
AVEVAWORLD

Enhancing situational awareness in power utilities. Our journey with AVEVA PI Vision

Burbank Water & Power

On-site Generation

Lake 50 MW
MPP 315 MW joint owned.
Anaheim (CAISO)
Burbank - Operates /Maint.
Glendale (ICCP)
Pasadena (CAISO)
Cerritos (CAISO)
Colton (CAISO)

CITY OF BURBANK
Water and Power
Since 1913
Always There for You!

Off-site Generation

- 250 MW CM3 solar farm Burbank share 40 MW in NV
- Coal fired IPP Burbank share 72 MW in UT
- Milford wind farm 10 MW in UT
- Teiton run of river hydro 16 MW in WA
- Hoover dam MW varies

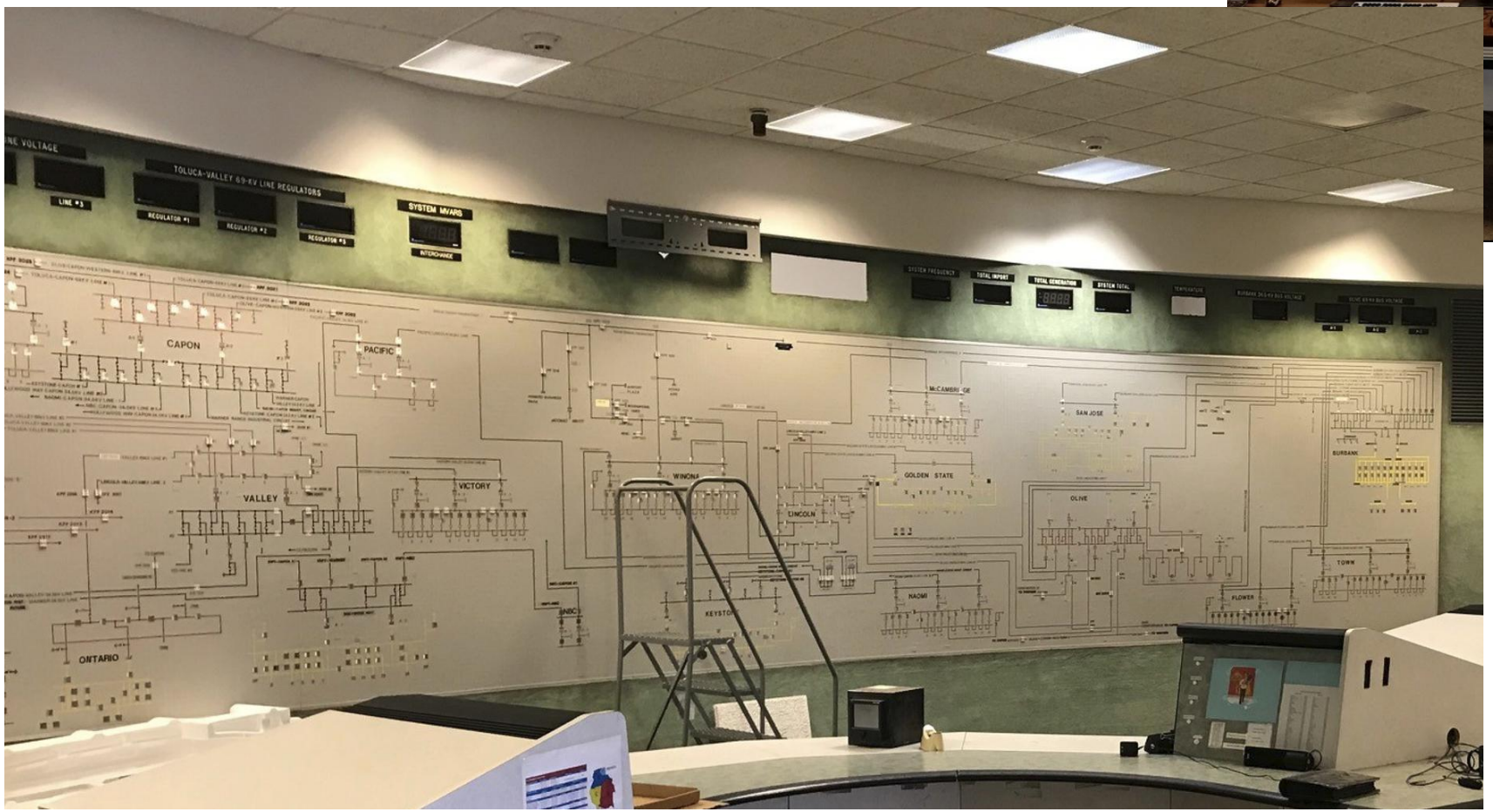
Municipal Utility
Southern California

17.11square miles

54,000 meters

Peak load 320 MW

Ties: LADWP & GWP


SYSTEM MVARS
CAPON
PACIFIC
VALLEY
VICTORY
ONTARIO
LINCOLN
GOLDEN STATE
SAN JOSE
OLIVE
NAOMI
FLOWER
TOWN
BURBANK

City of Burbank Water and Power
Since 1913
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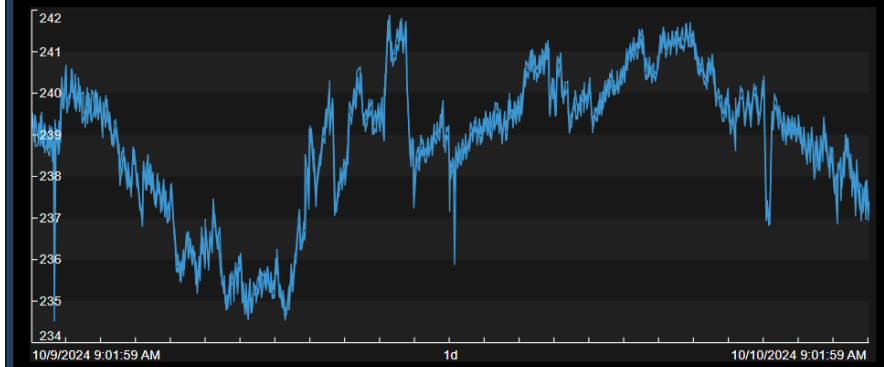
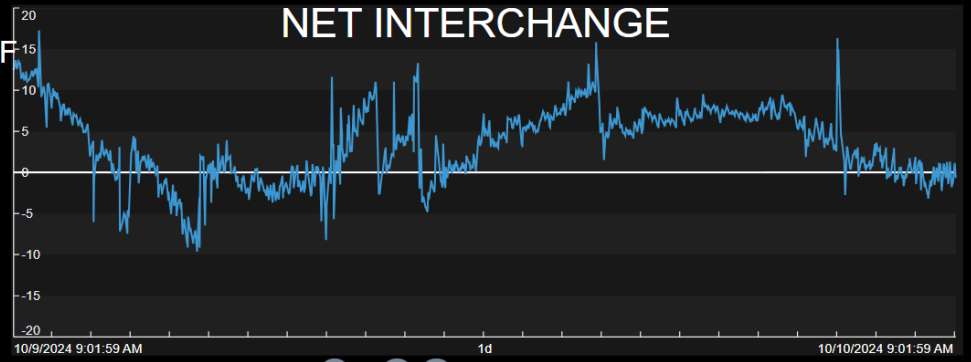
traber system Asset: A-1

