

# Vermont Weather Analytics Center

vermont electric power company



VELCO Operating  
Committee

October 18, 2018

# Review of Analytics Efforts

## *JDA Assets*

➤ Demand Forecasting

➤ Peak Forecasting/ Peak Load Management

➤ Weather Insights

➤ Deep Thunder

## *Commercial Products*

Maestros

Nostradamus

HyperCast (Wind/Solar)

Xplore (Wind/Solar)

## *SPA Targeted Products*

➤ Demand Forecast

➤ Peak Forecasting

➤ Peak Load Management

# Data Clean Up

- Original “Data Call” needs to be assessed
- Moving from research to products needs a review of the data currently being utilized
- Looking to “draw the line” between utility responsibilities for data vs the analytics providers
- Aligns with current approaches to utility data

# Model Performance -PLM



## Peak Load Management VT Peak Notification – Update



- VT Monthly Peak Load was not flagged in PLM but manual communication issued for **September, 5<sup>th</sup>** @ HE 20:00 – Current probability @70%
  - Primary Notification issue. Issue with early month algorithm while this could very well to be the peak
  - Peak: 923.88W (Predicted) / Peak: 888.57MWh (Actual)
  - Actual Peak Time HE 20:00



September 20, 2018

Utopus Insights Confidential – JDA Asset

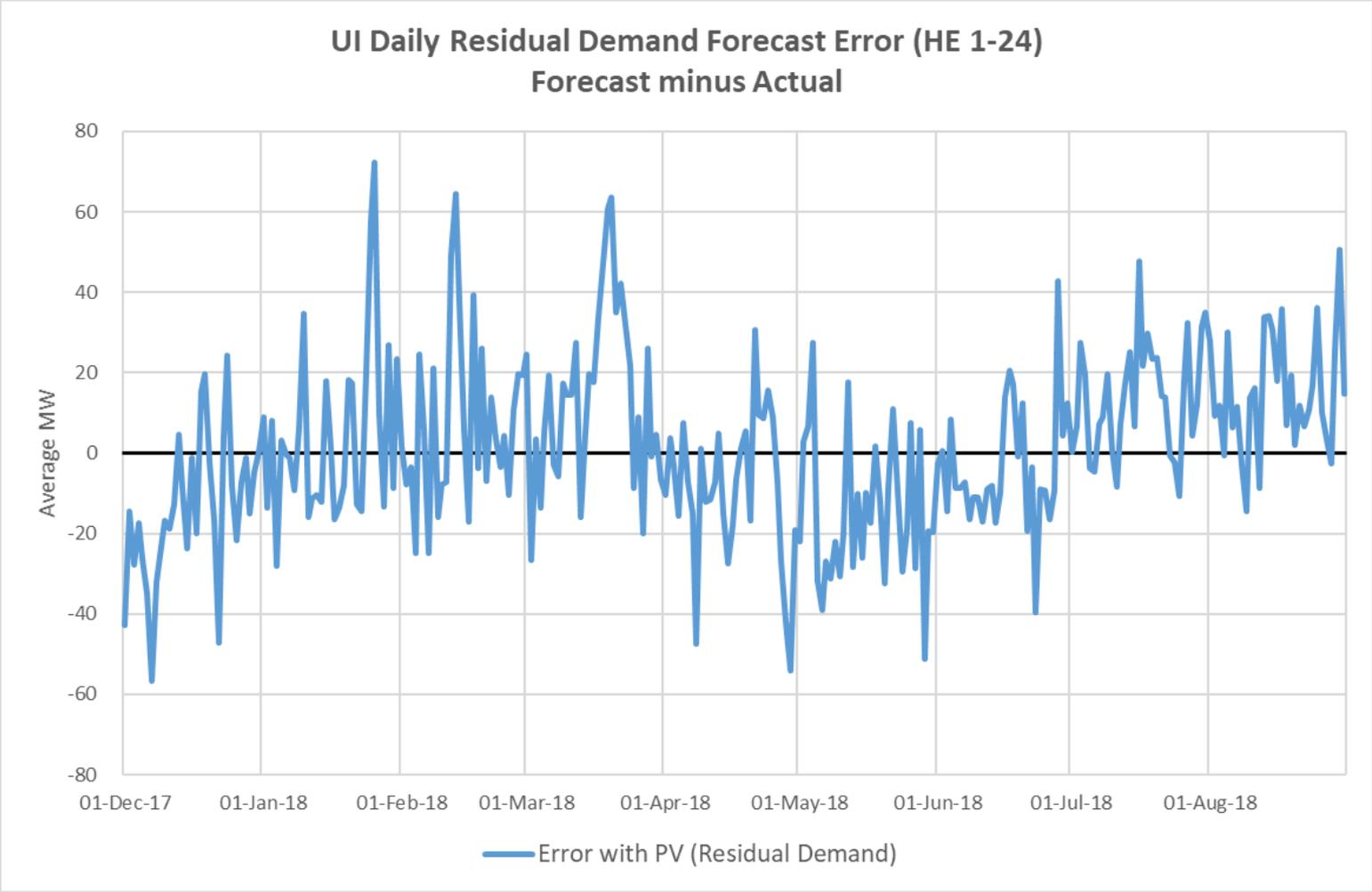
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# MAPE for August

