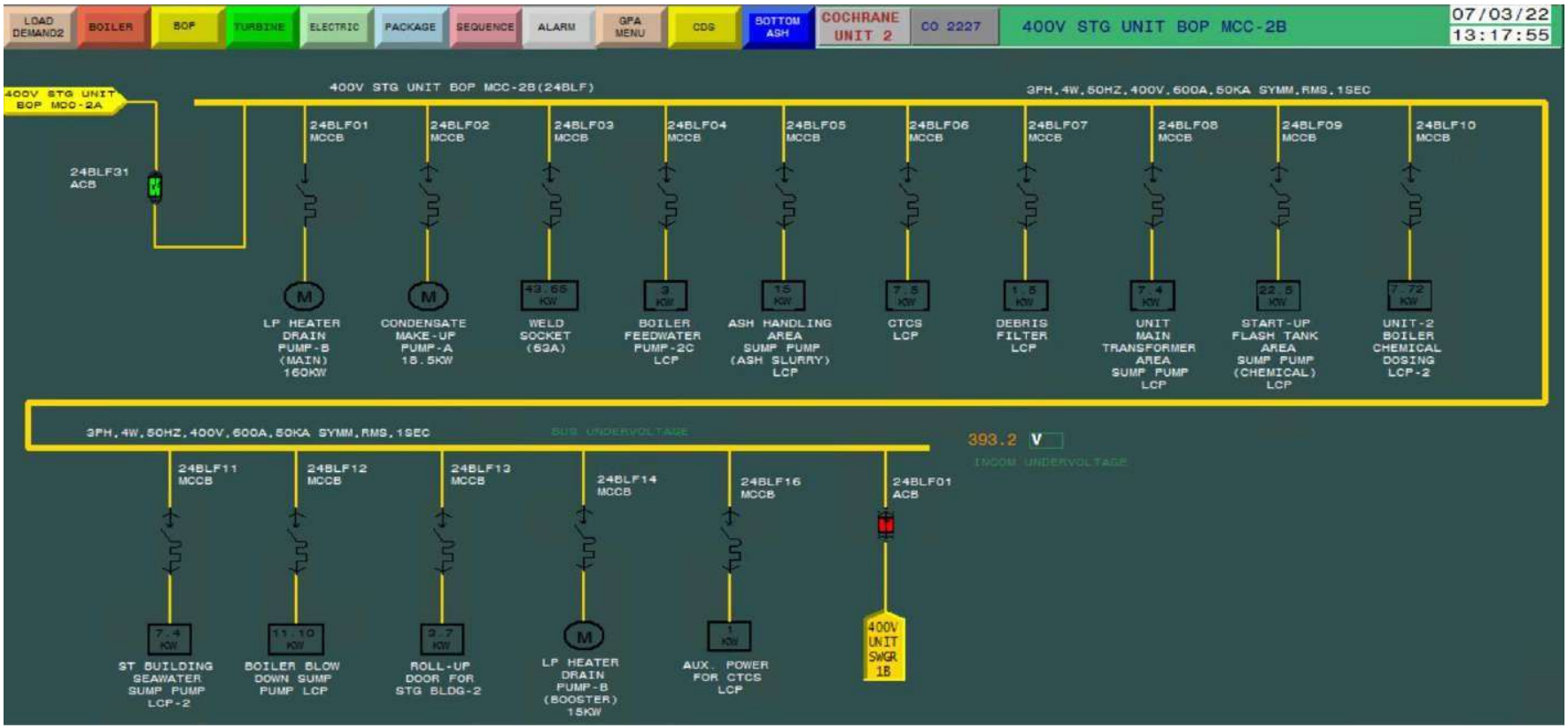

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2222
6.9KV UNIT SWGR (2A / 2B)
07/03/22
13:15:03
UNIT AUX.TR-1 (24BBT01)
24BBA01 VCB 7.2KV 2500A,40KA
START-UP SWGR-A (04BBD)
24BBA17 VCB 7.2KV 2500A,40KA
3PH,3W,50HZ,6.9kV,2500A,40kA SYMM,RMS,1SEC
6.9kV UNIT SWGR-2A (24BBA)
AUX.TR1-1A (24BHT01)
AUX.TR1-2A (24BFT01)
AUX.TR1-3A (24BFT03)
400V UNIT SWGR-2A
CDS/FF & LINE SWGR-2A
COOLNIG TOWER SWGR-2A
BFP-2A 3500KW
BFP-2B 3500KW
CW PMP-2A 1550KW
CEP-2A 640KW
PULV-2A 440KW
PULV-2B 440KW
PULV-2C 440KW
PA FAN-2A 1200KW
ID FAN-2A 3700KW
FD FAN-2A 1300KW
UNIT AUX.TR-1 (24BBT01)
24BBB01 VCB 7.2KV 2500A,40KA
START-UP SWGR-B (04BBC)
24BBB15 VCB 7.2KV 2500A,40KA
3PH,3W,50HZ,6.9kV,2500A,40kA SYMM,RMS,1SEC
6.9kV UNIT SWGR-2B (24BBB)
AUX.TR1-1B (24BHT01)
AUX.TR1-2b (24BFT01)
AUX.TR1-3b (24BFT03)
400V UNIT SWGR-2B
CDS/FF & LINE SWGR-2B
COOLNIG TOWER SWGR-2B
BFP-2C 3500KW
CW PMP-2B 1550KW
CEP-2B 640KW
PULV-2D 440KW
PULV-2E 440KW
PA FAN-2B 1200KW
ID FAN-2B 3700KW
FD FAN-2B 1300KW
6.9KV STATION SWGR-A (04BBA)

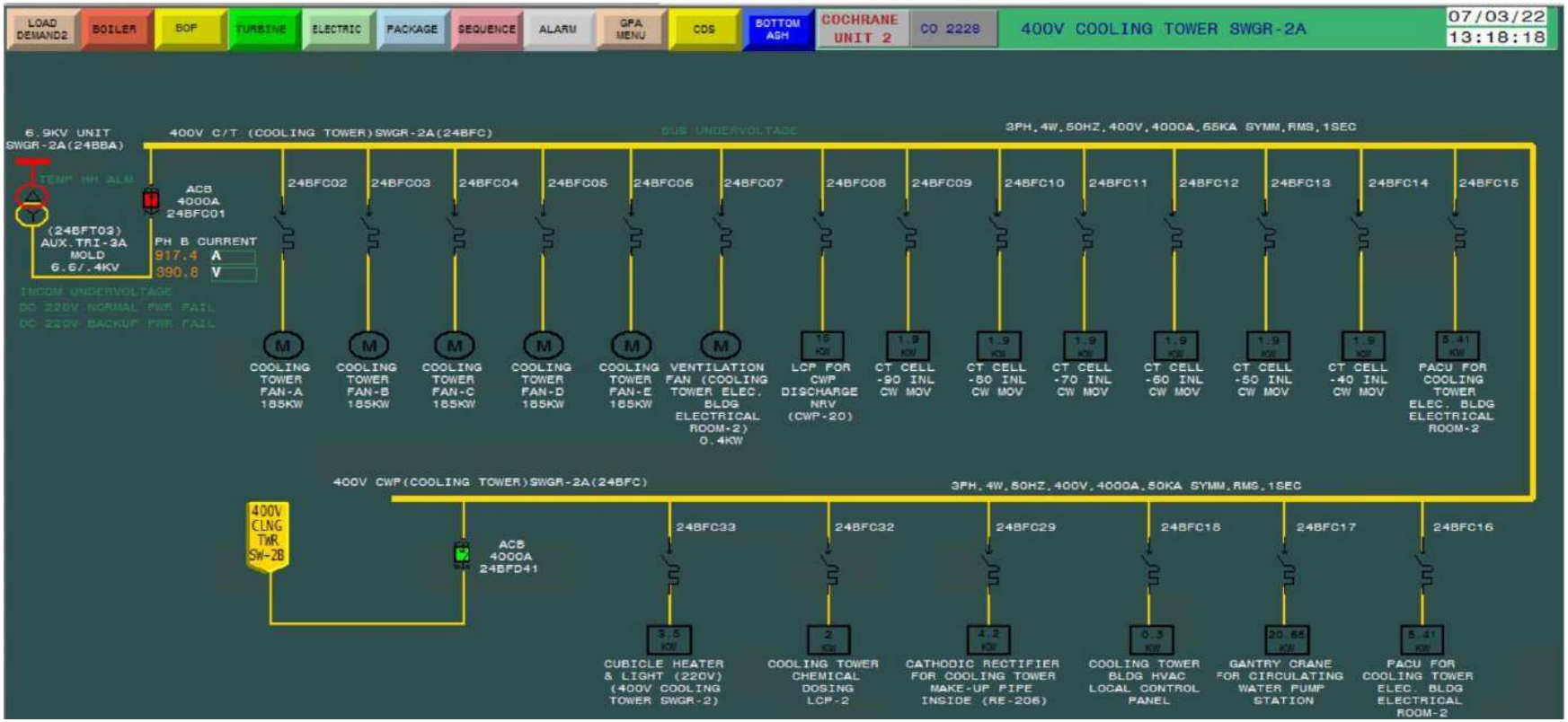

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2223
400V UNIT SWGR-2A & 2B
07/03/22
13:15:24
400V UNIT SWGR-2A (24BHA)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,50KA SYMM,RMS,1SEC
6.9KV UNIT SWGR-2A (24BBA)
TEMP HH ALM
(24BHT01) AUX. TR2-2A, MOLD 6.6/.4KV
INCOM UNDERVOLTAGE
DC 220V NRML POWER FAIL
DC 220V BACKUP POWER FAIL
24BHA01 ACB 4P 4000AF
124.3 A
397.5 V
MCCB 4P 400 AF
400V UNIT-2 STG BLDG PDB(24BJF)
ACB 4P 630 AF
21.6 A
400V STG UNIT BOP MCC-2A (24BLE)
MCCB 4P 400 AF
400V STG UNIT BOP MOV PDB-2A (24BLA)
ACB 4P 1600 AF
46.6 A
400V BOILER MCC-2A (24BLG)
MCCB 4P 225 AF
400V STG UNIT MCC-2A (24BLC)
SW-2A INCOMING
SW-2B INCOMING
400V UNIT SWGR-2B (24BHB)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,50KA SYMM,RMS,1SEC
24BHB21 ACB 4P 4000AF
6.9KV UNIT SWGR-2B (24BBB)
TEMP HH ALM
(24BHT02) AUX. TR2-2B MOLD 6.6/.4KV
INCOM UNDERVOLTAGE
24BHB01 ACB 4P 4000AF
4.6 A
394.8 V
MCCB 4P 225 AF
WELD SOCKET (125A) FOR MAIN TR (#2) AREA
ACB 4P 630 AF
50.9 A
400V UNIT-2 PDB (24BJG)
ACB 4P 1600 AF
23.4 A
400V BOILER MCC-2B (24BLH) (VENDOR PKG)
MCCB 4P 400 AF
400V STG UNIT BOP MOV PDB-2B (24BLB)
ACB 4P 630 AF
6.5 A
400V STG UNIT BOP MCC-2B (24BLF)
MCCB 4P 400 AF
400V STG UNIT MCC-2B (24BLD)

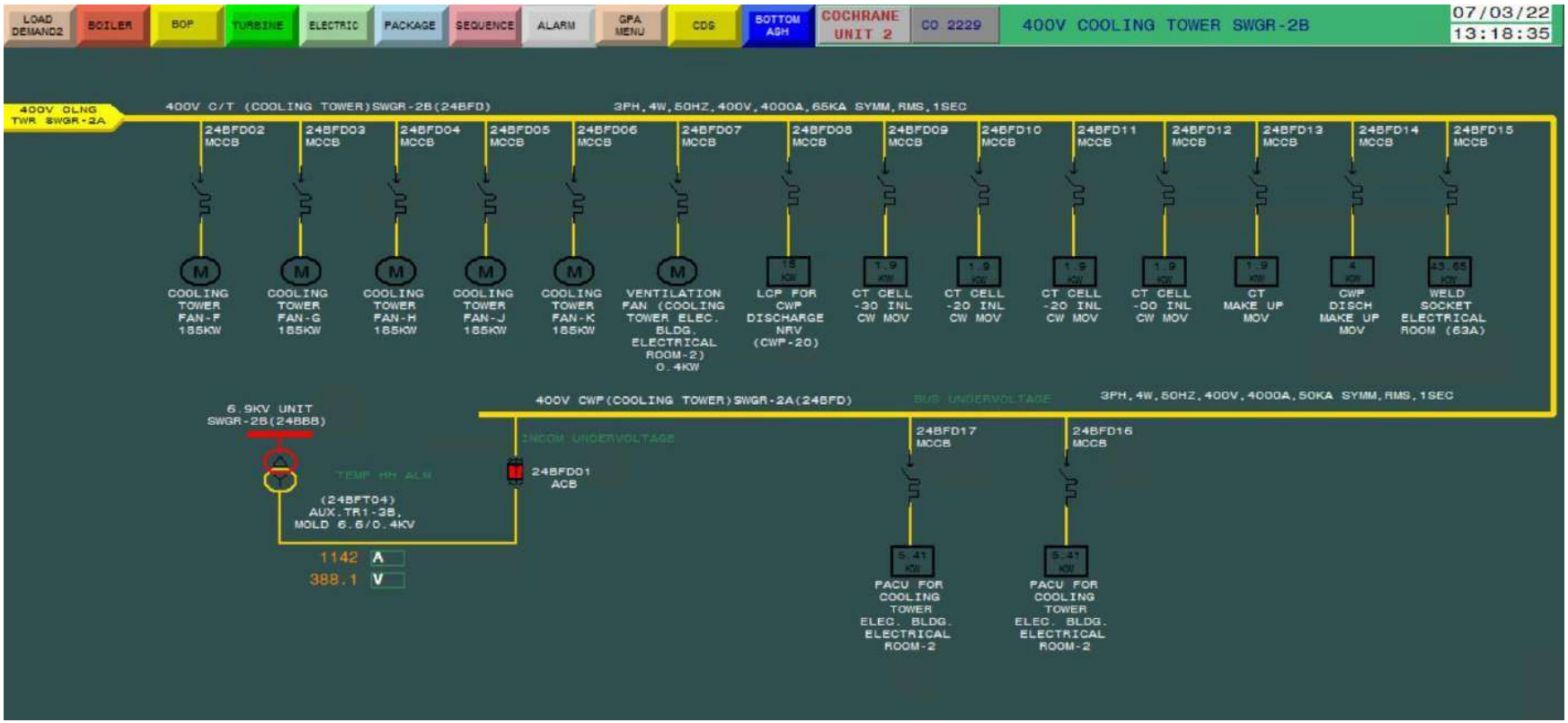

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
COS
BOTTOM ASH
COCHRANE UNIT 2
CO 2224
400V STG UNIT MCC-2A
07/03/22
13:15:52
397.0 V
BUS UNDER VOLTAGE
400V STG UNIT MCC-2A (24BLC)
3PH,4W,50HZ,400V,400A,50KA SYMM,RMS,1SEC
24BLC01
24BLC02
24BLC03
24BLC04
24BLC05
24BLC06
24BLC07
24BLC08
24BLC09
24BLC10
24BLC11
24BLC12
24BLC13
400V UNIT SWGR 2A
GLAND CONDENSER BLOWER-A 7.5KW
GENERATOR ENCLOSURE VENTILATION FAN-2A 4KW
TURBINE ENCLOSURE VENTILATION FAN-2A 3KW
TURBINE ENCLOSURE VENTILATION FAN-2C 3KW
TURBINE ENCLOSURE VENTILATION FAN-2E 3KW
CONTROL OIL PUMP-A 22KW
VACUUM BREAKER LALVE
GLAND STEAM SUPPLY MOV (AUX.STEAM)
GENERATOR HEATER
HP5 EXTRACTION MOT. SHUT-OFF VALVE
HP6 EXTRACTION MOT. SHUT-OFF VALVE
DEAERATOR EXTRACTION MOT. SHUT-OFF VALVE
400V STG UNIT MCC-2B
24BLC14
24BLC15
24BLC16
24BLC17
LP3 EXTRACTION MOT. SHUT-OFF VALVE
LP2 EXTRACTION MOT. SHUT-OFF VALVE
ST GEN. EXCITATION FIELD FLASHING
ST GEN. EXCITATION MOTOR FANS