10/10/2024 9:01:59 AM



Temperature 63.767 °F

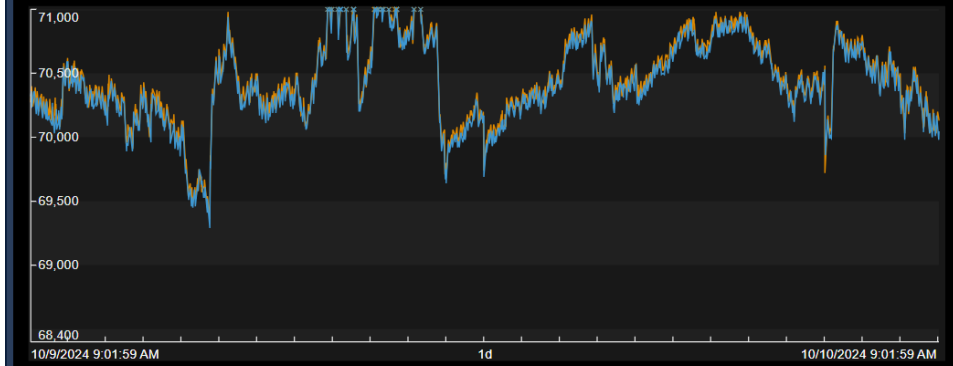
Humidity 85.8 %

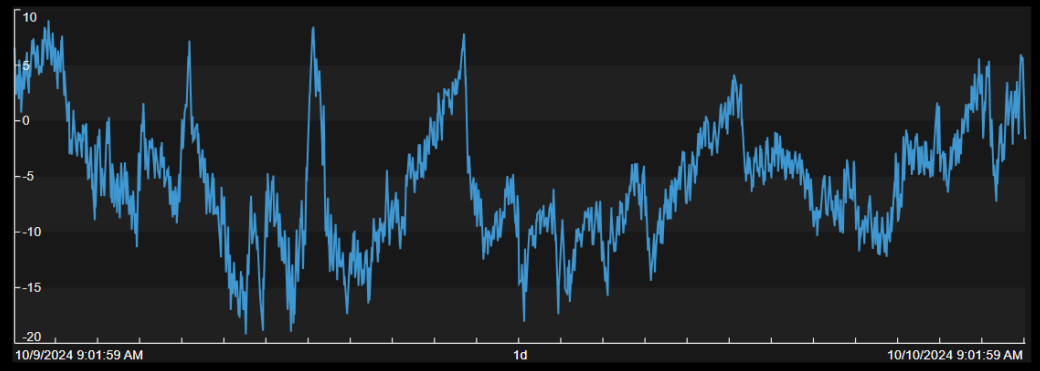


-0.68 MVAR

Bank E
237.40 kV

Bank F
237.36 kV





TOL / CAP #2
70,047 V

TOL / VAL #2
70,130 V

ACE -1.31 MW

10/9/2024 9:01:59 AM 1d Now 10/10/2024 9:01:59 AM

Burbank Water and Power Real Time System Conditions

10/14/2024 9:07:33 AM

Total On-site generation

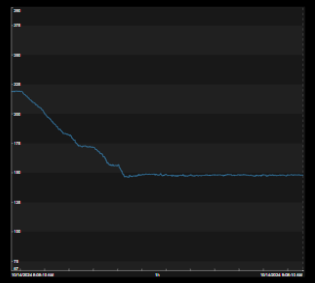
148.0 MW

Magnolia Power Plant

148.0 MPP TOTAL NET MW

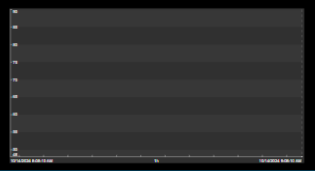
81.4 CT

66.6 ST



BWP's Share of MPP

65.4



Lake One Gross MW

0

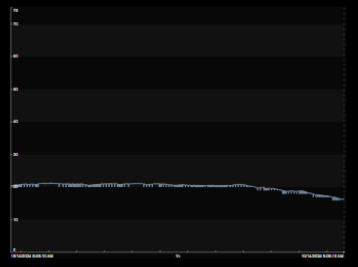
LAKE UNIT OFF LINE

BWP Off-site generation

Inter Mountain Power Project Unit #1 & #2

UNIT #1 CB UNIT #2 CB

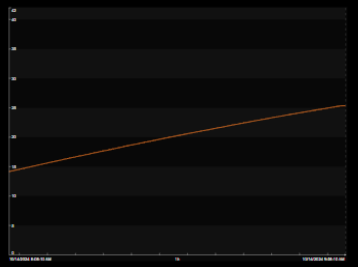
16.3 Burbank Share NET MW



Copper Mountain 3 Solar

Plant Max output 250 MW

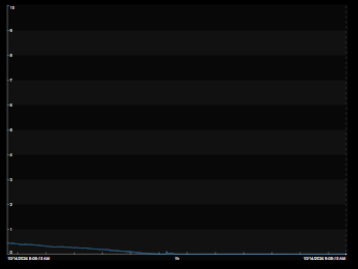
25.3 Burbank Share NET MW



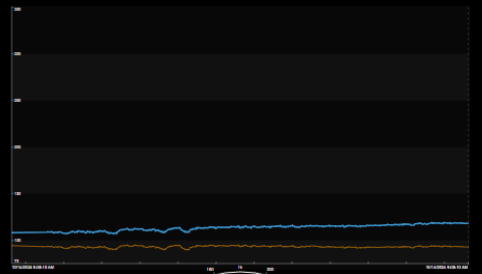
