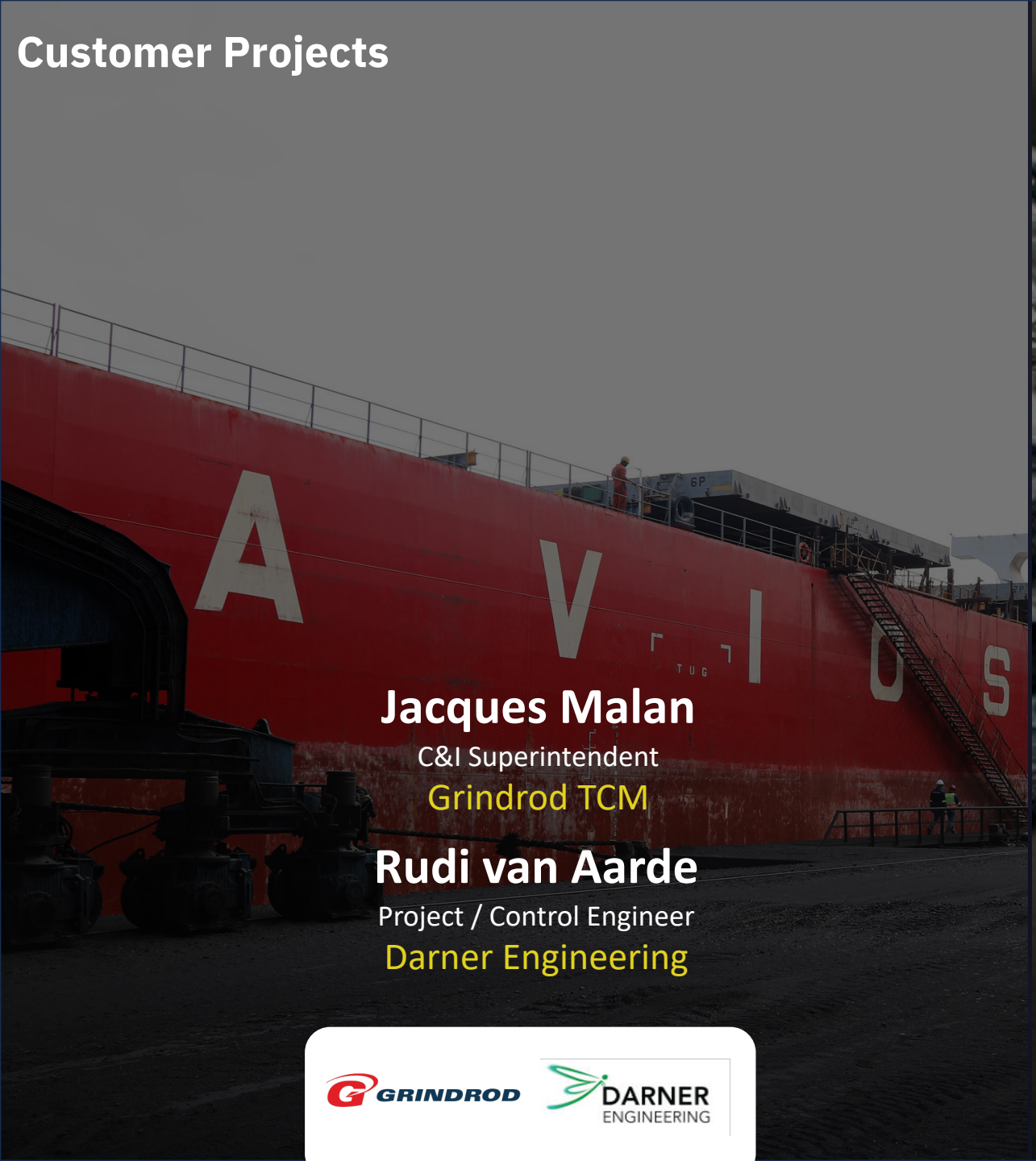
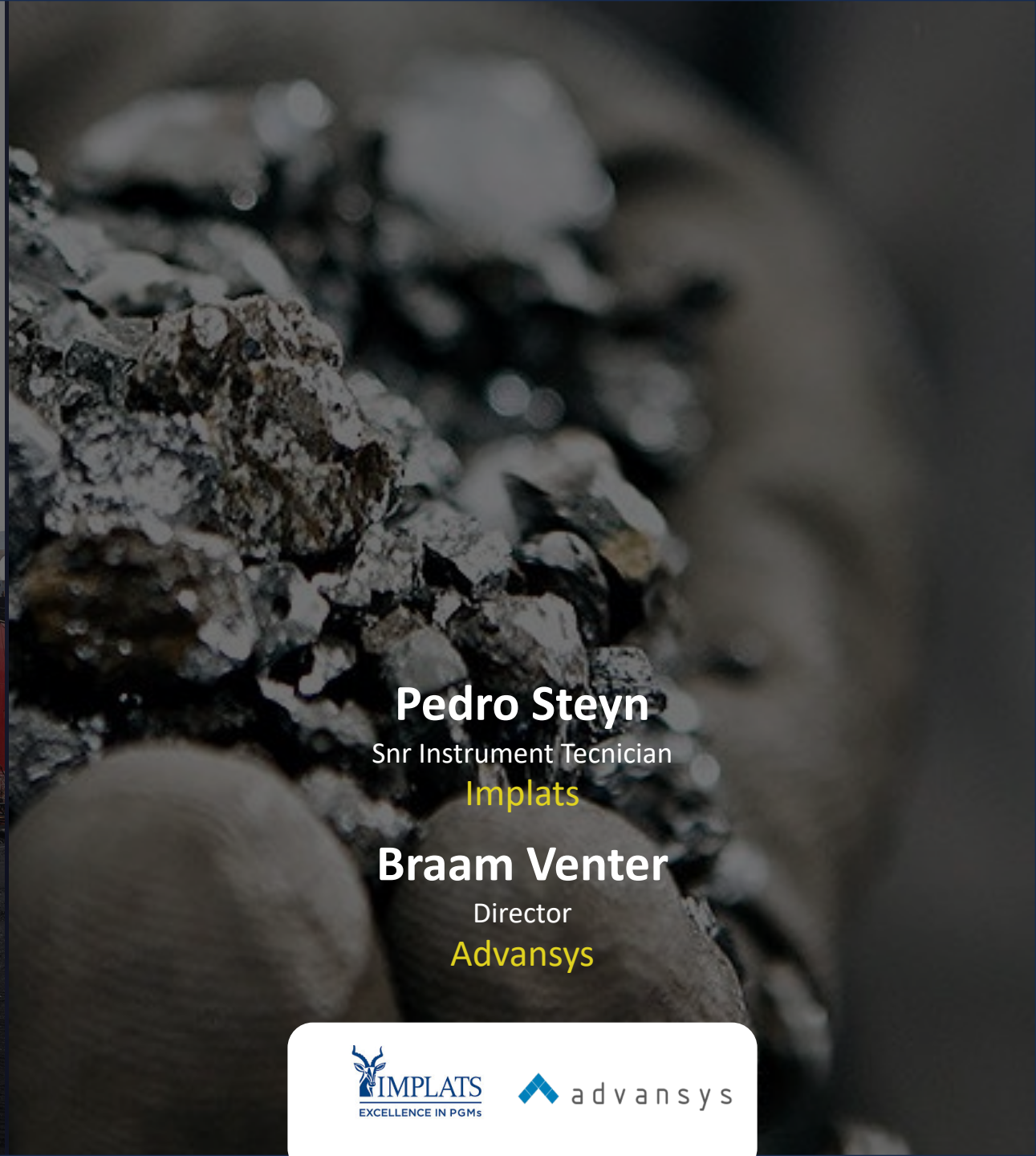
Customer Projects



Jacques Malan
C&I Superintendent
Grindrod TCM

Rudi van Aarde
Project / Control Engineer
Darner Engineering



Pedro Steyn
Snr Instrument Tecnician
Implats

Braam Venter
Director
Advansys

Customer Projects

Jacques Malan
C&I Superintendent
Grindrod TCM

Rudi van Aarde
Project / Control Engineer
Darner Engineering

Ignition SCADA Views

Active Time	Display Path	Current State	Label	Priority
7/7/23, 12:06 PM	Main Plant/Analogs/TCMCV9AWT01/bError/Alarm	Active, Unacknowledged	Conveyor CV9A Winch Take-Up Load Cell Error	High

GRINDROD

- Operations
  - Audit Logs
    - Audit Log
    - Audit Log WT01
  - Overview
  - Alarms
  - Trends
  - System
  - Safety Devices
  - Legend
  - PLC Comms
  - Terminal Network
- Main Plant
- Machines

Reset & Restart

7 Jul 2023

12:09:25

pieter.he...

Log Out

DARNER ENGINEERING

TCM Main Plant Overview

##					
	BF10	CV11 -> CV13 -> CV15 ->	SL02	100	Select
	TP01	CV03 -> CV05 ->	DUMP	26	Start
	Restart All	Route ready to start			IL
	Excavat...	CV4A -> CV6A -> CV9A -> CV9B ->	GH01	93	Stop
	TP02	CV04 -> CV06 -> CV9A -> CV9B ->	GH01	105	Stop
	SR02	CV11 -> CV13 -> CV15 ->	SL02	44	Stop
	BF10	CV11 -> CV13 -> CV15 ->	SL02	100	Stop
				0	Stop
	SR03	CV10 -> CV12 -> CV14 ->	SL01	45	Stop
				0	Stop
				0	Stop
	Stop All				

Ship Total Setpoint	59160 Tons
Total Loaded On Ship	47925 Tons
Total Tons to Go	11235 Tons

34.08kph Wind Speed

-502t

4368t

81%

Test Alarm

Sub Station 01 Fire Detection Healthy

Sub Station 02 Fire Detection Healthy

Sub Station 03 Fire Detection Healthy

Active Time	Display Path	Current State	Label	Priority
7/12/23, 11:52 AM	Main Plant/Analogs/TCMCV9AWT01/bError/Alarm	Active, Unacknowledged	Conveyor CV9A Winch Take-Up Load Cell Error	High

- Operations
  - Audit Logs
    - Audit Log
    - Audit Log WT01
  - Overview
  - Alarms
  - Trends
  - System
  - Safety Devices
  - Legend
  - PLC Comms
  - Terminal Network
- Main Plant
  - Routes
  - Ship Hatches
  - Substations
  - Belts
  - VSD
  - Radios
- Machines

Reset & Restart

12 Jul 2023

12:10:15

pieter.he...

Log Out

DARNER ENGINEERING

Stacker & Reclaimer 02

Manual Unlocked Mode

Analog Inputs

-11.02 °	TCM SR02 Luffing Drive - Angle
0 °	TCM SR02 Slew Drive - Angle
15.76 Km/h	TCM SR02 Wind Speed Input
-0.49 °	TCM SR02 Cabin Inclinometer Position
359.02 m	TCM SR02 Travel Drive - Encoder
1,117 t/h	TCM SR02 - CV13 Weight

Global Interlocks

- TCMSR02 CB
- TCMSR02 E-Stops 1
- TCMSR02 Summary Fault 1

Luffing
TCMSR02M12
0%

Slew
TCMSR02M11
0%

Boom Conveyor
TCMSR02M02
TCMSR02V02
TCMSR02V03

Bucketwheel
TCMSR02M01
0%

Conveyor 8

Travel Drive
TCMSR02M04
0%

Cable Reel
TCMSR02M05

Bucketwheel Lubrication
TCMSR02M08

Hydraulic Pump
TCMSR02M03
TCMSR02V01
0 %

TCMSR02V04

TCMSR02V05

Slew Bearing Lubrication 1
TCMSR02M06

Slew Bearing Lubrication 2
TCMSR02M07

Rail Clamp 1 Pump
TCMSR02M09

Rail Clamp 2 Pump
TCMSR02M10

Control Voltage On

Control Voltage Off

Active Time	Display Path	Current State	Label	Priority
7/12/23, 11:52 AM	Main Plant/Analogs/TCMCV9AWT01/bError/Alarm	Active, Unacknowledged	Conveyor CV9A Winch Take-Up Load Cell Error	High

GRINDROD

- Operations
  - Audit Logs
    - Audit Log
    - Audit Log WT01
  - Overview
  - Alarms
  - Trends
  - System
  - Safety Devices
  - Legend
  - PLC Comms
  - Terminal Network
- Main Plant
  - Routes
  - Ship Hatches
  - Substations
  - Belts
  - VSD
  - Radios
- Machines

Reset & Restart

12 Jul 2023

12:14:23

pieter.he...

