

ODEC's EA Journey

From Challenge to Enterprise View

Stuart Burnett, Manager Technical Applications

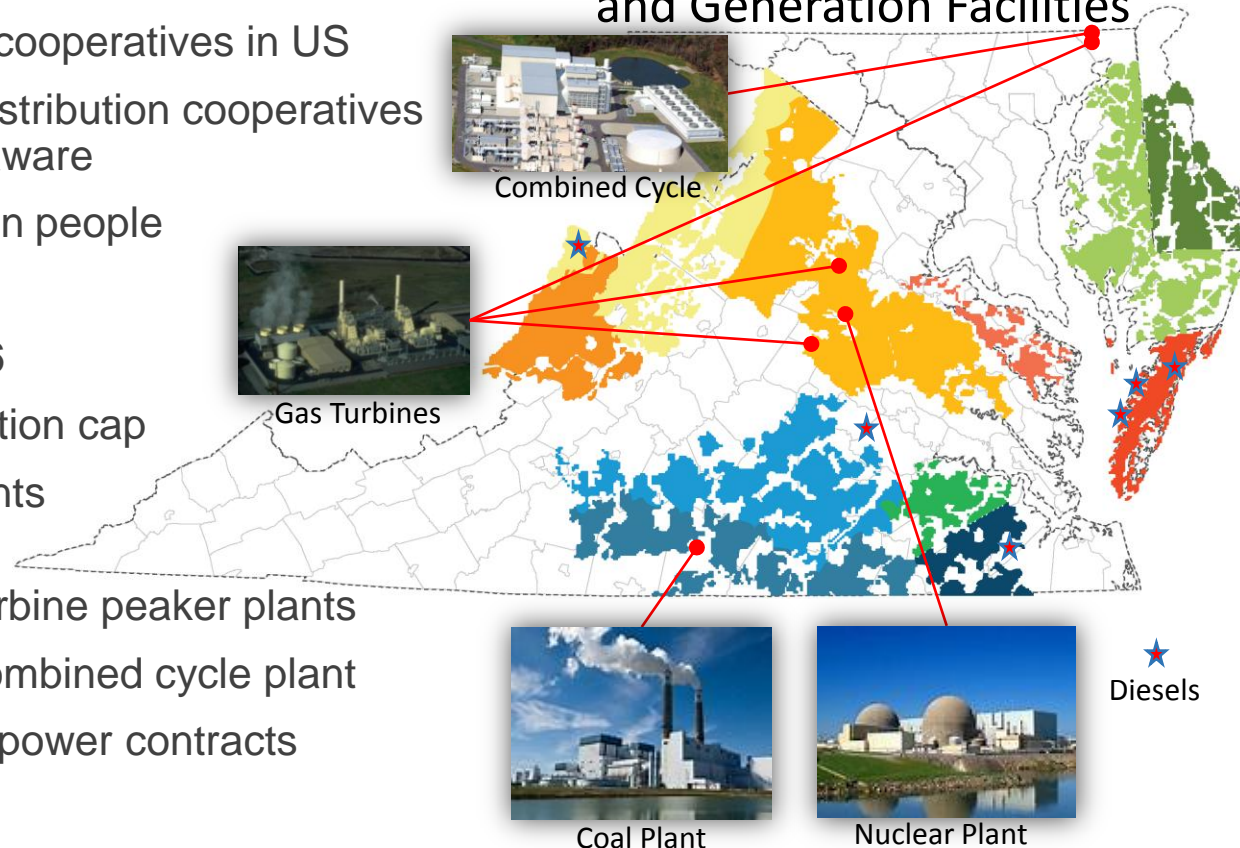
Kevin Ryan, Application Specialist II



What Is ODEC?

- One of 63 wholesale power cooperatives in US
- Serves 11 member-owner distribution cooperatives in Virginia, Maryland, & Delaware
- Provides power for 1.4 million people
- 144 employees
- \$878 mm in revenue in 2016
- Owns ~3,000 MW of generation cap
- 650 MW from base-load plants co-owned with Dominion
- 1,344 MW from three gas turbine peaker plants
- 947 MW from new 2-on-1 combined cycle plant
- Also diesels, renewables, & power contracts

ODEC Member Territory and Generation Facilities



Requirements & Solution Development

- 2014

- ODEC decided to build & operate base-load plant
- VP of Ops requested Generation Data Management System by 2017
- Conducted two dozen interviews to identify system requirements
- Selected PI System for Proof-of-Concept