Milford Wind -1.8 MW

Plant Max output 300 MW

0.0 Burbank Share NET MW



BWP System Demand Trend



118.21 MW

ECC Weather Station

Temperature 59.4 deg F

Humidity 90.4 g/kg

ACE

6.16 MW

System Frequency

59.994 Hz

VOLTAGE & MVAR / MW INTERCHANGE

Receiving Station E

238.83 kV High Side

Transformer Bank E

70,830 V Low Side

Transformer Bank F

70,640 V

MVAR NET INTERCHANGE

1.65 MVAR

-3.46 MVAR

-26.31 MW

5.11 MVAR

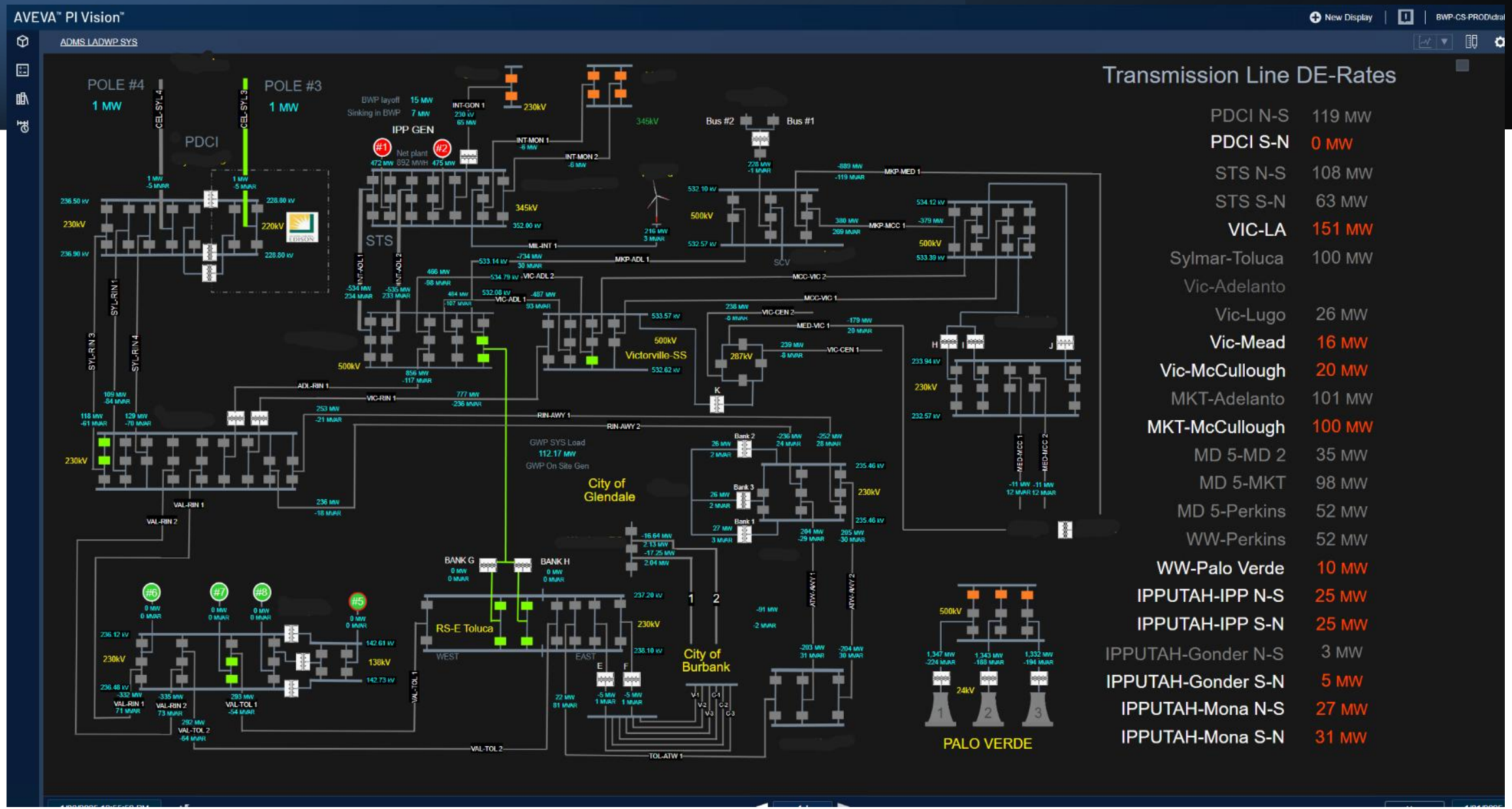
56.09 MW

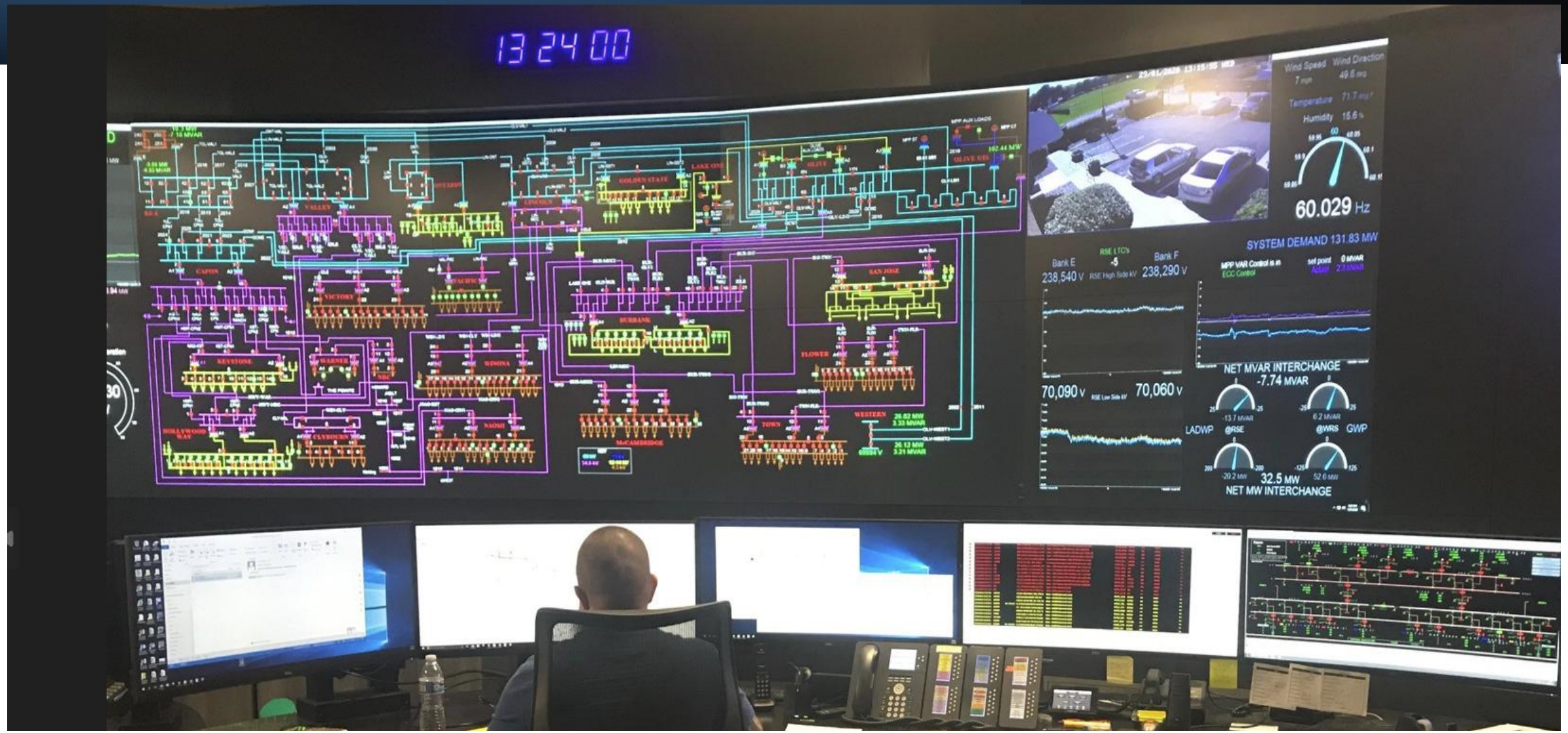
29.79 MW SYSTEM ACTUAL MW INTERCHANGE

Western Receiving Station

70,200 V

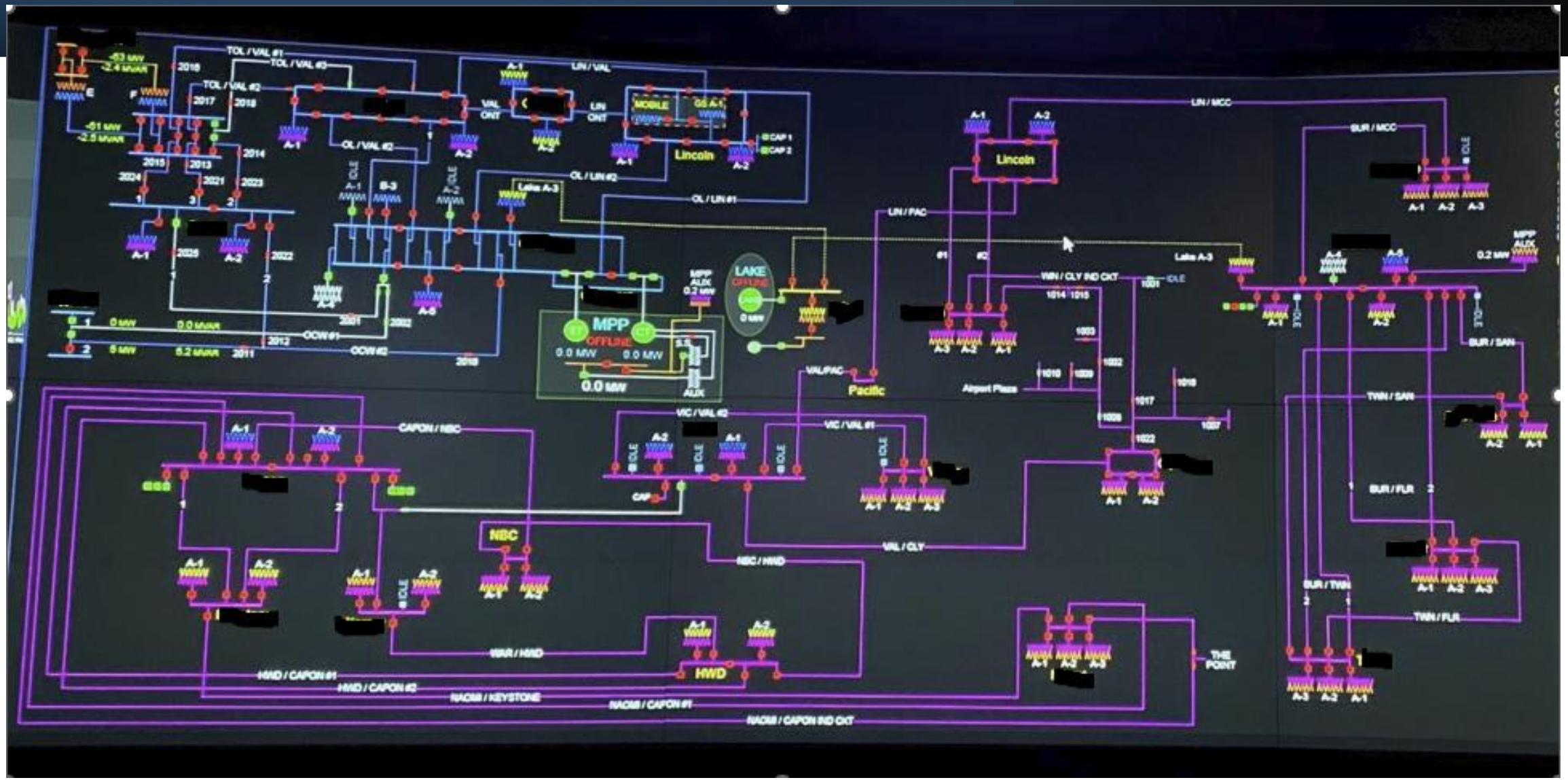
- Transmission lines used to import/export energy for Burbank system




13 24 00
60.029 Hz
SYSTEM DEMAND 131.83 MW
Bank E
238,540 V
Bank F
238,290 V
70,090 V
70,060 V
NET MVAR INTERCHANGE
-7.74 MVAR
LADWP
@RSE
@WRS
GWP
32.5 MW
NET MW INTERCHANGE

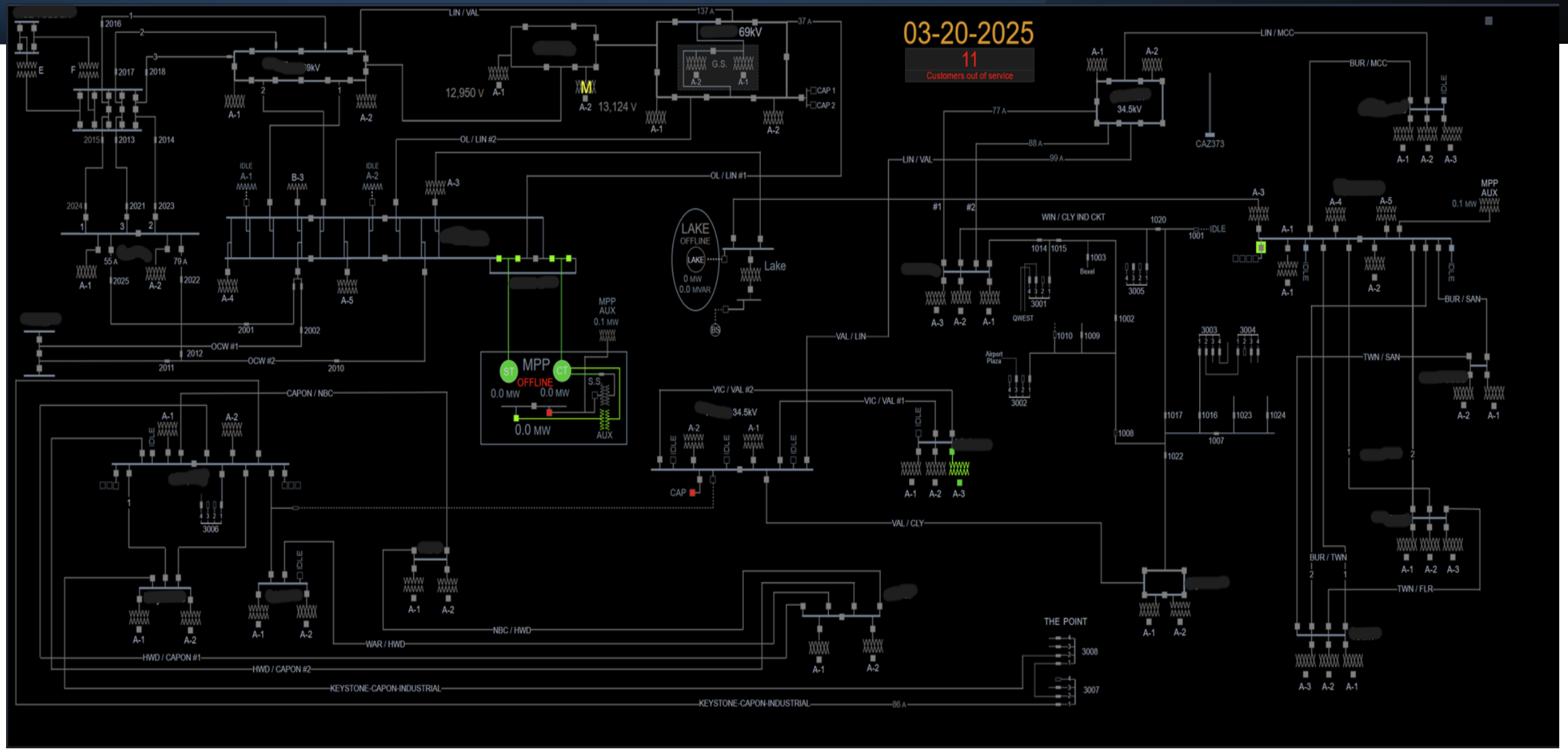
- April 10, 2020
- Golden State sub station transformer explosion.