Log Out

DARNER ENGINEERING

SAFETY CIRCUIT

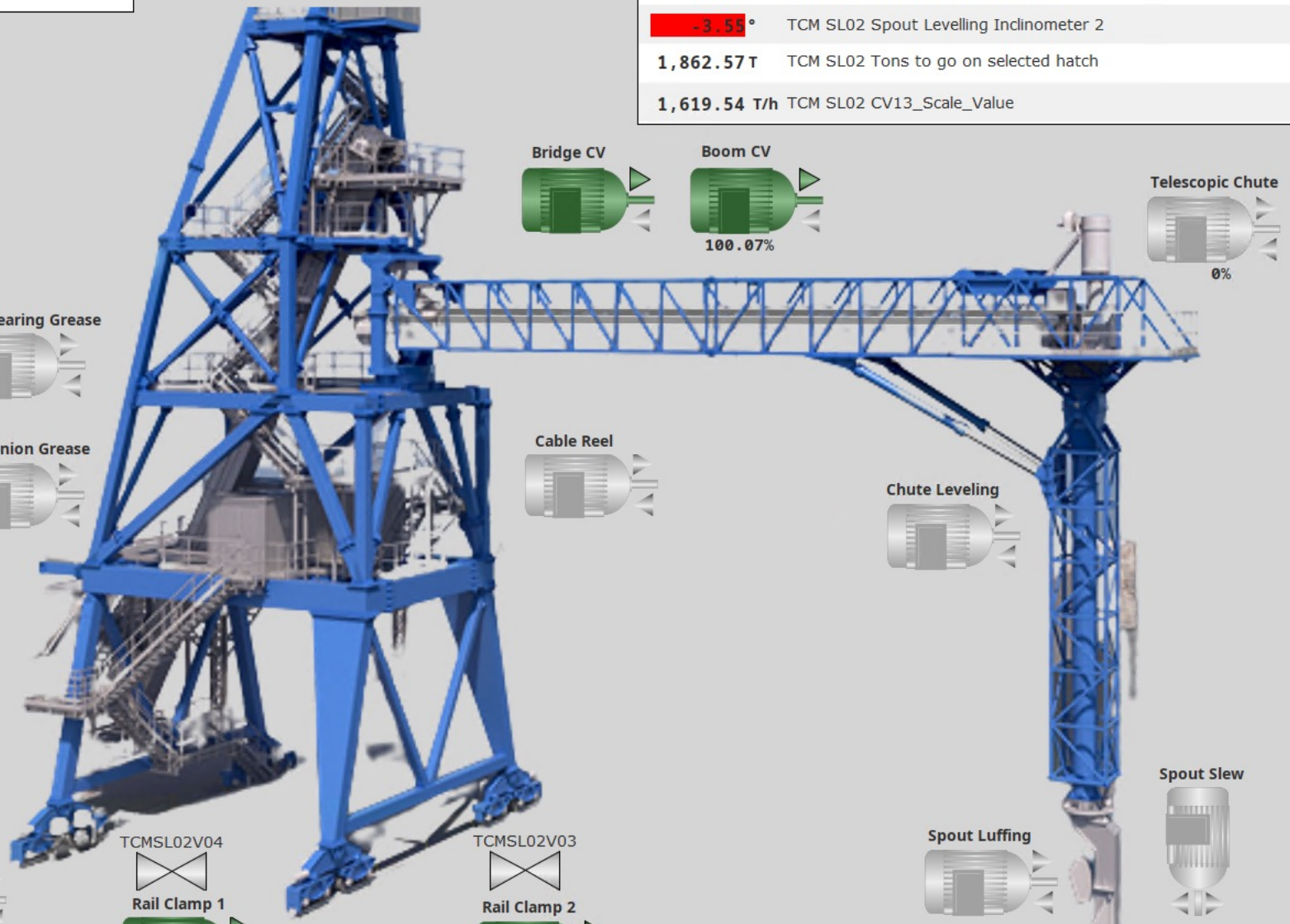
I I I I

Luffing 0%

Luff Hydraulics

General Signals

25.12 km/h	TCM SL02 Wind Speed Anemometer
1.09 °	TCM SL02 Luff Angle Inclinometer
-3.55 °	TCM SL02 Spout Levelling Inclinometer 2
1,862.57 T	TCM SL02 Tons to go on selected hatch
1,619.54 T/h	TCM SL02 CV13_Scale_Value



Bridge CV

Boom CV 100.07%

Telescopic Chute 0%

Slew Motor 1 0%

Slew Bearing Grease

Slew Motor 2 0%

Slew Pinion Grease

Cable Reel

Chute Leveling

Spout Slew

Spout Luffing

Long Travel 0%

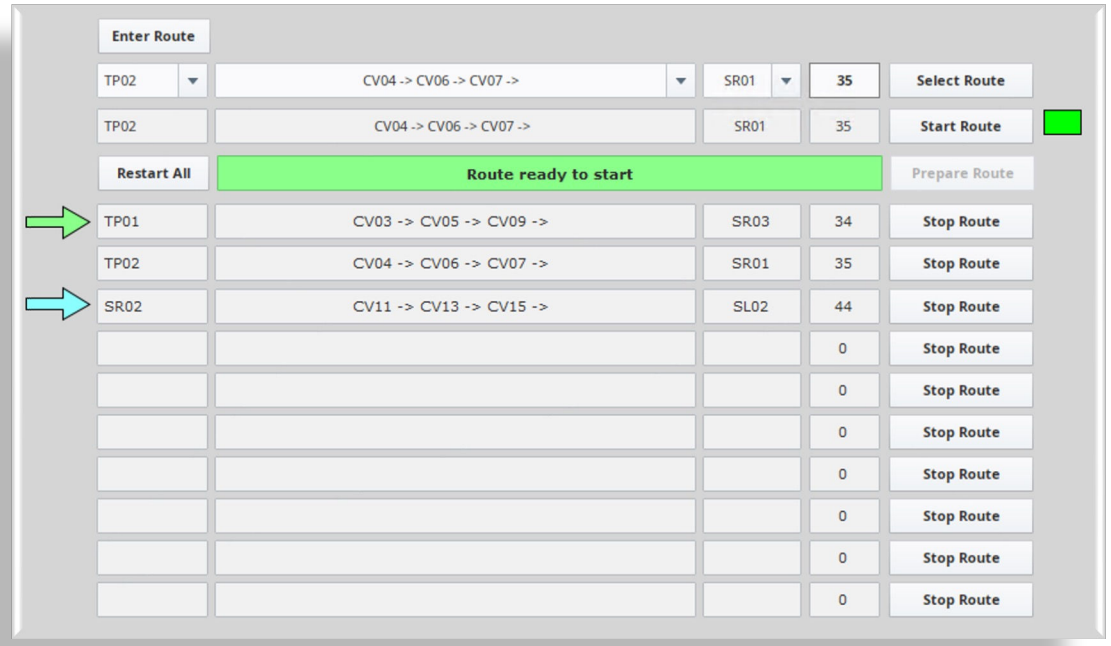
TCMSL02V04

TCMSL02V03

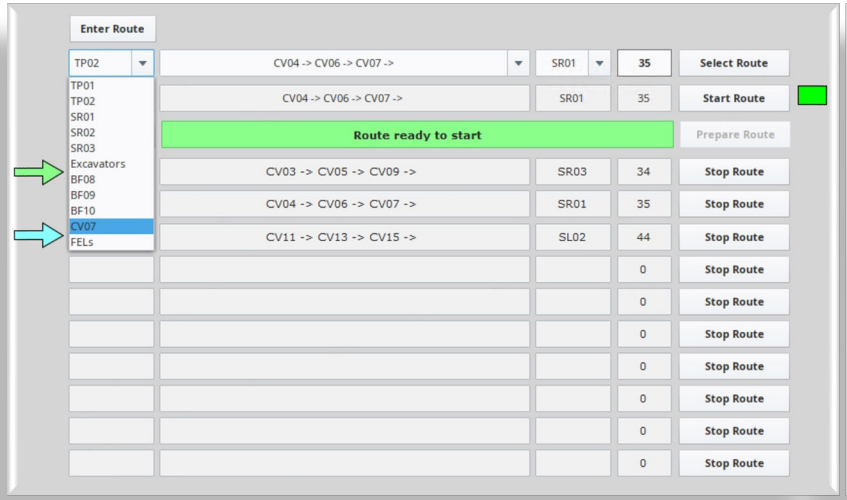
Rail Clamp 1

Rail Clamp 2

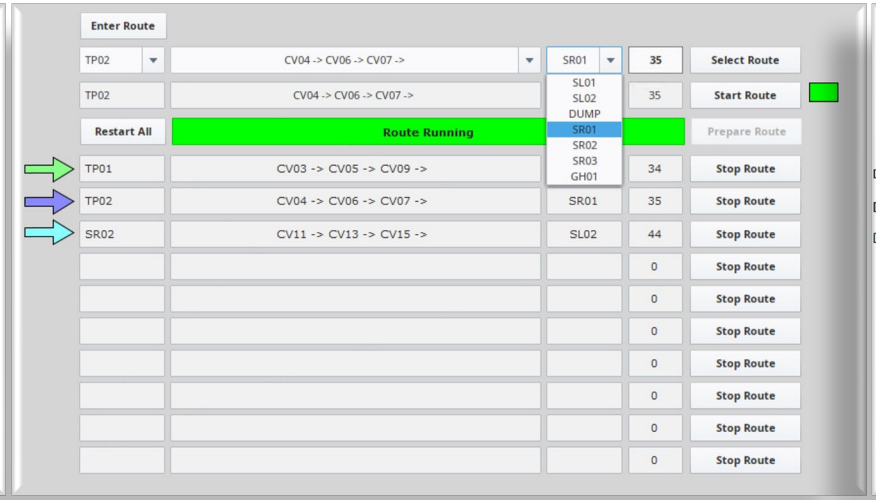
Terminal de Carvão da Matola (TCM) – **Route Selection**