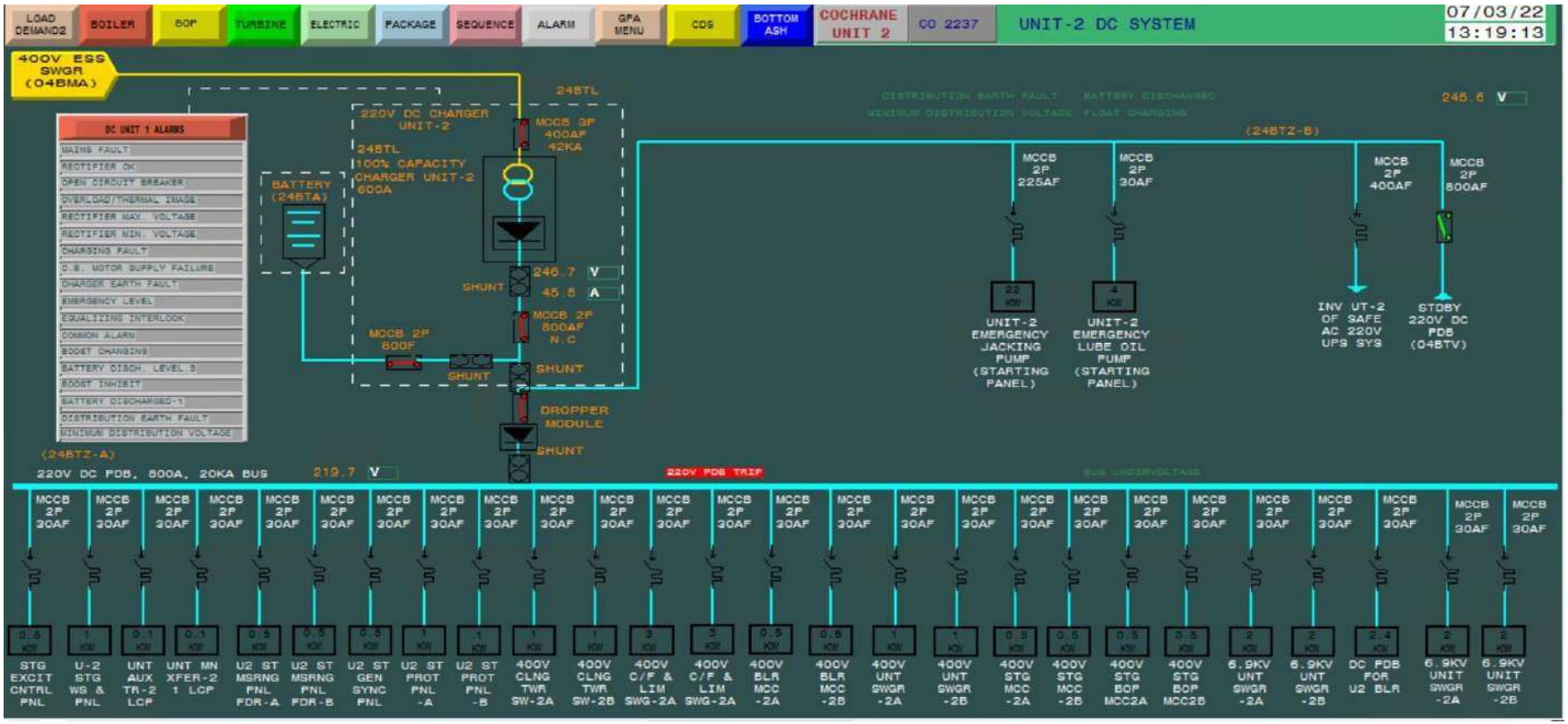

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2225
400V STG UNIT MCC-2B
07/03/22
13:16:18
400V STG UNIT MCC-2A
400V STG UNIT MCC-2B(24BLD)
3PH,4W,50HZ,400V,400A,50KA SYMM.RMS,1SEC
394.1 V
BUS UNDERVOLTAGE
24BLD31
24BLD02
24BLD03
24BLD04
24BLD05
24BLD06
24BLD07
24BLD08
24BLD09
24BLD01
CONTROL OIL PUMP-B 22KW
TURBINE ENCLOSURE VENTILATION FAN-2B 3KW
TURBINE ENCLOSURE VENTILATION FAN-2D 3KW
TURBINE ENCLOSURE VENTILATION FAN-2F 3KW
GENERATOR ENCLOSURE VENTILATION FAN-2B 4KW
GLAND CONDENSER BLOWER-B 7.5KW
DEHUMIDIFIER
OIL PURIFIER
400V UNIT SWGR 2B

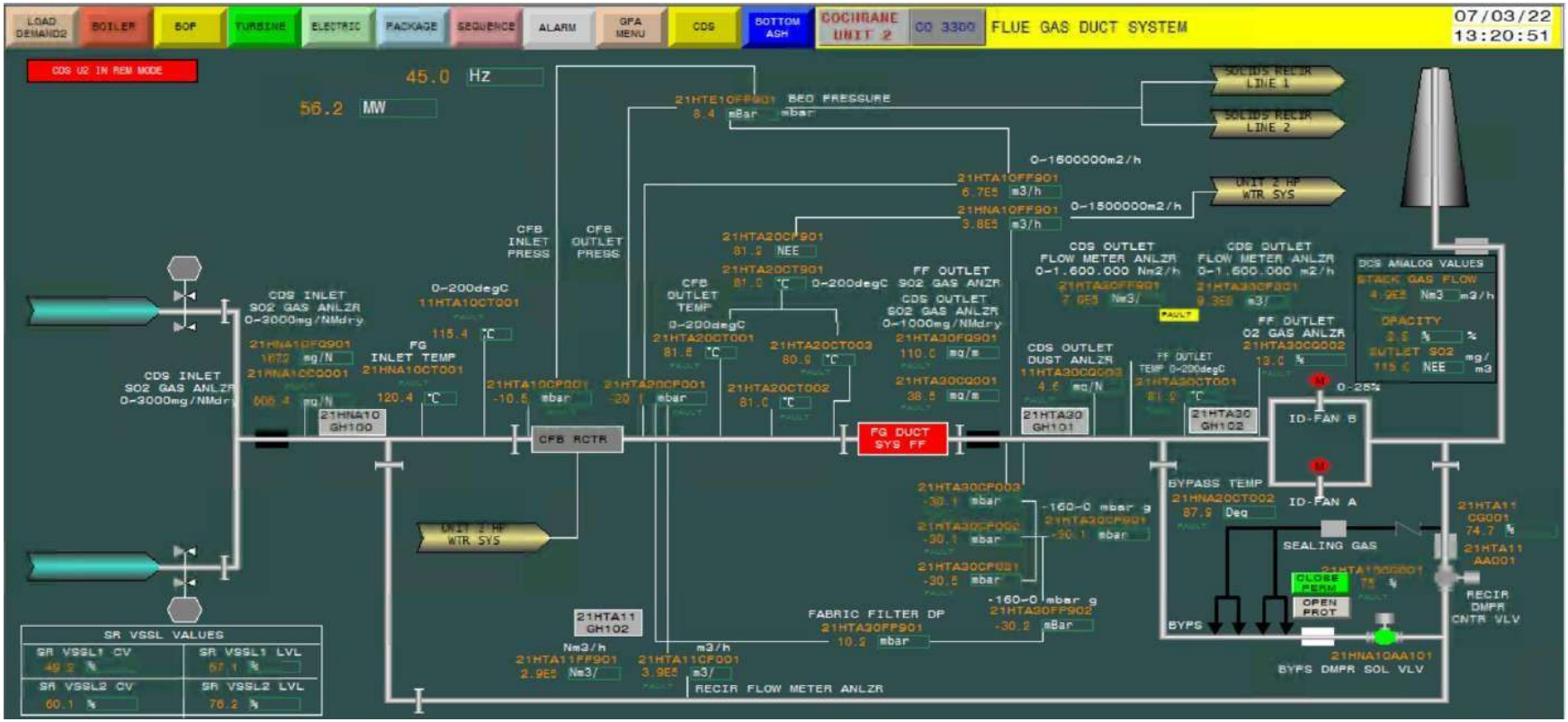

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2225
400V STG UNIT BOP MCC-2A
07/03/22
13:17:20
397.3 V
400V STG UNIT BOP MCC-2A(24BLE)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,600A,50KA SYMM,RMS,1SEC
400V STG UNIT BOP MCC-2B
INCOM UNDERVOLTAGE
DC 220V NORMAL PWR FAIL
DC 220V BACKUP PWR FAIL
24BLE01 ACB
400V UNIT SWGR 2A
24BLE02 MCCB
24BLE03 MCCB
24BLE04 MCCB
24BLE05 MCCB
24BLE06 MCCB
24BLE07 MCCB
24BLE08 MCCB
24BLE09 MCCB
24BLE10 MCCB
M
3.0 KW
2.0 KW
1.05 KW
43.65 KW
4 KW
3.7 KW
M
CONDENSATE MAKE-UP PUMP-B 18.5KW
LP HEATER DRAIN PUMP-A (MAIN) 160KW
BOILER FEED WATER PUMP-2A LCP
BOILER FEED WATER PUMP-2B LCP
AUTO CLEANING FILTER LCP
WELD SOCKET (63A) FOR ST BLDG OPER. FL.
CATHODIC PROTECTION RECTIFIER FOR CONDENSER
ROLL-UP DOOR FOR STG BLDG-2
LP HEATER DRAIN PUMP-A (BOOSTER) 15KW

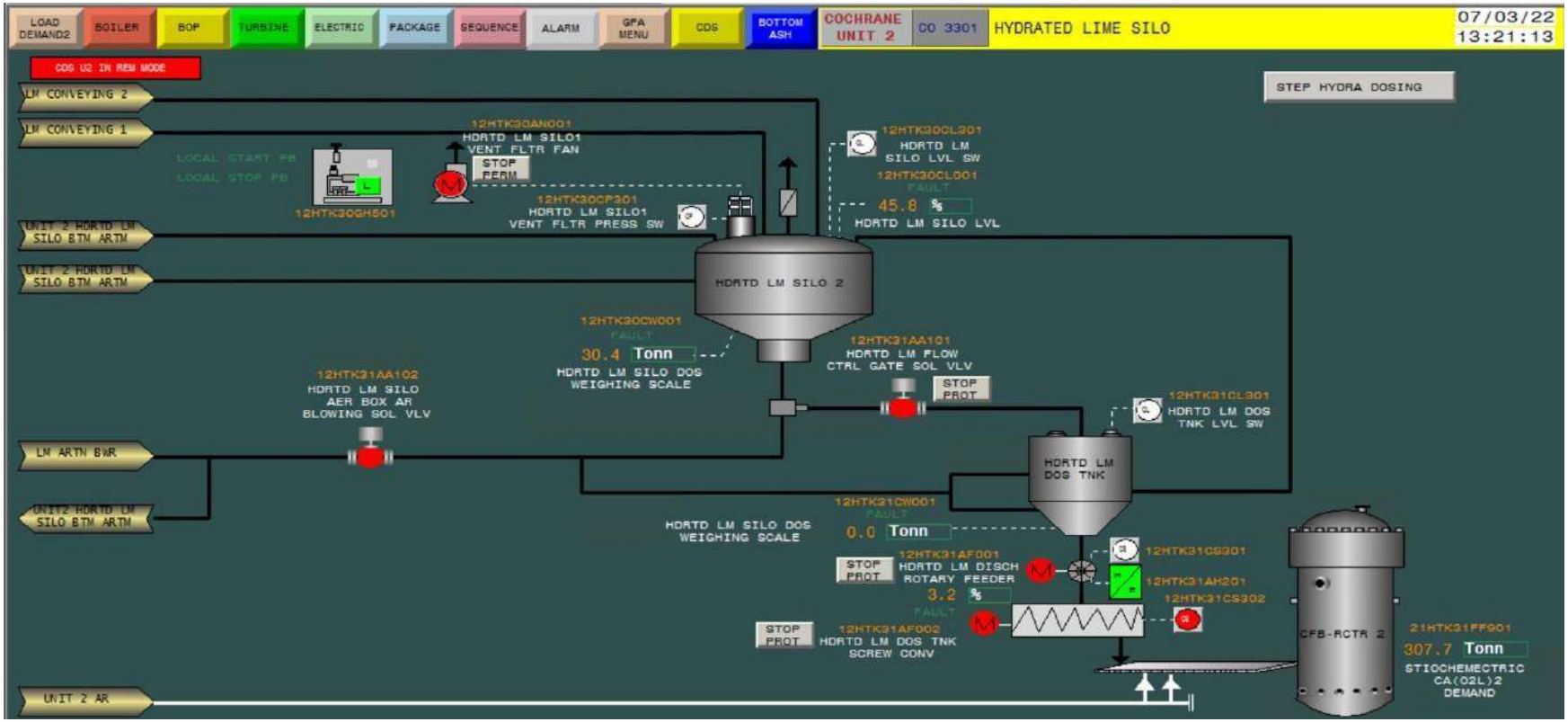

LOAD DEMAND2
BOILER
BOF
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2227
400V STG UNIT BOP MCC-2B
07/03/22
13:17:55
400V STG UNIT BOP MCC-2A
400V STG UNIT BOP MCC-2B(24BLF)
3PH,4W,50HZ,400V,600A,50KA SYMM,RMS,1SEC
24BLF31 ACB
24BLF01 MCCB
24BLF02 MCCB
24BLF03 MCCB
24BLF04 MCCB
24BLF05 MCCB
24BLF06 MCCB
24BLF07 MCCB
24BLF08 MCCB
24BLF09 MCCB
24BLF10 MCCB
LP HEATER DRAIN PUMP-B (MAIN) 160KW
CONDENSATE MAKE-UP PUMP-A 18.5KW
43.65 KW
WELD SOCKET (63A)
3 KW
BOILER FEEDWATER PUMP-2C LCP
15 KW
ASH HANDLING AREA SUMP PUMP (ASH SLURRY) LCP
7.5 KW
CTCS LCP
1.5 KW
DEBRIS FILTER LCP
7.4 KW
UNIT MAIN TRANSFORMER AREA SUMP PUMP LCP
22.5 KW
START-UP FLASH TANK AREA SUMP PUMP (CHEMICAL) LCP
7.72 KW
UNIT-2 BOILER CHEMICAL DOSING LCP-2
3PH,4W,50HZ,400V,600A,50KA SYMM,RMS,1SEC
BUS UNDERVOLTAGE
393.2 V
INCOM UNDERVOLTAGE
24BLF11 MCCB
24BLF12 MCCB
24BLF13 MCCB
24BLF14 MCCB
24BLF16 MCCB
24BLF01 ACB
7.4 KW
ST BUILDING SEAWATER SUMP PUMP LCP-2
11.10 KW
BOILER BLOW DOWN SUMP PUMP LCP
2.7 KW
ROLL-UP DOOR FOR STG BLDG-2
LP HEATER DRAIN PUMP-B (BOOSTER) 15KW
1 KW
AUX. POWER FOR CTCS LCP
400V UNIT SWGR 1B

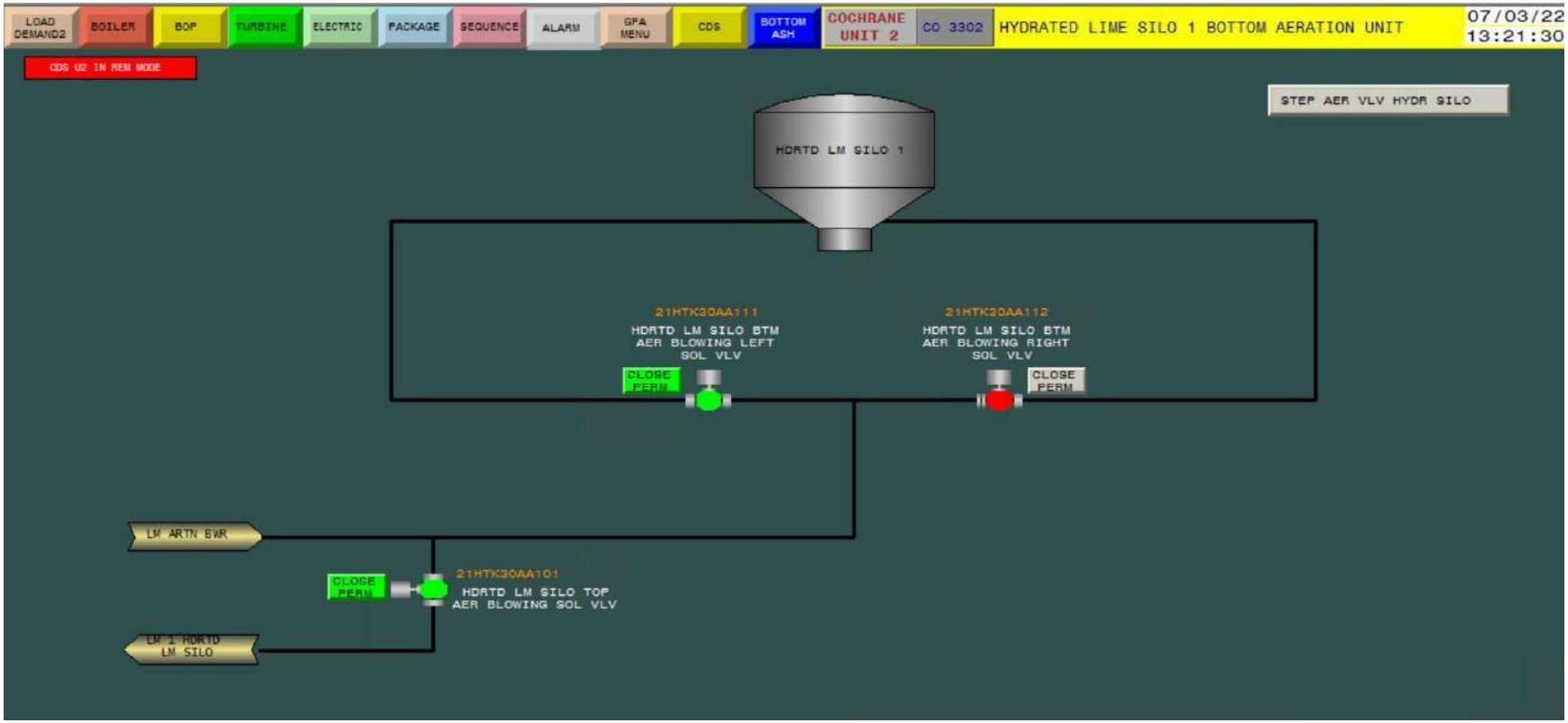

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2228
400V COOLING TOWER SWGR-2A
07/03/22
13:18:18
6.9KV UNIT SWGR-2A(24BBA)
400V C/T (COOLING TOWER)SWGR-2A(24BFC)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,65KA SYMM,RMS,1SEC
TEMP HH ALM
ACB 4000A 24BFC01
(24BFT03) AUX.TRI-3A MOLD 6.6/.4KV
PH B CURRENT
917.4 A
390.8 V
INCOM UNDERVOLTAGE
DC 220V NORMAL PWR FAIL
DC 220V BACKUP PWR FAIL
24BFC02
24BFC03
24BFC04
24BFC05
24BFC06
24BFC07
24BFC08
24BFC09
24BFC10
24BFC11
24BFC12
24BFC13
24BFC14
24BFC15
COOLING TOWER FAN-A 185KW
COOLING TOWER FAN-B 185KW
COOLING TOWER FAN-C 185KW
COOLING TOWER FAN-D 185KW
COOLING TOWER FAN-E 185KW
VENTILATION FAN (COOLING TOWER ELEC. BLDG ELECTRICAL ROOM-2) 0.4KW
LCP FOR CWP DISCHARGE NRV (CWP-20)
CT CELL -90 INL CW MOV
CT CELL -80 INL CW MOV
CT CELL -70 INL CW MOV
CT CELL -60 INL CW MOV
CT CELL -50 INL CW MOV
CT CELL -40 INL CW MOV
PACU FOR COOLING TOWER ELEC. BLDG ELECTRICAL ROOM-2
400V CWP(COOLING TOWER)SWGR-2A(24BFC)
3PH,4W,50HZ,400V,4000A,50KA SYMM,RMS,1SEC
400V CLNG TWR SW-2B
ACB 4000A 24BFD41
24BFC33
24BFC32
24BFC29
24BFC18
24BFC17
24BFC16
CUBICLE HEATER & LIGHT (220V) (400V COOLING TOWER SWGR-2)
COOLING TOWER CHEMICAL DOSING LCP-2
CATHODIC RECTIFIER FOR COOLING TOWER MAKE-UP PIPE INSIDE (RE-206)
COOLING TOWER BLDG HVAC LOCAL CONTROL PANEL
GANTRY CRANE FOR CIRCULATING WATER PUMP STATION
PACU FOR COOLING TOWER ELEC. BLDG ELECTRICAL ROOM-2