- Wide area view enhancing situational awareness

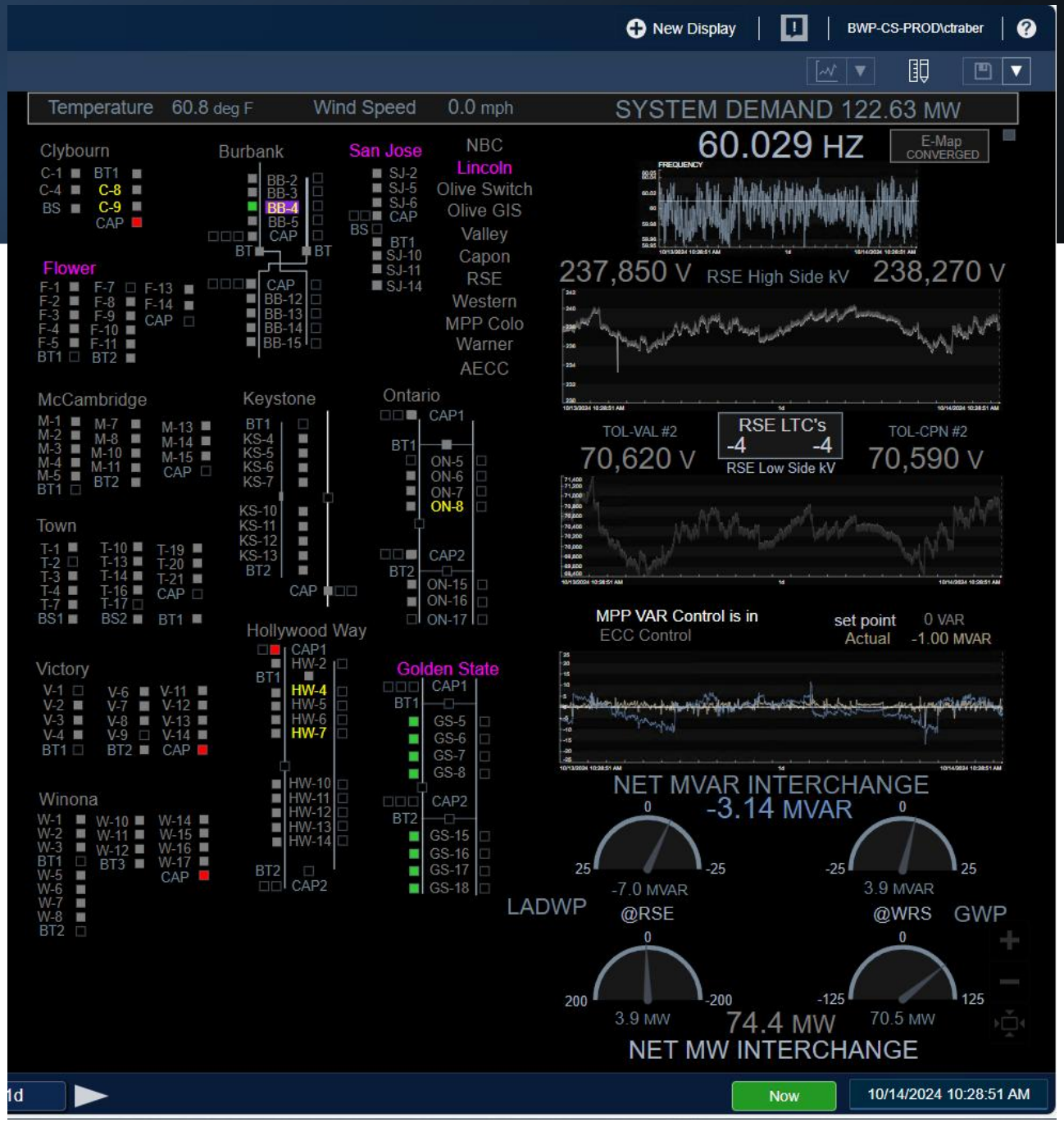


Gray scale / dark bus

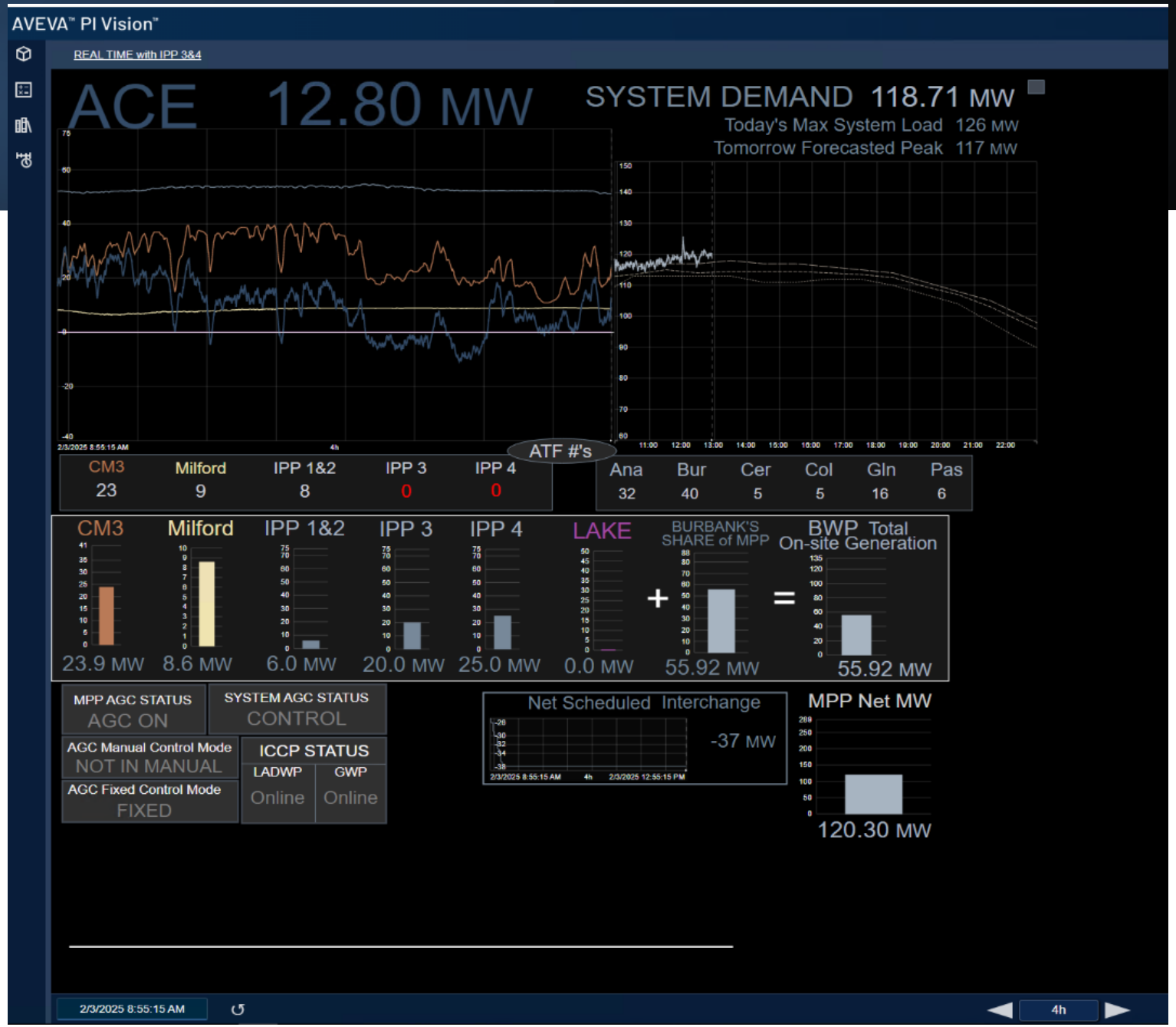
Gray = normal / color = abnormal



Distribution feeders
CB indication
Recloser status
GOC status
Station occupied
MW/MVAR direction at Ties
Voltage at ties
LTC step at Ties
System Frequency



ACE plus trend
System demand
Max system load (today)
Tomorrows forecasted peak
Last 4-hour load trend
Future 10-hour load forecast
Solar farm trend
Wind trend
Other generation values
ATF values on dynamic tags
Generation control status
Comm. status



Video wall, 100% PI Vision, displaying data from multiple applications.