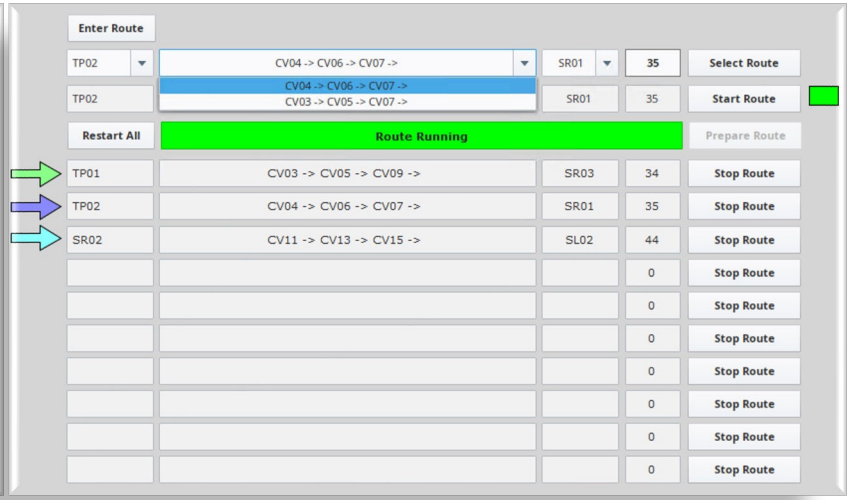
Select Source



Select Destination

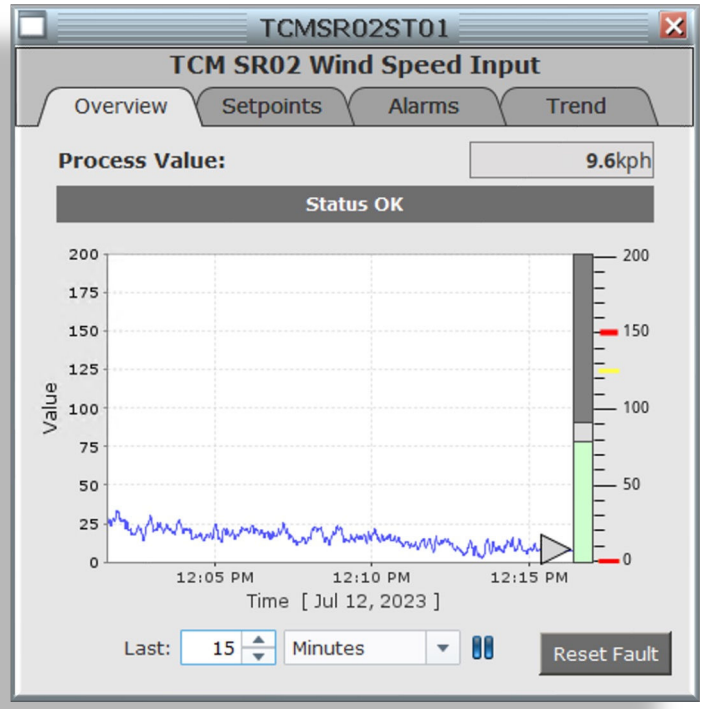


Select VIA

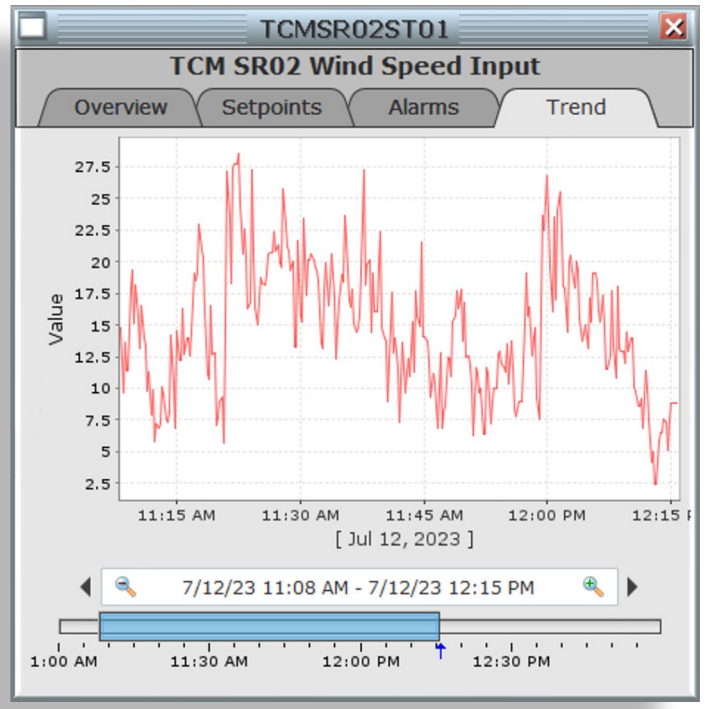


Integrated Pop-Ups: Canary Data

-Live Spark Chart

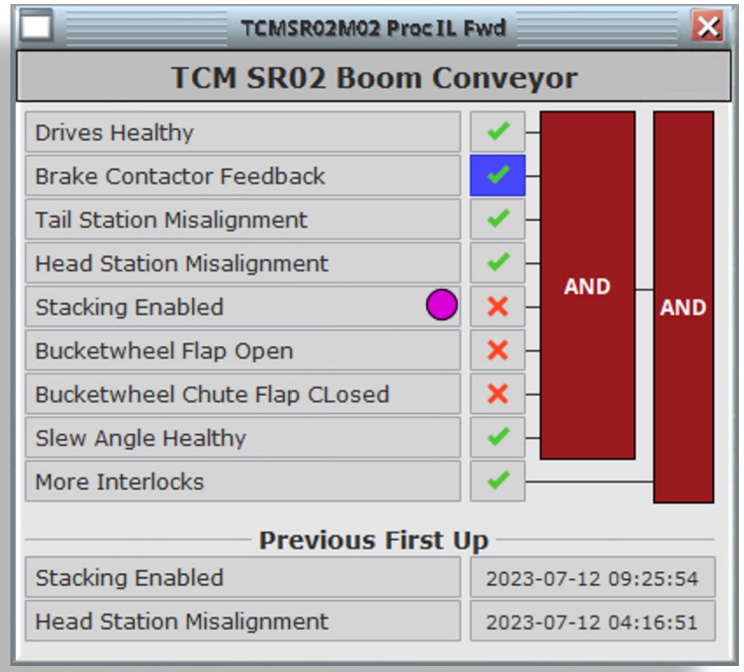


-Historical Data



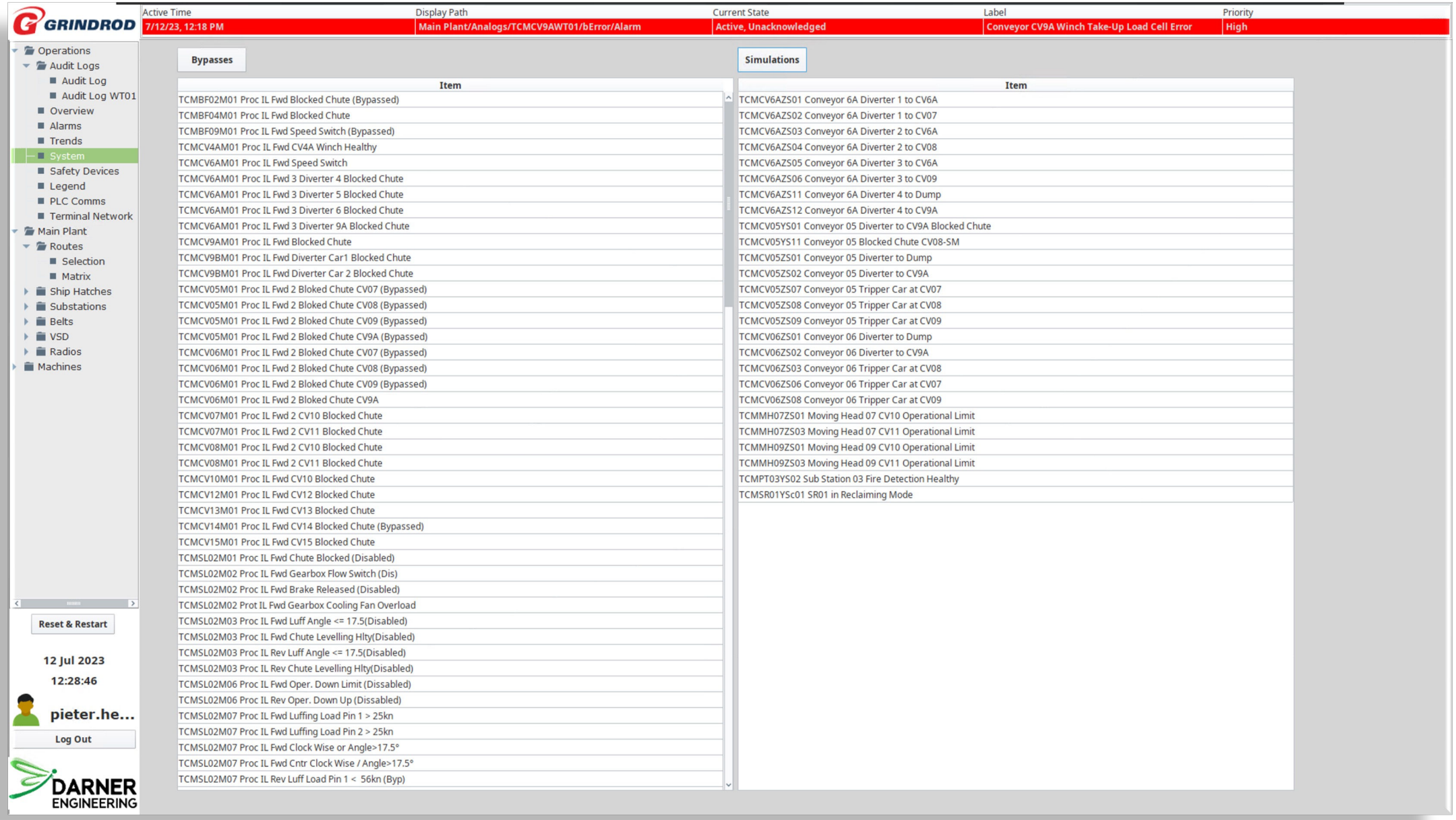
Terminal de Carvão da Matola (TCM) – **Root cause analysis and stop reason capturing**

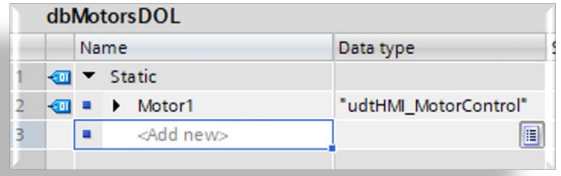
-Last Stop Reason on Interlocks



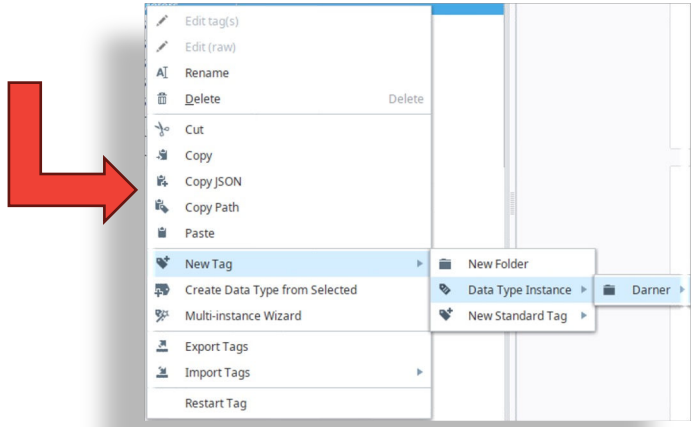
-Downtime classification

Terminal de Carvão da Matola (TCM) – **Plant wide list of bypasses and simulation**

