Draft 2015 Load Forecast

Planning Committee

December 4, 2014

Today's Objectives

- Model Change (Background and Discussion)
- 2015 Load Forecast Review
  - Model Parameters, Results & Decomposition of Change
- 2015 Alternate Energy Model
- Next Steps

Model Change

- The PJM Board and various PJM Stakeholders expressed concern regarding recent over-forecasting in light of established PJM findings of model shortcomings and plans to address them.
  - Consistent lowering of the forecast with each release
  - Model inadequately picking up changing customer behavior (i.e. shifting use, energy efficiency, etc)

- The PJM Forecast Team was tasked with identifying a short-term measure to address the over-forecast issue that could be implemented for the 2015 Load Forecast prior to more comprehensive development leading into the 2016 Load Forecast.
  - Institute an interim model change that can help alleviate the issue

- PJM identified that part of recent over-forecasting can be attributed to model fit
  - Model is anticipating higher loads in the tail-end of the estimation period than what is actually occurring. This contributes to a higher starting point in the first forecast year.

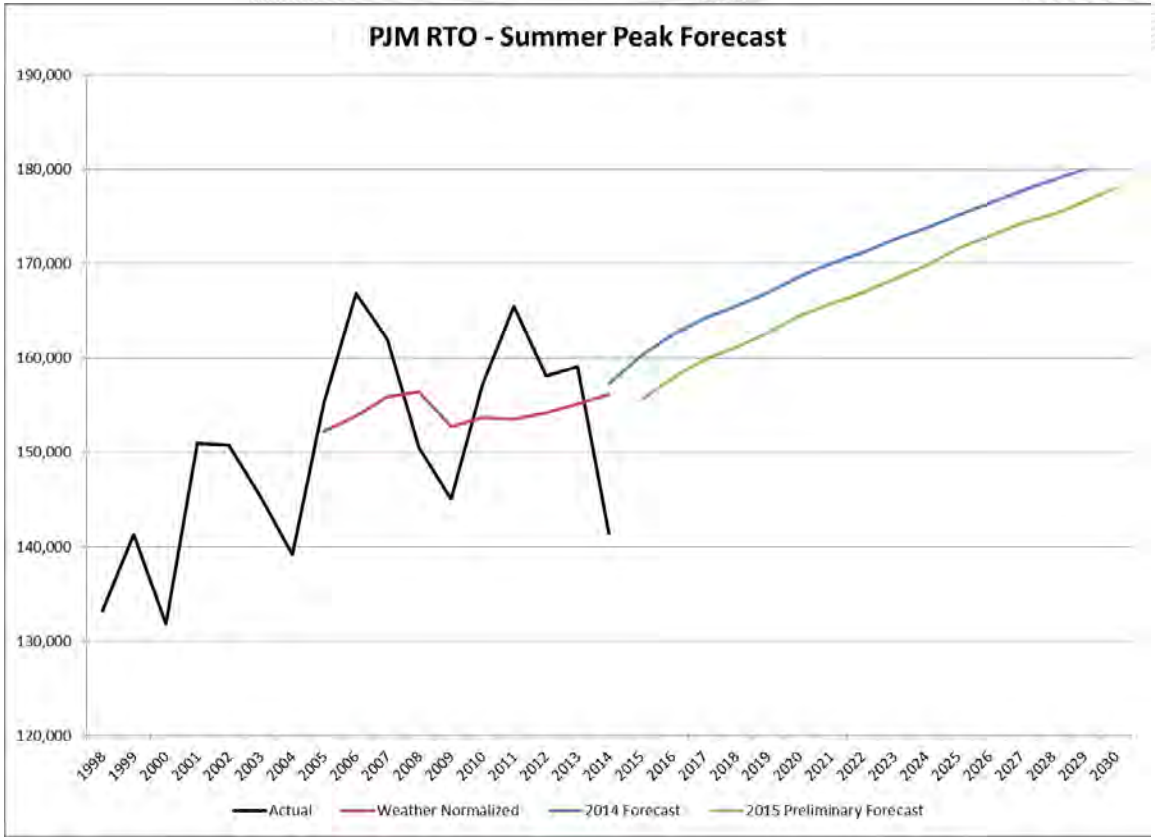
- Add a binary variable (LA_2013) in the recent history (2013 and 2014) that captures the magnitude by which the model is over-shooting recent loads.
  - Contributes to a noticeable shift down in forecasted load for many zones
  - Temporary measure until forecast improvements can be made to capture root cause