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Water and Power
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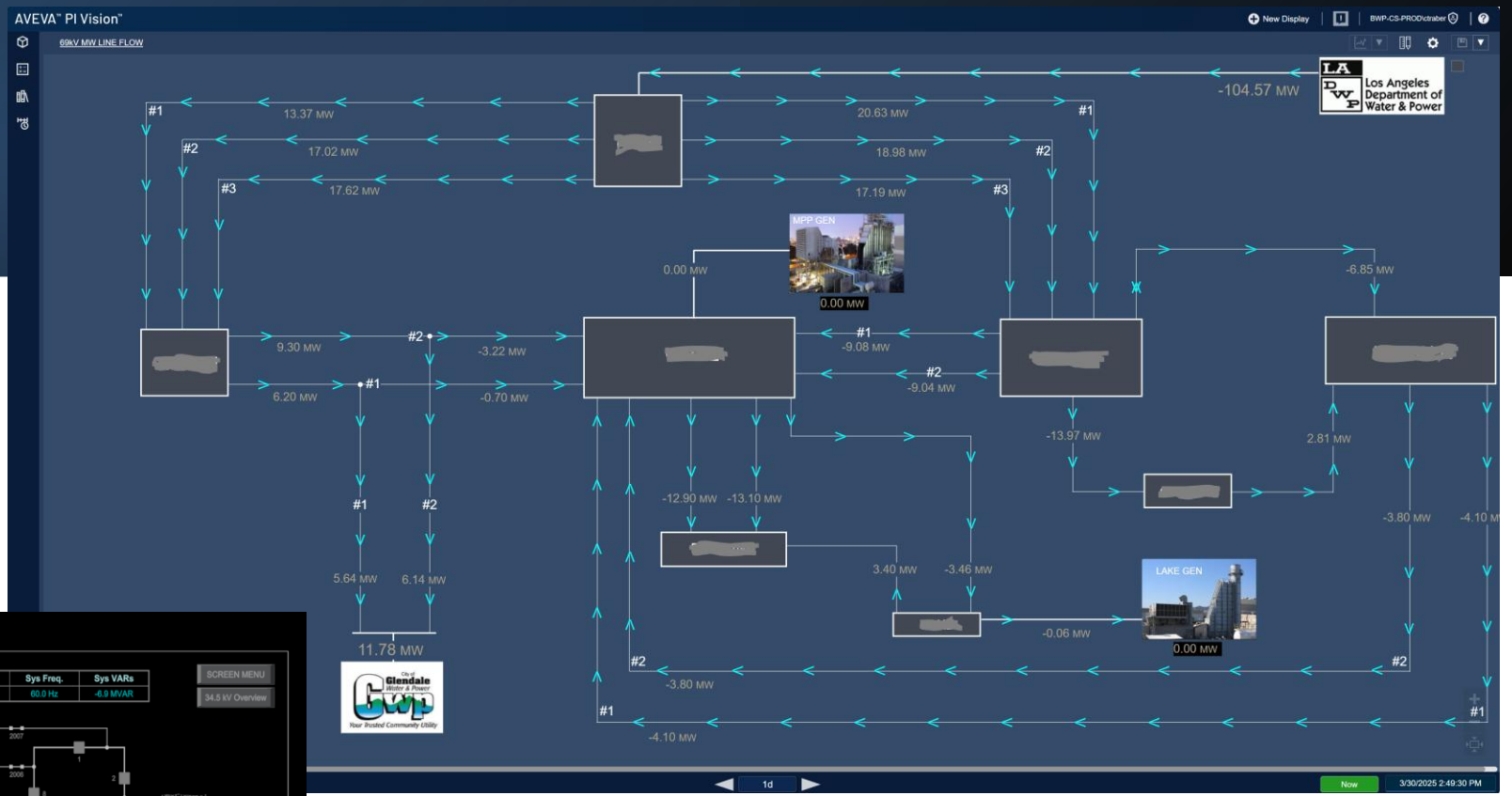
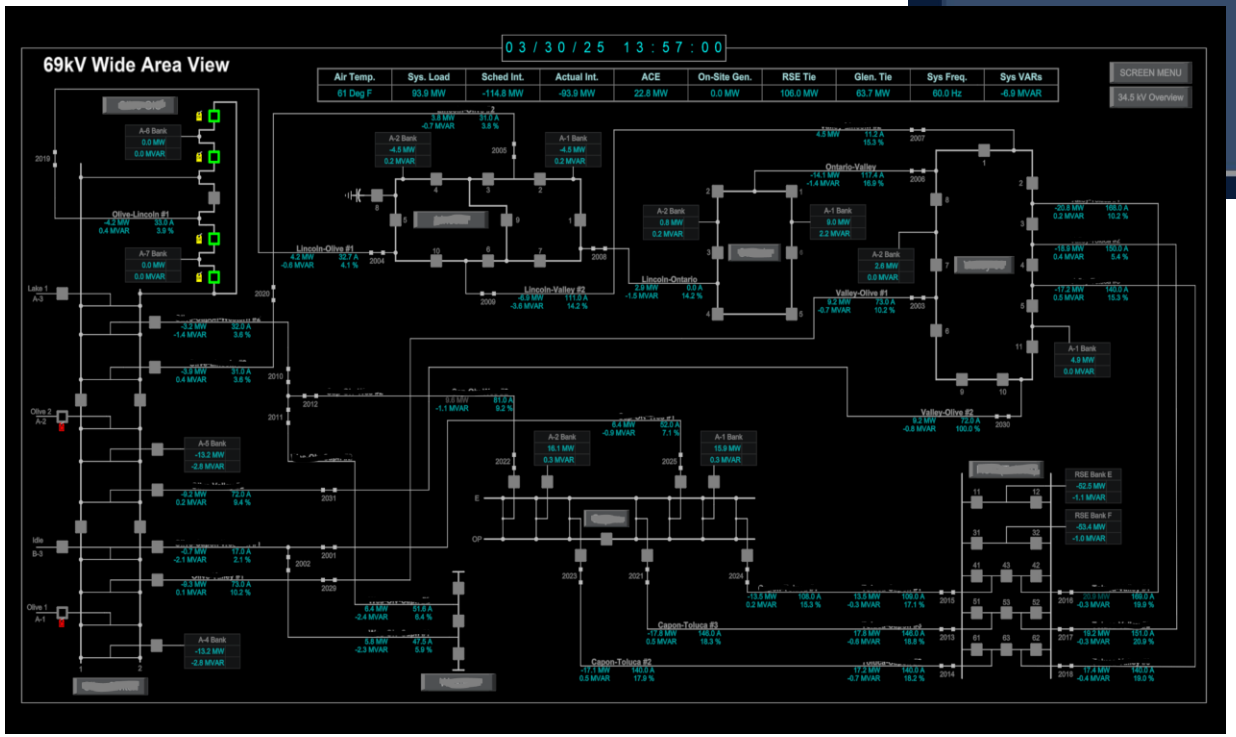




