ENTORA

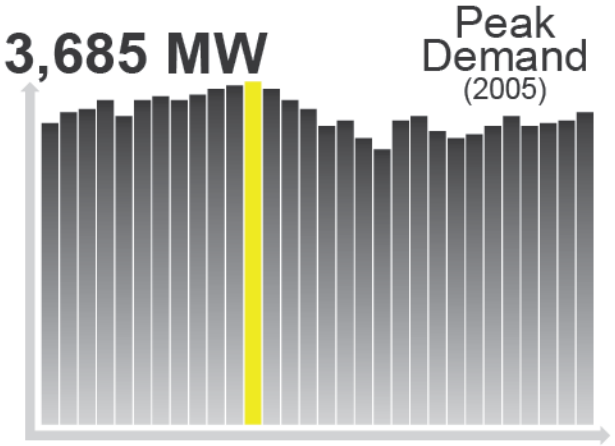
PREPA's road to omnipresence in operational data.

Presented by **Hector L. Rodríguez**
Lead Engineer

Who are we?

1.5M clients

5,839 MW
of installed capacity



2,444 miles
of transmission lines

41 Transmission Centers of 115kV

31,446 miles
of distribution lines

10 Transmission Centers of 230kV

DIVIDED IN SEVERAL BUSINESS UNITS

GENERATION **-Cogeneration**	**TRANSMISSION** **DISTRIBUTION**	**CUSTOMER** **SERVICE**
FINANCE	**GENERAL** **SERVICES** **(Purchasing and Procurement)**	**LEGAL**

GENERATION DISTRIBUTION

69%

15%

15%

1%

Puerto Rico

- Caribbean island between the Caribbean Sea and the North Atlantic Ocean, east of the Dominican Republic.
- US Territory.
- Land and Water Area: 13,791 sq. km. (5,325 sq. mi.)
- Mostly mountains, with coastal plain belt in the north and mountains precipitous to sea on west coast; sandy beaches along most coastal areas.
- GNP $63.3 billion (2010).
- Population: 3,791,913 (July 2010).

The Challenge

To unify multiple operational database systems used by all PREPA's business units into one robust and coherent platform that is capable of deployment in fixed and mobile platforms. This would provide the management insight and wisdom to make informed, time sensitive decisions, wherever they may be.

PREPA's Goal

To optimize PREPA's operation and maintenance by seamlessly sharing data between users on all business units and systems.

AVAILABLE TOOLS

PREPA has a working OSIsoft infrastructure deployed at all generation centers and at the central SCADA, capable of gathering up to 150,000 points of data.

BRANDING

- The solution went into a branding process to facilitate the identification of the system by the users.
- The brand describes the use and integration of several OSIsoft products in a single platform, to deploy, analyze and act upon the information provided by our business units.

We called it…

ENTORA

Latin

ENTOS-

WITHIN

-ORA

REGION

Gives the user such power and access that is virtually as being immersed in the system, capable of seeing the data from all the Business Units.