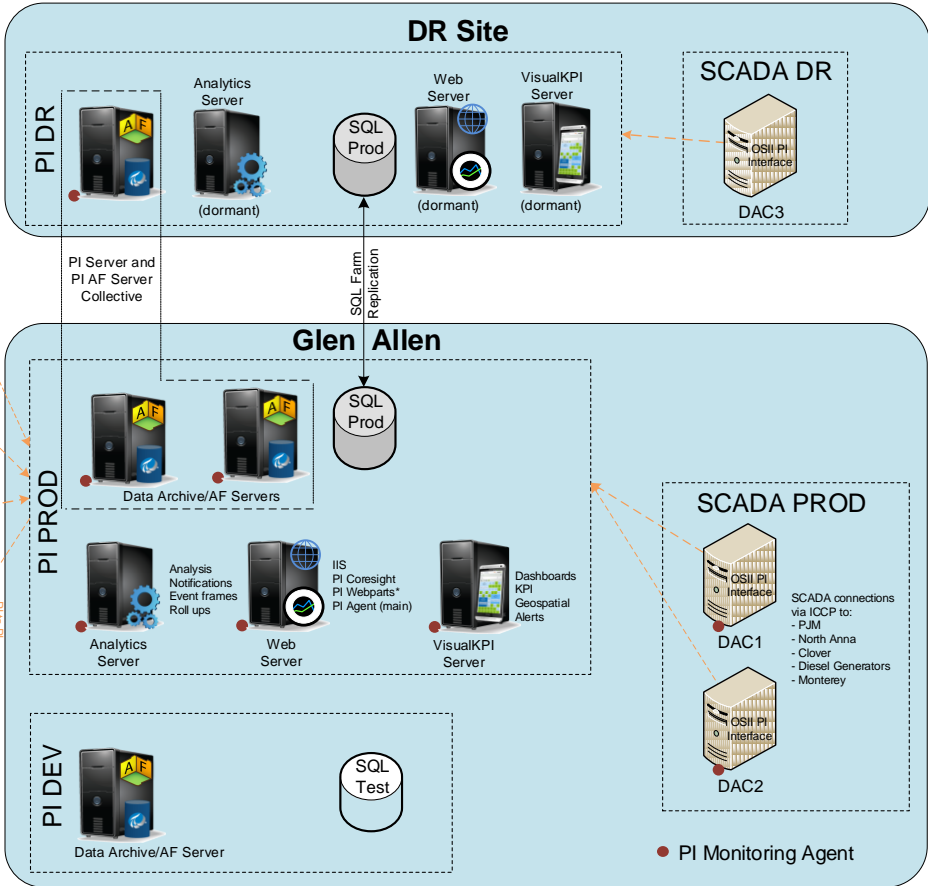
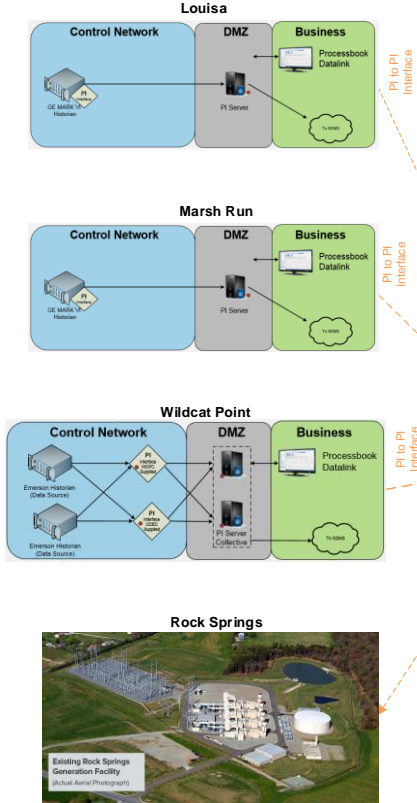
- 2015

- Conducted Asset-Based Jump Start as Proof-of-Concept
- Selected Enterprise Agreement license as good option for ODEC
- Kevin Ryan joins project as lead developer