Navigation Links

AVEVA™ PI Vision™ | New Display | BWP-CS-PROD\ctraber

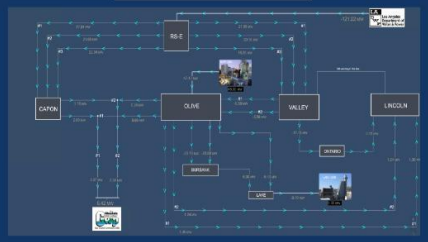
ECC DASHBOARD

REAL TIME

WIDE AREA VIEW

ADVERSE WEATHER

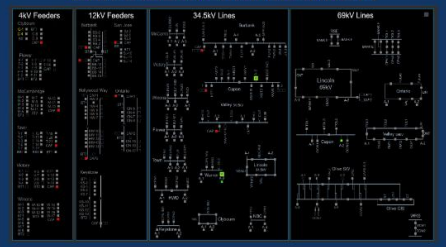
69kV LINE FLOWS



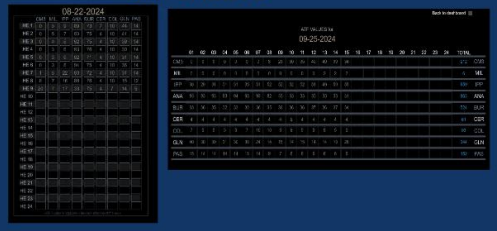
DISPATCH

MPP PARTICIPANTS

CIRCUIT BREAKER STATUS

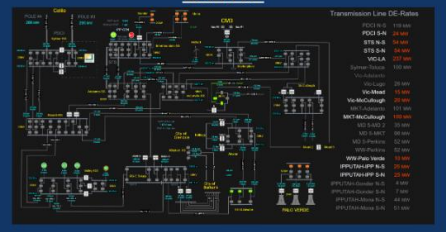


ATF SHEETS

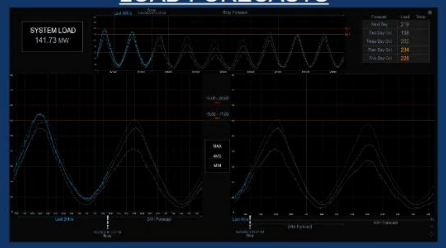


STATION WORK TIMELINE

LADWP

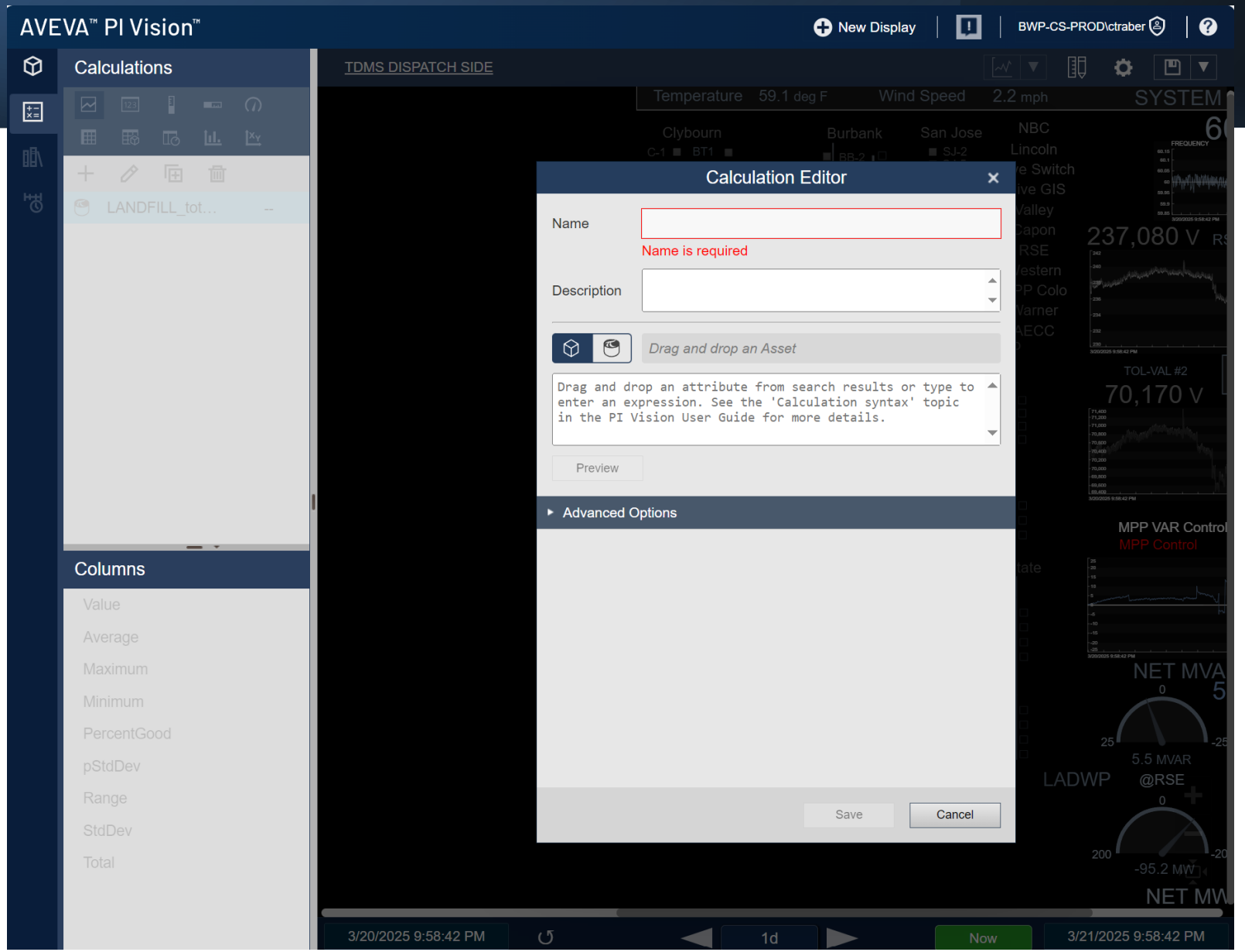


LOAD FORECASTS



10/1/2024 12:42:45 PM | 1d | Now | 10/2/2024 12:42:45 PM

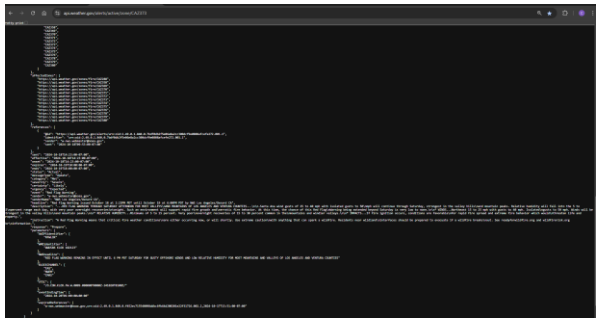
PI Vision Calculations (create a new point from two or more points)



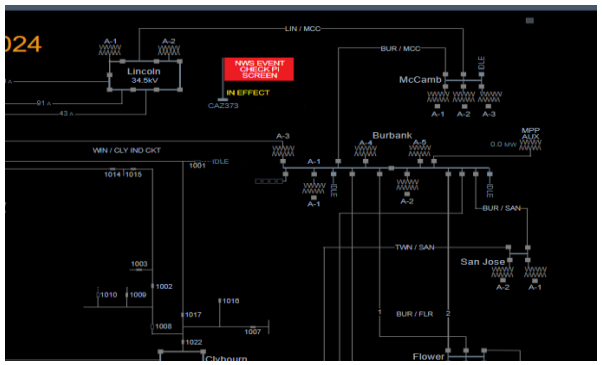
Use of API connector

An API (Application Programming Interface) is a set of rules and protocols that allows different software applications to communicate and interact with each other, enabling them to share data and functionality.