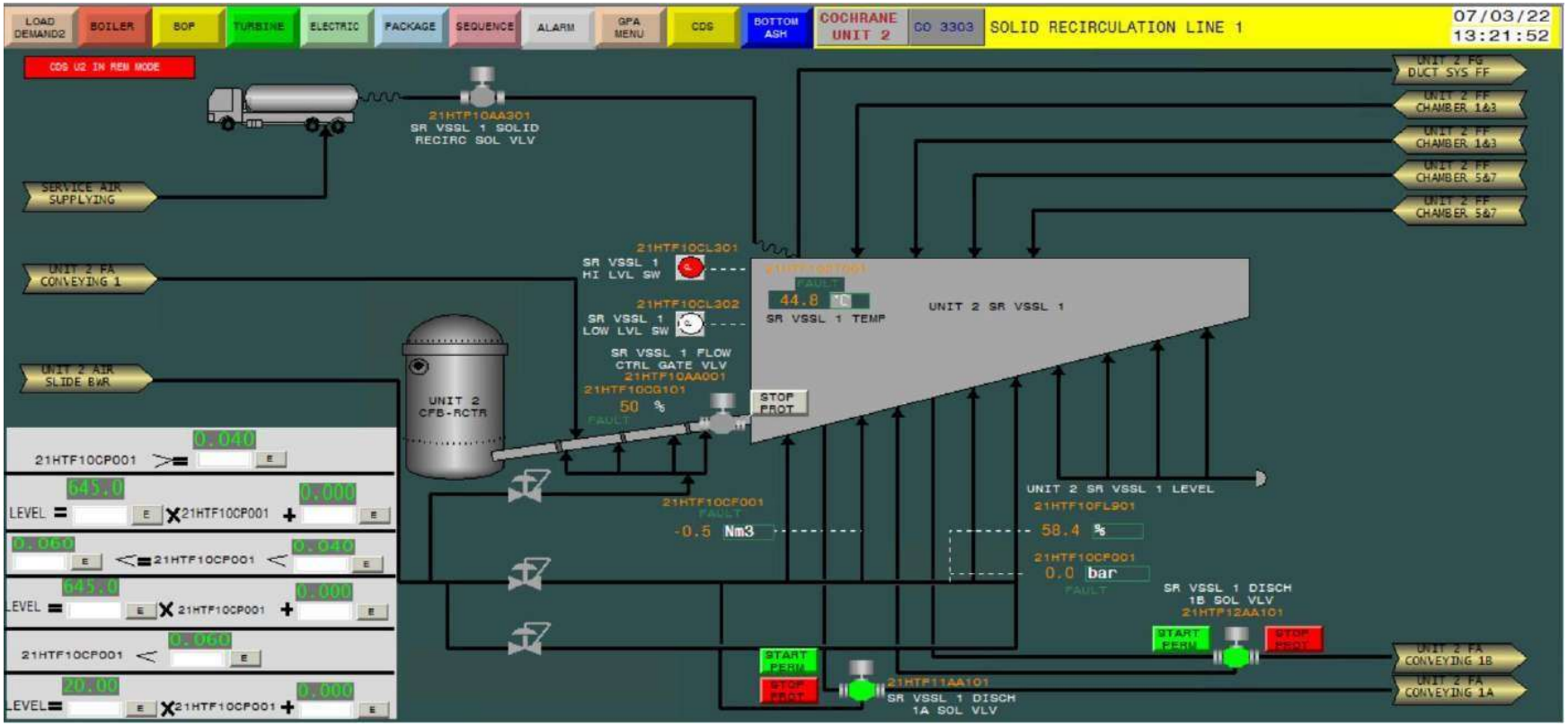

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2229
400V COOLING TOWER SWGR-2B
07/03/22
13:18:35
400V CLNG TWR SWGR-2A
400V C/T (COOLING TOWER)SWGR-2B(24BFD)
3PH,4W,50HZ,400V,4000A,65KA SYMM,RMS,1SEC
24BFD02 MCCB
24BFD03 MCCB
24BFD04 MCCB
24BFD05 MCCB
24BFD06 MCCB
24BFD07 MCCB
24BFD08 MCCB
24BFD09 MCCB
24BFD10 MCCB
24BFD11 MCCB
24BFD12 MCCB
24BFD13 MCCB
24BFD14 MCCB
24BFD15 MCCB
COOLING TOWER FAN-F 185KW
COOLING TOWER FAN-G 185KW
COOLING TOWER FAN-H 185KW
COOLING TOWER FAN-J 185KW
COOLING TOWER FAN-K 185KW
VENTILATION FAN (COOLING TOWER ELEC. BLDG. ELECTRICAL ROOM-2) 0.4KW
LCP FOR CWP DISCHARGE NRV (CWP-20)
CT CELL -30 INL CW MOV
CT CELL -20 INL CW MOV
CT CELL -20 INL CW MOV
CT CELL -00 INL CW MOV
CT MAKE UP MOV
CWP DISCH MAKE UP MOV
WELD SOCKET ELECTRICAL ROOM (63A)
6.9KV UNIT SWGR-2B(24BBB)
(24BFT04) AUX.TR1-3B, MOLD 6.6/0.4KV
1142 A
388.1 V
400V CWP(COOLING TOWER)SWGR-2A(24BFD)
BUS UNDERVOLTAGE
3PH,4W,50HZ,400V,4000A,50KA SYMM,RMS,1SEC
INCOM UNDERVOLTAGE
24BFD01 ACB
24BFD17 MCCB
24BFD16 MCCB
PACU FOR COOLING TOWER ELEC. BLDG. ELECTRICAL ROOM-2
PACU FOR COOLING TOWER ELEC. BLDG. ELECTRICAL ROOM-2

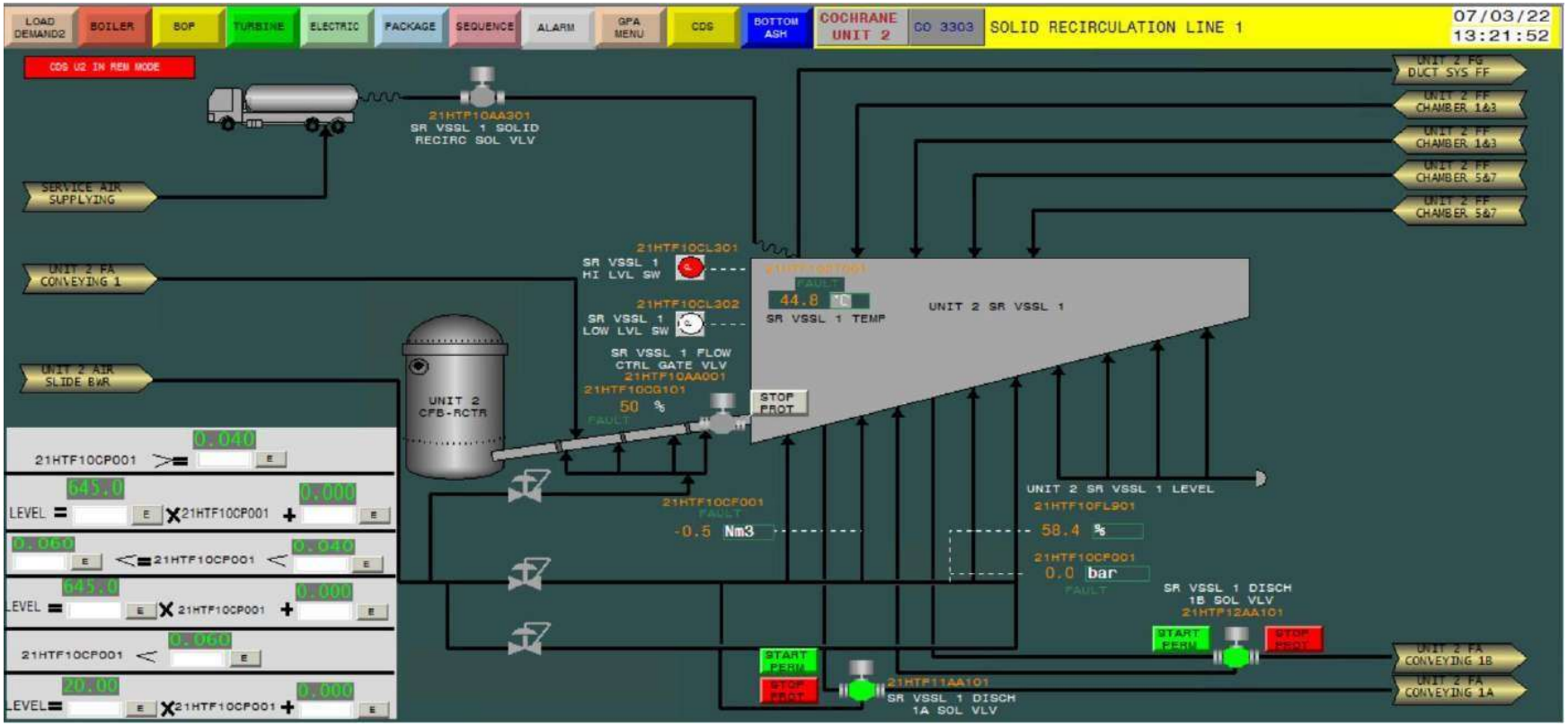

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 2237
UNIT-2 DC SYSTEM
07/03/22
13:19:13
400V ESS SWGR (04BMA)
24BTL
220V DC CHARGER UNIT-2
MCCB 3P 400AF 42KA
24BTL 100% CAPACITY CHARGER UNIT-2 600A
BATTERY (24BTA)
DC UNIT 1 ALARMS
MAINS FAULT
RECTIFIER OK
OPEN CIRCUIT BREAKER
OVERLOAD/THERMAL IMAGE
RECTIFIER MAX. VOLTAGE
RECTIFIER MIN. VOLTAGE
CHARGING FAULT
C.B. MOTOR SUPPLY FAILURE
CHARGER EARTH FAULT
EMERGENCY LEVEL
EQUALIZING INTERLOCK
COMMON ALARM
BOOST CHANGING
BATTERY DISCH. LEVEL 3
BOOST INHIBIT
BATTERY DISCHARGED-1
DISTRIBUTION EARTH FAULT
MINIMUM DISTRIBUTION VOLTAGE
246.7 V
45.5 A
SHUNT
MCCB 2P 800AF N.C
MCCB 2P 800F
SHUNT
SHUNT
DROPPER MODULE
SHUNT
(24BTZ-A)
220V DC PDB, 800A, 20KA BUS
219.7 V
220V PDB TRIP
DISTRIBUTION EARTH FAULT
BATTERY DISCHARGED
MINIMUM DISTRIBUTION VOLTAGE
FLOAT CHARGING
248.6 V
(24BTZ-B)
MCCB 2P 225AF
MCCB 2P 30AF
MCCB 2P 400AF
MCCB 2P 800AF
UNIT-2 EMERGENCY JACKING PUMP (STARTING PANEL)
UNIT-2 EMERGENCY LUBE OIL PUMP (STARTING PANEL)
INV UT-2 OF SAFE AC 220V UPS SYS
STDBY 220V DC PDB (04BTV)
MCCB 2P 30AF
STG EXCIT CNTRL PNL
U-2 STG WS & PNL
UNT AUX TR-2 LCP
UNT MN XFER-2 1 LCP
U2 ST MSRNG PNL FDR-A
U2 ST MSRNG PNL FDR-B
U2 ST GEN SYNC PNL
U2 ST PROT PNL -A
U2 ST PROT PNL -B
400V CLNG TWR SW-2A
400V CLNG TWR SW-2B
400V C/F & LIM SWG-2A
400V C/F & LIM SWG-2A
400V BLR MCC -2A
400V BLR MCC -2B
400V UNT SWGR -2A
400V UNT SWGR -2B
400V STG MCC -2A
400V STG MCC -2B
400V STG BOP MCC2A
400V STG BOP MCC2B
6.9KV UNT SWGR -2A
6.9KV UNT SWGR -2B
DC PDB FOR U2 BLR
6.9KV UNIT SWGR -2A
6.9KV UNIT SWGR -2B