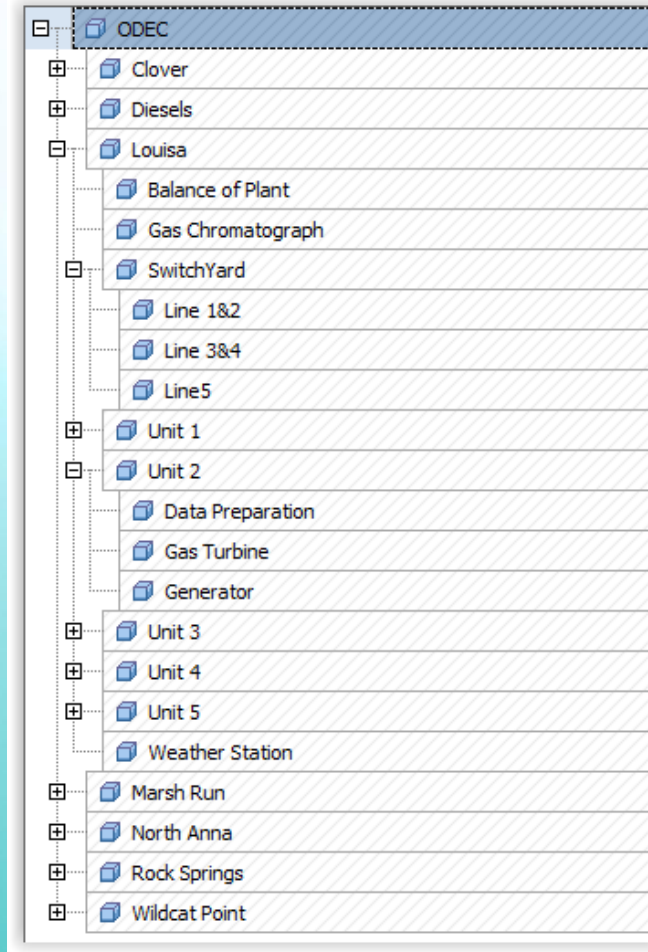
PI System & Portal Development

- 2016
 - Enterprise Agreement resources join project
 - Designed & Installed New PI System Architecture
 - Implemented Transpara Visual KPI
 - Developed web portal based on PI Vision
- 2017
 - Implemented PI Interface at combined-cycle plant
 - Continued web portal development and branding
 - Company-wide rollout of portal
- 2018
 - Delivered micro-portal for Board & large-screen display for lobby

PI Architecture



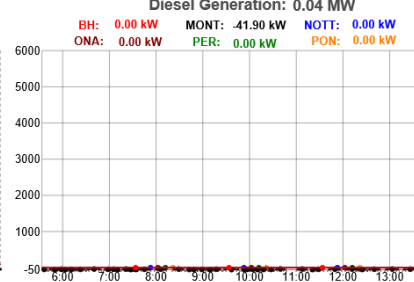
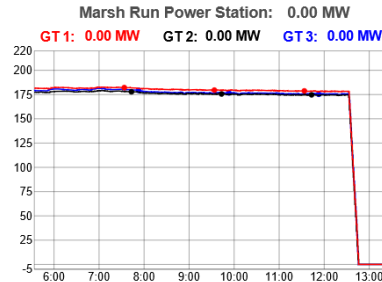
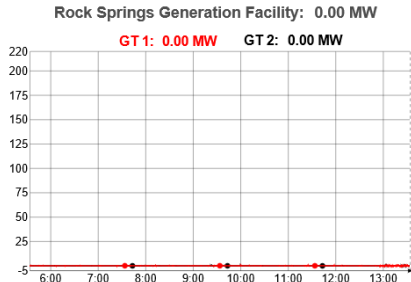
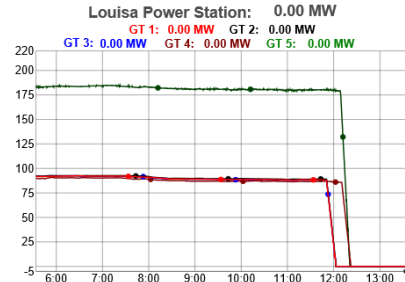
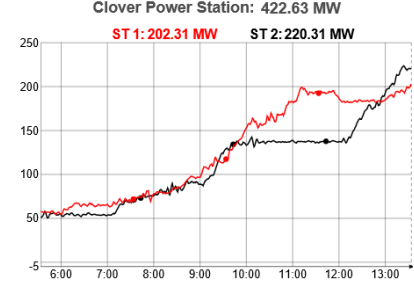
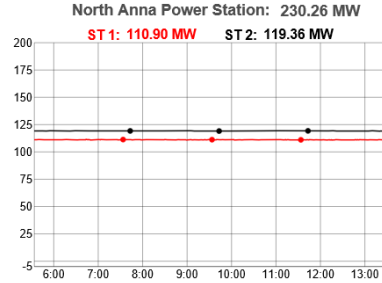
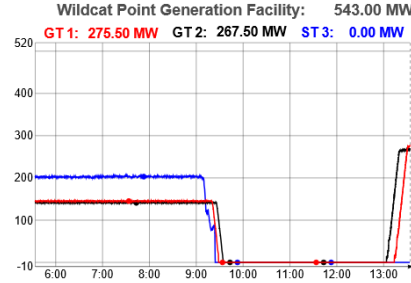
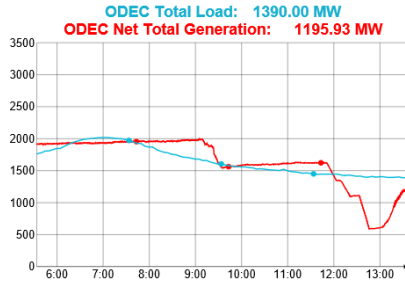
ODEC's AF Structure