Information from NWS website

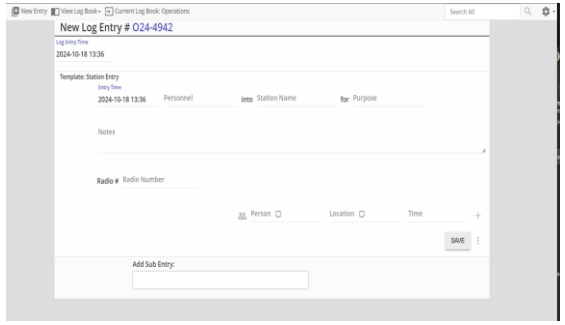


Converts data to PI language

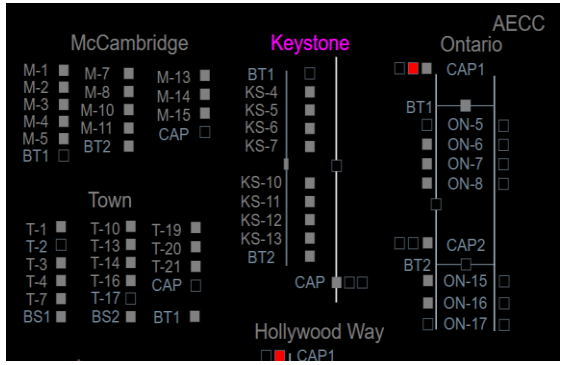


PI point for a display (Red Flag Warning) in effect

electronic logging software



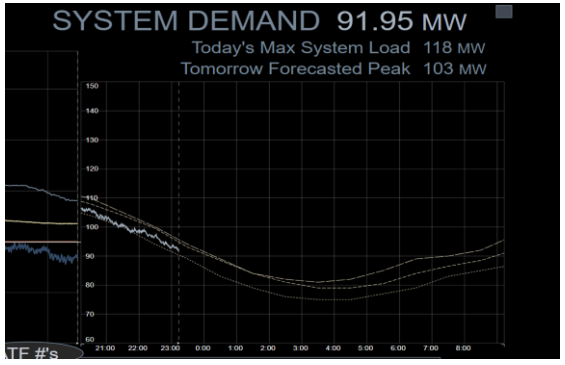
Converts data to PI language



PI point for a display crew in station & low gas bottle

Temperature & load forecasting software

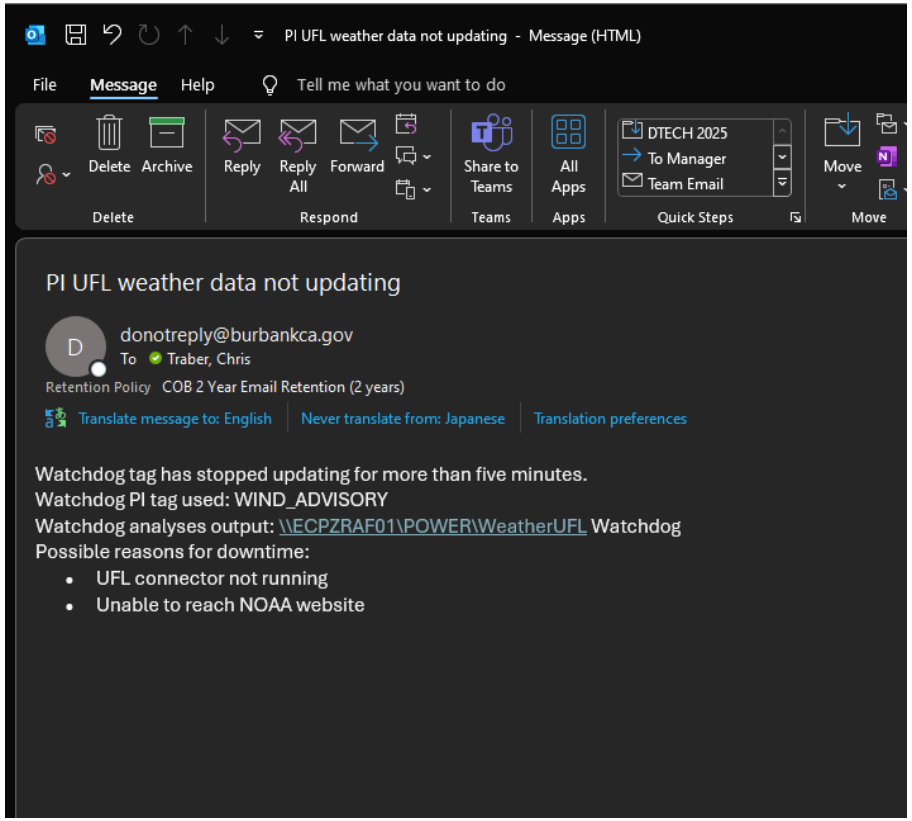
Converts data to PI language

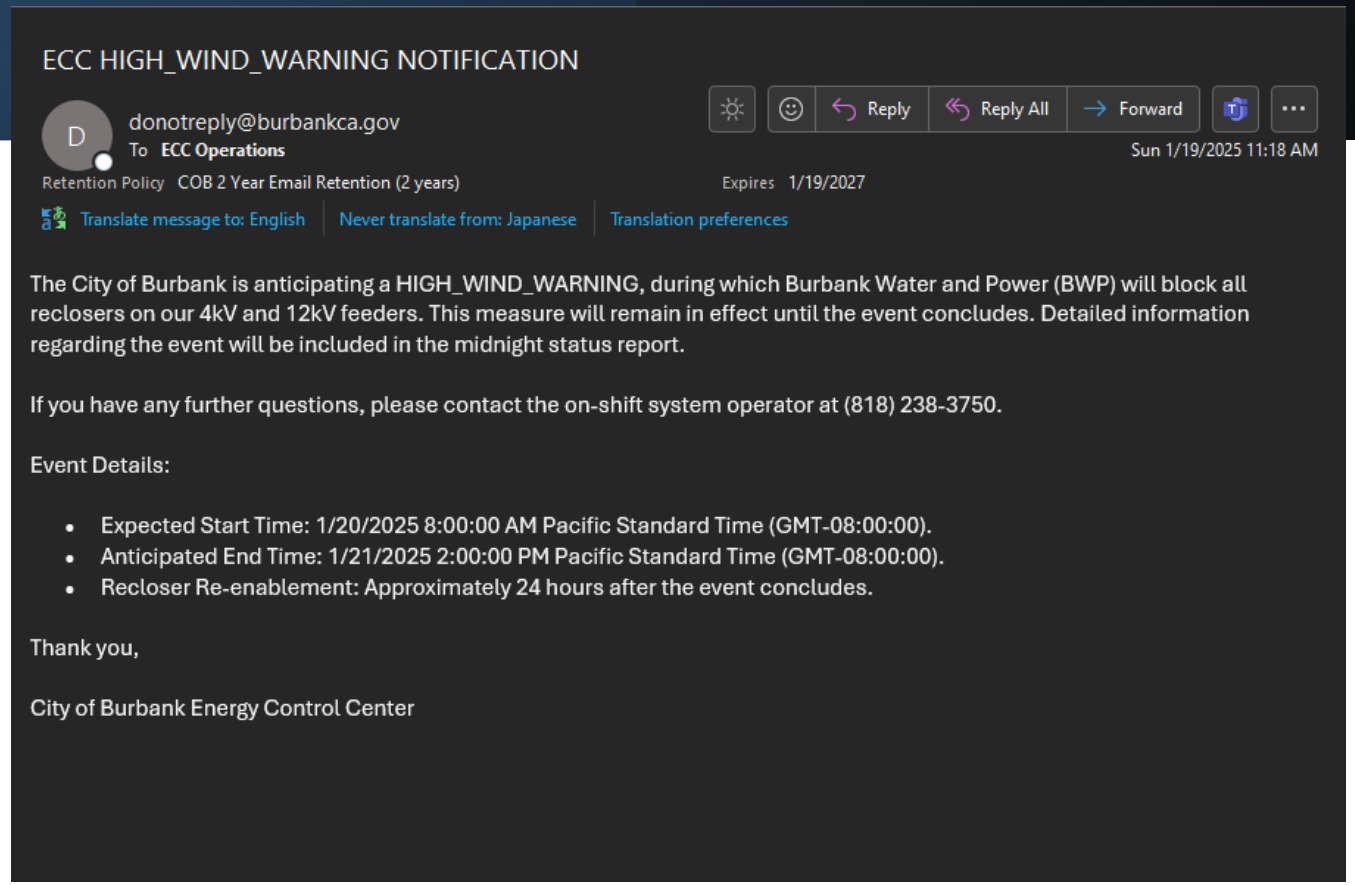


PI point for a display 10 day forecast temp & load


AVEVA™ PI Vision™
New Display
BWP-CS-PROD\ctraber
AF ADVERSE WEATHER CONDITIO...
Wildfire Mitigation & Wind Advisories
Time that Flag on video wall popped up
Time you need to block reclosers
24Hr timer starts when flag goes down
Enable Reclosers when timer disappears
RED FLAG WARNING
IN EFFECT
1/19/2025 3:24:00 PM
1/20/2025 8:00:00 AM
1/18/2025 10:18:00 PM
1/20/2025 4:00:00 PM
12:11:36
1/15/2025 9:15:00 AM
1/15/2025 9:15:00 AM
HIGH WIND WARNING
IN EFFECT
1/19/2025 2:52:00 PM
1/20/2025 8:00:00 AM
Pt Created
Sent Time
Onset Time
https://api.weather.gov/alerts/active/zone/CA737
Make sure Now is Green
1/18/2025 11:06:37 PM
1d
Now
1/19/2025 11:06:37 PM

Email notifications





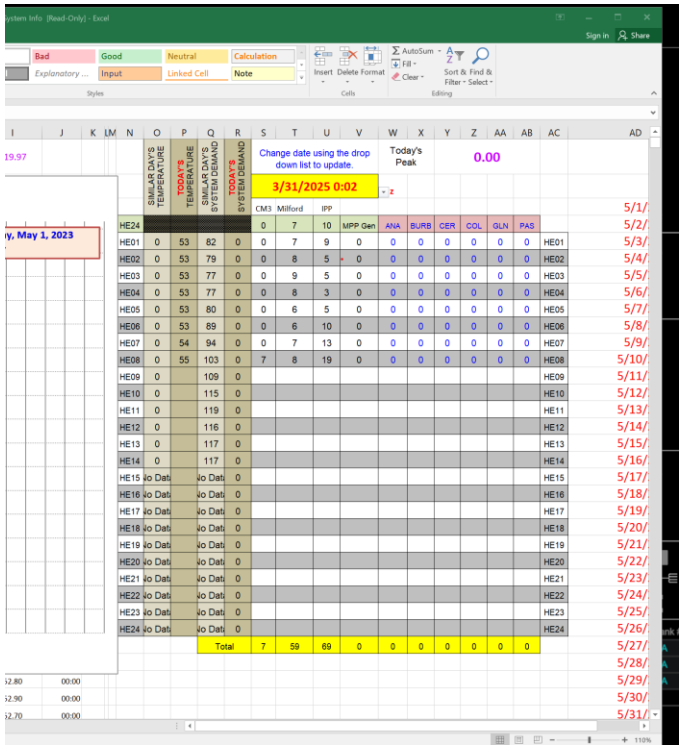
Displays used by other departments

Low Gas Bottle Display for the Electric Shop

Load forecast for Valley Pumping Plant

Automation, with fewer programs and operator intervention.

Old excel spread sheet.