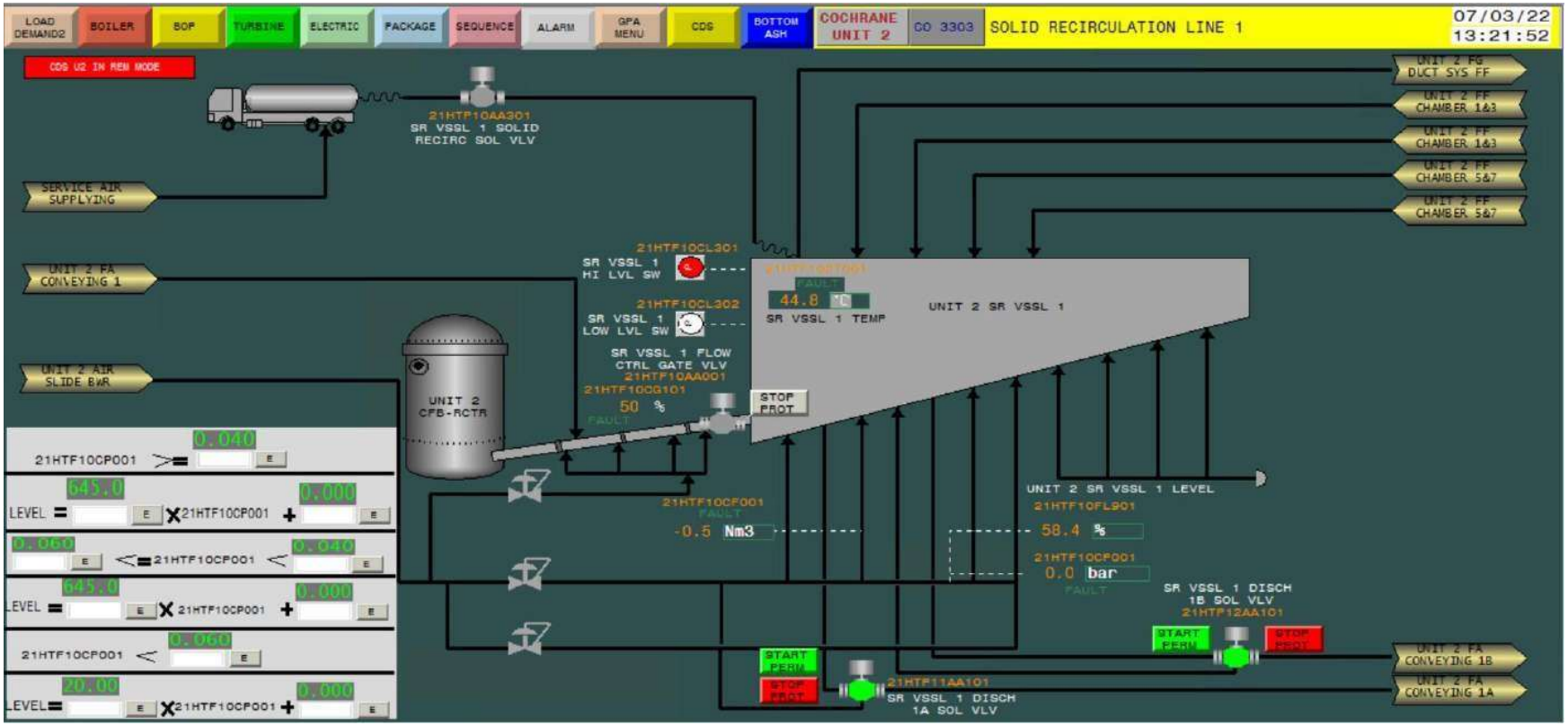

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3300
FLUE GAS DUCT SYSTEM
07/03/22
13:20:51
CDS U2 IN REM MODE
45.0 Hz
56.2 MW
21HTE10FF901
8.4 mBar mbar
BED PRESSURE
SOLIDS RECIR LINE 1
SOLIDS RECIR LINE 2
0-1600000m2/h
21HTA10FF901
6.7E5 m3/h
UNIT 2 HP WTR SYS
0-1500000m2/h
21HNA10FF901
3.8E5 m3/h
CFB INLET PRESS
CFB OUTLET PRESS
21HTA20CP901
81.2 NEE
21HTA20CT901
81.0 °C
0-200degC
CFB OUTLET TEMP
FF OUTLET SO2 GAS ANZR
CDS OUTLET SO2 GAS ANLZR
0-1000mg/NMdry
21HTA30FQ901
110.0 mg/m
21HTA30CQ001
38.5 mg/m
CDS OUTLET FLOW METER ANLZR
0-1,600,000 Nm2/h
21HTA30FP901
7.0E5 Nm3/
FAULT
CDS OUTLET FLOW METER ANLZR
0-1,600,000 m2/h
21HTA30FP301
9.3E5 m3/
DCS ANALOG VALUES
STACK GAS FLOW
4.9E2 Nm3 m3/h
OPACITY
2.6 % %
OUTLET SO2
115.6 NEE mg/m3
FF OUTLET O2 GAS ANLZR
21HTA30CQ002
13.0 %
0-25%
CDS INLET SO2 GAS ANLZR
0-2000mg/NMdry
21HNA10FQ901
167.2 mg/N
21HNA10CQ001
606.4 mg/N
0-200degC
11HTA10CT001
115.4 °C
FG INLET TEMP
21HNA10CT001
120.4 °C
21HNA10 GH100
21HTA10CP001
-10.5 mbar
21HTA20CP001
-20.1 mbar
21HTA20CT001
81.6 °C
21HTA20CT003
80.9 °C
21HTA20CT002
81.0 °C
CFB RCTR
FG DUCT SYS FF
CDS OUTLET DUST ANLZR
11HTA30CQ003
4.6 mg/N
21HTA30 GH101
FF OUTLET TEMP 0-200degC
21HTA30CT001
81.2 °C
21HTA30 GH102
ID-FAN B
ID-FAN A
21HTA30CP003
-30.1 mbar
21HTA30CP002
-30.1 mbar
21HTA30CP001
-30.5 mbar
-160-0 mbar g
21HTA30CP901
-30.1 mbar
BYPASS TEMP
21HNA20CT002
87.9 Deg
SEALING GAS
CLOSE PERM
OPEN PROT
BYPS
21HNA10AA101
BYPS DMPR SOL VLV
21HTA11 CG001
74.7 %
21HTA11 AA001
RECIR DMPR CNTR VLV
21HTA11 GH102
Nm3/h
21HTA11FP901
2.9E5 Nm3/
m3/h
21HTA11CF001
3.9E5 m3/
RECIR FLOW METER ANLZR
FABRIC FILTER DP
21HTA30FP901
10.2 mbar
-160-0 mbar g
21HTA30FP902
-30.2 mBar
SR VSSL VALUES
SR VSSL1 CV
49.2 %
SR VSSL1 LVL
57.1 %
SR VSSL2 CV
60.1 %
SR VSSL2 LVL
76.2 %

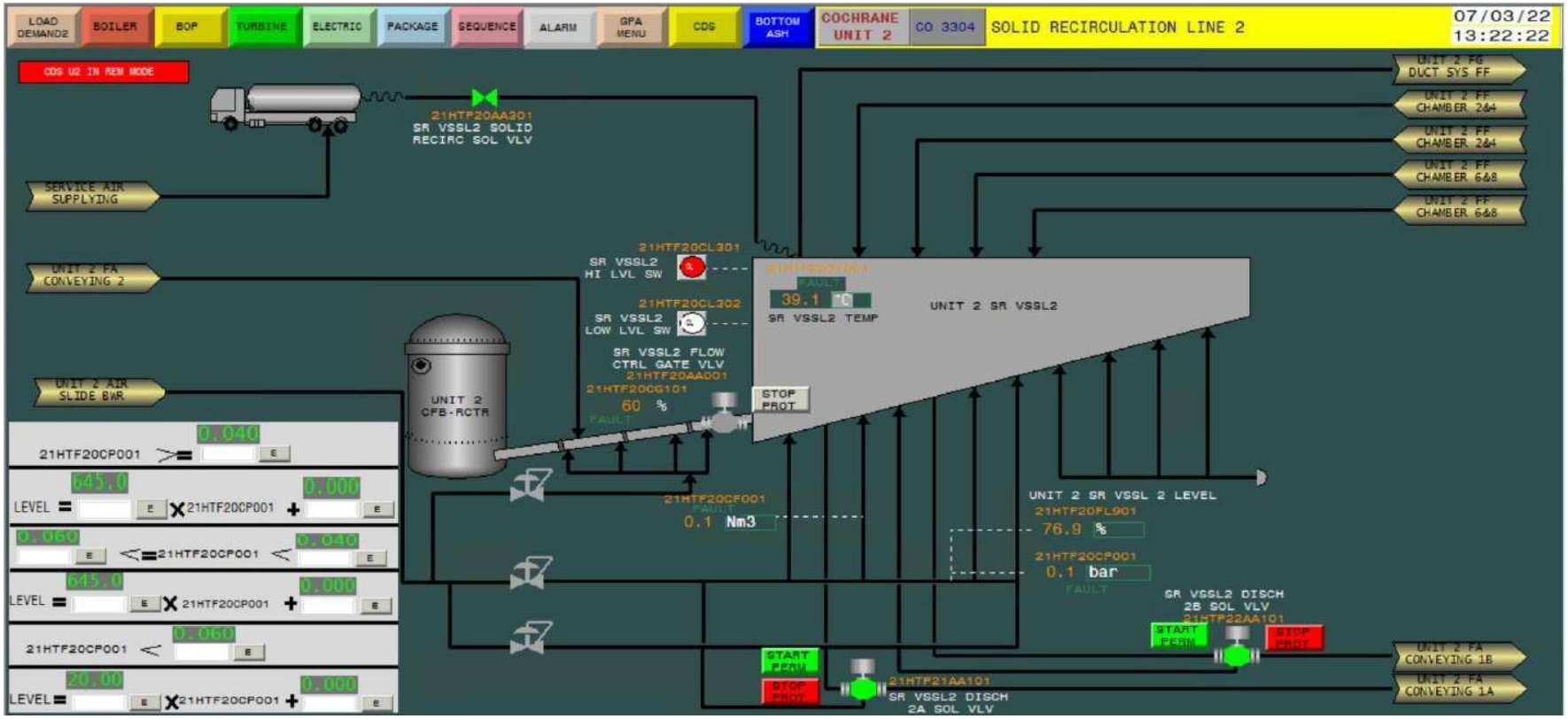

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3301
HYDRATED LIME SILO
07/03/22
13:21:13
CDS U2 IN REM MODE
STEP HYDRA DOSING
LM CONVEYING 2
LM CONVEYING 1
LOCAL START PB
LOCAL STOP PB
12HTK30GH501
12HTK30AN001
HDRTD LM SILO1 VENT FLTR FAN
STOP PERM
12HTK30CP301
HDRTD LM SILO1 VENT FLTR PRESS SW
12HTK30CL301
HDRTD LM SILO LVL SW
12HTK30CL001
FAULT
45.8 %
HDRTD LM SILO LVL
UNIT 2 HDRTD LM SILO BTM ARTM
UNIT 2 HDRTD LM SILO BTM ARTM
HDRTD LM SILO 2
12HTK30CW001
FAULT
30.4 Tonn
HDRTD LM SILO DOS WEIGHING SCALE
12HTK31AA101
HDRTD LM FLOW CTRL GATE SOL VLV
STOP PROT
12HTK31AA102
HDRTD LM SILO AER BOX AR BLOWING SOL VLV
12HTK31CL301
HDRTD LM DOS TNK LVL SW
HDRTD LM DOS TNK
LM ARTN BWR
UNIT2 HDRTD LM SILO BTM ARTM
12HTK21CW001
FAULT
0.0 Tonn
HDRTD LM SILO DOS WEIGHING SCALE
12HTK31AF001
HDRTD LM DISCH ROTARY FEEDER
STOP PROT
3.2 %
FAULT
12HTK31CS901
12HTK31AH201
12HTK31CS302
12HTK31AF002
HDRTD LM DOS TNK SCREW CONV
STOP PROT
CFB-RCTR 2
21HTK31FF901
307.7 Tonn
STIOCHEMECTRIC CA(O2L)2 DEMAND
UNIT 2 AR

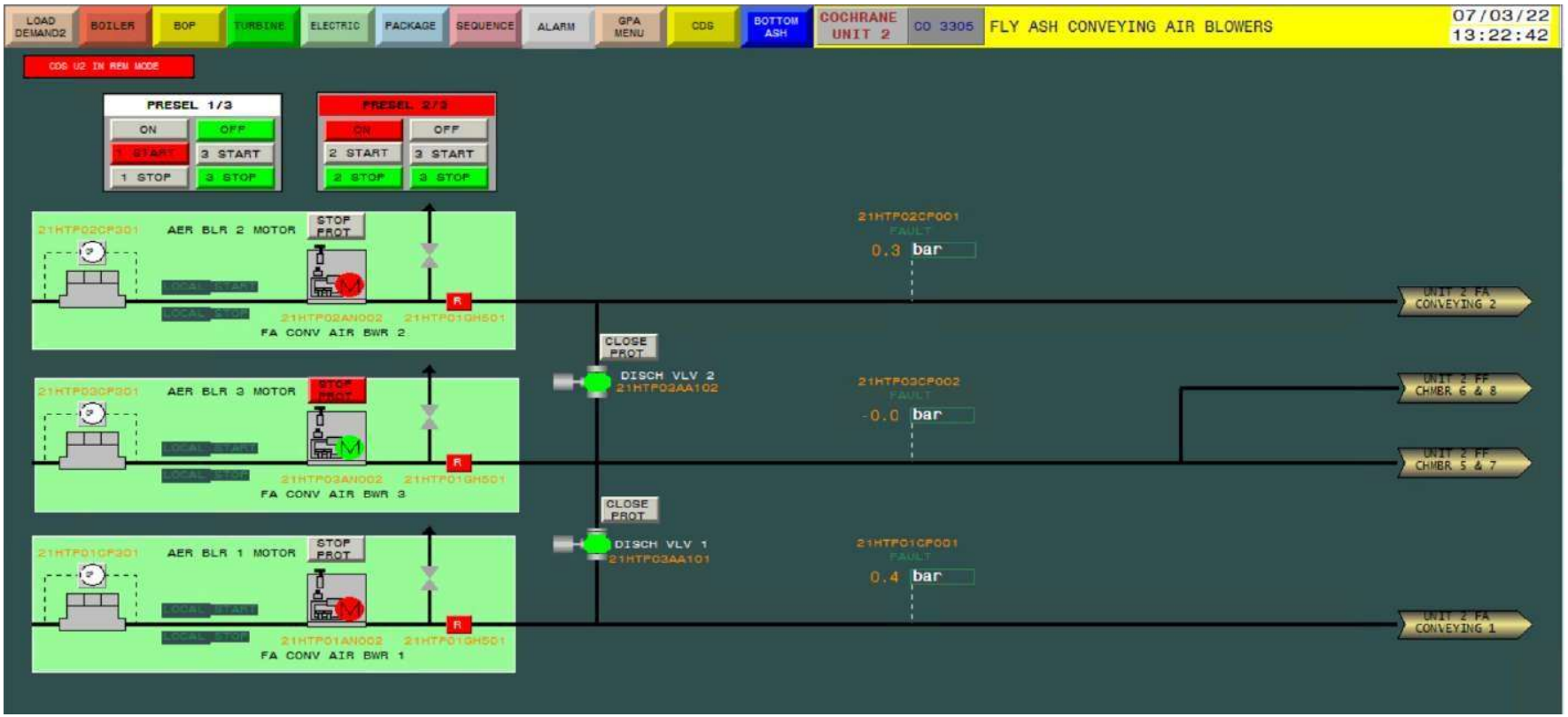

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3302
HYDRATED LIME SILO 1 BOTTOM AERATION UNIT
07/03/22
13:21:30
CDS U2 IN REM MODE
STEP AER VLV HYDR SILO
HDRTD LM SILO 1
21HTK30AA111
HDRTD LM SILO BTM AER BLOWING LEFT SOL VLV
CLOSE PERM
21HTK30AA112
HDRTD LM SILO BTM AER BLOWING RIGHT SOL VLV
CLOSE PERM
LM ARTN BWR
CLOSE PERM
21HTK30AA101
HDRTD LM SILO TOP AER BLOWING SOL VLV
LM 1 HDRTD LM SILO

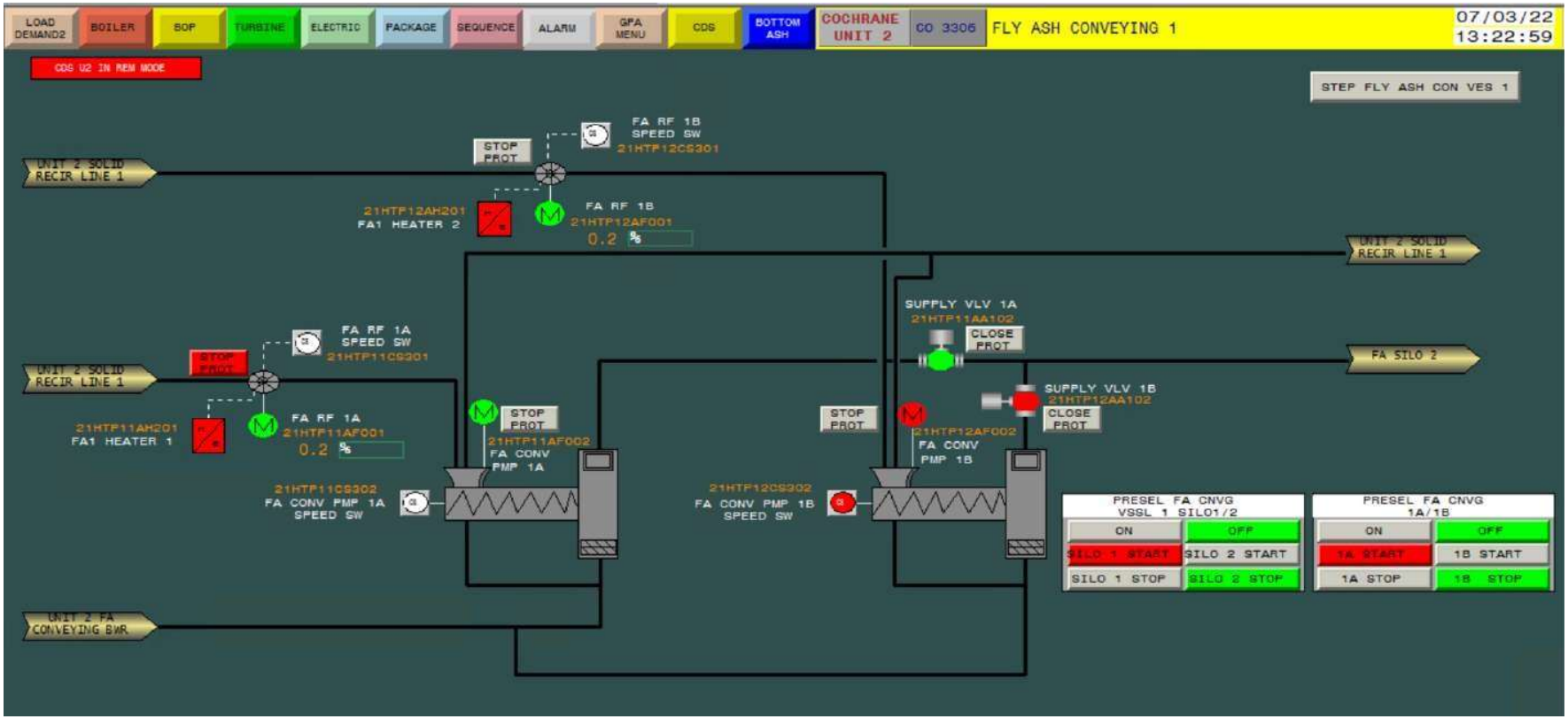

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3303
SOLID RECIRCULATION LINE 1
07/03/22
13:21:52
CDS U2 IN MEM MODE
21HTF10AA301
SR VSSL 1 SOLID RECIRC SOL VLV
SERVICE AIR SUPPLYING
UNIT 2 FA CONVEYING 1
UNIT 2 AIR SLIDE BWR
21HTF10CL301
SR VSSL 1 HI LVL SW
21HTF10CL302
SR VSSL 1 LOW LVL SW
SR VSSL 1 FLOW CTRL GATE VLV
21HTF10AA001
21HTF10CG101
50 %
FAULT
STOP PROT
UNIT 2 CFB-RCTR
44.8
SR VSSL 1 TEMP
UNIT 2 SR VSSL 1
UNIT 2 FG DUCT SYS FF
UNIT 2 FF CHAMBER 1&3
UNIT 2 FF CHAMBER 1&3
UNIT 2 FF CHAMBER 5&7
UNIT 2 FF CHAMBER 5&7
21HTF10CF001
-0.5 Nm3
UNIT 2 SR VSSL 1 LEVEL
21HTF10FL901
58.4 %
21HTF10CP001
0.0 bar
SR VSSL 1 DISCH 1B SOL VLV
21HTF12AA101
START PERM
STOP PROT
21HTF11AA101
SR VSSL 1 DISCH 1A SOL VLV
UNIT 2 FA CONVEYING 1B
UNIT 2 FA CONVEYING 1A
0.040
21HTF10CP001
645.0
LEVEL
0.000
0.060
20.00