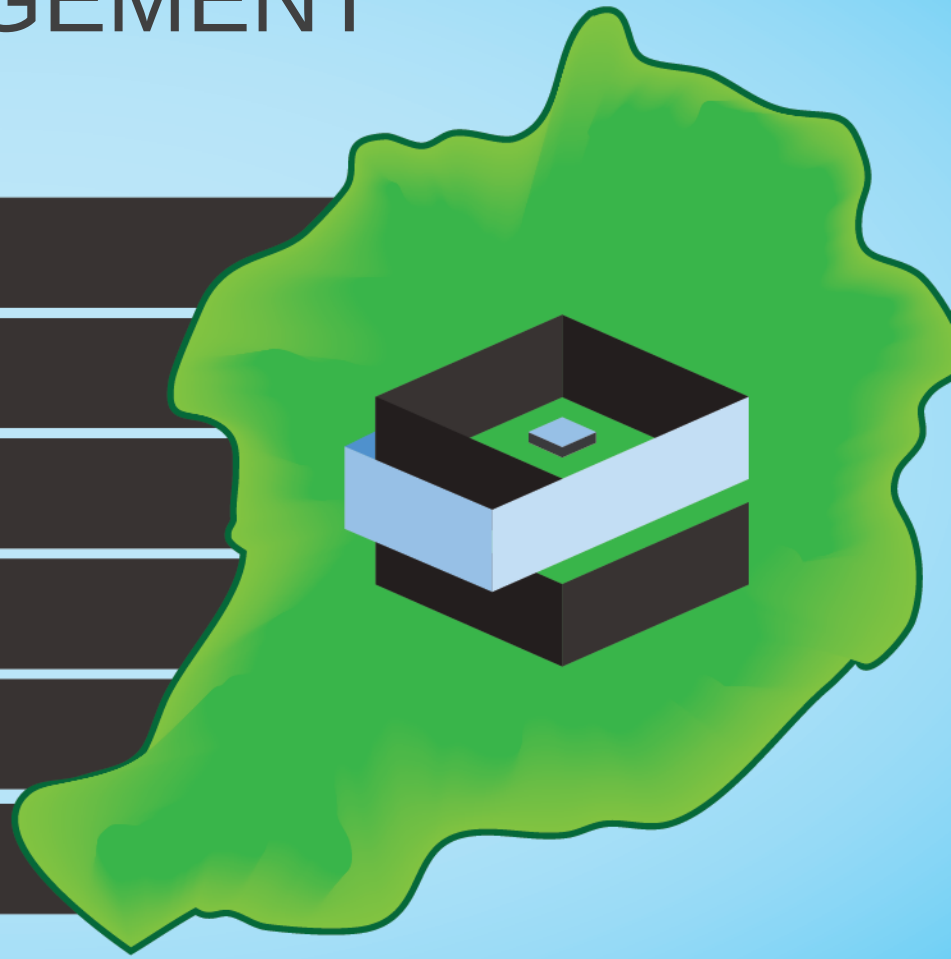
INITIAL SITUATION

Business Units not integrated

Solution Arrangement

Business Units integrated

- Performance Reports
- Natural Gas Metering Station
- System Status Reports
- Executive Dashboards
- Critical Event Notifications
- Real-time remote monitoring



DEPLOYMENT

From the Central PI System, ENTORA deploys data to:

- Mobile Devices (Dashboards)
- Desktop Computers (Dashboard and raw data for analysis)

Information Security

- Users are not able to alter the dashboards.
- Users communicate only with ENTORA which feeds from the PI Server.
- Certain users have the ability to use the raw data to:
  - Create their own displays for specific studies.
  - Monitor and audit Natural Gas use.
- These users have access to all OSIsoft analysis tools.