AVEVA™ PI Vision™

ATF as of 2-19-25

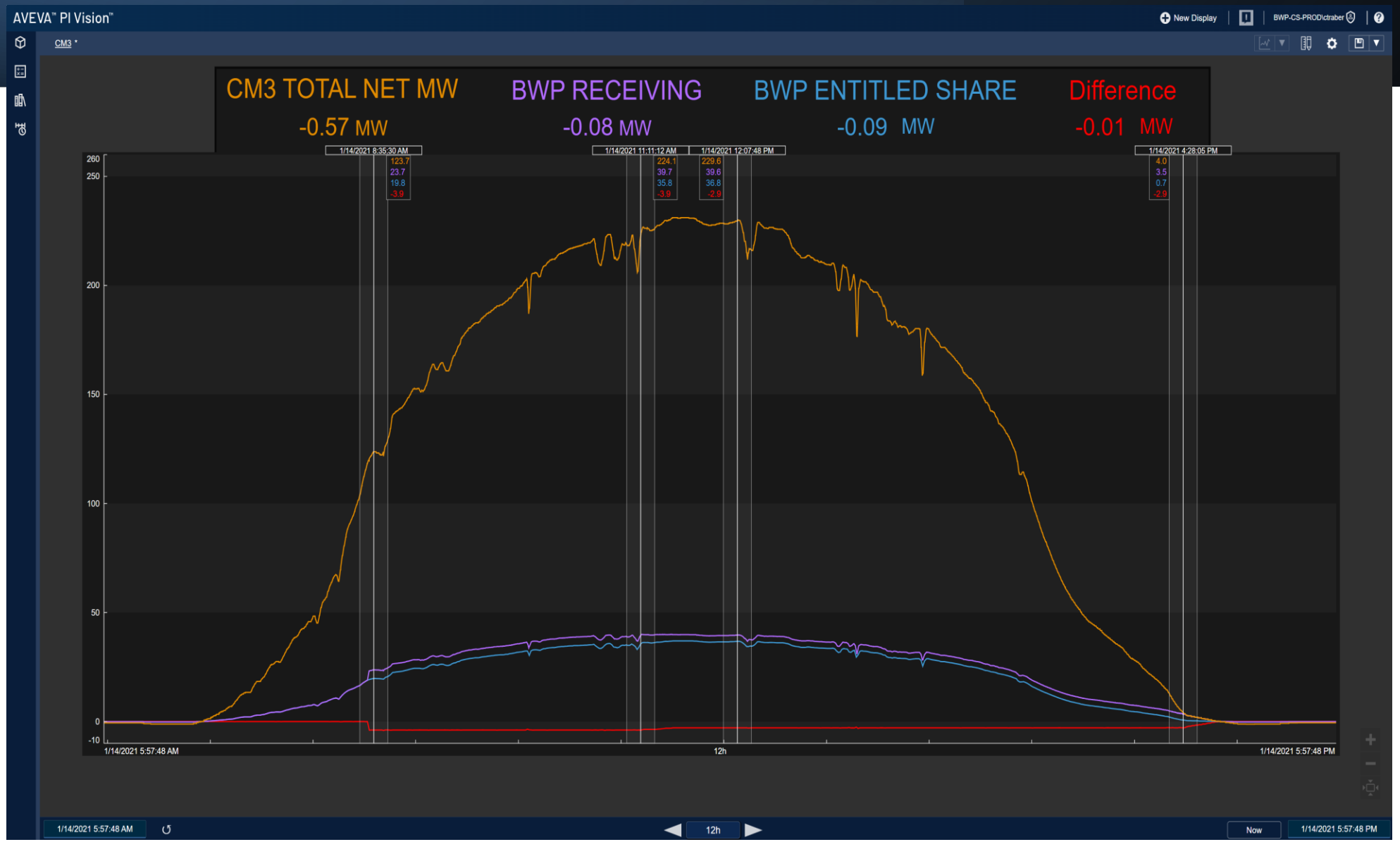
02-23-2025 ATF VALUES

Back to dashboard 23 H 25 H

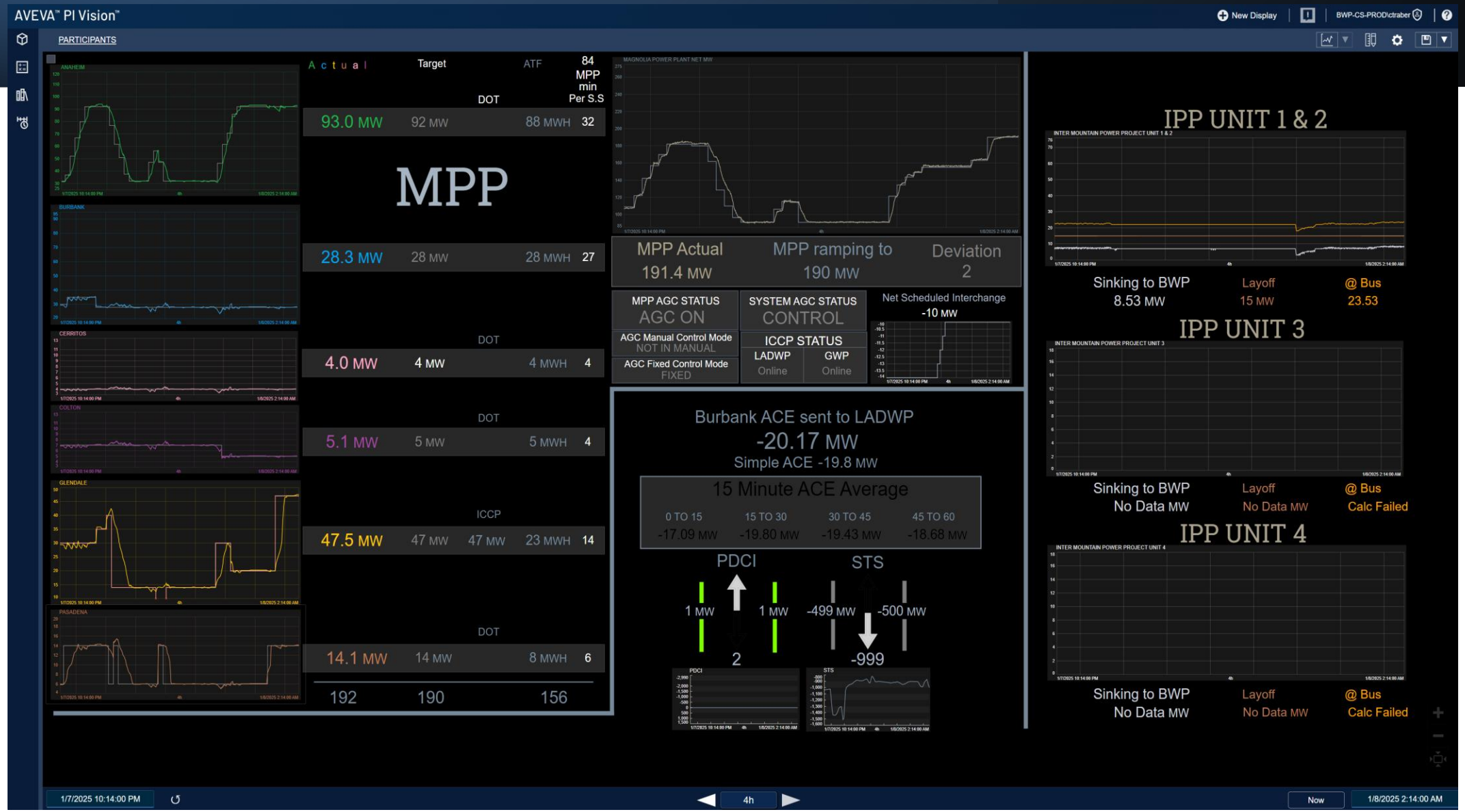
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL	
CM3	0	0	0	0	0	0	1	14	26	35	39	40	40	37	32	21									285	CM3
MIL	0	0	1	1	1	4	4	3	2	2	2	4	4	3	2	1									34	MIL
IPP 1-2	8	7	7	7	7	7	7	7	7	8	7	7	7	7	7	6									113	IPP 1-2
IPP 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	IPP 3
IPP 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	IPP 4
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
ANA	33	32	32	33	32	32	32	32	32	33	32	33	33	32	33	32									518	ANA
BUR	61	60	61	61	60	60	60	50	40	30	29	29	29	28	29	37									724	BUR
CER	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4									64	CER
COL	5	5	5	6	7	8	10	7	5	5	5	5	5	5	5	5									93	COL
GLN	21	18	15	16	16	17	14	14	14	14	15	14	14	15	14	15									246	GLN
PAS	6	6	6	6	6	6	6	6	7	6	6	6	6	6	6	6									97	PAS
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
LA MPP start up energy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									0	LA MPP start up energy

2/22/2025 5:55:02 AM 1d 11h Now 2/23/2025 4:55:02 PM

PI Vision
a solution to resolve discrepancies.



PI Vision
a solution to resolve discrepancies.



POWER AND UTILITIES | UNITED STATES

City of Burbank improves safety and reliability with increased situational awareness of its assets

Challenge

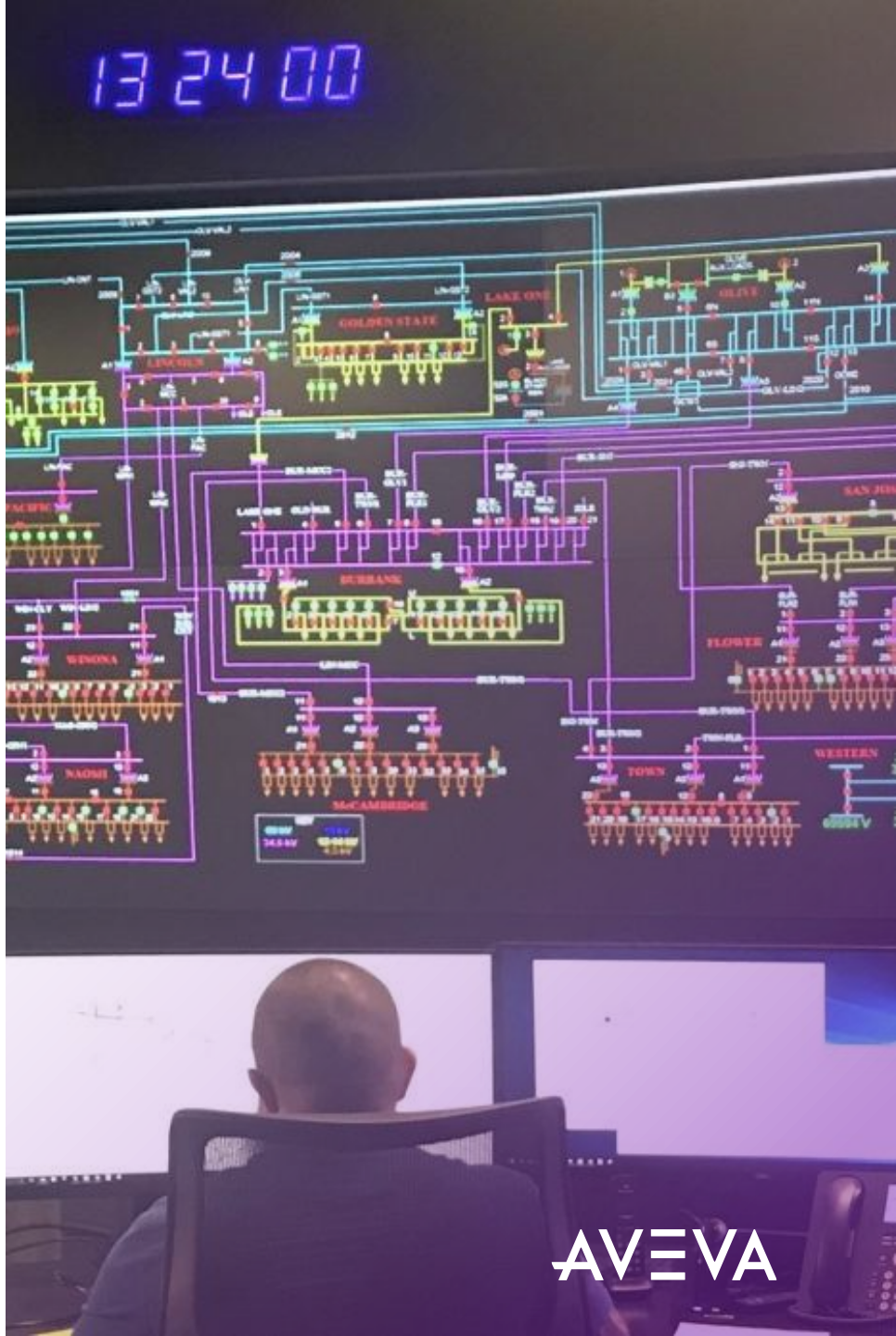
- Control Room Infrastructure was outdated, and relied heavily on manual processes
- Operators had difficulty monitoring real-time system conditions effectively
- Temporary display solutions were overcrowded and ineffective
- Alarm overload meant operators had difficulty deciphering field conditions during critical events

Solution

- Implemented AVEVA™ PI Vision™ to enable trusted situational awareness by providing advanced visualization tools that improved real-time monitoring and decision-making.

Results

- **Enabled faster, data-driven decisions in normal and emergency situations**
- **Reduced reaction times and more effective response to dynamic grid conditions**
- **Improved operational efficiency by reducing manual work, automating processes, and enhancing monitoring capabilities**
- **Minimized discrepancies in power allocation, leading to more accurate cost assessments and financial benefits**
- **Enabled seamless interdepartmental workflows and increased engagement and adoption of the technology through automation and real-time data sharing**




ANY
QUESTIONS?