2015 Load Forecast Review

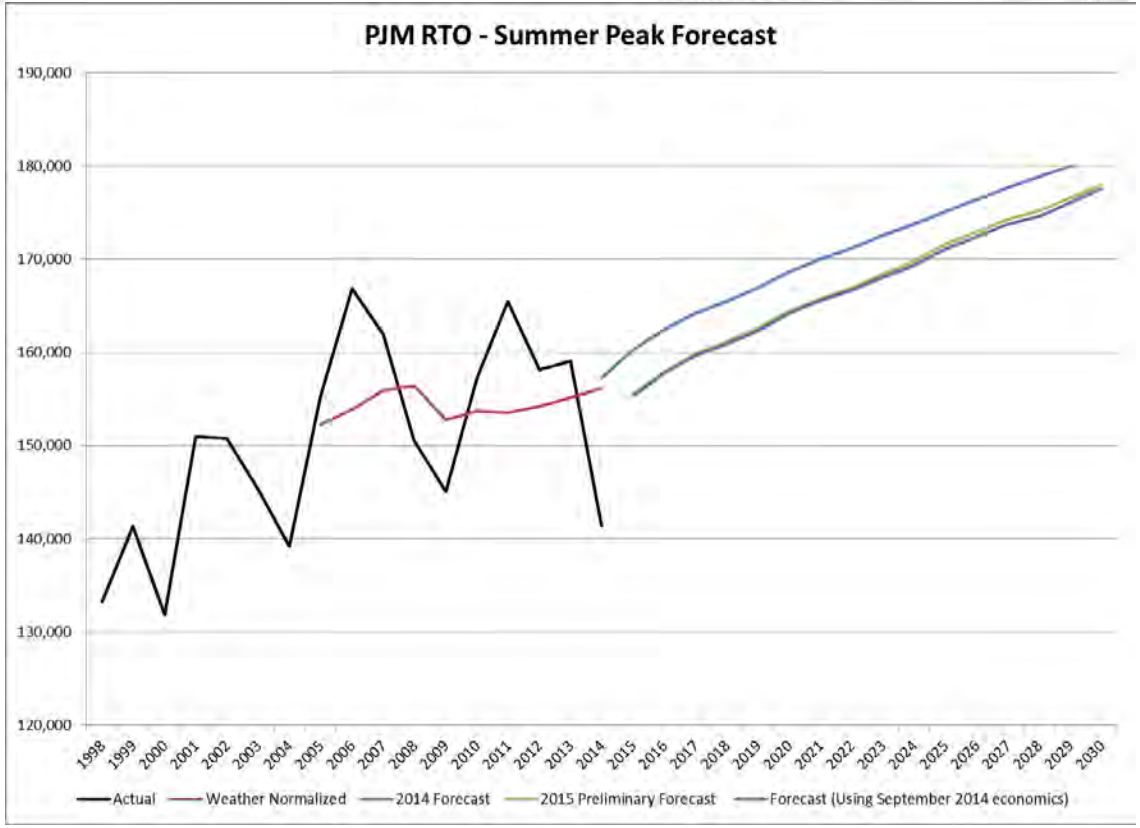
Model Parameters

- Estimation Period: January 1998 through August 2014
- Specification: Includes LA_2013 Binary Variable
- Weather Simulation: 1973 to 2013 (533 Scenarios)
- Economics: October 2014 vintage from Moody's Analytics
- Forecast Adjustments: 2015 (Just Dominion)