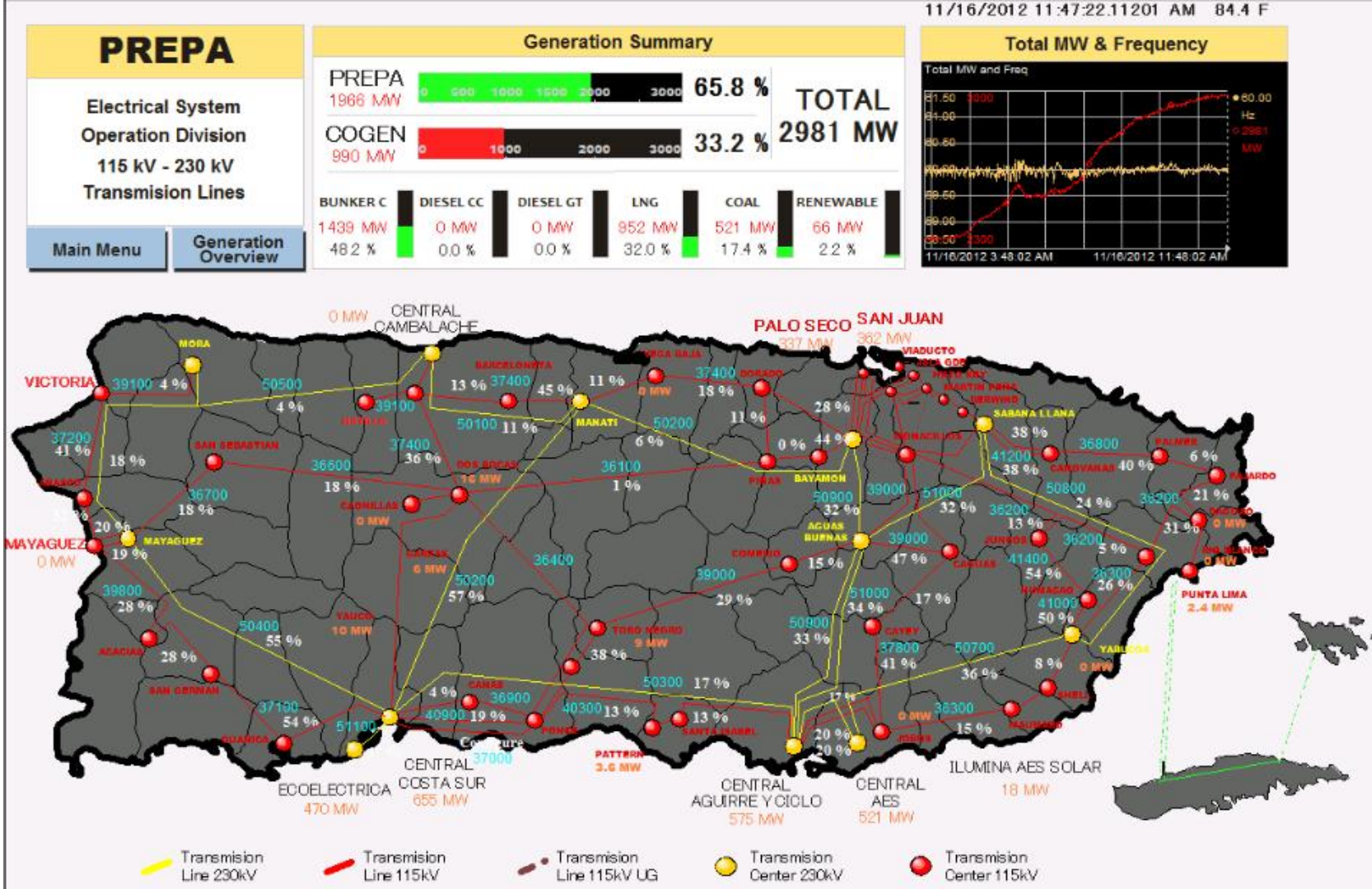
Screen Shots

ENTORA

Main Menu

Transmission	Generation
System Overview	San Juan
Generation	Aguirre
Fuel Flows	Costa Sur
Generation Trends	Fleet Status
Weather Stations	Wind / Solar