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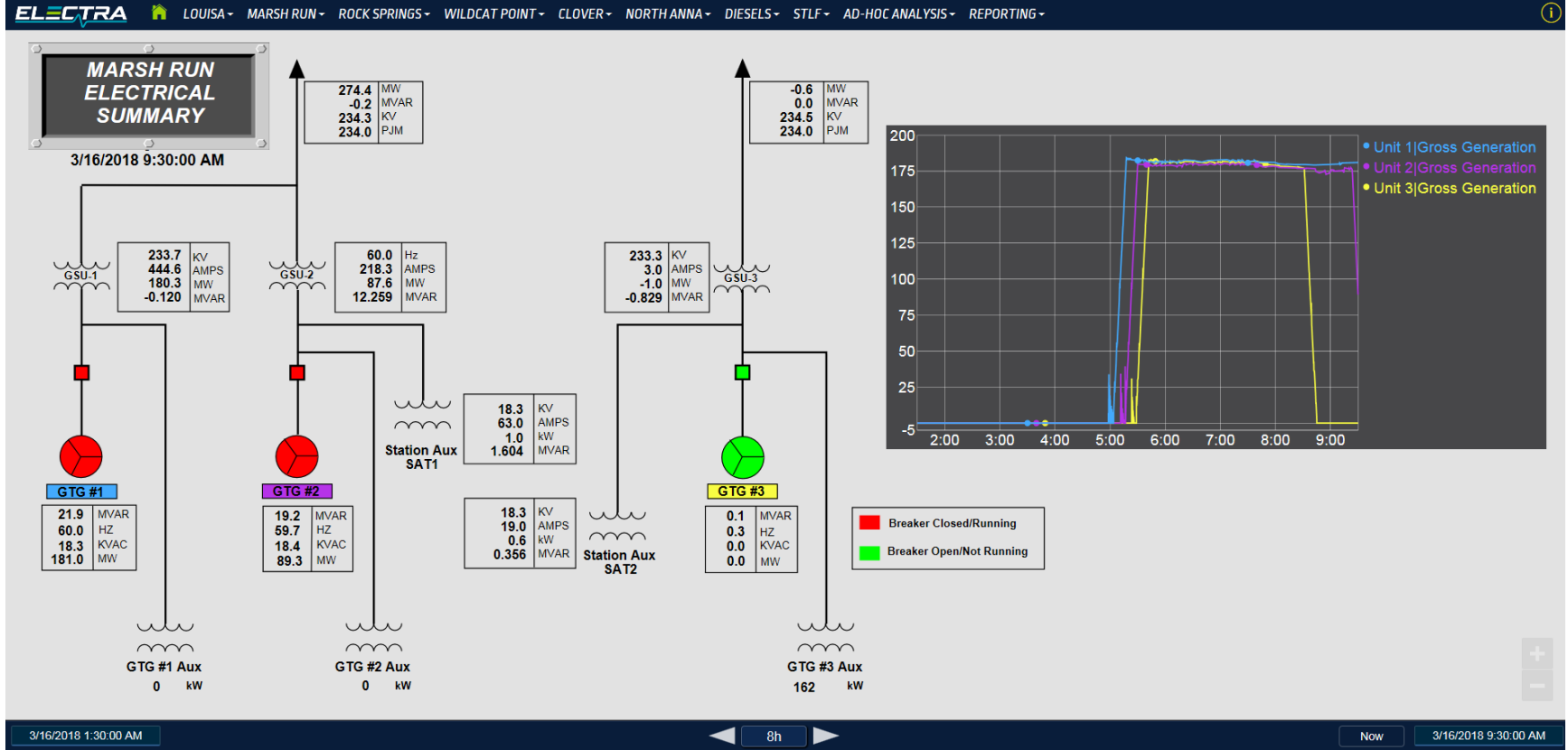
ELECTRA