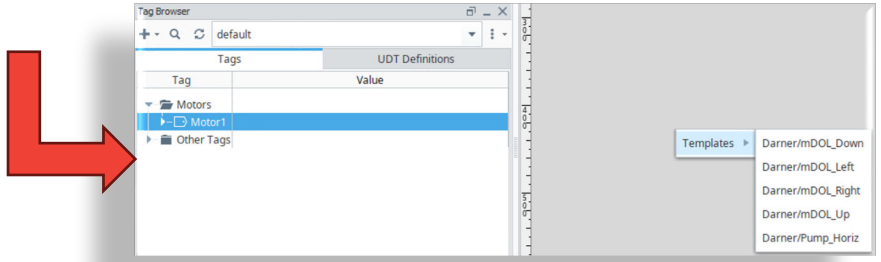




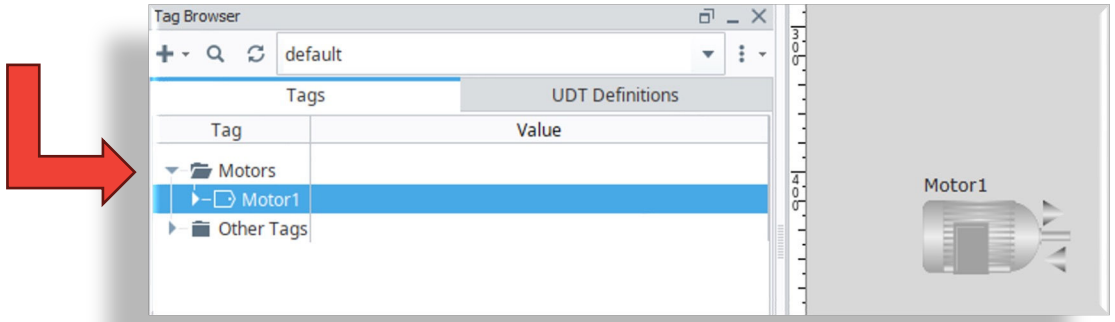
-Create DB with Motor Data type



-Create Tag in Ignition with Motor UDT



-Pull tag onto window choose template

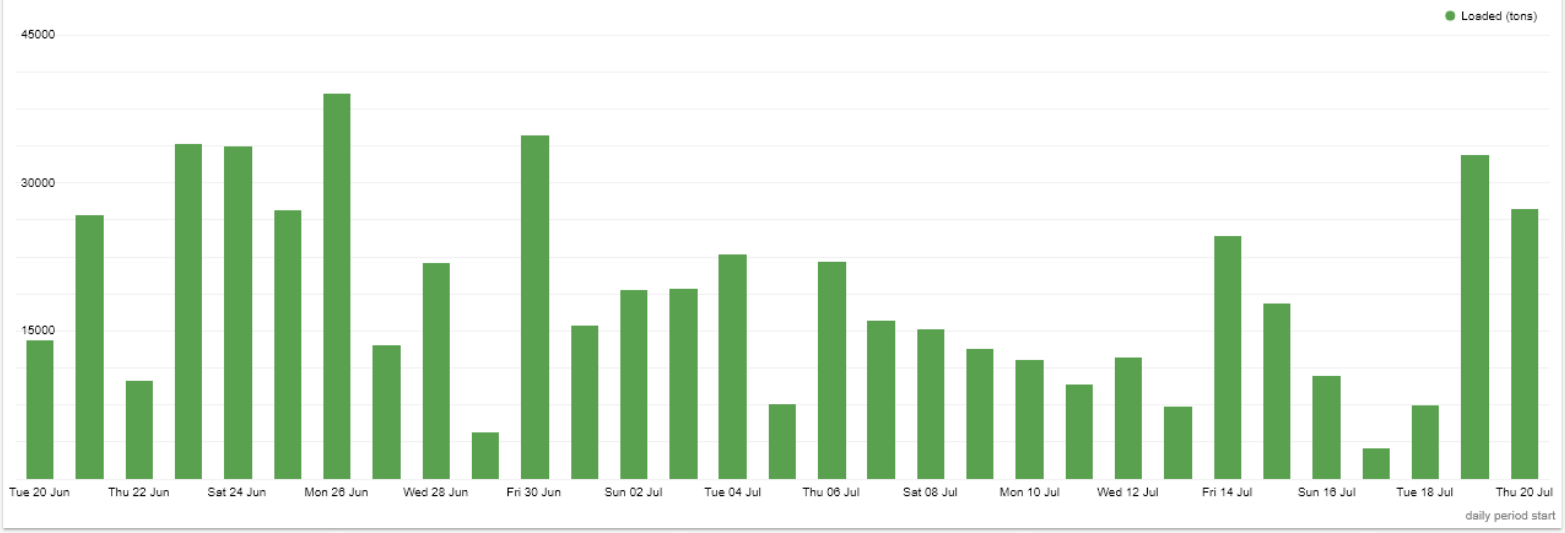


Flow Reporting and Dashboards

Terminal de Carvão da Matola (TCM) – **Daily Operational Report**

SL02

Production



Production

Loaded
27320 tons

MTD
315641 tons

Performance

Loading
1264.03 tph

MTD
1030.70 tph

Runtime

Runtime
21.61 hrs

MTD
264.95 hrs

Unplanned Stops

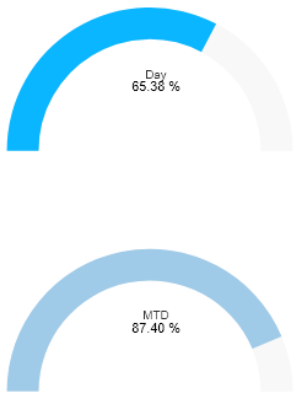
Stops
11

MTBF
1.96 hrs

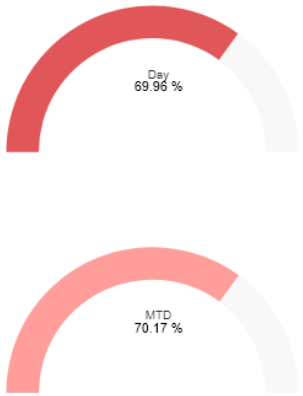
MTD
27

MTD
10 hrs

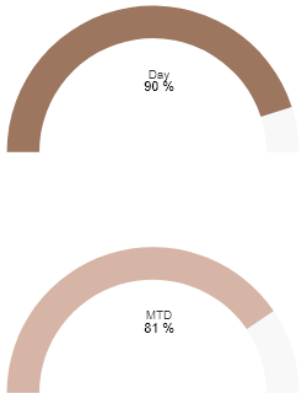
Reliability



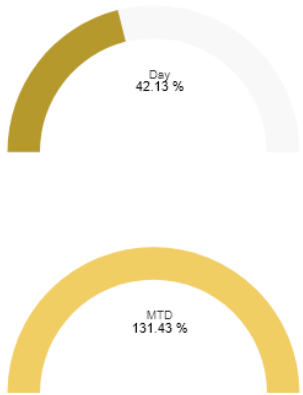
Availability



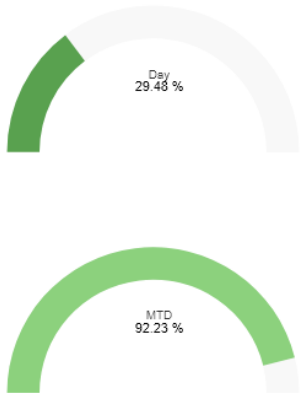
Utilization



Performance Index



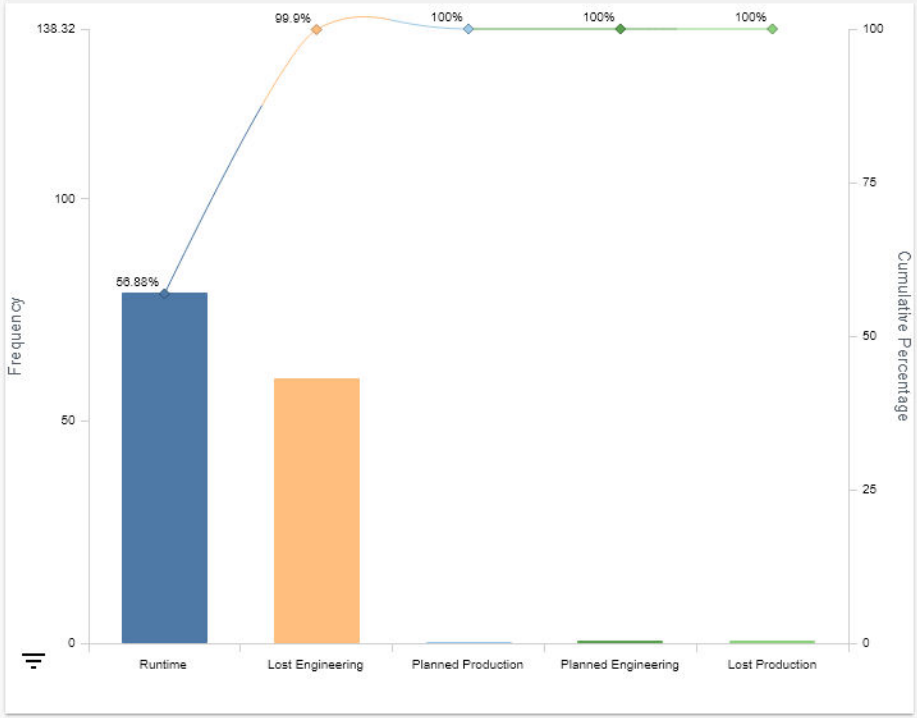
OEE



Machine Status Table

Period Start	Period End	Duration	Description	Machine State
2023-07-21 01:40	2023-07-21 13:36	715.84		Lost Production
2023-07-21 13:36		34.35		Runtime

SL01



Performance

Availability
48.68 %

Reliability
79.67 %

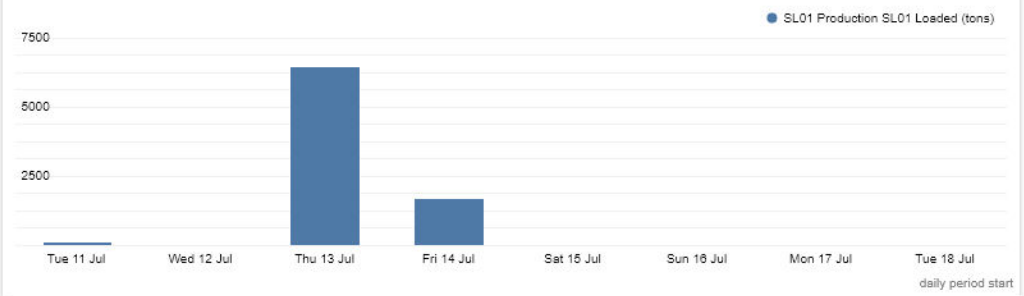
OEE
3.73 %

Performance Index
15.91 %

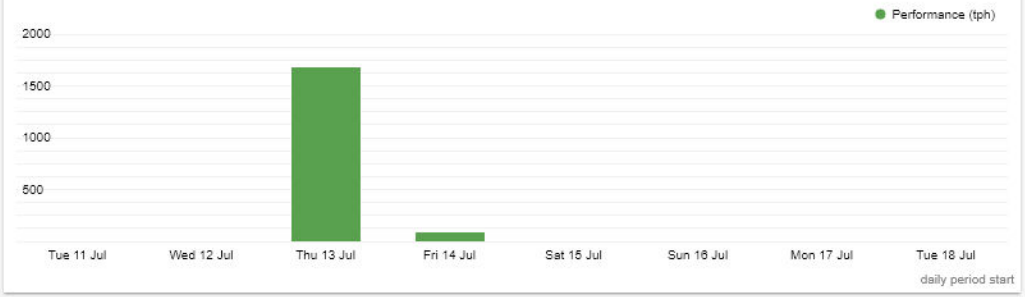
MTBF
8.39 hrs

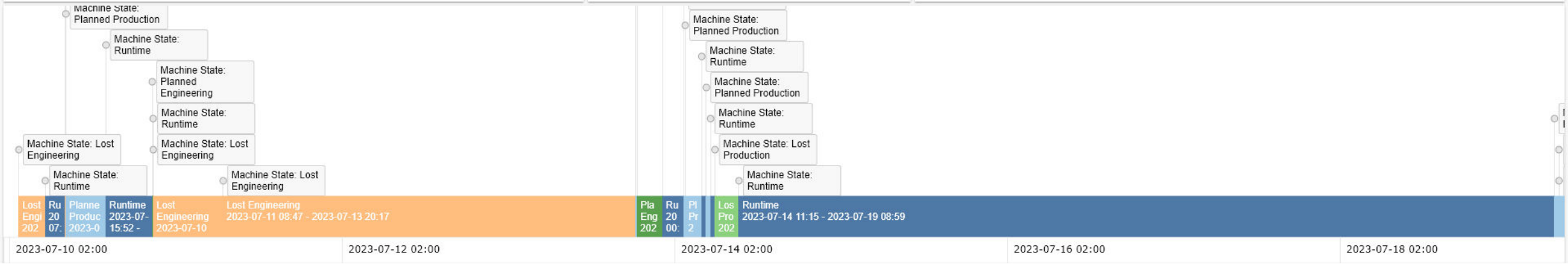
Utilization
49 %

Production



Performance

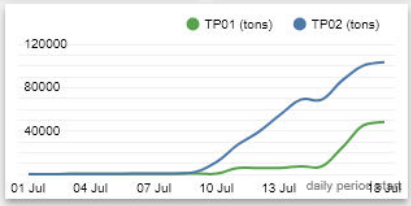




Terminal de Carvão da Matola (TCM) – **Tippler Production Report**

Tippler 1

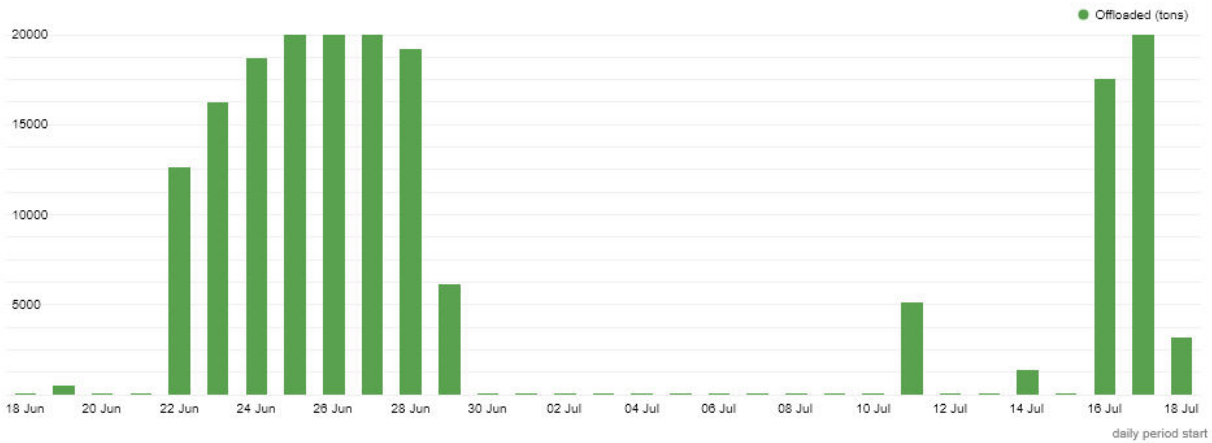
Daily Tons	Runhours	TPH	Wagons	min / wagon
3155 tons	- hrs	- tph	- wagons	- min/w
MTD 48242 tons	MTD - hrs	MTD - tph	MTD - wagons	MTD - min/w



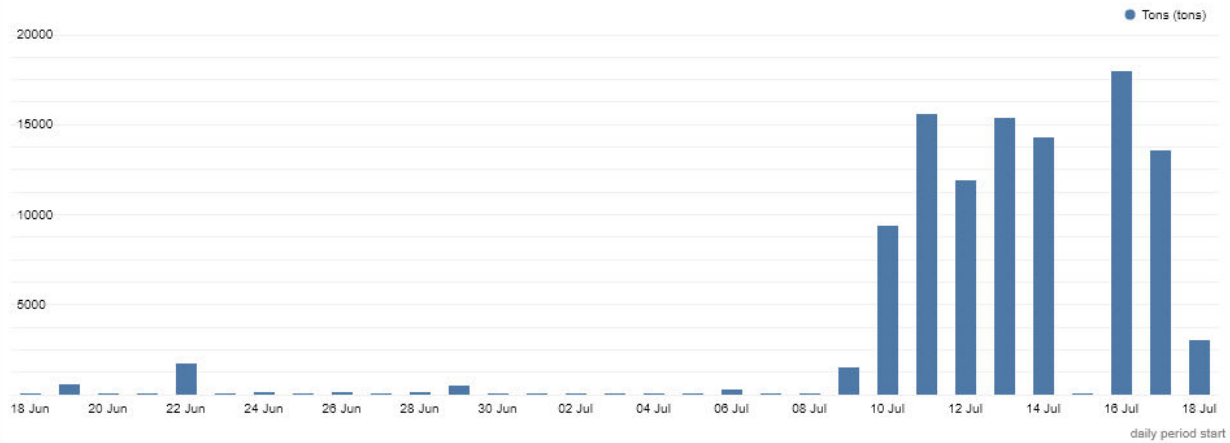
Tippler 2

Daily Tons	Runhours	TPH	Wagons	min / wagon
2997 tons	- hrs	- tph	- wagons	- min/w
MTD 103414 tons	MTD - hrs	MTD - tph	MTD - wagons	MTD - min/w