SCREEN SHOTS



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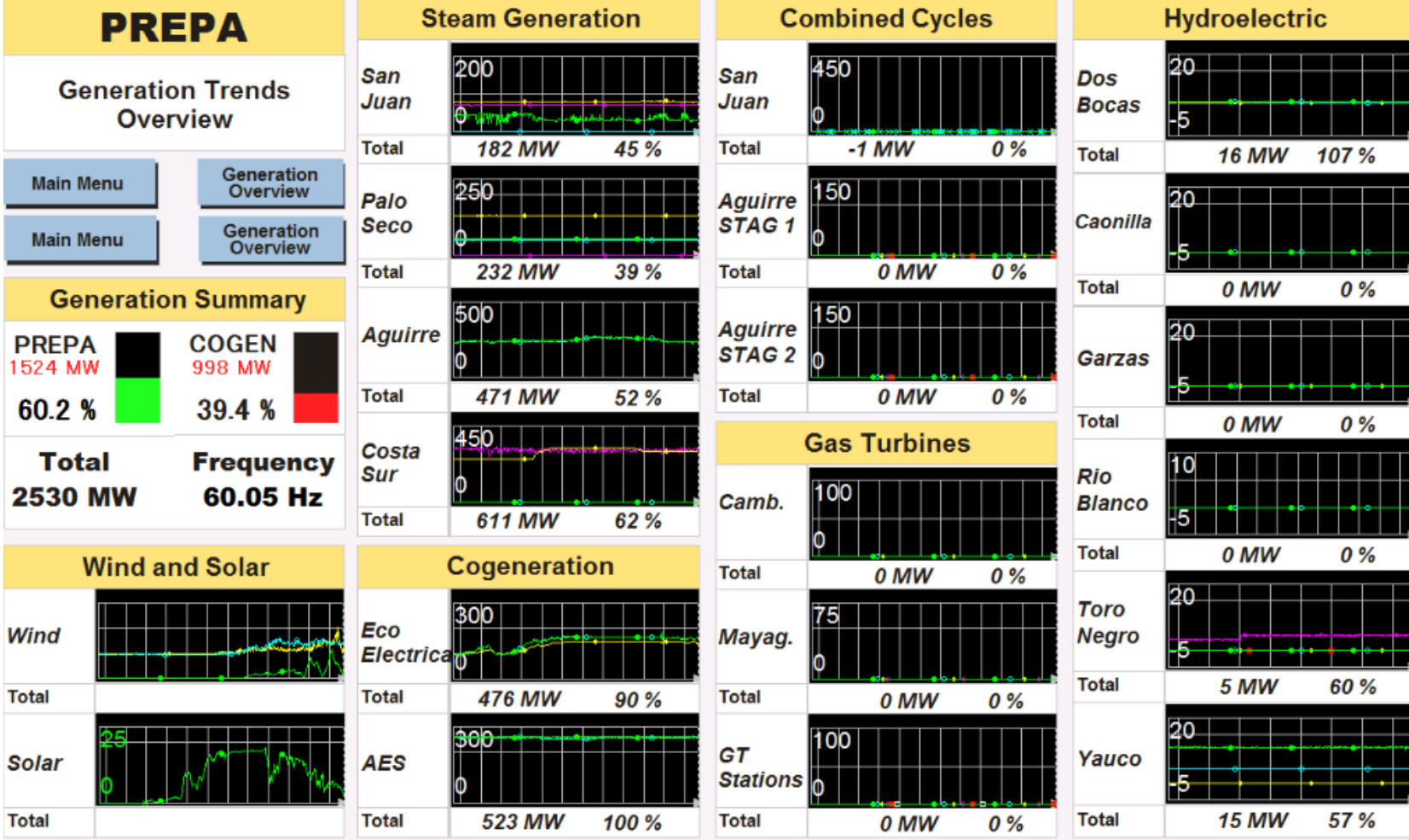