DRAFT PJM RTO Forecast



Forecast Comparison – Impact of New Economics

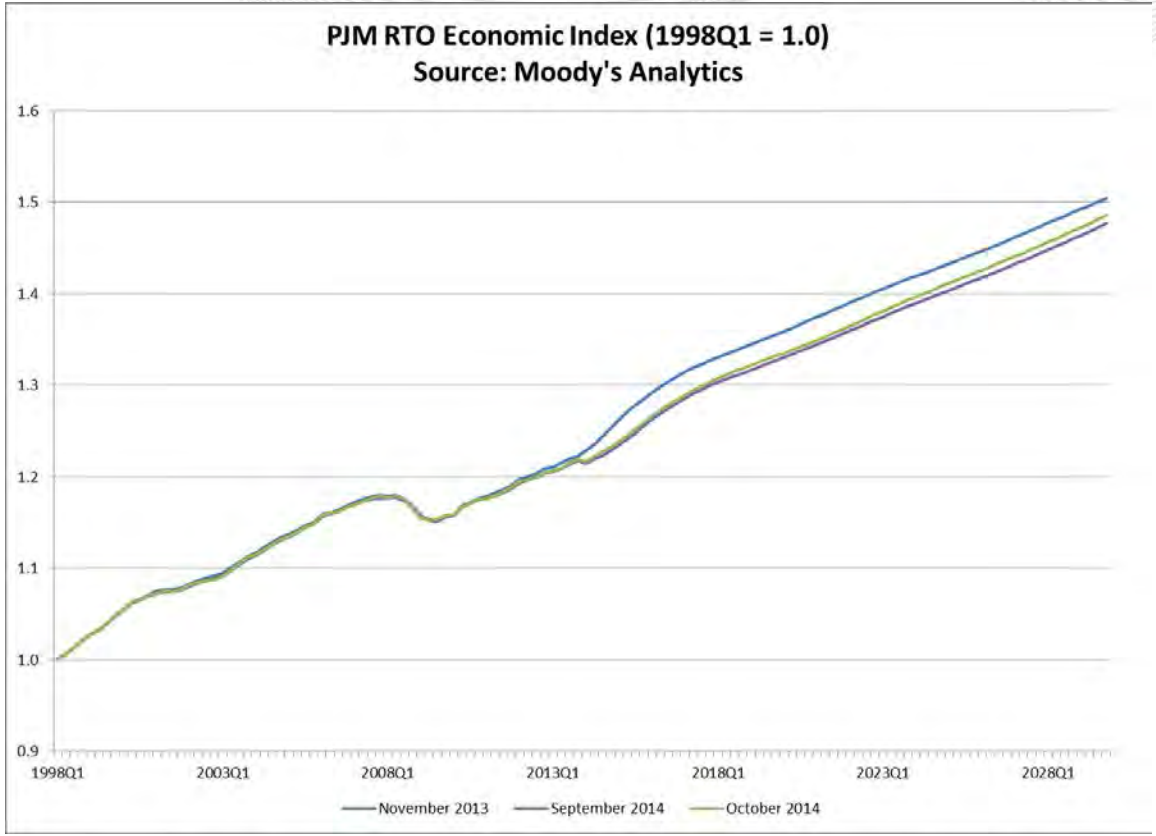


2018 Comparison

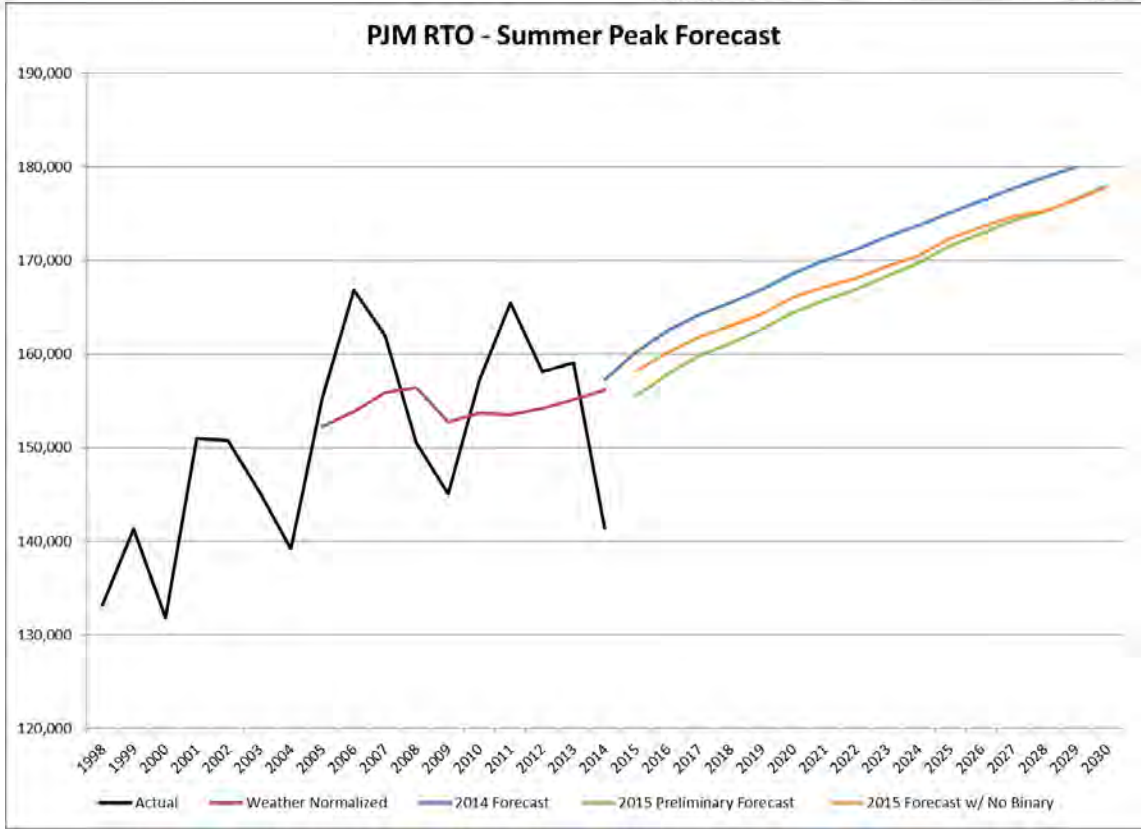
2014 Fcst to 2015 Prelim (w Oct14)
= Down 2.6%