Tippler 1 30day history



Tippler 2 30day history



Tippler 1 Previous Hour

Tippler 2 Previous Hour

Customer Projects

Jacques Malan
C&I Superintendent
Grindrod TCM

Rudi van Aarde
Project / Control Engineer
Darner Engineering

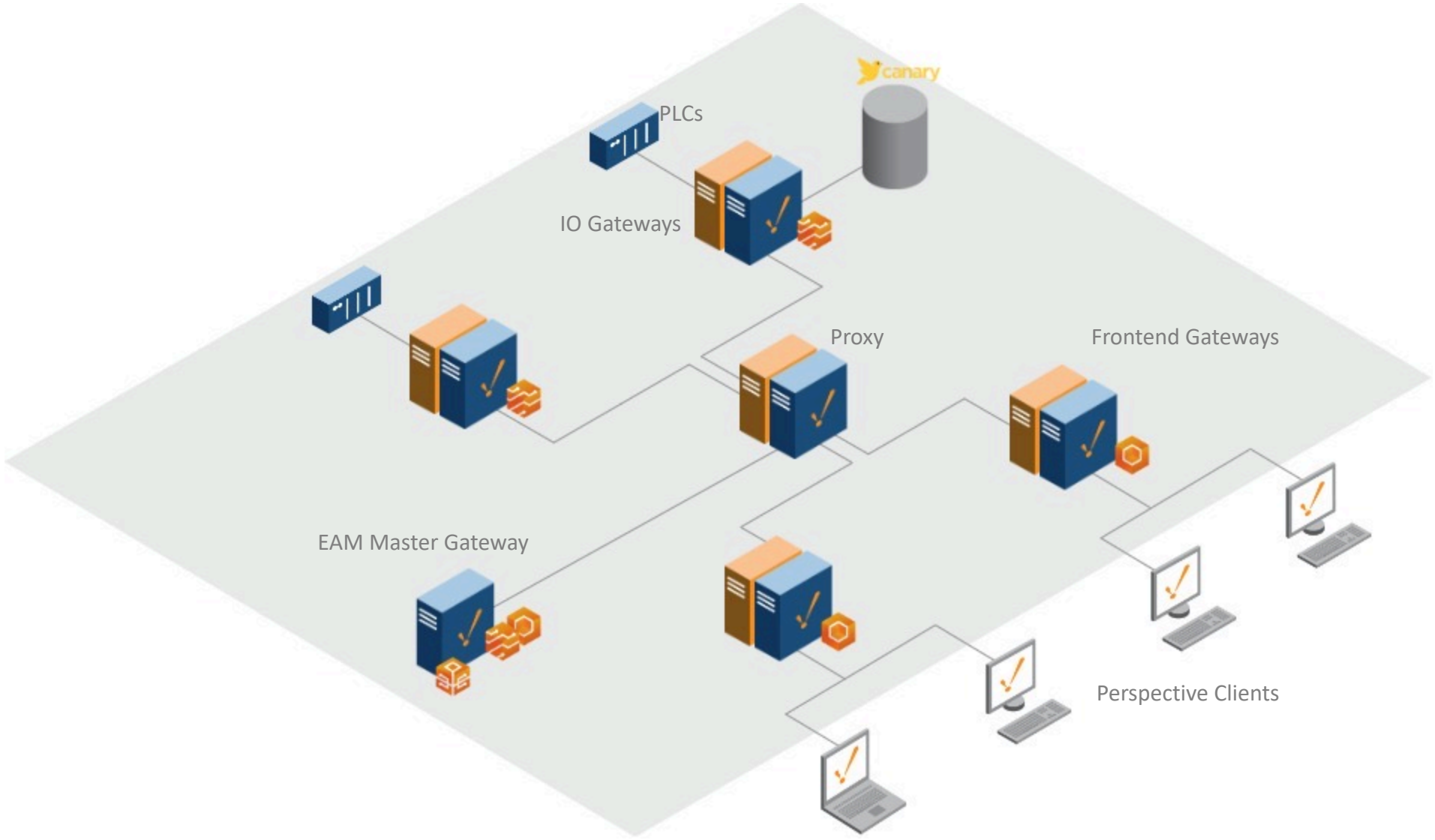
Customer Projects

Pedro Steyn
Snr Instrument Tecnician
Implats

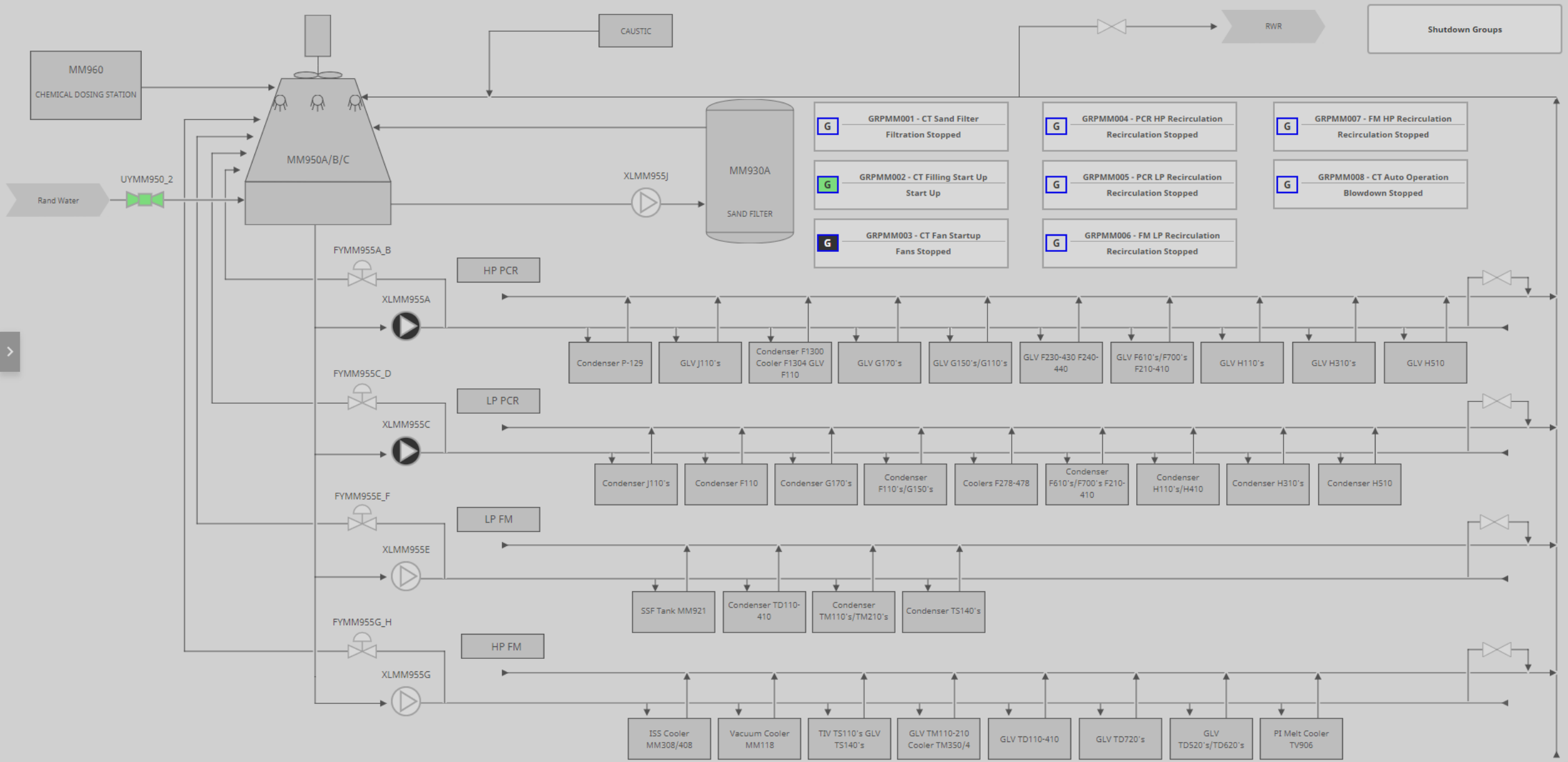
Braam Venter
Director
Advansys

IMPLATS
EXCELLENCE IN PGMs

advansys


canary
PLCs
IO Gateways
Proxy
Frontend Gateways
EAM Master Gateway
Perspective Clients

Ignition SCADA Views


MM960
CHEMICAL DOSING STATION
CAUSTIC
RWR
Shutdown Groups
MM950A/B/C
UYMM950_2
Rand Water
XLMM955J
MM930A
SAND FILTER
GRPMM001 - CT Sand Filter
Filtration Stopped
GRPMM002 - CT Filling Start Up
Start Up
GRPMM003 - CT Fan Startup
Fans Stopped
GRPMM004 - PCR HP Recirculation
Recirculation Stopped
GRPMM005 - PCR LP Recirculation
Recirculation Stopped
GRPMM006 - FM LP Recirculation
Recirculation Stopped
GRPMM007 - FM HP Recirculation
Recirculation Stopped
GRPMM008 - CT Auto Operation
Blowdown Stopped
FYMM955A_B
HP PCR
XLMM955A
Condenser P-129
GLV J110's
Condenser F1300 Cooler F1304 GLV F110
GLV G170's
GLV G150's/G110's
GLV F230-430 F240-440
GLV F610's/F700's F210-410
GLV H110's
GLV H310's
GLV H510
FYMM955C_D
LP PCR
XLMM955C
Condenser J110's
Condenser F110
Condenser G170's
Condenser F110's/G150's
Coolers F278-478
Condenser F610's/F700's F210-410
Condenser H110's/H410
Condenser H310's
Condenser H510
FYMM955E_F
LP FM
XLMM955E
SSF Tank MM921
Condenser TD110-410
Condenser TM110's/TM210's
Condenser TS140's
FYMM955G_H
HP FM
XLMM955G
ISS Cooler MM308/408
Vacuum Cooler MM118
TIV TS110's GLV TS140's
GLV TM110-210 Cooler TM350/4
GLV TD110-410
GLV TD720's
GLV TD520's/TD620's
PI Melt Cooler TV906

Alarm Summary For: Utilities/Cooling Water*

Priority	Total	ActiveUnackCount	ActiveAckCount	ClearUnackCount	ShelvedCount
Overall	5	2	1	2	0
Critical	0	0	0	0	0
High	0	0	0	0	0
Medium	0	0	0	0	0
Low	5	2	1	2	0

Alarms For: Utilities/Cooling Water*

Current | Journal

Active Time	Display Path	Priority	State	Source	Name
09/28/2023 12:47:35	Utilities/Cooling Water/Cooling Tower/LITMM950/Alarms/Low	Low	Active, Acknowledged	prov:fmmm01:/tag:Utilities/Cooling Water/Cooling Tower/LITMM950/Alarms/Low/Sts/Active:/alm:Alarm	Alarm
09/14/2023 11:23:55	Utilities/Cooling Water/Chemical Dosing/XLMM560A/Alarms/LocalStop	Low	Active, Unacknowledged	prov:fmmm01:/tag:Utilities/Cooling Water/Chemical Dosing/XLMM560A/Alarms/LocalStop/Sts/Act...	Alarm
09/14/2023 11:23:27	Utilities/Cooling Water/Fan Filter Units/XLN800/Alarms/LocalStop	Low	Active, Unacknowledged	prov:fmmm01:/tag:Utilities/Cooling Water/Fan Filter Units/XLN800/Alarms/LocalStop/Sts/Active:/...	Alarm
09/28/2023 12:47:31	Utilities/Cooling Water/Water Recirculation/FM/XLMM955G/Alarms/Available	Low	Cleared, Unacknowledged	prov:fmmm01:/tag:Utilities/Cooling Water/Water Recirculation/FM/XLMM955G/Alarms/Available/Sts/Acti...	Alarm
09/28/2023 12:47:31	Utilities/Cooling Water/Water Recirculation/FM/XLMM955E/Alarms/Available	Low	Cleared, Unacknowledged	prov:fmmm01:/tag:Utilities/Cooling Water/Water Recirculation/FM/XLMM955E/Alarms/Available/Sts/Acti...	Alarm