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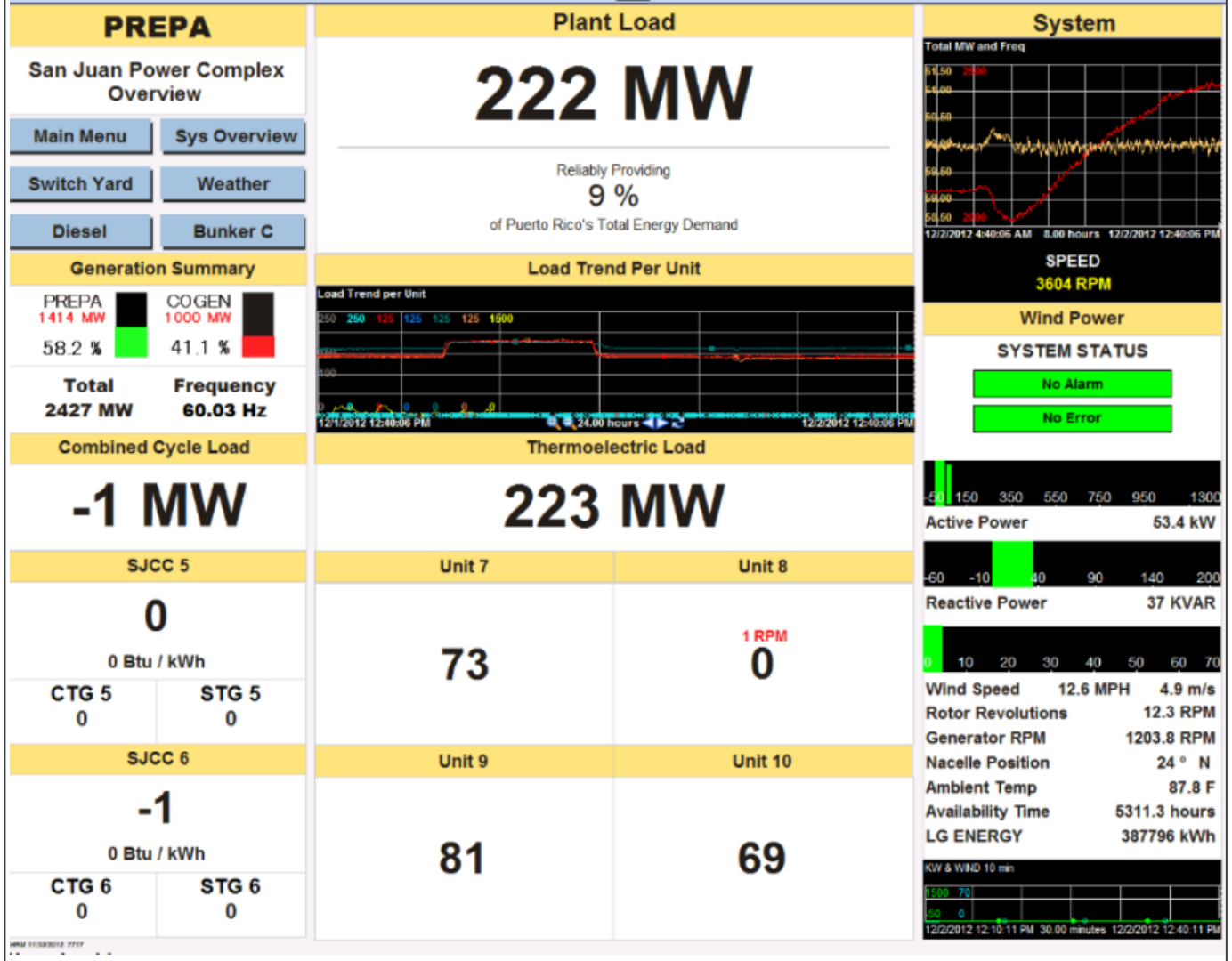