Homepage showing ODEC total gen & load and gen by plant

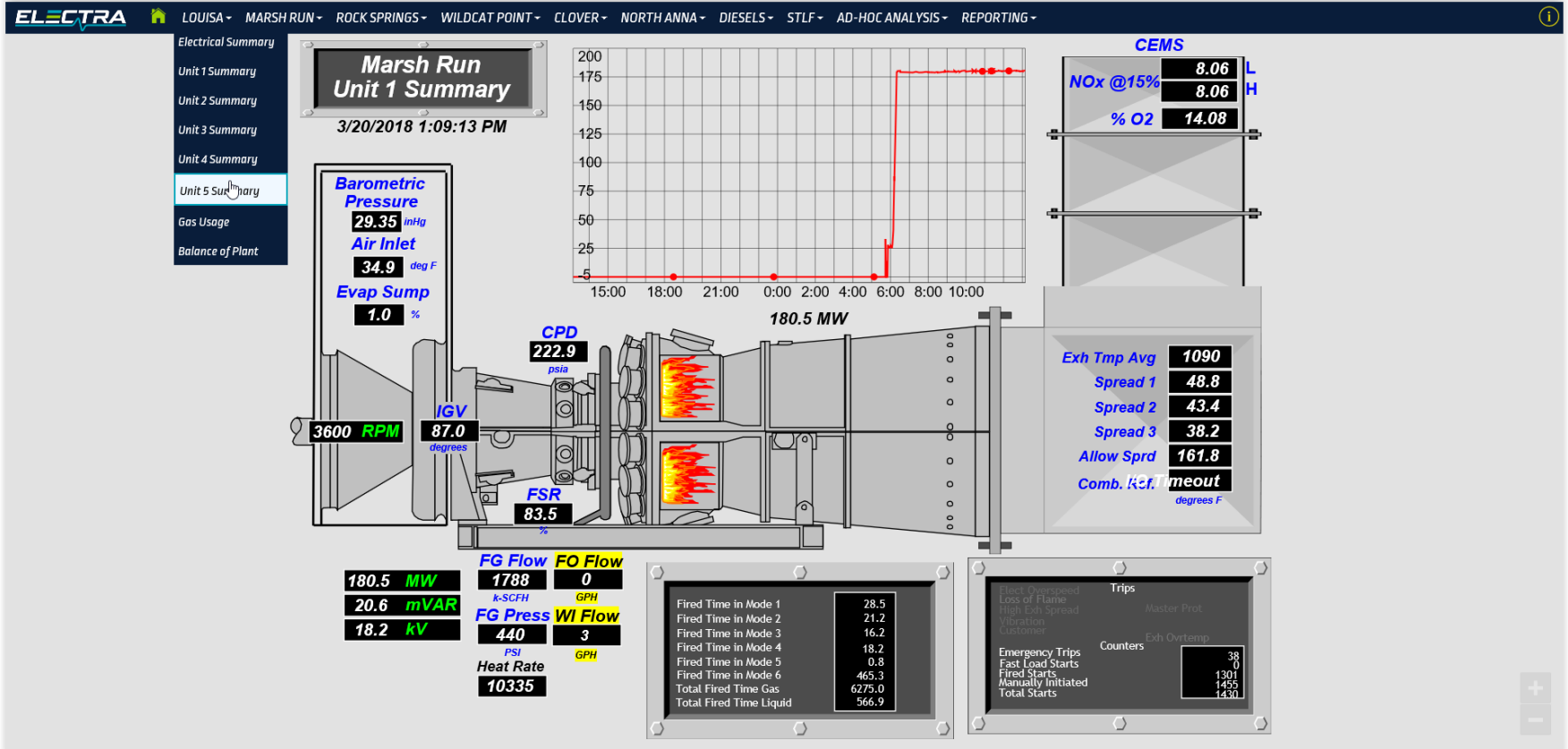


North Anna & Clover Generation shown at ODEC Ownership Share

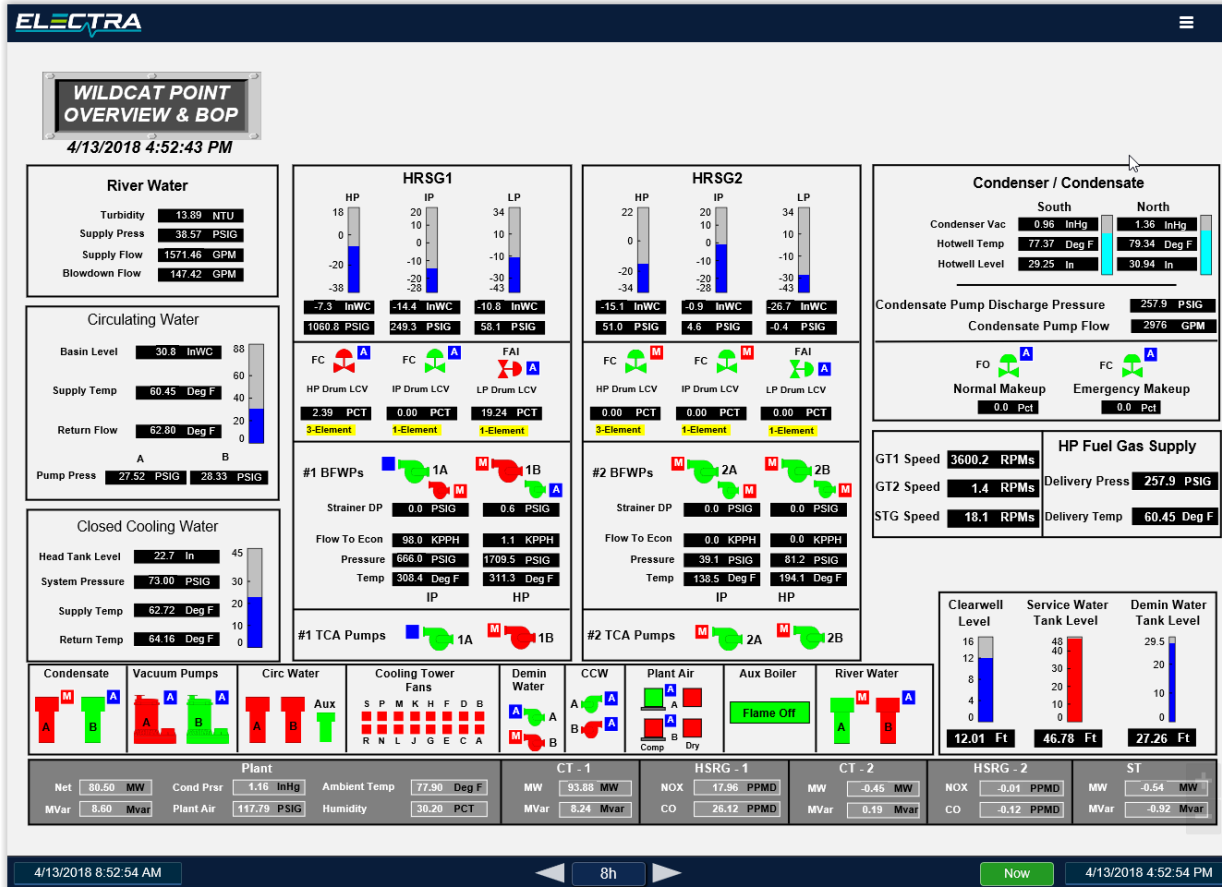
Plant electrical summary display



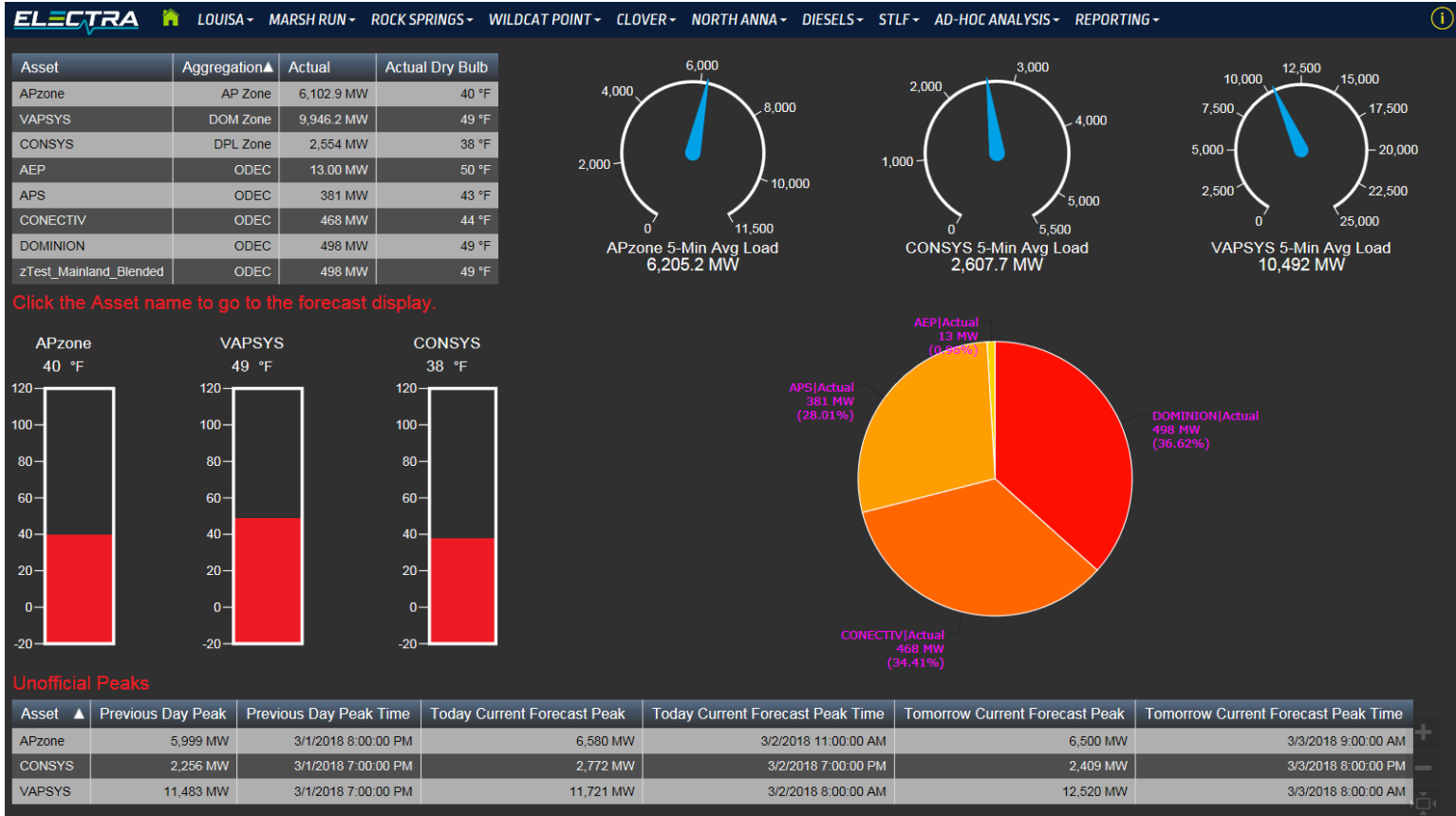
Gas Turbine unit summary display



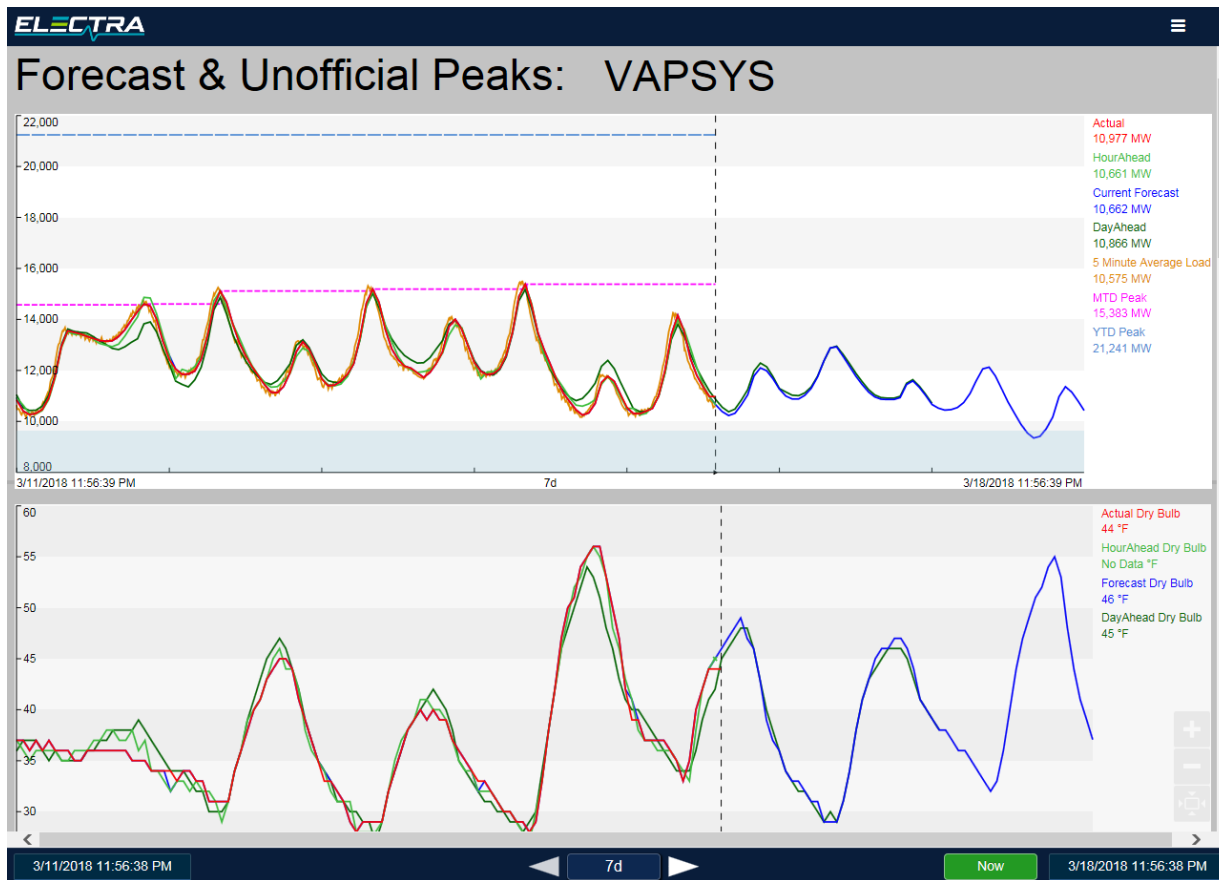
Combined cycle plant overview display



Short term load forecast display



Load forecast with peaks & future data



Lessons Learned

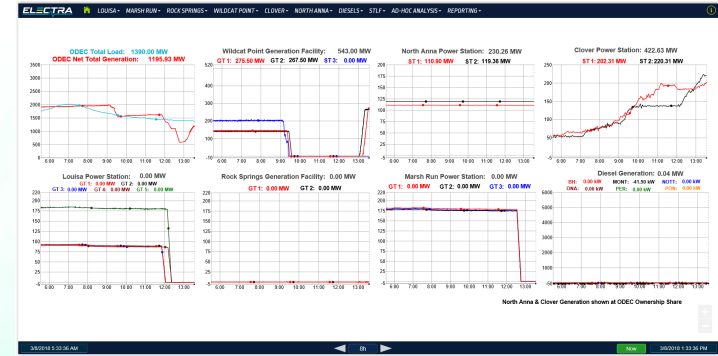
- Asset Framework is a powerful tool
 - Use templates to start fast
 - Don't get “bogged down” trying to make it perfect
 - Build out the framework one template at a time, then update as you learn
- Enterprise Agreement is the “all you can eat” buffet, don't gorge!
 - Easy to overbuild environment due to minimal cost for additional PI Servers