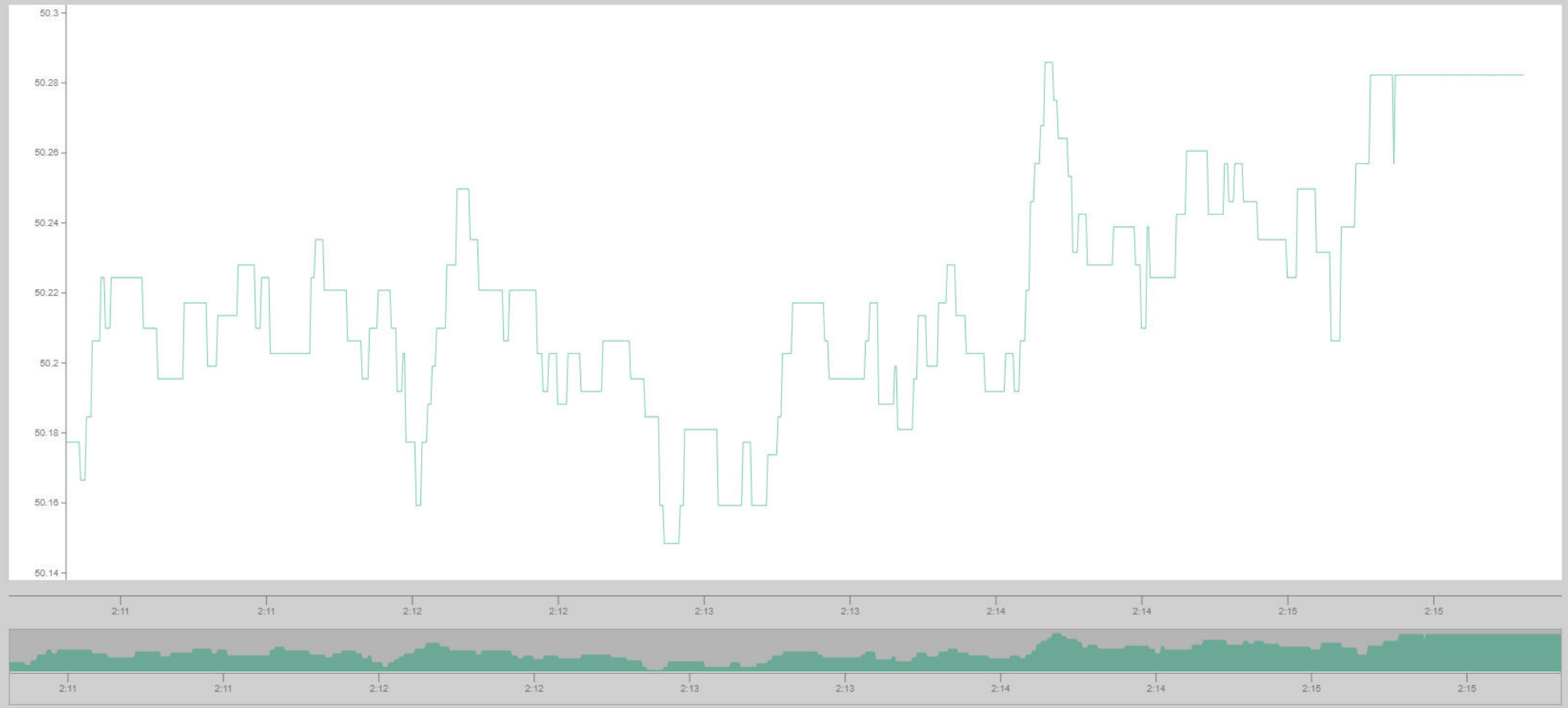
Trends

Browse Tags

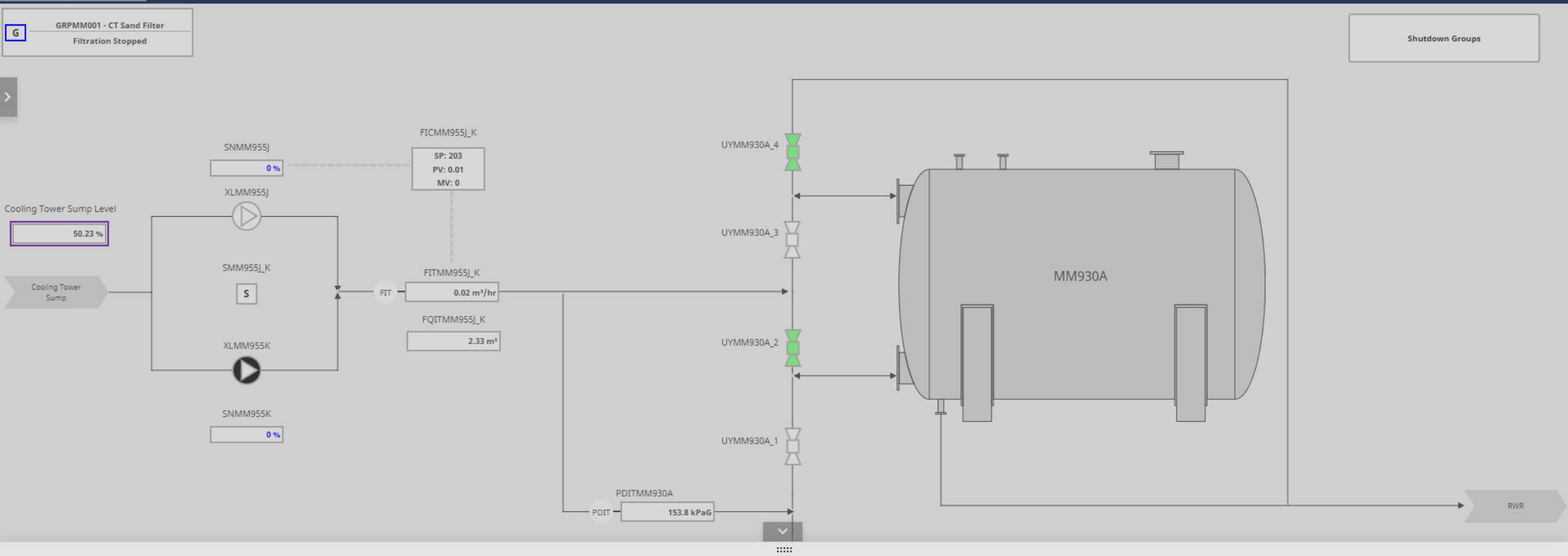
- Chemical Dosing
- Cooling Tower
  - AITMM950_2
  - CITMM950_1
  - FITMM950_1
  - FITMM950_2
  - FQITMM950_1
  - FQITMM950_2
  - HSMM950_2
  - ITMM958A
  - ITMM958B
  - ITMM958C
  - JTMM958A
  - JTMM958B
  - JTMM958C
  - LITMM950
    - Sts
      - **Value**
  - LSLLMM950
  - LSLMM958A
  - LSLMM958B
  - LSLMM958C
  - SMM958A
  - SMM958B
  - SMM958C
  - SNMM958A
  - SNMM958B
  - SNMM958C
  - STMM958A
  - STMM958B
  - STMM958C
  - TICMM950_1
  - TICMM958A

Add Selected Tags

2023/09/28 6:18 AM - 2:18 PM



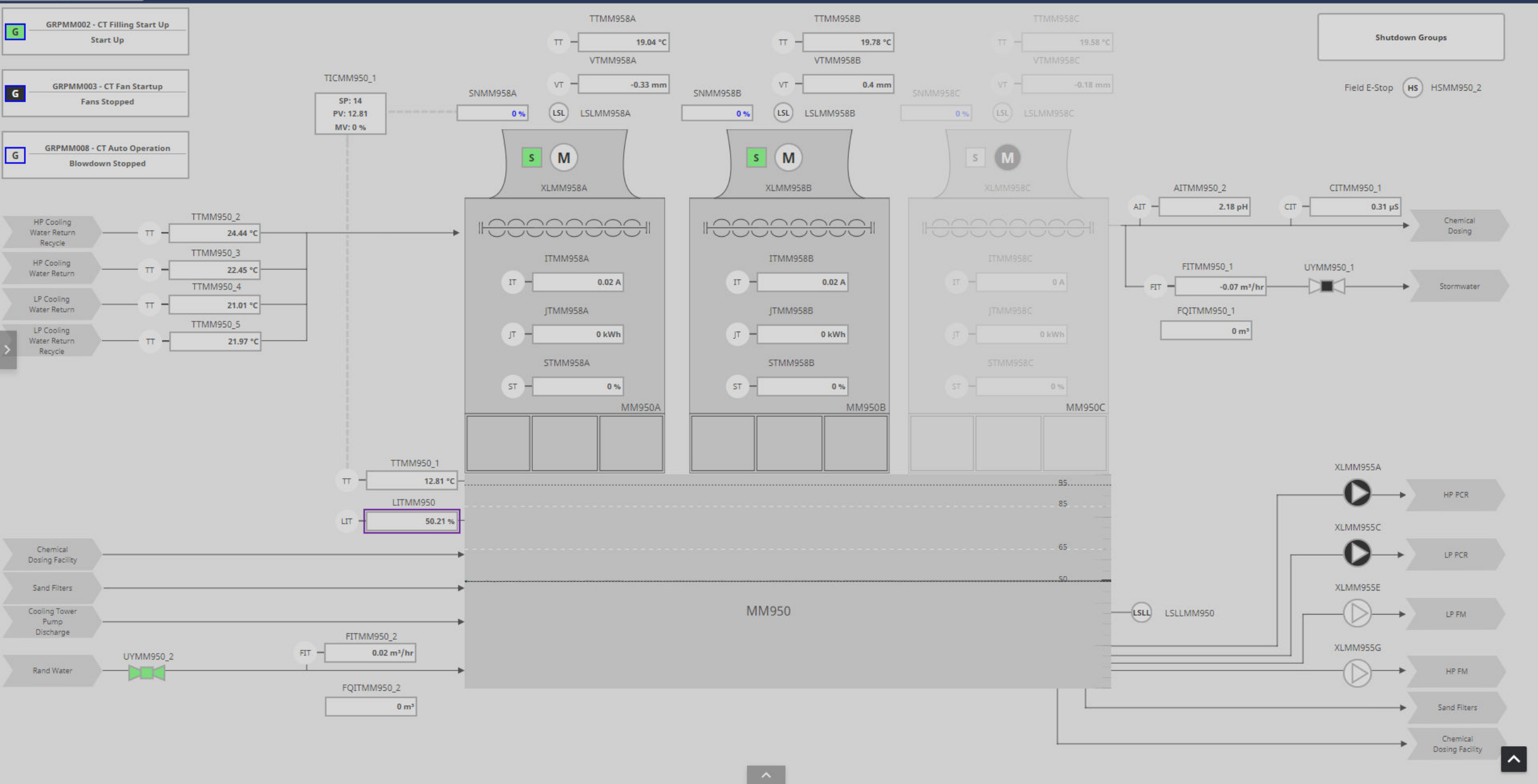
Pen Name	Minimum	Maximum	Average	Axis	Plot	X Trace
Cooling Water/Cooling Tower/LITMM950/Sts/Value	50.15	50.29	50.22	Default	0	