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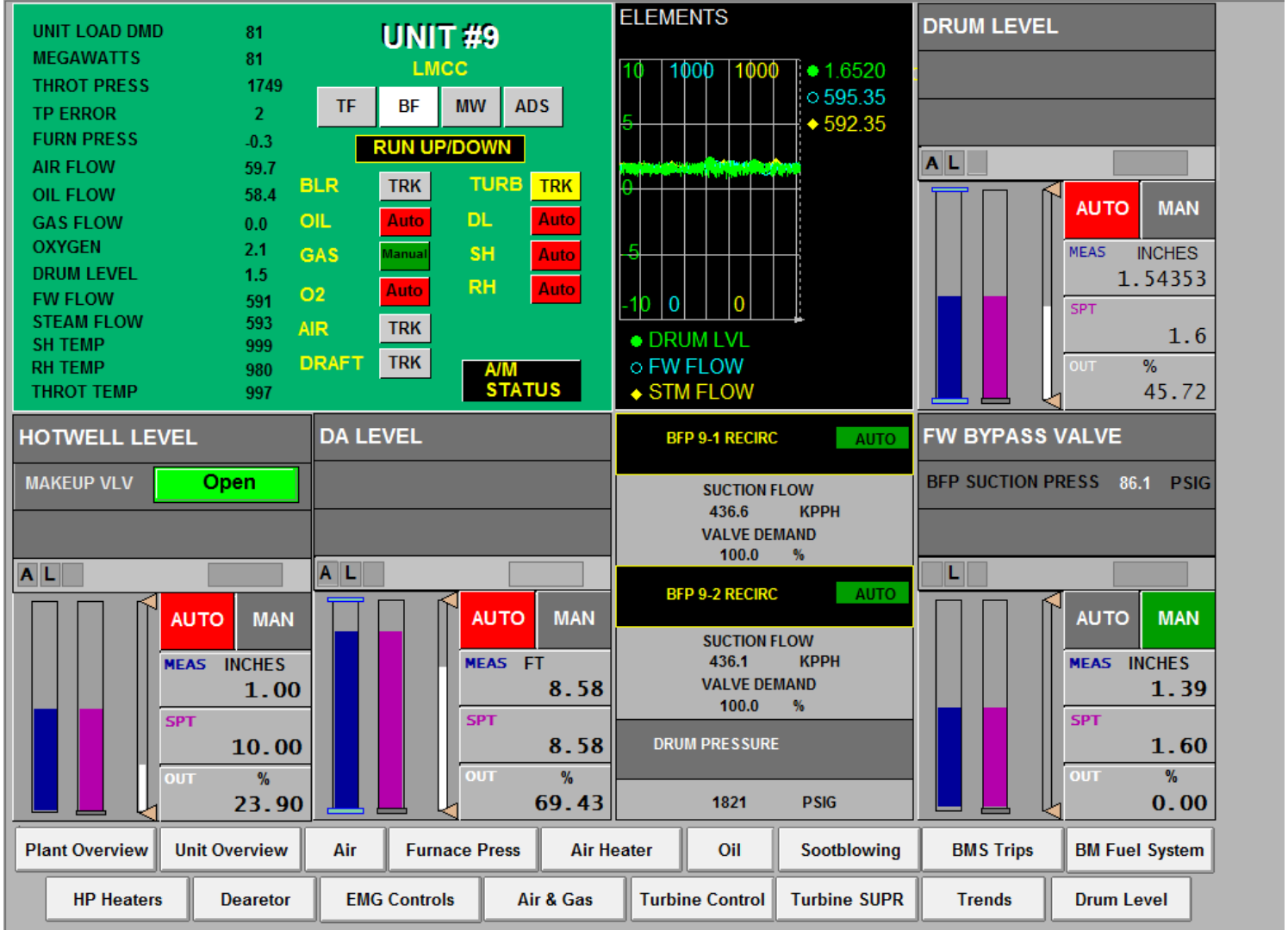