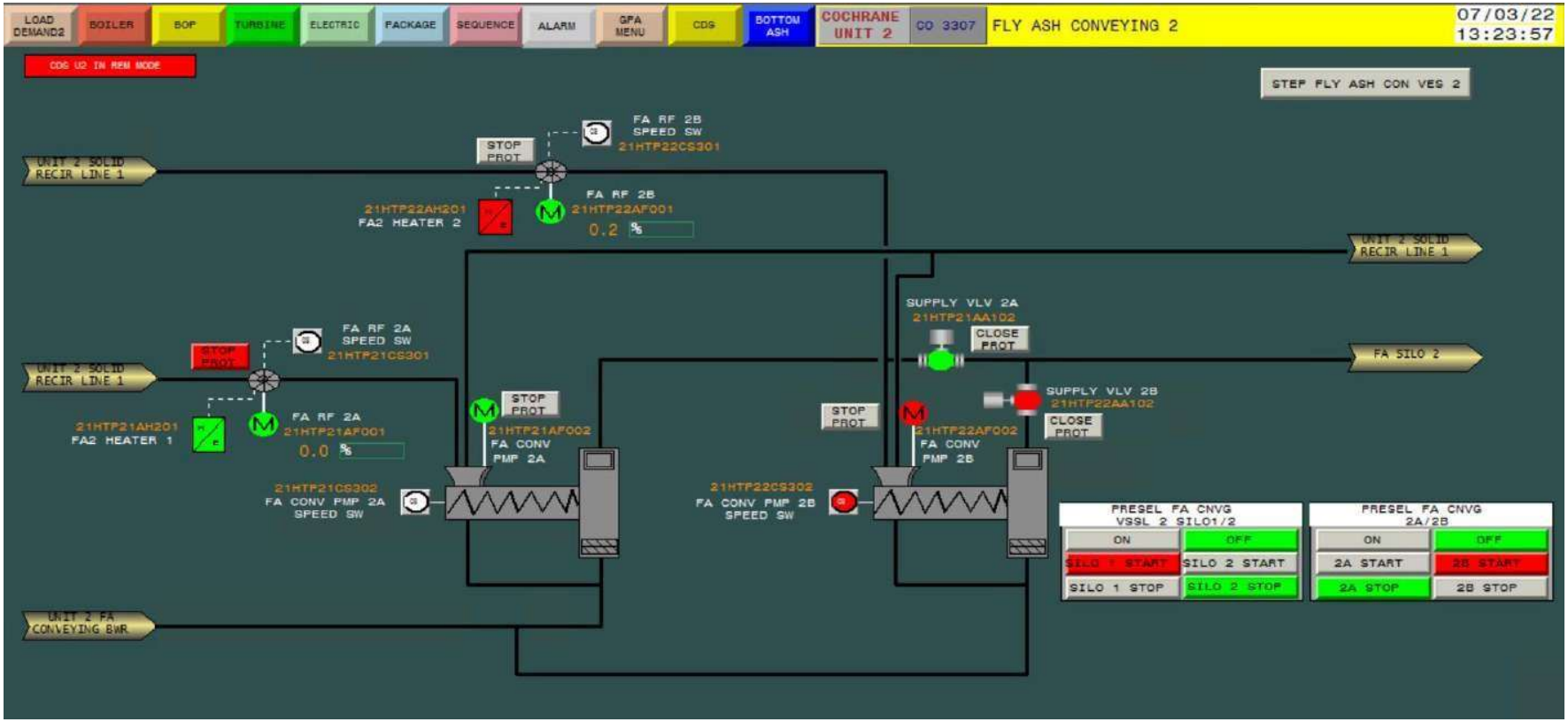

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3303
SOLID RECIRCULATION LINE 1
07/03/22
13:21:52
CDS U2 IN MEM MODE
21HTF10AA301
SR VSSL 1 SOLID RECIRC SOL VLV
SERVICE AIR SUPPLYING
UNIT 2 FA CONVEYING 1
UNIT 2 AIR SLIDE BWR
21HTF10CL301
SR VSSL 1 HI LVL SW
21HTF10CL302
SR VSSL 1 LOW LVL SW
SR VSSL 1 FLOW CTRL GATE VLV
21HTF10AA001
21HTF10CG101
50 %
FAULT
STOP PROT
UNIT 2 CFB-RCTR
44.8
SR VSSL 1 TEMP
UNIT 2 SR VSSL 1
UNIT 2 FG DUCT SYS FF
UNIT 2 FF CHAMBER 1&3
UNIT 2 FF CHAMBER 1&3
UNIT 2 FF CHAMBER 5&7
UNIT 2 FF CHAMBER 5&7
21HTF10CF001
-0.5 Nm3
UNIT 2 SR VSSL 1 LEVEL
21HTF10FL901
58.4 %
21HTF10CP001
0.0 bar
SR VSSL 1 DISCH 1B SOL VLV
21HTF12AA101
START PERM
STOP PROT
21HTF11AA101
SR VSSL 1 DISCH 1A SOL VLV
UNIT 2 FA CONVEYING 1B
UNIT 2 FA CONVEYING 1A
0.040
21HTF10CP001
645.0
LEVEL
0.000
0.060
20.00

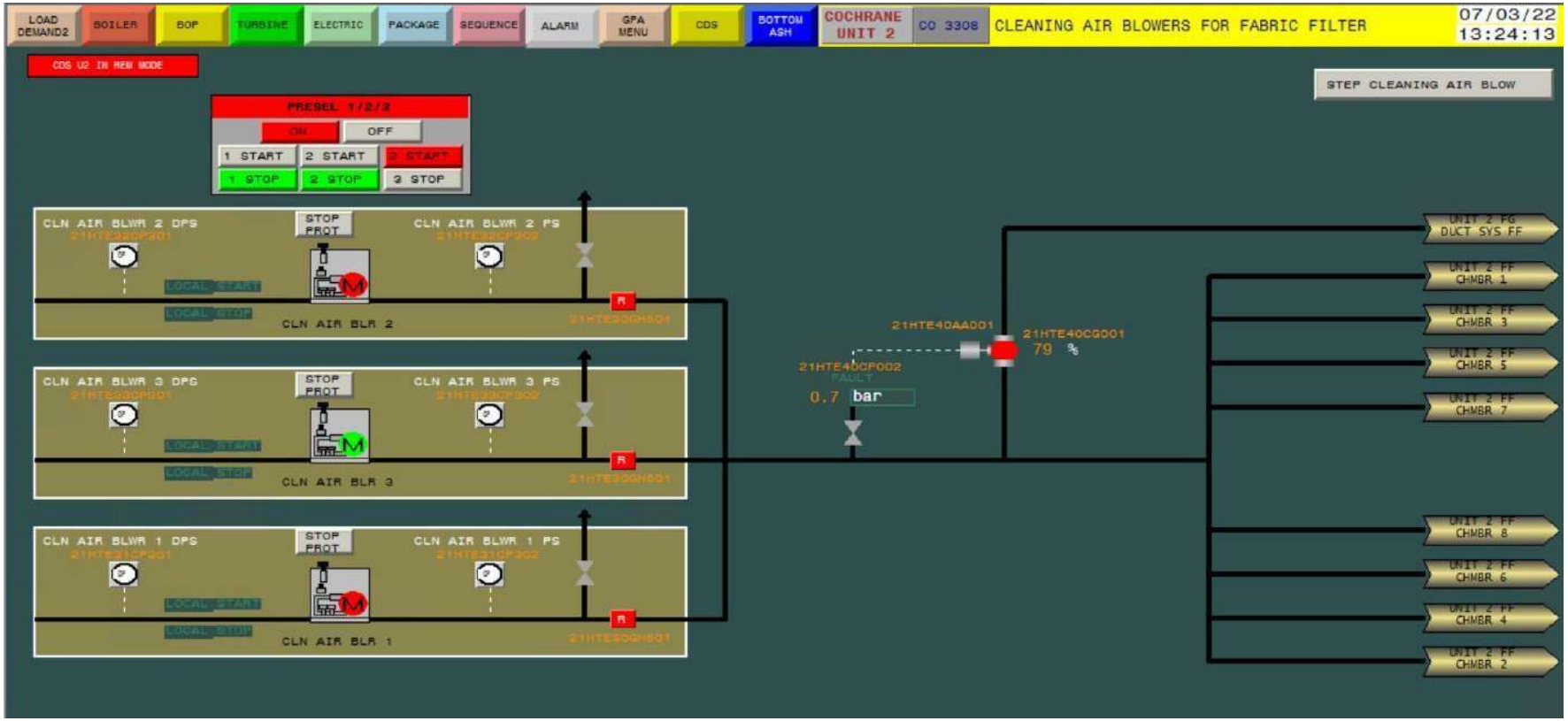

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3303
SOLID RECIRCULATION LINE 1
07/03/22
13:21:52
CDS U2 IN MEM MODE
21HTF10AA301
SR VSSL 1 SOLID RECIRC SOL VLV
SERVICE AIR SUPPLYING
UNIT 2 FA CONVEYING 1
UNIT 2 AIR SLIDE BWR
21HTF10CL301
SR VSSL 1 HI LVL SW
21HTF10CL302
SR VSSL 1 LOW LVL SW
SR VSSL 1 FLOW CTRL GATE VLV
21HTF10AA001
21HTF10CG101
50 %
FAULT
STOP PROT
UNIT 2 CFB-RCTR
44.8
SR VSSL 1 TEMP
UNIT 2 SR VSSL 1
UNIT 2 FG DUCT SYS FF
UNIT 2 FF CHAMBER 1&3
UNIT 2 FF CHAMBER 1&3
UNIT 2 FF CHAMBER 5&7
UNIT 2 FF CHAMBER 5&7
21HTF10CF001
-0.5 Nm3
UNIT 2 SR VSSL 1 LEVEL
21HTF10FL901
58.4 %
21HTF10CP001
0.0 bar
SR VSSL 1 DISCH 1B SOL VLV
21HTF12AA101
START PERM
STOP PROT
21HTF11AA101
SR VSSL 1 DISCH 1A SOL VLV
UNIT 2 FA CONVEYING 1B
UNIT 2 FA CONVEYING 1A
0.040
21HTF10CP001
645.0
LEVEL
0.000
0.060
20.00

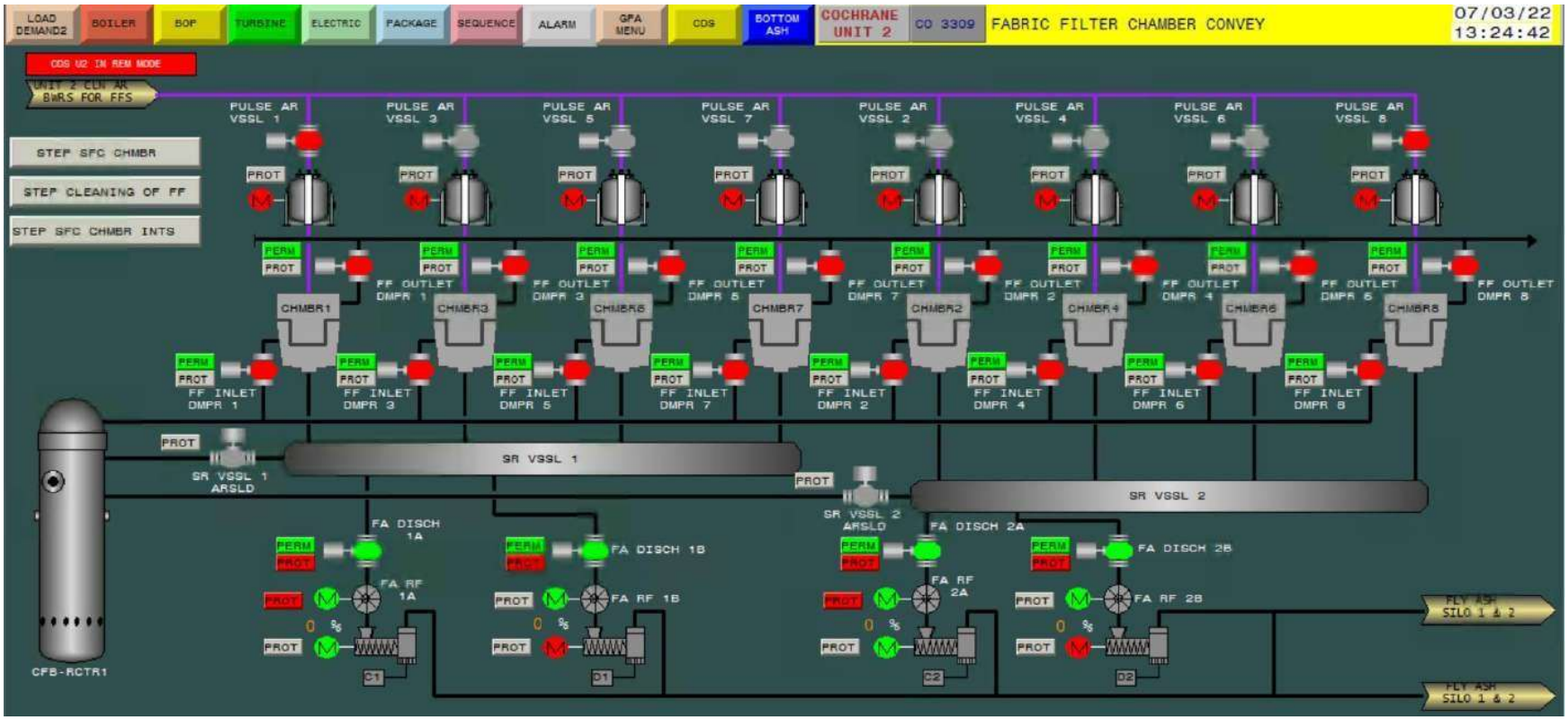

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3304
SOLID RECIRCULATION LINE 2
07/03/22
13:22:22
CDS U2 IN REM MODE
21HTF20AA301
SR VSSL2 SOLID RECIRC SOL VLV
SERVICE AIR SUPPLYING
UNIT 2 FA CONVEYING 2
UNIT 2 AIR SLIDE BWR
21HTF20CL301
SR VSSL2 HI LVL SW
21HTF20CL302
SR VSSL2 LOW LVL SW
SR VSSL2 FLOW CTRL GATE VLV
21HTF20AA001
21HTF20CG101
60 %
FAULT
STOP PROT
39.1 °C
SR VSSL2 TEMP
UNIT 2 SR VSSL2
UNIT 2 CFB-RCTR
21HTF20CF001
0.1 Nm3
UNIT 2 SR VSSL 2 LEVEL
21HTF20FL901
76.9 %
21HTF20CP001
0.1 bar
SR VSSL2 DISCH 2B SOL VLV
21HTF22AA101
START PERM
STOP PROT
21HTF21AA101
SR VSSL2 DISCH 2A SOL VLV
UNIT 2 FG DUCT SYS FF
UNIT 2 FF CHAMBER 264
UNIT 2 FF CHAMBER 264
UNIT 2 FF CHAMBER 648
UNIT 2 FF CHAMBER 648
UNIT 2 FA CONVEYING 1B
UNIT 2 FA CONVEYING 1A
0.040
21HTF20CP001
645.0
LEVEL
0.000
0.060
0.040
20.00