- Limited manpower required
 - Completed project with approximately $\frac{3}{4}$ of a FTE
 - Let the software do the work – use NOC, Notifications, & PI Vision displays to inform administrators that there is an issue
 - Call OSIssoft Support early when you have issues and learn from them
 - Leverage your Enterprise Agreement CoE resources

Benefits to ODEC

- **PI System Benefits**
 - Interfaces for everything
 - AF templates speed up changes
 - Backfilling data is easy & fast
 - Can tailor displays to audience
 - OSIsoft preserves value of prior investments
- **Enterprise Agreement Benefits**
 - Use all the PI components and tags needed
 - EA team support
 - NOC monitoring and annual upgrades
 - Workshops, training, & conference vouchers

In Summary...

ODEC used the PI System to create *Electra*, providing both real-time and historical views of critical operating data



CHALLENGE

Create an enterprise view of ODEC's operating data

- Include data from all plants
- Accessible to all ODEC employees
- Include real-time and historical data

SOLUTION

Expanded existing PI System & created *Electra*

- EA licensing removed tag & viewing limitations
- New interfaces added to incorporate missing data
- HA design for critical data

RESULTS

Visibility to core business activity for all employees

- Provides overview & details
- Real-time and historic data
- Available to all ODEC employees via browser
- Audience-focused views

PI / Electra Team

- OSIssoft Enterprise Agreement Team

- John Bishop – Account Exec
- Bruno Bachiega – Enterprise Agreement CoE Engineer
- Mike Thorwart – Enterprise Agreement Program Manager
- Joe Nivert – Field Service Engineer
- Jerry Weber – Generation CoE Engineer
- Hee Joo – Customer Support Engineer
- Kellie Vahlsing – Director, Demand Generation Marketing

- ODEC *Electra* Team

- Keith Scarborough – PI & Load Data
- Jim Satterfield – CT & Diesel Data
- Michael Wise – Director Asset Mgmt
- Alex Robertson – Networking
- Georgiana Pierre-Louis – SCADA

- Other Contributors

- Greg Kashmer – Dominion Power
- Michael Saucier – Transpara
- Brandon Lewicki – RoviSys
- Herb Falk – SISCO
- Gary Sunderland – TAI Engineering

Our Contact Info



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Questions

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Merci

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Спасибо

Danke

Gracias

Thank You

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ありがとう

Grazie

Obrigado