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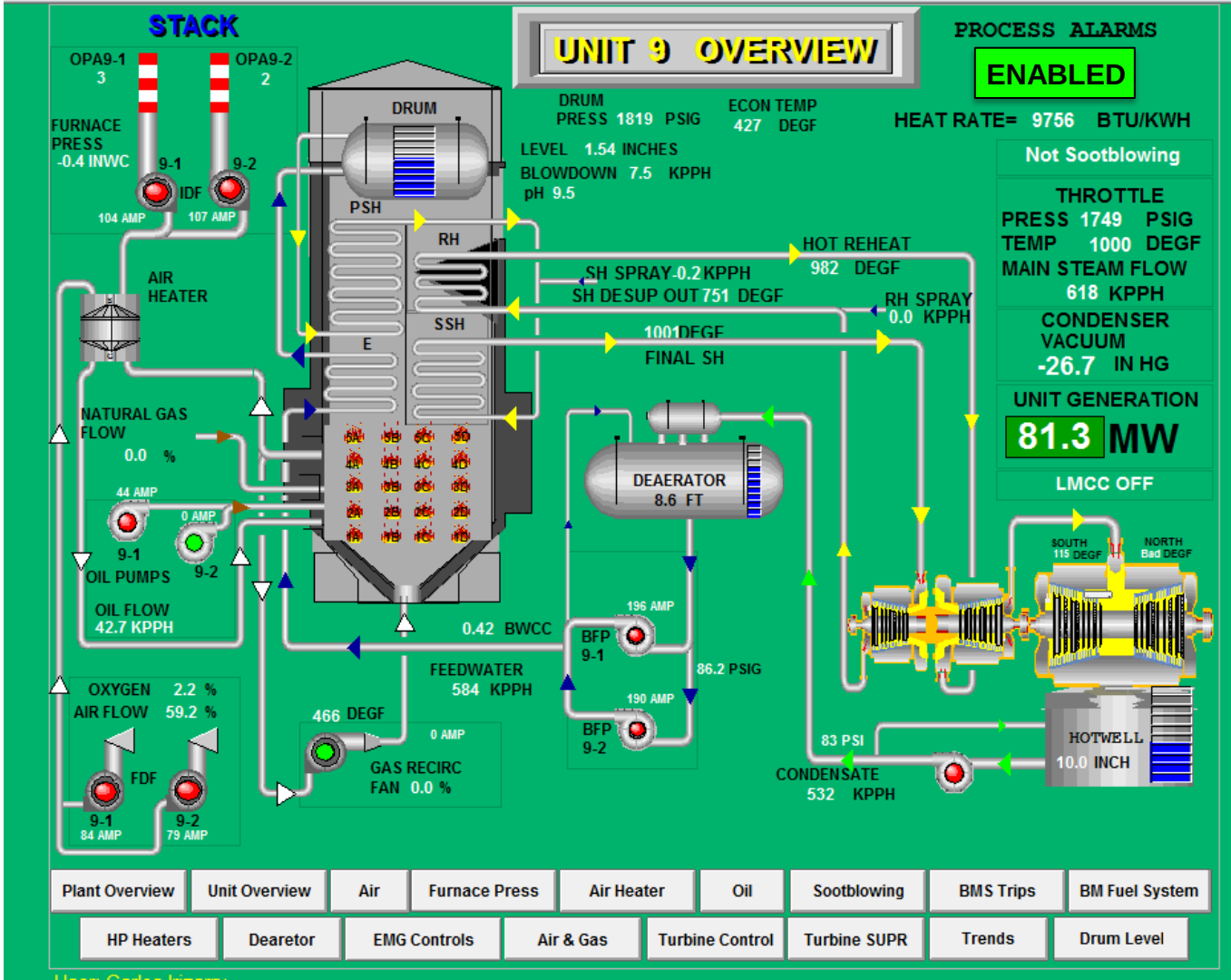
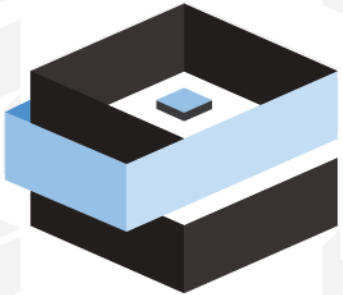


Live Demo

OUTCOME



- ENTORA is an effective and efficient integration of the OSIsoft products.
- ENTORA launched a new era of Big Data management in PREPA.
- The creative use of OSIsoft tools empowered ENTORA as the foundation for PREPA’s omnipresence in operational data.