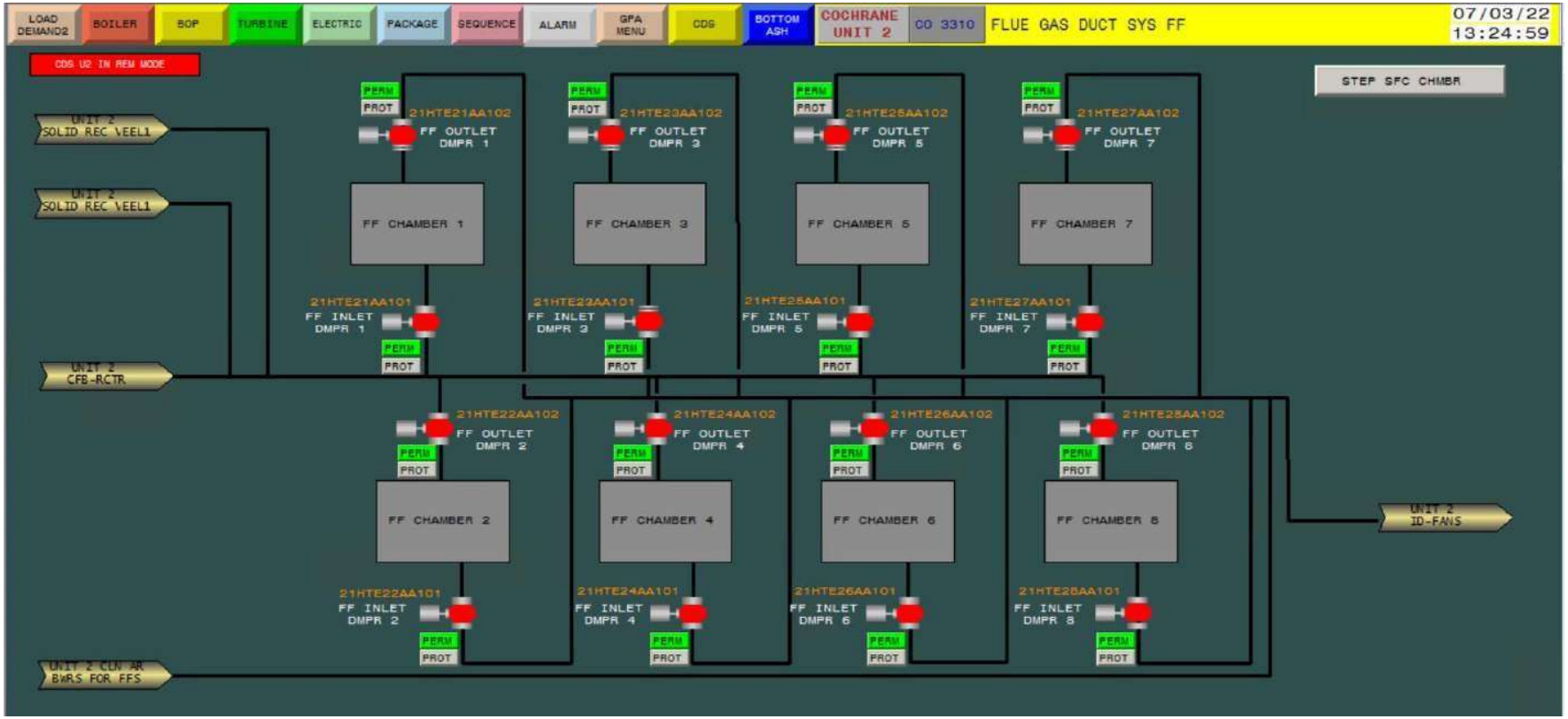

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3305
FLY ASH CONVEYING AIR BLOWERS
07/03/22
13:22:42
CDS U2 IN REM MODE
PRESEL 1/3
ON
OFF
1 START
3 START
1 STOP
3 STOP
PRESEL 2/3
ON
OFF
2 START
3 START
2 STOP
3 STOP
21HTP02CP301
AER BLR 2 MOTOR
STOP PROT
21HTP02AN002
21HTP01GH501
FA CONV AIR BWR 2
21HTP03CP301
AER BLR 3 MOTOR
STOP PROT
21HTP03AN002
21HTP01GH501
FA CONV AIR BWR 3
21HTP01CP301
AER BLR 1 MOTOR
STOP PROT
21HTP01AN002
21HTP01GH501
FA CONV AIR BWR 1
CLOSE PROT
DISCH VLV 2
21HTP02AA102
CLOSE PROT
DISCH VLV 1
21HTP03AA101
21HTP02CP001
FAULT
0.3 bar
21HTP03CP002
FAULT
-0.0 bar
21HTP01CP001
FAULT
0.4 bar
UNIT 2 FA CONVEYING 2
UNIT 2 FF CHMBR 6 & 8
UNIT 2 FF CHMBR 5 & 7
UNIT 2 FA CONVEYING 1

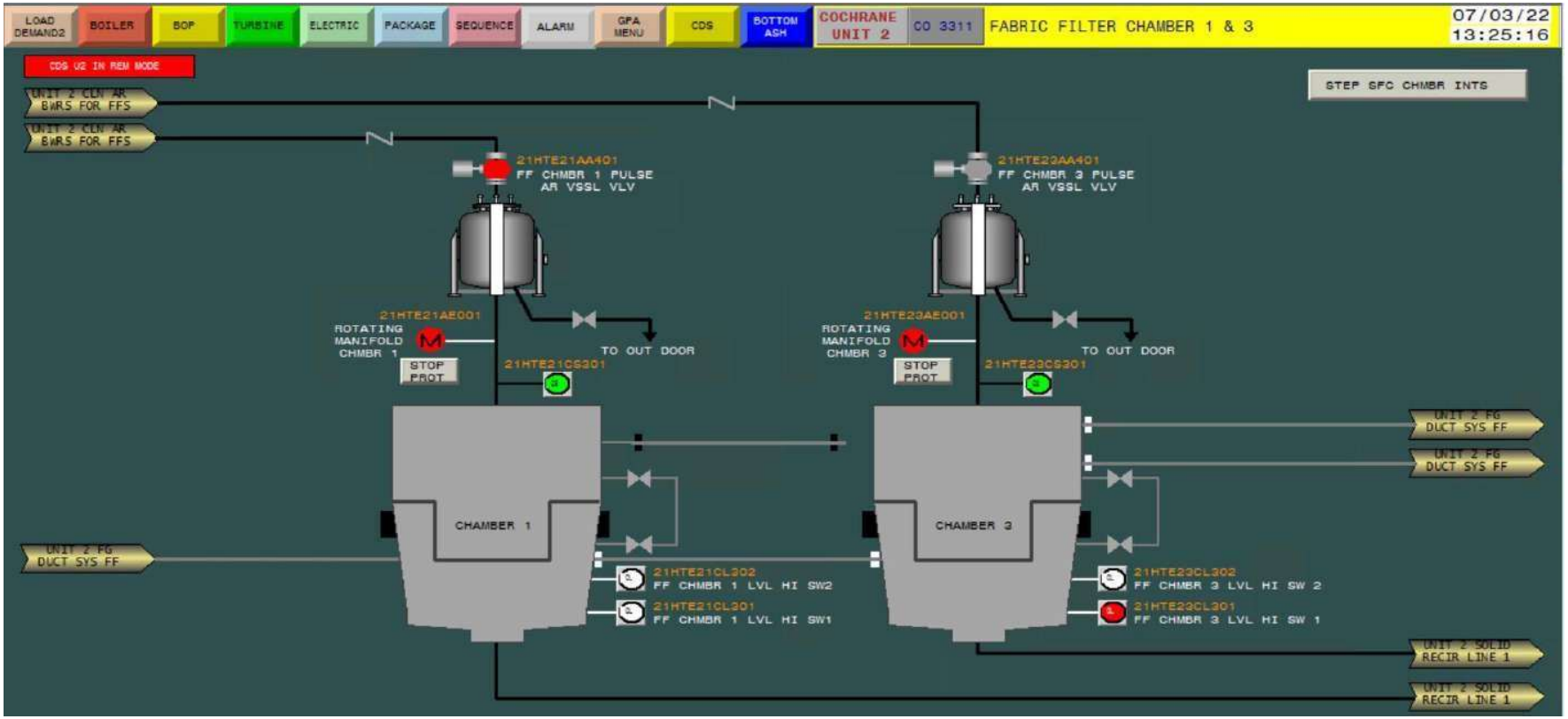

LOAD DEMAND2
BOILER
SOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3306
FLY ASH CONVEYING 1
07/03/22
13:22:59
CDS U2 IN REM MODE
STEP FLY ASH CON VES 1
UNIT 2 SOLID RECIR LINE 1
STOP PROT
FA RF 1B SPEED SW
21HTP12CS301
21HTP12AH201
FA1 HEATER 2
FA RF 1B
21HTP12AF001
0.2 %
UNIT 2 SOLID RECIR LINE 1
SUPPLY VLV 1A
21HTP11AA102
CLOSE PROT
FA SILO 2
FA RF 1A SPEED SW
21HTP11CS301
UNIT 2 SOLID RECIR LINE 1
STOP PROT
SUPPLY VLV 1B
21HTP12AA102
CLOSE PROT
21HTP11AH201
FA1 HEATER 1
FA RF 1A
21HTP11AF001
0.2 %
STOP PROT
21HTP11AF002
FA CONV PMP 1A
STOP PROT
21HTP12AF002
FA CONV PMP 1B
21HTP11CS302
FA CONV PMP 1A SPEED SW
21HTP12CS302
FA CONV PMP 1B SPEED SW
PRESEL FA CNVG VSSL 1 SILO1/2
ON
OFF
SILO 1 START
SILO 2 START
SILO 1 STOP
SILO 2 STOP
PRESEL FA CNVG 1A/1B
ON
OFF
1A START
1B START
1A STOP
1B STOP
UNIT 2 FA CONVEYING BWR

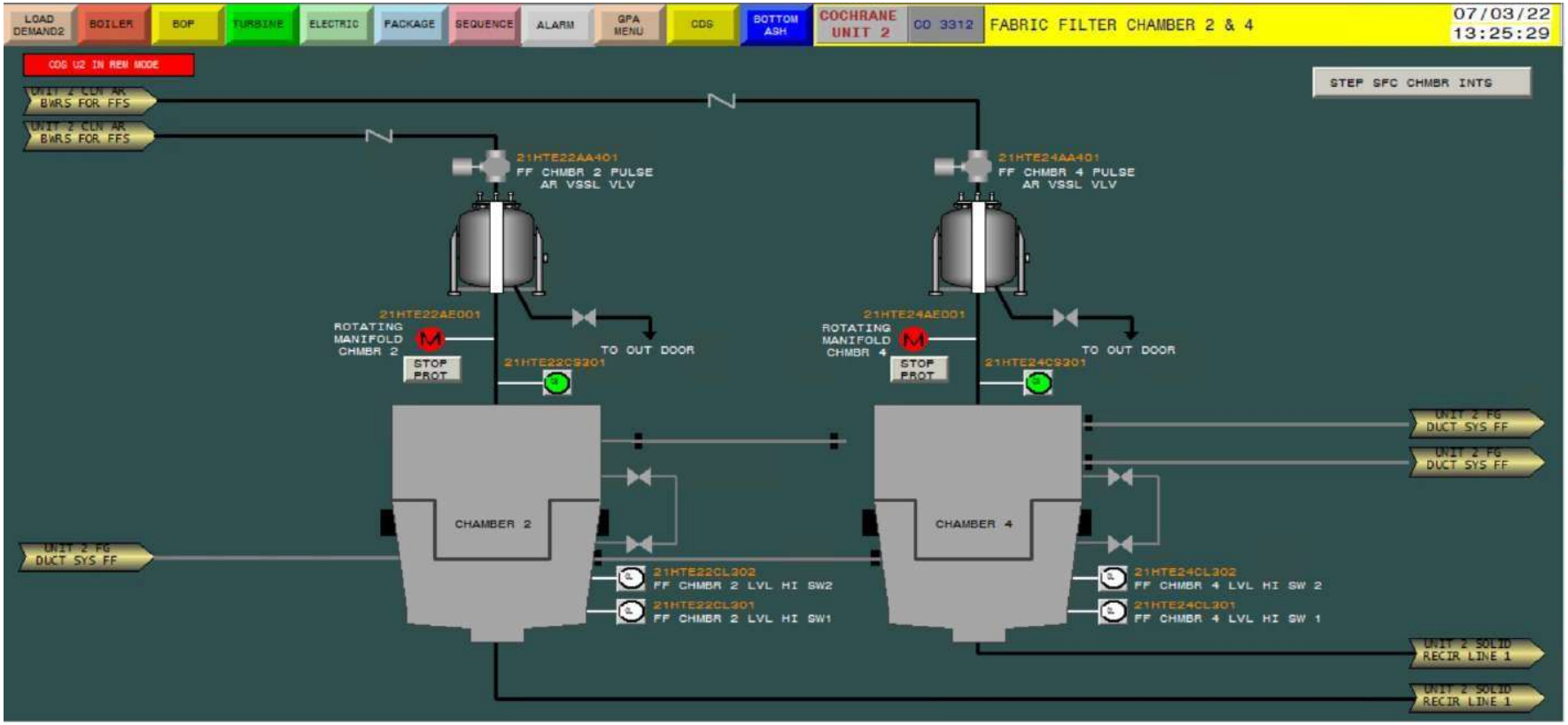

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3307
FLY ASH CONVEYING 2
07/03/22
13:23:57
CDS U2 IN REM MODE
STEP FLY ASH CON VES 2
FA RF 2B SPEED SW
21HTP22CS301
STOP PROT
UNIT 2 SOLID RECIR LINE 1
21HTP22AH201
FA2 HEATER 2
FA RF 2B
21HTP22AF001
0.2 %
UNIT 2 SOLID RECIR LINE 1
SUPPLY VLV 2A
21HTP21AA102
CLOSE PROT
FA SILO 2
FA RF 2A SPEED SW
21HTP21CS301
STOP PROT
UNIT 2 SOLID RECIR LINE 1
21HTP21AH201
FA2 HEATER 1
FA RF 2A
21HTP21AF001
0.0 %
STOP PROT
21HTP21AF002
FA CONV PMP 2A
STOP PROT
21HTP22AF002
FA CONV PMP 2B
SUPPLY VLV 2B
21HTP22AA102
CLOSE PROT
21HTP21CS302
FA CONV PMP 2A SPEED SW
21HTP22CS302
FA CONV PMP 2B SPEED SW
PRESEL FA CNVG VSSL 2 SILO1/2
ON
OFF
SILO 1 START
SILO 2 START
SILO 1 STOP
SILO 2 STOP
PRESEL FA CNVG 2A/2B
ON
OFF
2A START
2B START
2A STOP
2B STOP
UNIT 2 FA CONVEYING BWR

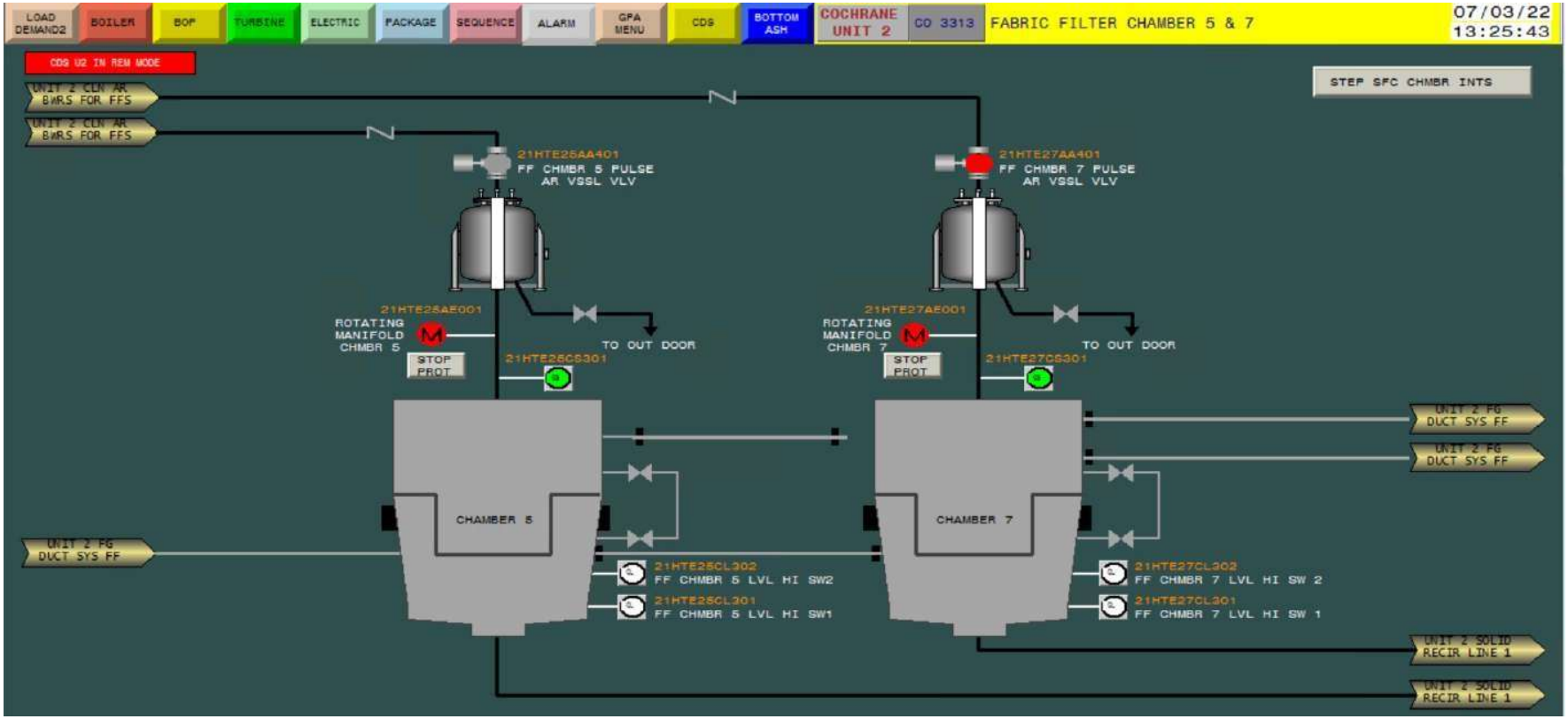

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3308
CLEANING AIR BLOWERS FOR FABRIC FILTER
07/03/22
13:24:13
CDS U2 IN REM MODE
STEP CLEANING AIR BLOW
PRESEL 1/2/2
ON
OFF
1 START
2 START
3 START
1 STOP
2 STOP
3 STOP
CLN AIR BLWR 2 DPS
STOP PROT
CLN AIR BLWR 2 PS
LOCAL START
LOCAL STOP
CLN AIR BLR 2
CLN AIR BLWR 3 DPS
CLN AIR BLWR 3 PS
CLN AIR BLR 3
CLN AIR BLWR 1 DPS
CLN AIR BLWR 1 PS
CLN AIR BLR 1
21HTE40AA001
21HTE40CG001
79 %
21HTE40CP002
FAULT
0.7 bar
UNIT 2 FG DUCT SYS FF
UNIT 2 FF CHMBR 1
UNIT 2 FF CHMBR 3
UNIT 2 FF CHMBR 5
UNIT 2 FF CHMBR 7
UNIT 2 FF CHMBR 8
UNIT 2 FF CHMBR 6
UNIT 2 FF CHMBR 4
UNIT 2 FF CHMBR 2