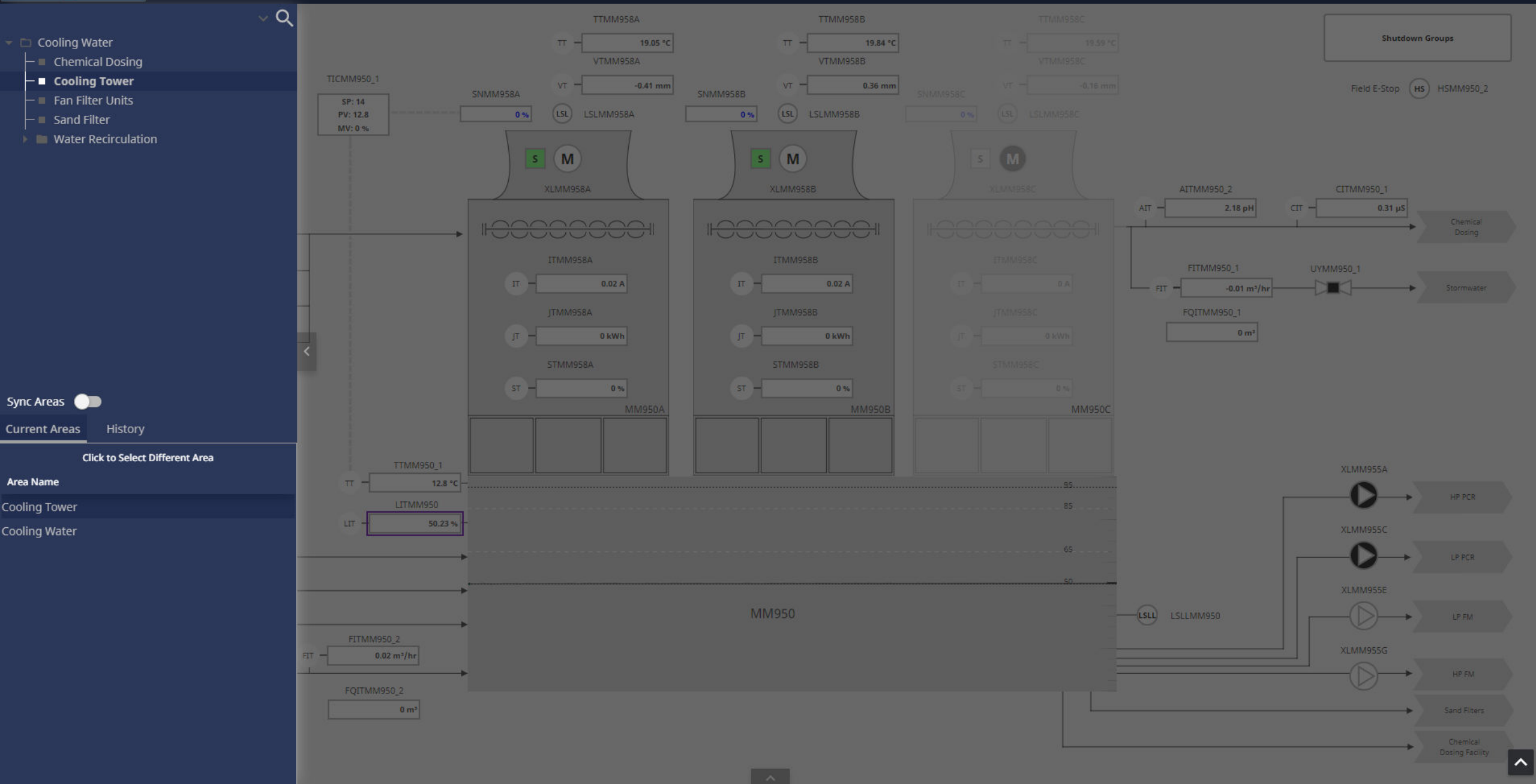


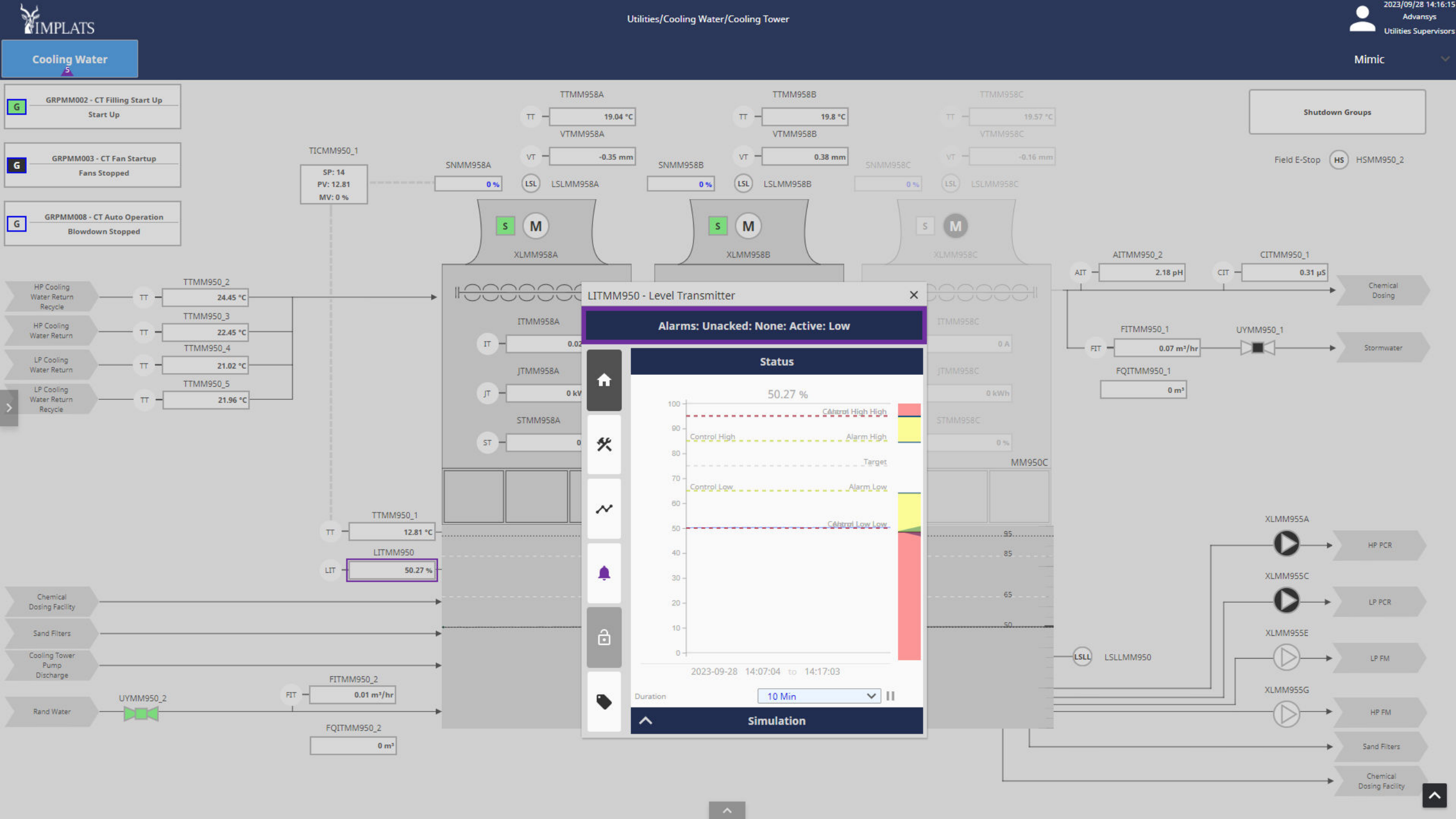
Control Module Legend

Mode	Maintenance	Pink outline	State	Interlocked	Black fill	Alarm	High Active	Solid yellow border
Mode	Manual	Blue outline	Control	Simulation	Dotted blue outer border	Alarm	High Cleared Unacknowledged	Dashed yellow border
Mode	Automatic	Grey outline	Control	Identify	Blue background fill	Alarm	Medium Active	Solid blue border
State	Opened/Active	Green fill	Alarm	Critical Active	Solid red border	Alarm	Medium Cleared Unacknowledged	Dashed blue border
State	Closed/Passive	Grey fill	Alarm	Critical Cleared Unacknowledged	Dashed red border	Alarm	Low Active	Solid purple border

Alarm	Low Cleared Unacknowledged	Dashed purple border			
System	Comms	Red cross in centre			


GRPMM002 - CT Filling Start Up
Start Up
GRPMM003 - CT Fan Startup
Fans Stopped
GRPMM008 - CT Auto Operation
Blowdown Stopped
Shutdown Groups
Field E-Stop
HS
HSMM950_2
TICMM950_1
SP: 14
PV: 12.81
MV: 0 %
SNMM958A
SNMM958B
SNMM958C
0 %
LSL
LSLMM958A
LSLMM958B
LSLMM958C
TTMM958A
TT
19.04 °C
VTMM958A
VT
-0.33 mm
TTMM958B
19.78 °C
VTMM958B
0.4 mm
TTMM958C
19.58 °C
VTMM958C
-0.18 mm
S
M
XLMM958A
XLMM958B
XLMM958C
ITMM958A
IT
0.02 A
ITMM958B
ITMM958C
0 A
JTMM958A
JT
0 kWh
JTMM958B
JTMM958C
STMM958A
ST
0 %
STMM958B
STMM958C
MM950A
MM950B
MM950C
HP Cooling Water Return Recycle
TTMM950_2
24.44 °C
HP Cooling Water Return
TTMM950_3
22.45 °C
LP Cooling Water Return
TTMM950_4
21.01 °C
LP Cooling Water Recycle
TTMM950_5
21.97 °C
AITMM950_2
AIT
2.18 pH
CITMM950_1
CIT
0.31 µS
Chemical Dosing
FITMM950_1
FIT
-0.07 m³/hr
UYMM950_1
Stormwater
FQITMM950_1
0 m³
TTMM950_1
12.81 °C
LITMM950
LIT
50.21 %
85
85
65
50
MM950
Chemical Dosing Facility
Sand Filters
Cooling Tower Pump Discharge
Rand Water
UYMM950_2
FITMM950_2
0.02 m³/hr
FQITMM950_2
0 m³
LSLL
LSLLMM950
XLMM955A
HP PCR
XLMM955C
LP PCR
XLMM955E
LP FM
XLMM955G
HP FM
Sand Filters
Chemical Dosing Facility


Cooling Water
Chemical Dosing
Cooling Tower
Fan Filter Units
Sand Filter
Water Recirculation
Sync Areas
Current Areas
History
Click to Select Different Area
Area Name
Cooling Tower
Cooling Water
TTMM958A
TT 19.05 °C
VTMM958A
VT -0.41 mm
TTMM958B
TT 19.84 °C
VTMM958B
VT 0.36 mm
TTMM958C
VTMM958C
TICMM950_1
SP: 14
PV: 12.8
MV: 0 %
SNMM958A
0 %
LSL LSLMM958A
SNMM958B
0 %
LSL LSLMM958B
SNMM958C
LSLMM958C
Shutdown Groups
Field E-Stop HS HSMM950_2
S M
XLMM958A
XLMM958B
XLMM958C
ITMM958A
IT 0.02 A
ITMM958B
IT 0.02 A
ITMM958C
JTMM958A
JT 0 kWh
JTMM958B
JT 0 kWh
JTMM958C
STMM958A
ST 0 %
STMM958B
ST 0 %
STMM958C
MM950A
MM950B
MM950C
AITMM950_2
AIT 2.18 pH
CITMM950_1
CIT 0.31 µS
Chemical Dosing
FITMM950_1
FIT -0.01 m³/hr
UYMM950_1
Stormwater
FQITMM950_1
0 m³
TTMM950_1
TT 12.8 °C
LITMM950
LIT 50.23 %
95
85
65
50
MM950
XLMM955A
HP PCR
XLMM955C
LP PCR
XLMM955E
LP FM
XLMM955G
HP FM
LSLL LSLLMM950
Sand Filters
Chemical Dosing Facility
FITMM950_2
FIT 0.02 m³/hr
FQITMM950_2
0 m³


IMPLATS
Utilities/Cooling Water/Cooling Tower
2023/09/28 14:16:15
Advansys
Utilities Supervisors
Cooling Water
Mimic
GRPMM002 - CT Filling Start Up
Start Up
GRPMM003 - CT Fan Startup
Fans Stopped
GRPMM008 - CT Auto Operation
Blowdown Stopped
Shutdown Groups
Field E-Stop
HS
HSMM950_2
TTMM958A
19.04 °C
VTMM958A
-0.35 mm
TTMM958B
19.8 °C
VTMM958B
0.38 mm
TTMM958C
19.57 °C
VTMM958C
-0.16 mm
TICMM950_1
SP: 14
PV: 12.81
MV: 0 %
SNMM958A
0 %
LSLMM958A
SNMM958B
0 %
LSLMM958B
SNMM958C
0 %
LSLMM958C
XLMM958A
XLMM958B
XLMM958C
HP Cooling Water Return Recycle
TTMM950_2
24.45 °C
HP Cooling Water Return
TTMM950_3
22.45 °C
LP Cooling Water Return
TTMM950_4
21.02 °C
LP Cooling Water Return Recycle
TTMM950_5
21.96 °C
ITMM958A
JTMM958A
0 kV
STMM958A
ITMM958C
0 A
JTMM958C
0 kWh
STMM958C
0 %
MM950C
AITMM950_2
2.18 pH
CITMM950_1
0.31 µS
Chemical Dosing
FITMM950_1
0.07 m³/hr
UYMM950_1
Stormwater
FQITMM950_1
0 m³
TTMM950_1
12.81 °C
LITMM950
50.27 %
Chemical Dosing Facility
Sand Filters
Cooling Tower Pump Discharge
Rand Water
UYMM950_2
FITMM950_2
0.01 m³/hr
FQITMM950_2
0 m³
LSLLMM950
XLMM955A
HP PCR
XLMM955C
LP PCR
XLMM955E
LP FM
XLMM955G
HP FM
Sand Filters
Chemical Dosing Facility
LITMM950 - Level Transmitter
Alarms: Unacked: None: Active: Low
Status
50.27 %
Control High High
Control High
Alarm High
Target
Control Low
Alarm Low
Control Low Low
2023-09-28 14:07:04 to 14:17:03
Duration
10 Min
Simulation

GRPMM001 - CT Sand Filter
Filtration in Progress

Shutdown Groups

SNMM955J
64.86 %
FICMM955J_K
SP: 203 m³/hr
PV: 202.65 m³/hr
MV: 64.87 %
XLMM955J
ooling Tower Sump Level
67.68 %
SMM955J_K
S
Cooling Tower Sump
FIT
FITMM955J_K
202.38 m³/hr
FQITMM955J_K
2.66 m³
XLMM955K
SNMM955K
64.9 %
UYMM930A_4
UYMM930A_3
UYMM930A_2
UYMM930A_1
PDITMM930A
PDIT
28.36 kPaG
RWR
Cooling Tower Return

UYMM930A_3 - Valve
[State:Opened] [Alarms: Unacked: None; Active: None]
[Interlock: Healthy]

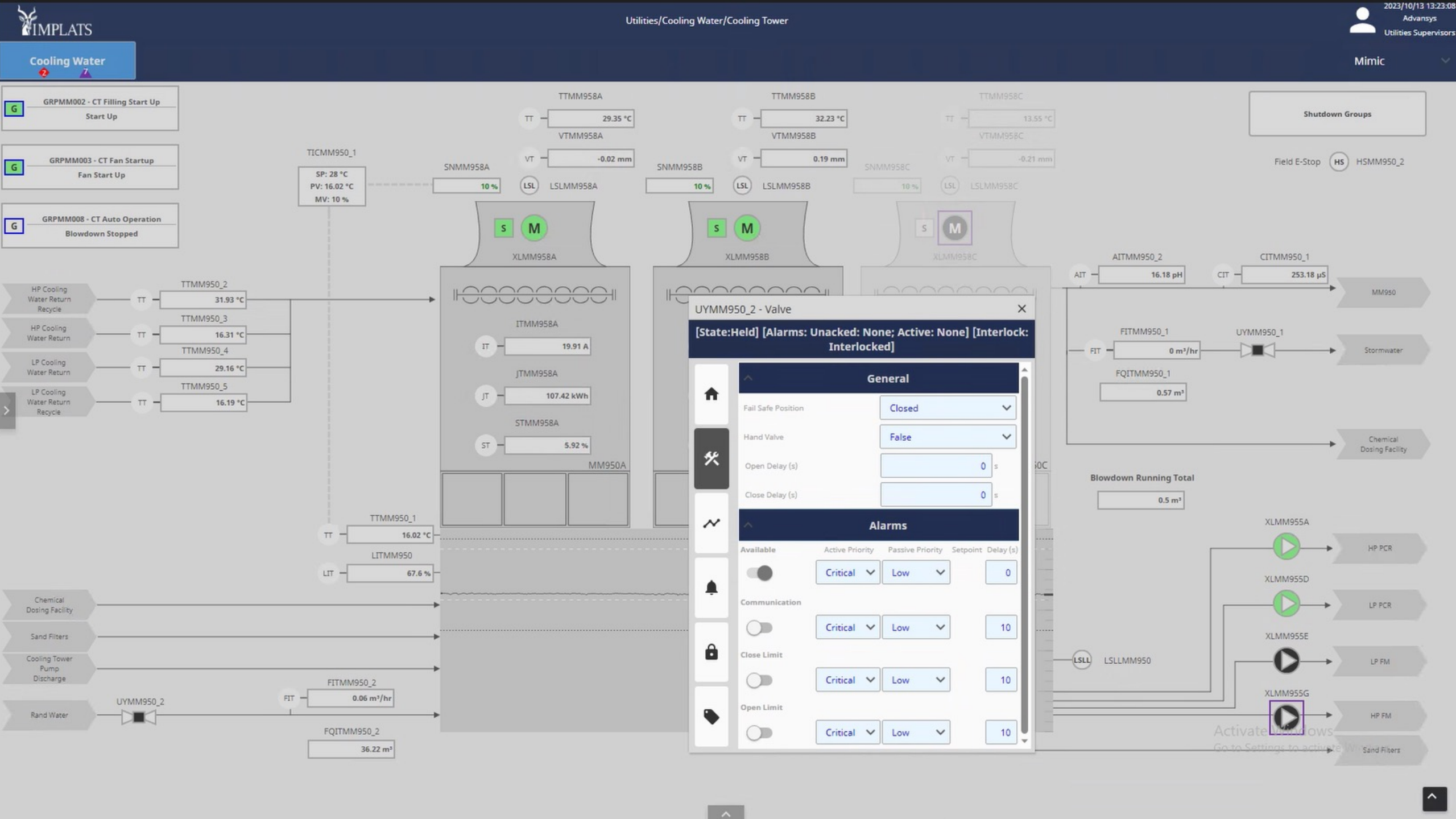
Status
Command
Open
Opened
Opened
True
False
Closed
True
False
1:08 1:09 1:10 1:11 1:12 1:13 1:14 1:15 1:16 1:17
Duration
10 Min