2014 Fcst to Fcst w Sep14
= Down 2.8%

DRAFT PJM RTO Forecast - Economics



Forecast Comparison – Impact of Binary

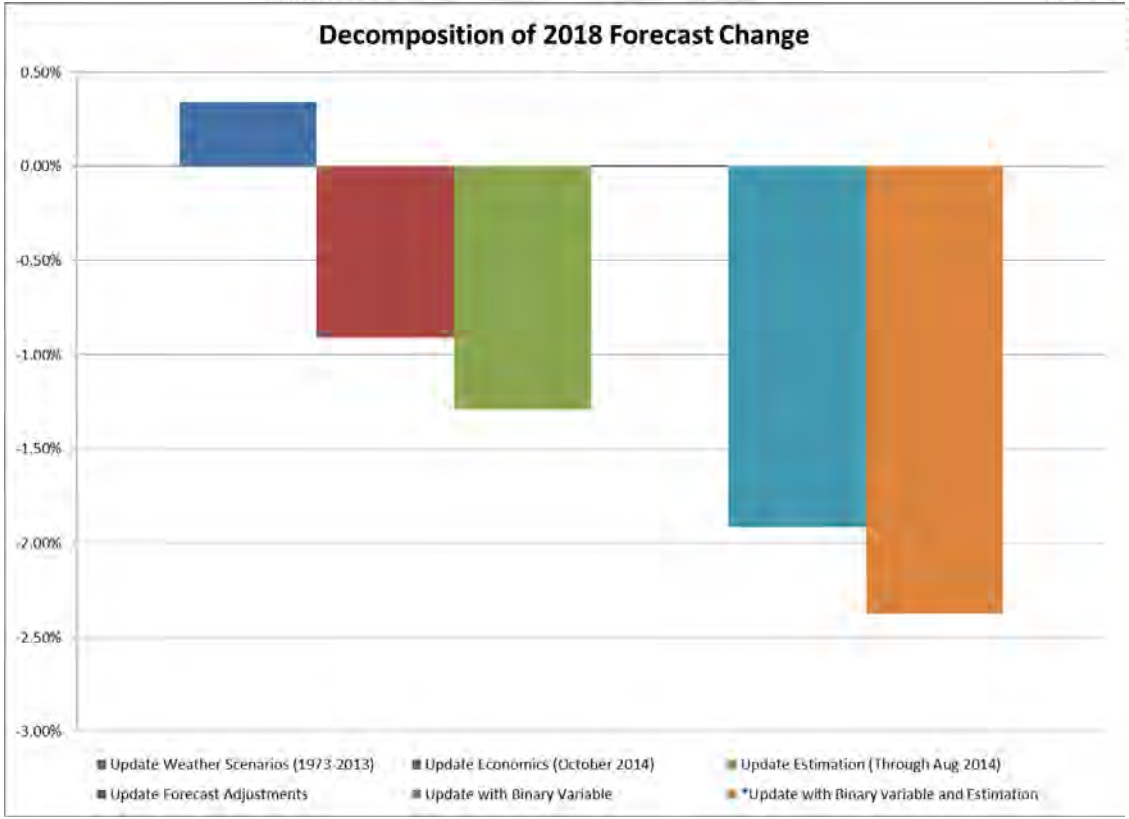


2018 Comparison

2014 Fcst to 2015 Prelim
= Down 2.6%

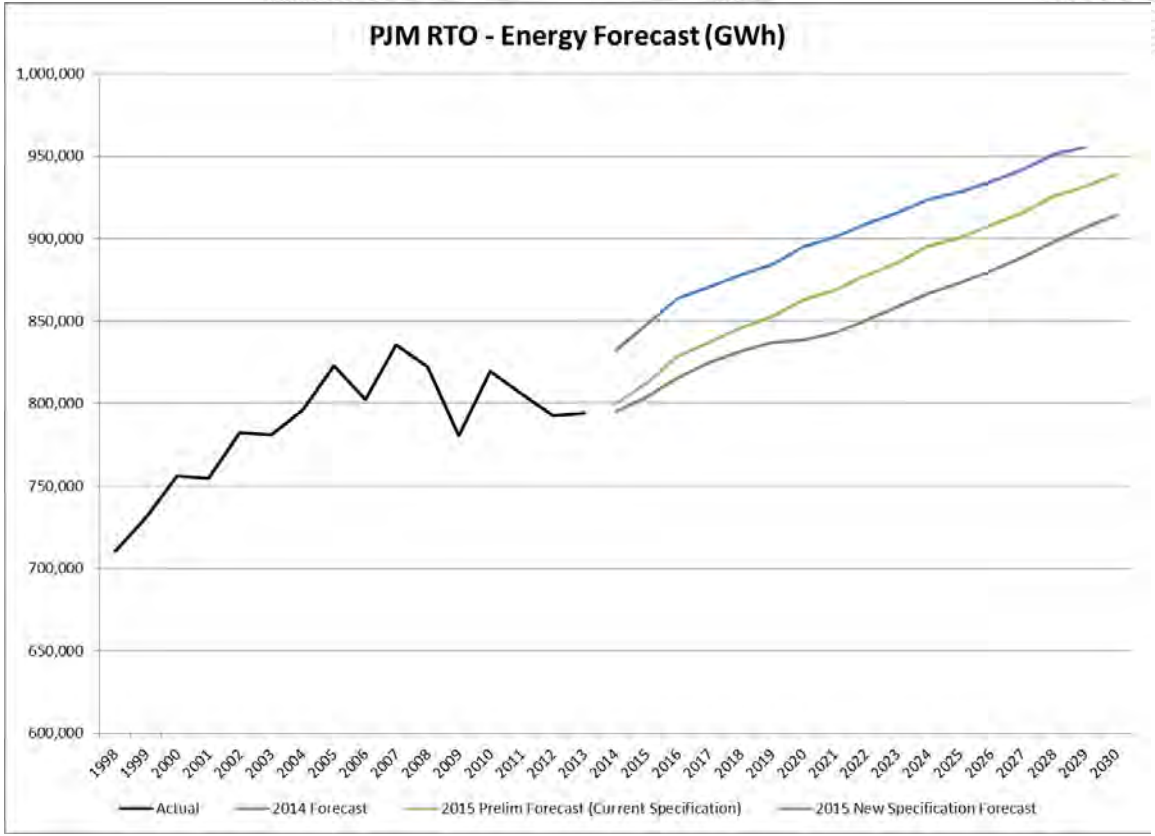
2014 Fcst to 2015 Prelim w no binary
= Down 1.5%

DRAFT PJM RTO Forecast – Decomposition of Change



- With the 2015 Load Forecast, PJM is introducing an alternate energy forecast in the *E-a* tables
  - Incorporates customer usage patterns based on data from Itron/EIA
  - More info available at last LAS meeting
    - http://www.pjm.com/~/media/committees-groups/subcommittees/las/20141016/20141016-item-04-energy-model-development.ashx

DRAFT PJM RTO Forecast



- Publish final report in late December
  - Unrestricted Loads spreadsheet
  - Statistical Appendix
  - Economic Variable spreadsheet and comparison pdf
  - Weather Normalized Peaks spreadsheet

Questions/Discussion