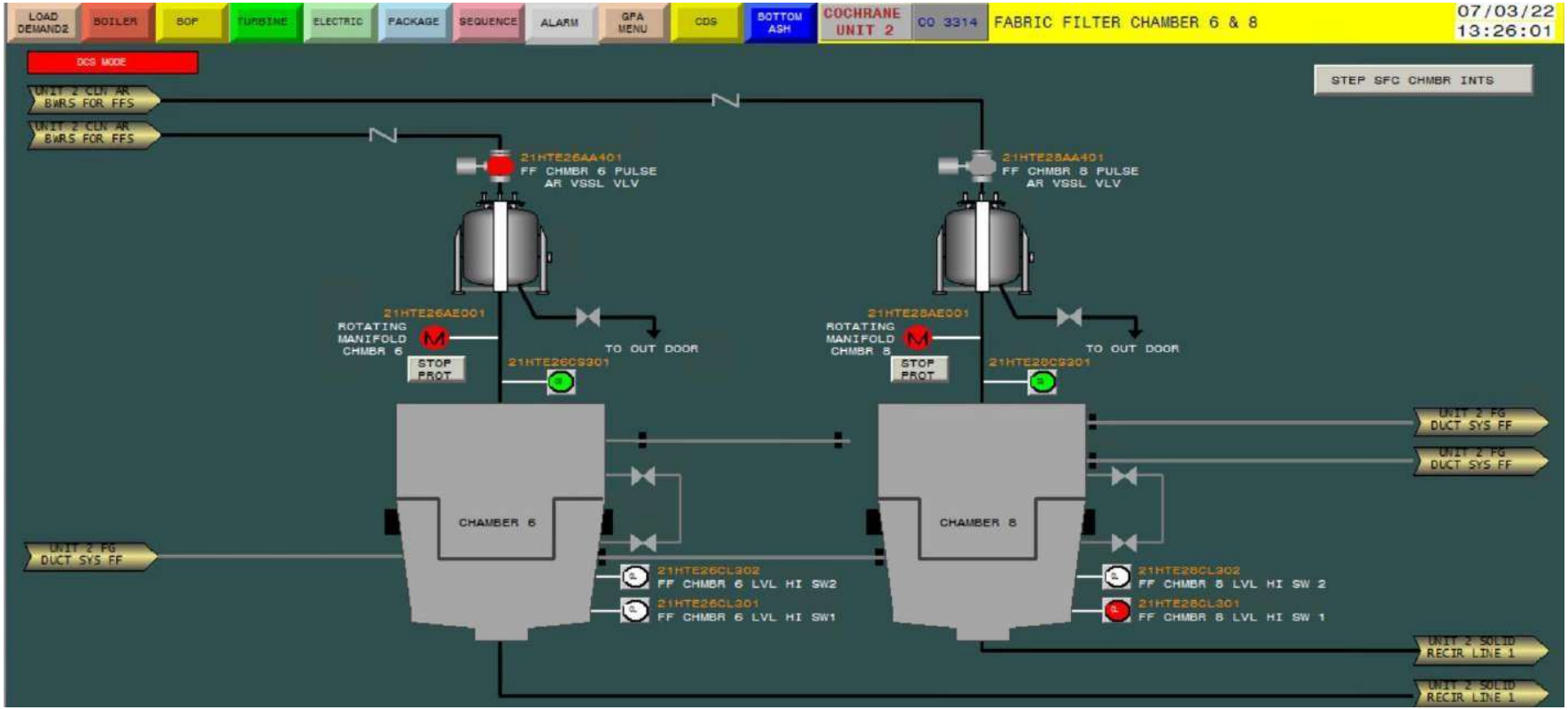

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3309
FABRIC FILTER CHAMBER CONVEY
07/03/22
13:24:42
CDS U2 IN REM MODE
UNIT 2 CLN AIR BARS FOR FFS
STEP SFC CHMBR
STEP CLEANING OF FF
STEP SFC CHMBR INTS
PULSE AR VSSL 1
PULSE AR VSSL 3
PULSE AR VSSL 5
PULSE AR VSSL 7
PULSE AR VSSL 2
PULSE AR VSSL 4
PULSE AR VSSL 6
PULSE AR VSSL 8
PROT
PERM
FF OUTLET DMPR 1
FF OUTLET DMPR 3
FF OUTLET DMPR 5
FF OUTLET DMPR 7
FF OUTLET DMPR 2
FF OUTLET DMPR 4
FF OUTLET DMPR 6
FF OUTLET DMPR 8
CHMBR1
CHMBR3
CHMBR5
CHMBR7
CHMBR2
CHMBR4
CHMBR6
CHMBR8
FF INLET DMPR 1
FF INLET DMPR 3
FF INLET DMPR 5
FF INLET DMPR 7
FF INLET DMPR 2
FF INLET DMPR 4
FF INLET DMPR 6
FF INLET DMPR 8
SR VSSL 1
SR VSSL 1 ARSLD
SR VSSL 2
SR VSSL 2 ARSLD
FA DISCH 1A
FA DISCH 1B
FA DISCH 2A
FA DISCH 2B
FA RF 1A
FA RF 1B
FA RF 2A
FA RF 2B
C1
D1
C2
D2
CFB-RCTR1
SILO 1 & 2
SILO 1 & 2

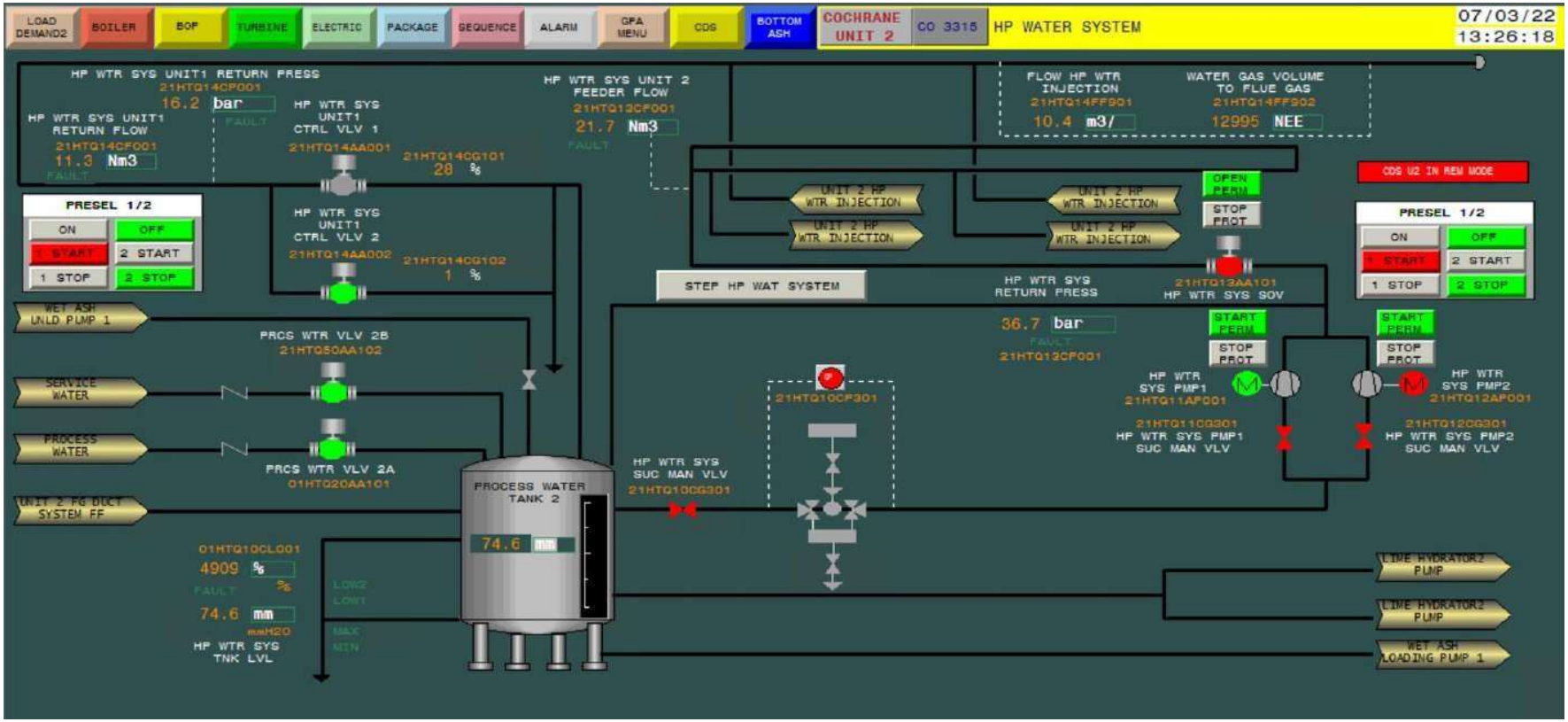

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3310
FLUE GAS DUCT SYS FF
07/03/22
13:24:59
CDS U2 IN REM MODE
STEP SFC CHMBR
UNIT 2 SOLID REC VEEL1
UNIT 2 SOLID REC VEEL1
UNIT 2 CFB-RCTR
UNIT 2 CON AR BMRS FOR FFS
UNIT 2 ID-FANS
PERM
PROT
21HTE21AA102
FF OUTLET DMPR 1
21HTE23AA102
FF OUTLET DMPR 3
21HTE25AA102
FF OUTLET DMPR 5
21HTE27AA102
FF OUTLET DMPR 7
21HTE22AA102
FF OUTLET DMPR 2
21HTE24AA102
FF OUTLET DMPR 4
21HTE26AA102
FF OUTLET DMPR 6
21HTE28AA102
FF OUTLET DMPR 8
FF CHAMBER 1
FF CHAMBER 3
FF CHAMBER 5
FF CHAMBER 7
FF CHAMBER 2
FF CHAMBER 4
FF CHAMBER 6
FF CHAMBER 8
21HTE21AA101
FF INLET DMPR 1
21HTE23AA101
FF INLET DMPR 3
21HTE25AA101
FF INLET DMPR 5
21HTE27AA101
FF INLET DMPR 7
21HTE22AA101
FF INLET DMPR 2
21HTE24AA101
FF INLET DMPR 4
21HTE26AA101
FF INLET DMPR 6
21HTE28AA101
FF INLET DMPR 8

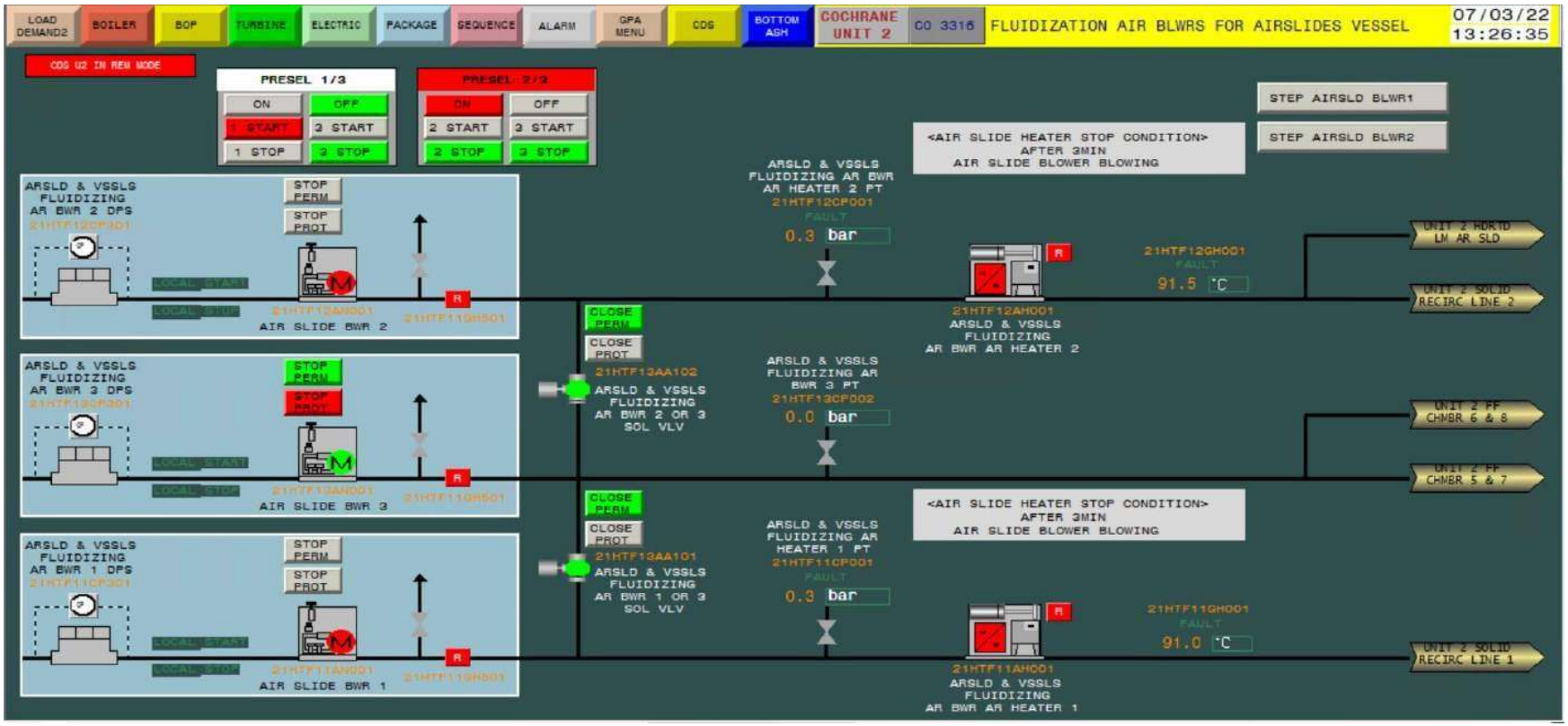

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3311
FABRIC FILTER CHAMBER 1 & 3
07/03/22
13:25:16
CDS U2 IN REM MODE
STEP SFC CHMBR INTS
UNIT 2 CLN AR BARS FOR FFS
UNIT 2 CLN AR BARS FOR FFS
21HTE21AA401
FF CHMBR 1 PULSE AR VSSL VLV
21HTE23AA401
FF CHMBR 3 PULSE AR VSSL VLV
21HTE21AE001
ROTATING MANIFOLD CHMBR 1
STOP PROT
TO OUT DOOR
21HTE21CS301
21HTE23AE001
ROTATING MANIFOLD CHMBR 3
STOP PROT
TO OUT DOOR
21HTE23CS301
UNIT 2 FG DUCT SYS FF
UNIT 2 FG DUCT SYS FF
CHAMBER 1
CHAMBER 3
UNIT 2 FG DUCT SYS FF
21HTE21CL302
FF CHMBR 1 LVL HI SW2
21HTE21CL301
FF CHMBR 1 LVL HI SW1
21HTE23CL302
FF CHMBR 3 LVL HI SW 2
21HTE23CL301
FF CHMBR 3 LVL HI SW 1
UNIT 2 SOLID RECIR LINE 1
UNIT 2 SOLID RECIR LINE 1