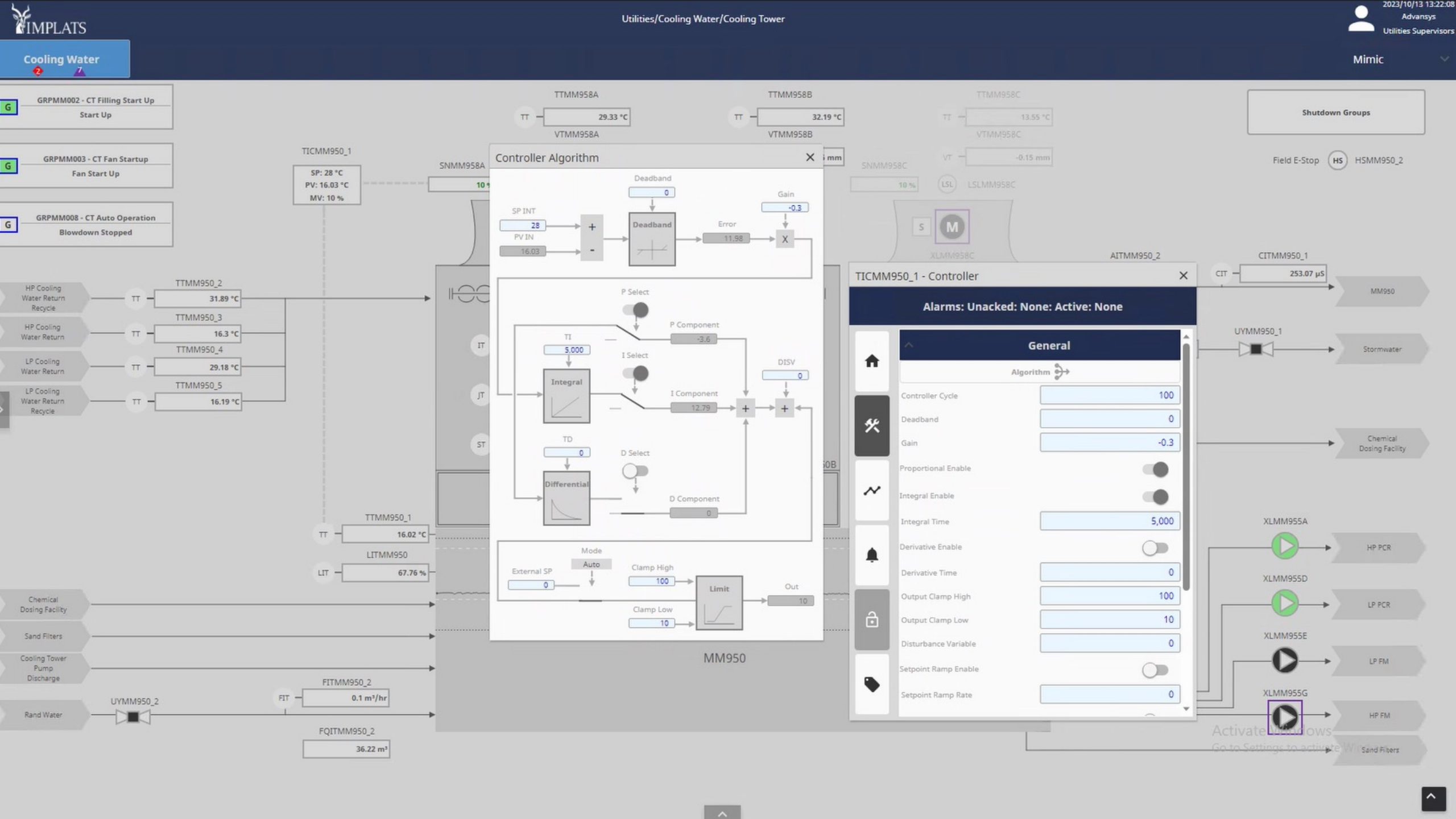
Operation
Mode
Auto
Manual
Maintenance
Command
Open
Close

Simulation

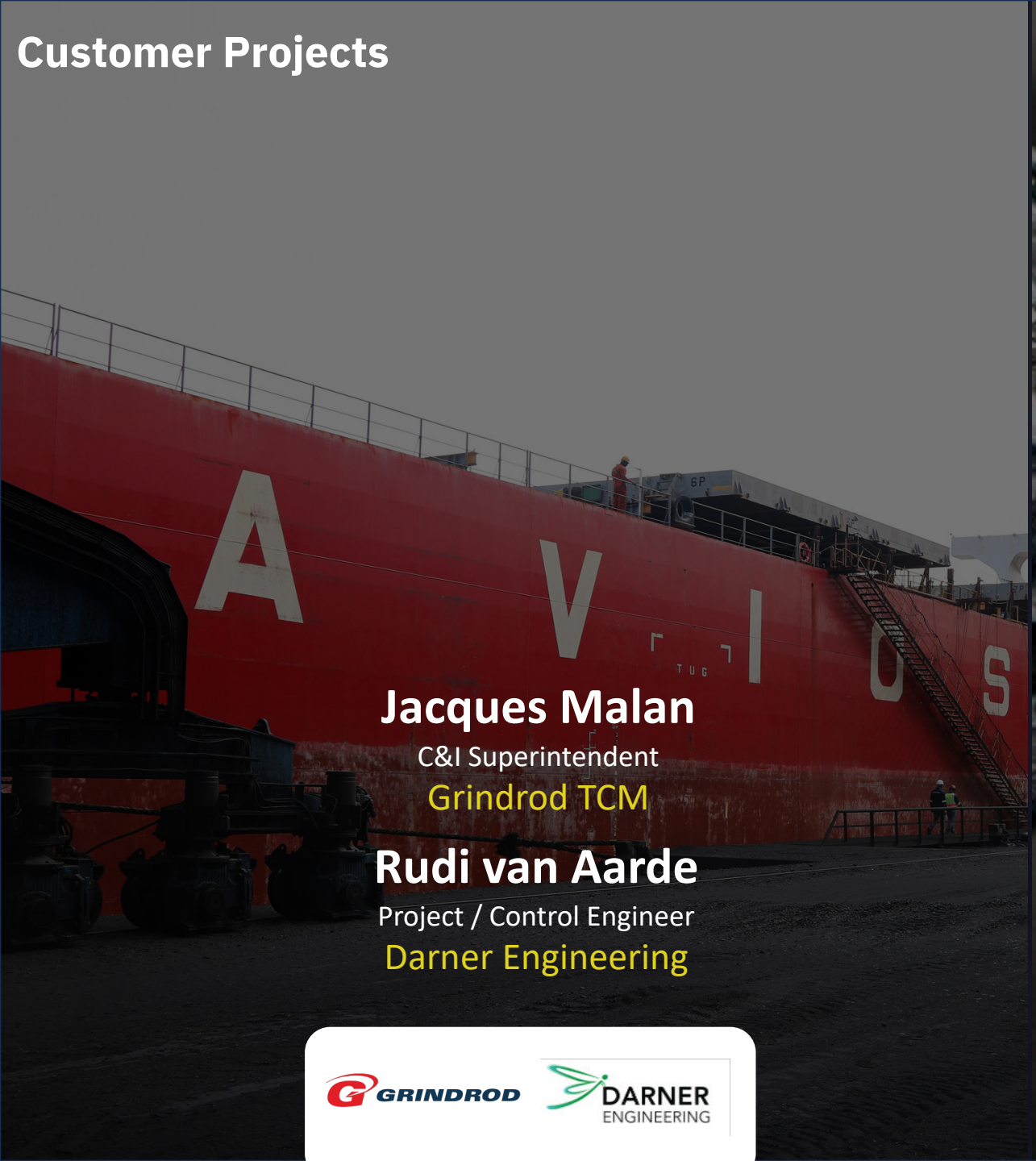
Backwash Running Total
2.66 m³

Activate Windows
Go to Settings to activate Windows.


IMPLATS
Utilities/Cooling Water/Cooling Tower
2023/10/13 13:23:08
Advansys
Utilities Supervisors
Cooling Water
Mimic
GRPMM002 - CT Filling Start Up
Start Up
GRPMM003 - CT Fan Startup
Fan Start Up
GRPMM008 - CT Auto Operation
Blowdown Stopped
TICMM950_1
SP: 28 °C
PV: 16.02 °C
MV: 10 %
SNMM958A
10 %
LSLMM958A
TTMM958A
29.35 °C
VTMM958A
-0.02 mm
SNMM958B
10 %
LSLMM958B
TTMM958B
32.23 °C
VTMM958B
0.19 mm
SNMM958C
10 %
LSLMM958C
TTMM958C
13.55 °C
VTMM958C
-0.21 mm
Shutdown Groups
Field E-Stop
HSMM950_2
XLMM958A
XLMM958B
XLMM958C
ITMM958A
19.91 A
JTMM958A
107.42 kWh
STMM958A
5.92 %
MM950A
HP Cooling Water Return Recycle
TTMM950_2
31.93 °C
HP Cooling Water Return
TTMM950_3
16.31 °C
LP Cooling Water Return
TTMM950_4
29.16 °C
LP Cooling Water Return Recycle
TTMM950_5
16.19 °C
TTMM950_1
16.02 °C
LITMM950
67.6 %
AITMM950_2
16.18 pH
CITMM950_1
253.18 µS
MM950
FITMM950_1
0 m³/hr
UYMM950_1
Stormwater
FQITMM950_1
0.57 m³
Chemical Dosing Facility
Blowdown Running Total
0.5 m³
Chemical Dosing Facility
Sand Filters
Cooling Tower Pump Discharge
Rand Water
UYMM950_2
FITMM950_2
0.06 m³/hr
FQITMM950_2
36.22 m³
LSLLMM950
XLMM955A
HP PCR
XLMM955D
LP PCR
XLMM955E
LP FM
XLMM955G
HP FM
Sand Filters
UYMM950_2 - Valve
[State:Held] [Alarms: Unacked: None; Active: None] [Interlock: Interlocked]
General
Fail Safe Position
Closed
Hand Valve
False
Open Delay (s)
0
Close Delay (s)
0
Alarms
Available
Active Priority
Passive Priority
Setpoint
Delay (s)
Critical
Low
0
Communication
Critical
Low
10
Close Limit
Critical
Low
10
Open Limit
Critical
Low
10
Activate Windows
Go to Settings to activate Windows.


IMPLATS
Utilities/Cooling Water/Cooling Tower
2023/10/13 13:22:08
Advansys
Utilities Supervisors
Cooling Water
Mimic
GRPMM002 - CT Filling Start Up
Start Up
GRPMM003 - CT Fan Startup
Fan Start Up
GRPMM008 - CT Auto Operation
Blowdown Stopped
Shutdown Groups
Field E-Stop
HSMM950_2
TTMM958A
29.33 °C
VTMM958A
TTMM958B
32.19 °C
VTMM958B
TTMM958C
13.55 °C
VTMM958C
-0.15 mm
SNMM958C
10 %
LSLMM958C
TICMM950_1
SP: 28 °C
PV: 16.03 °C
MV: 10 %
SNMM958A
Controller Algorithm
Deadband
0
Gain
-0.3
SP INT
28
PV IN
16.03
Deadband
Error
11.98
P Select
P Component
-3.6
TI
5.000
I Select
Integral
DISV
0
I Component
12.79
TD
0
D Select
Differential
D Component
0
Mode
Auto
External SP
0
Clamp High
100
Clamp Low
10
Limit
Out
10
MM950
TICMM950_1 - Controller
Alarms: Unacked: None: Active: None
General
Algorithm
Controller Cycle
100
Deadband
0
Gain
-0.3
Proportional Enable
Integral Enable
Integral Time
5,000
Derivative Enable
Derivative Time
0
Output Clamp High
100
Output Clamp Low
10
Disturbance Variable
0
Setpoint Ramp Enable
Setpoint Ramp Rate
0
AITMM950_2
CITMM950_1
CIT
253.07 µS
MM950
UYMM950_1
Stormwater
Chemical Dosing Facility
HP Cooling Water Return Recycle
TTMM950_2
31.89 °C
HP Cooling Water Return
TTMM950_3
16.3 °C
LP Cooling Water Return
TTMM950_4
29.18 °C
LP Cooling Water Return Recycle
TTMM950_5
16.19 °C
TTMM950_1
16.02 °C
LITMM950
67.76 %
XLMM955A
HP PCR
XLMM955D
LP PCR
XLMM955E
LP FM
XLMM955G
HP FM
Chemical Dosing Facility
Sand Filters
Cooling Tower Pump Discharge
Rand Water
UYMM950_2
FITMM950_2
0.1 m³/hr
FQITMM950_2
36.22 m³
Sand Filters
Activate Windows
Go to Settings to activate Windows.

Customer Projects



Jacques Malan
C&I Superintendent
Grindrod TCM

Rudi van Aarde
Project / Control Engineer
Darner Engineering

Pedro Steyn
Snr Instrument Tecnician
Implats

Braam Venter
Director
Advansys