| UI MAPE Results Summary                         |  |                 |         |  |
|---|--|-----------------|---------|--|
|   |  | Residual Demand | Demand* |  |
| May-18  |  | 5.3%            | 4.5%    |  |
| Jun-18  |  | 3.7%            | 3.1%    |  |
| Jul-18  |  | 3.7%            | 3.0%    |  |
| Aug-18  |  | 3.9%            | 3.4%    |  |
| * assuming 1.6 scaling factor on distributed PV |  |                 |         |  |

From June onward, the “penultimate” version of the forecast is used to report metrics, and this is 6 hours ahead of real-time on average. This takes out forecast improvements to recent past which are being made in UI after real-time.

# Residual Demand Forecast Error



# JDA – Closeout UAT

- User Acceptance Testing for Products  
(Mid September Resources Available)

| Count of Severity   | Column Labels     |                     |                  |             |
|---------------------|-------------------|---------------------|------------------|-------------|
| Row Labels          | Priority 2 - High | Priority 3 - Medium | Priority 4 - Low | Grand Total |
| Severity 2 - High   | 15                | 2                   |                  | 17          |
| Severity 3 - Medium | 1                 | 15                  | 12               | 28          |
| Severity 4 - Low    |                   | 16                  | 52               | 68          |
| Grand Total         | 16                | 33                  | 64               | 113         |

# JDA Closeout Other Items

- Jul-Dec
  - Portal/HW/SW Strategy Effort
  - Implementation Plan
  - Work with others (ex. Jay Schafer/UVM)
  - STLF and Next Day Contingency
  - Documentation
  - Open items on models (example “total solar gen #”)
  - Items moved to SPA
    - 7-10 Day Demand/Weather
    - ISO NE Forecasting
    - Portal Improvements (Example histograms)

# Strategic Partnership Development

- SPA Document
- Governance Model
- Schedule Resource/Loading UI Validation
- VELCO Estimate
- MOU/Services Agreement
- First Cost Report

# Governance Model- Draft Discussion

- Sponsors Committee
  - Executive sponsorship/involvement monthly
  - UI/VELCO/DU- Sr. Mgmt.
  - Scope/Schedule/Budget Review
  - Resource Management
- Steering Committee
  - VELCO/UI/DU Members SMEs
  - Quarterly or tied to major milestones
  - Workshop format

# Next Steps

## Wrap-up Discussion

- Scheduling next quarter's work
- Set up Billable WOs
- Communication with Project Team