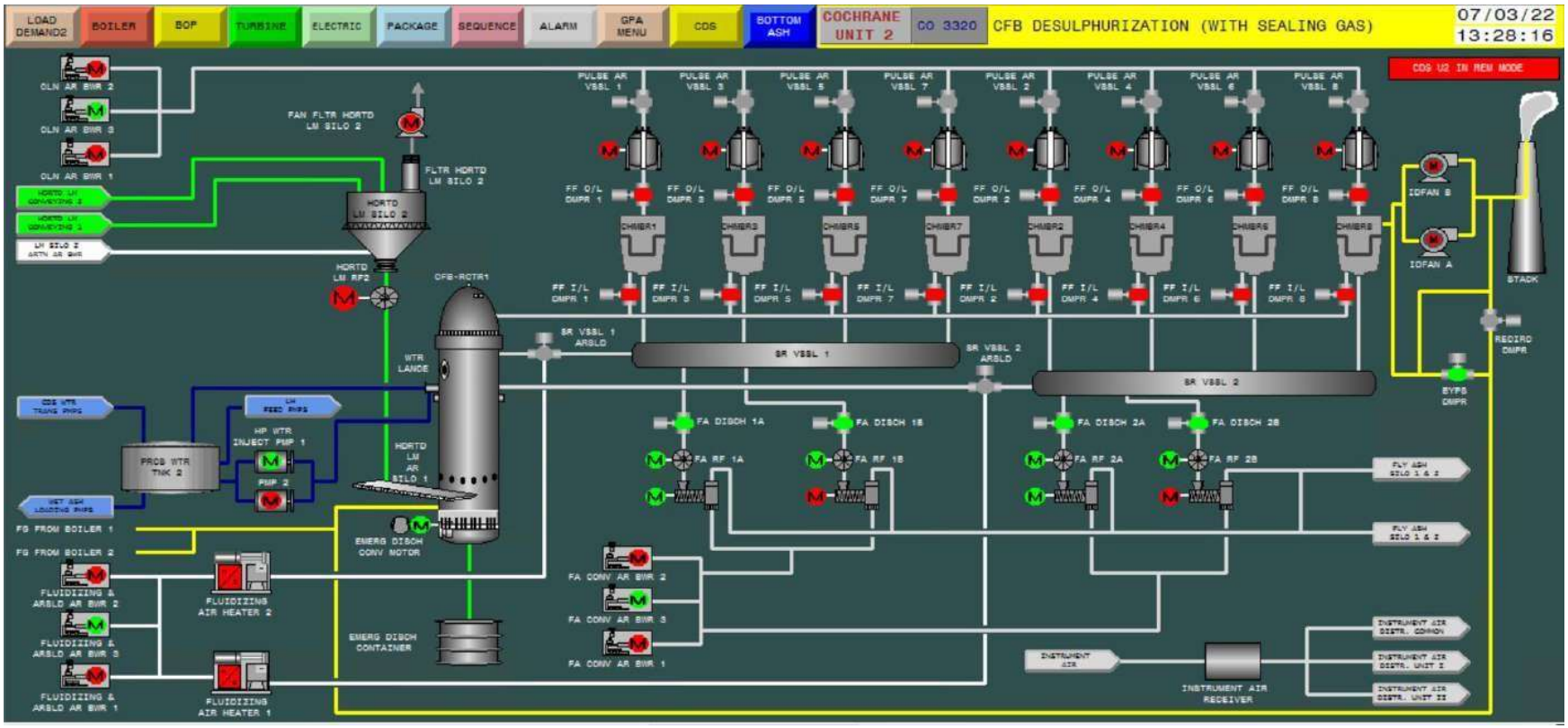

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3312
FABRIC FILTER CHAMBER 2 & 4
07/03/22
13:25:29
CDS U2 IN REM MODE
STEP SFC CHMBR INTG
UNIT 2 CLN AR BWRS FOR FFS
UNIT 2 CLN AR BWRS FOR FFS
21HTE22AA401
FF CHMBR 2 PULSE AR VSSL VLV
21HTE24AA401
FF CHMBR 4 PULSE AR VSSL VLV
21HTE22AE001
ROTATING MANIFOLD CHMBR 2
STOP
PROT
TO OUT DOOR
21HTE22CS301
21HTE24AE001
ROTATING MANIFOLD CHMBR 4
STOP
PROT
TO OUT DOOR
21HTE24CS301
UNIT 2 FG DUCT SYS FF
UNIT 2 FG DUCT SYS FF
CHAMBER 2
CHAMBER 4
UNIT 2 FG DUCT SYS FF
21HTE22CL302
FF CHMBR 2 LVL HI SW2
21HTE22CL301
FF CHMBR 2 LVL HI SW1
21HTE24CL302
FF CHMBR 4 LVL HI SW 2
21HTE24CL301
FF CHMBR 4 LVL HI SW 1
UNIT 2 SOLID RECIR LINE 1
UNIT 2 SOLID RECIR LINE 1

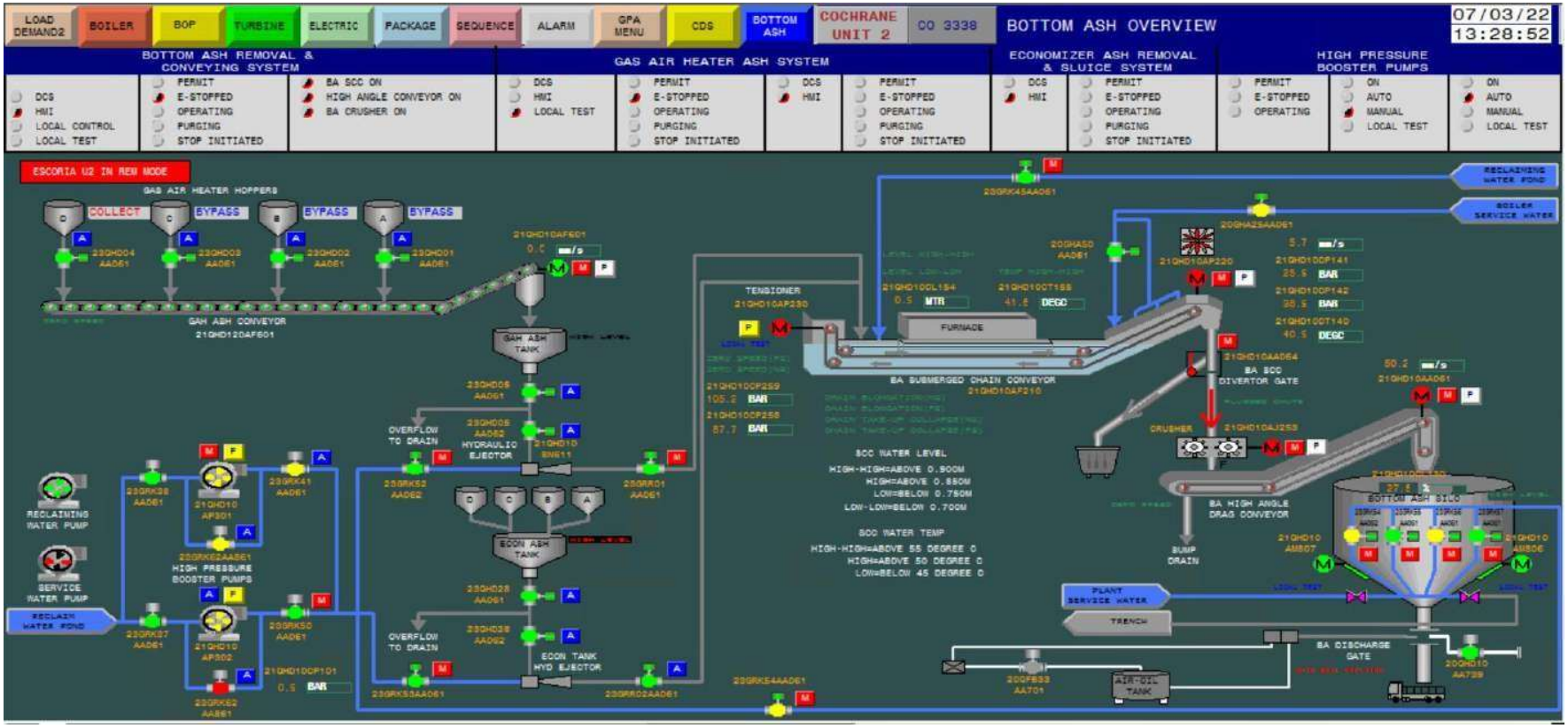

LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3313
FABRIC FILTER CHAMBER 5 & 7
07/03/22
13:25:43
CDS U2 IN REM MODE
STEP SFC CHMBR INTS
UNIT 2 CLN AR BARS FOR FFS
UNIT 2 CLN AR BARS FOR FFS
21HTE25AA401
FF CHMBR 5 PULSE AR VSSL VLV
21HTE27AA401
FF CHMBR 7 PULSE AR VSSL VLV
21HTE25AE001
ROTATING MANIFOLD CHMBR 5
STOP PROT
TO OUT DOOR
21HTE25CS301
21HTE27AE001
ROTATING MANIFOLD CHMBR 7
STOP PROT
TO OUT DOOR
21HTE27CS301
UNIT 2 FG DUCT SYS FF
UNIT 2 FG DUCT SYS FF
CHAMBER 5
CHAMBER 7
UNIT 2 FG DUCT SYS FF
21HTE25CL302
FF CHMBR 5 LVL HI SW2
21HTE25CL301
FF CHMBR 5 LVL HI SW1
21HTE27CL302
FF CHMBR 7 LVL HI SW 2
21HTE27CL301
FF CHMBR 7 LVL HI SW 1
UNIT 2 SOLID RECIR LINE 1
UNIT 2 SOLID RECIR LINE 1


LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3314
FABRIC FILTER CHAMBER 6 & 8
07/03/22
13:26:01
DCS MODE
STEP SFC CHMBR INTS
UNIT 2 CLN AR HDRS FOR FFS
UNIT 2 CLN AR HDRS FOR FFS
21HTE26AA401
FF CHMBR 6 PULSE AR VSSL VLV
21HTE28AA401
FF CHMBR 8 PULSE AR VSSL VLV
21HTE26AE001
ROTATING MANIFOLD CHMBR 6
STOP
21HTE28AE001
ROTATING MANIFOLD CHMBR 8
STOP
TO OUT DOOR
TO OUT DOOR
21HTE26CS301
21HTE28CS301
CHAMBER 6
CHAMBER 8
UNIT 2 FG DUCT SYS FF
UNIT 2 FG DUCT SYS FF
UNIT 2 FG DUCT SYS FF
21HTE26CL302
FF CHMBR 6 LVL HI SW2
21HTE26CL301
FF CHMBR 6 LVL HI SW1
21HTE28CL302
FF CHMBR 8 LVL HI SW 2
21HTE28CL301
FF CHMBR 8 LVL HI SW 1
UNIT 2 SOLID RECIR LINE 1
UNIT 2 SOLID RECIR LINE 1


LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GFA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3315
HP WATER SYSTEM
07/03/22
13:26:18
HP WTR SYS UNIT1 RETURN PRESS
21HTQ14CP001
16.2 bar
HP WTR SYS UNIT1 RETURN FLOW
21HTQ14CF001
11.3 Nm3
HP WTR SYS UNIT1 CTRL VLV 1
21HTQ14AA001
21HTQ14CG101
28 %
HP WTR SYS UNIT1 CTRL VLV 2
21HTQ14AA002
21HTQ14CG102
1 %
HP WTR SYS UNIT 2 FEEDER FLOW
21HTQ13CF001
21.7 Nm3
FLOW HP WTR INJECTION
21HTQ14FF901
10.4 m3/
WATER GAS VOLUME TO FLUE GAS
21HTQ14FF902
12995 NEE
PRESEL 1/2
ON
OFF
1 START
2 START
1 STOP
2 STOP
UNIT 2 HP WTR INJECTION
OPEN PERM
STOP PROT
21HTQ13AA101
HP WTR SYS SOV
CDS U2 IN REM MODE
STEP HP WAT SYSTEM
HP WTR SYS RETURN PRESS
36.7 bar
21HTQ13CF001
START PERM
HP WTR SYS PMP1
21HTQ11AP001
HP WTR SYS PMP2
21HTQ12AP001
21HTQ11CG301
HP WTR SYS PMP1 SUC MAN VLV
21HTQ12CG301
HP WTR SYS PMP2 SUC MAN VLV
WET ASH UNLD PUMP 1
SERVICE WATER
PROCESS WATER
UNIT 2 FG DUCT SYSTEM FF
PRCS WTR VLV 2B
21HTQ50AA102
PRCS WTR VLV 2A
01HTQ20AA101
HP WTR SYS SUC MAN VLV
21HTQ10CG301
21HTQ10CF301
PROCESS WATER TANK 2
74.6 mm
01HTQ10CL001
4909 %
74.6 mm
mmH2O
HP WTR SYS TNK LVL
LOW2
LOW1
MAX
MIN
LIME HYDRATOR2 PUMP
LIME HYDRATOR2 PUMP
WET ASH LOADING PUMP 1


LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3316
FLUIDIZATION AIR BLWRS FOR AIRSLIDES VESSEL
07/03/22
13:26:35
CDS U2 IN REM MODE
PRESEL 1/3
ON
OFF
1 START
2 START
1 STOP
2 STOP
PRESEL 2/3
ON
OFF
2 START
3 START
2 STOP
3 STOP
STEP AIRSLD BLWR1
STEP AIRSLD BLWR2
<AIR SLIDE HEATER STOP CONDITION>
AFTER 3MIN
AIR SLIDE BLOWER BLOWING
ARSLD & VSSLS FLUIDIZING AR BWR 2 DPS
21HTF12CP301
STOP PERM
STOP PROT
LOCAL START
LOCAL STOP
21HTF12AN001
AIR SLIDE BWR 2
21HTF11GH501
ARSLD & VSSLS FLUIDIZING AR BWR AR HEATER 2 PT
21HTF12CP001
FAULT
0.3 bar
21HTF12GH001
FAULT
91.5 °C
21HTF12AH001
ARSLD & VSSLS FLUIDIZING AR BWR AR HEATER 2
UNIT 2 RDRTD LM AR SLD
UNIT 2 SOLID RECIRC LINE 2
CLOSE PERM
CLOSE PROT
21HTF13AA102
ARSLD & VSSLS FLUIDIZING AR BWR 2 OR 3 SOL VLV
ARSLD & VSSLS FLUIDIZING AR BWR 3 PT
21HTF13CP002
0.0 bar
ARSLD & VSSLS FLUIDIZING AR BWR 3 DPS
21HTF13CP301
21HTF13AN001
AIR SLIDE BWR 3
UNIT 2 FF CHMBR 6 & 8
UNIT 2 FF CHMBR 5 & 7
ARSLD & VSSLS FLUIDIZING AR BWR 1 DPS
21HTF11CP301
21HTF11AN001
AIR SLIDE BWR 1
21HTF13AA101
ARSLD & VSSLS FLUIDIZING AR BWR 1 OR 3 SOL VLV
ARSLD & VSSLS FLUIDIZING AR HEATER 1 PT
21HTF11CP001
FAULT
0.3 bar
21HTF11GH001
FAULT
91.0 °C
21HTF11AH001
ARSLD & VSSLS FLUIDIZING AR BWR AR HEATER 1
UNIT 2 SOLID RECIRC LINE 1


LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3320
CFB DESULPHURIZATION (WITH SEALING GAS)
07/03/22
13:28:16
CDS U2 IN REM MODE
PULSE AR VSSL 1
PULSE AR VSSL 3
PULSE AR VSSL 5
PULSE AR VSSL 7
PULSE AR VSSL 2
PULSE AR VSSL 4
PULSE AR VSSL 6
PULSE AR VSSL 8
FF O/L DMPR 1
FF O/L DMPR 3
FF O/L DMPR 5
FF O/L DMPR 7
FF O/L DMPR 2
FF O/L DMPR 4
FF O/L DMPR 6
FF O/L DMPR 8
CHMBR1
CHMBR3
CHMBR5
CHMBR7
CHMBR2
CHMBR4
CHMBR6
CHMBR8
FF I/L DMPR 1
FF I/L DMPR 3
FF I/L DMPR 5
FF I/L DMPR 7
FF I/L DMPR 2
FF I/L DMPR 4
FF I/L DMPR 6
FF I/L DMPR 8
IDFAN B
IDFAN A
STACK
RECIRC DMPR
EYPS DMPR
SR VSSL 1 ARSLD
SR VSSL 1
SR VSSL 2 ARSLD
SR VSSL 2
OLN AR BWR 2
OLN AR BWR 3
OLN AR BWR 1
FAN FLTR HORTD LM SILO 2
FLTR HORTD LM SILO 2
HORTD LM SILO 2
HORTD LM RF2
CFB-RCTR1
WTR LANCE
HORTD LM AR SILO 1
PROD WTR TNK 2
HP WTR INJECT PMP 1
PMP 2
FG FROM BOILER 1
FG FROM BOILER 2
EMERG DISCH CONV MOTOR
EMERG DISCH CONTAINER
FLUIDIZING AIR HEATER 2
FLUIDIZING AIR HEATER 1
FLUIDIZING & ARSLD AIR BWR 2
FLUIDIZING & ARSLD AIR BWR 3
FLUIDIZING & ARSLD AIR BWR 1
FA DISCH 1A
FA DISCH 1B
FA DISCH 2A
FA DISCH 2B
FA RF 1A
FA RF 1B
FA RF 2A
FA RF 2B
FA CONV AR BWR 2
FA CONV AR BWR 3
FA CONV AR BWR 1
FLY ASH SILO 1 & 2
FLY ASH SILO 1 & 2
INSTRUMENT AIR
INSTRUMENT AIR RECEIVER
INSTRUMENT AIR DISTR. COMMON
INSTRUMENT AIR DISTR. UNIT 1
INSTRUMENT AIR DISTR. UNIT 2


LOAD DEMAND2
BOILER
BOP
TURBINE
ELECTRIC
PACKAGE
SEQUENCE
ALARM
GPA MENU
CDS
BOTTOM ASH
COCHRANE UNIT 2
CO 3338
BOTTOM ASH OVERVIEW
07/03/22
13:28:52
BOTTOM ASH REMOVAL & CONVEYING SYSTEM
GAS AIR HEATER ASH SYSTEM
ECONOMIZER ASH REMOVAL & SLUICE SYSTEM
HIGH PRESSURE BOOSTER PUMPS
ESCORIA U2 IN REM MODE
GAS AIR HEATER HOPPERS
COLLECT
BYPASS
GAH ASH CONVEYOR
GAH ASH TANK
HYDRAULIC EJECTOR
OVERFLOW TO DRAIN
ECON ASH TANK
ECON TANK HYD EJECTOR
HIGH PRESSURE BOOSTER PUMPS
RECLAIMING WATER PUMP
SERVICE WATER PUMP
TENSIONER
FURNACE
BA SUBMERGED CHAIN CONVEYOR
SCC WATER LEVEL
HIGH-HIGH=ABOVE 0.90M
HIGH=ABOVE 0.85M
LOW=BELOW 0.75M
LOW-LOW=BELOW 0.70M
SCC WATER TEMP
HIGH-HIGH=ABOVE 55 DEGREE C
HIGH=ABOVE 50 DEGREE C
LOW=BELOW 45 DEGREE C
BA SCC DIVERTOR GATE
CRUSHER
BA HIGH ANGLE DRAG CONVEYOR
BOTTOM ASH SILO
BUMP DRAIN
PLANT SERVICE WATER
TRENCH
BA DISCHARGE GATE
AIRVOL TANK
RECLAIMING WATER POND
BOILER SERVICE WATER