Forecast Methodology Updates

Load Analysis Subcommittee
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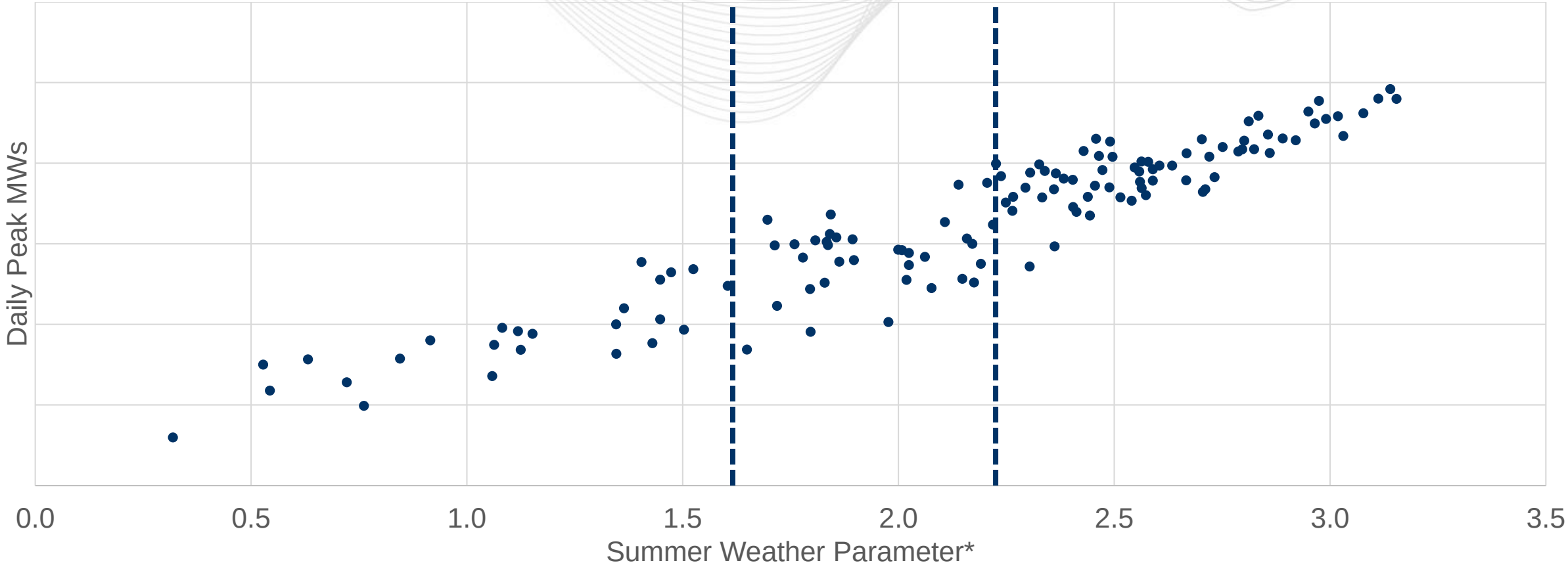
From 9/3 LAS Cooling - Load vs Weather



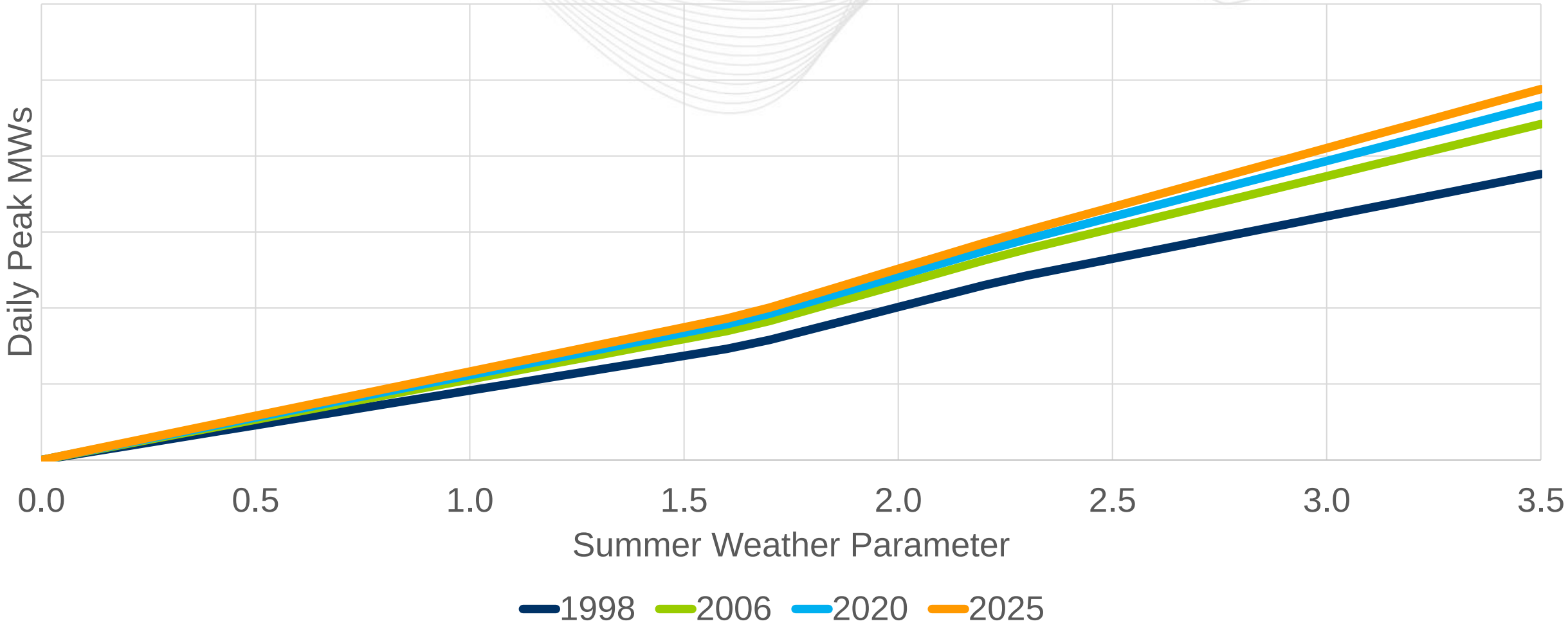
** Summer weather parameter is a weighted combination of daily Max THI, average afternoon THI, average morning THI, and average THI lagged 1 day*

From 9/3 LAS Cooling Overview

- Segments of spline are modeled against Cool index produced by Sector model process.

- Cooling response in the model changes over time to reflect the evolving state of economic and end-use factors (saturation/efficiency of cooling).

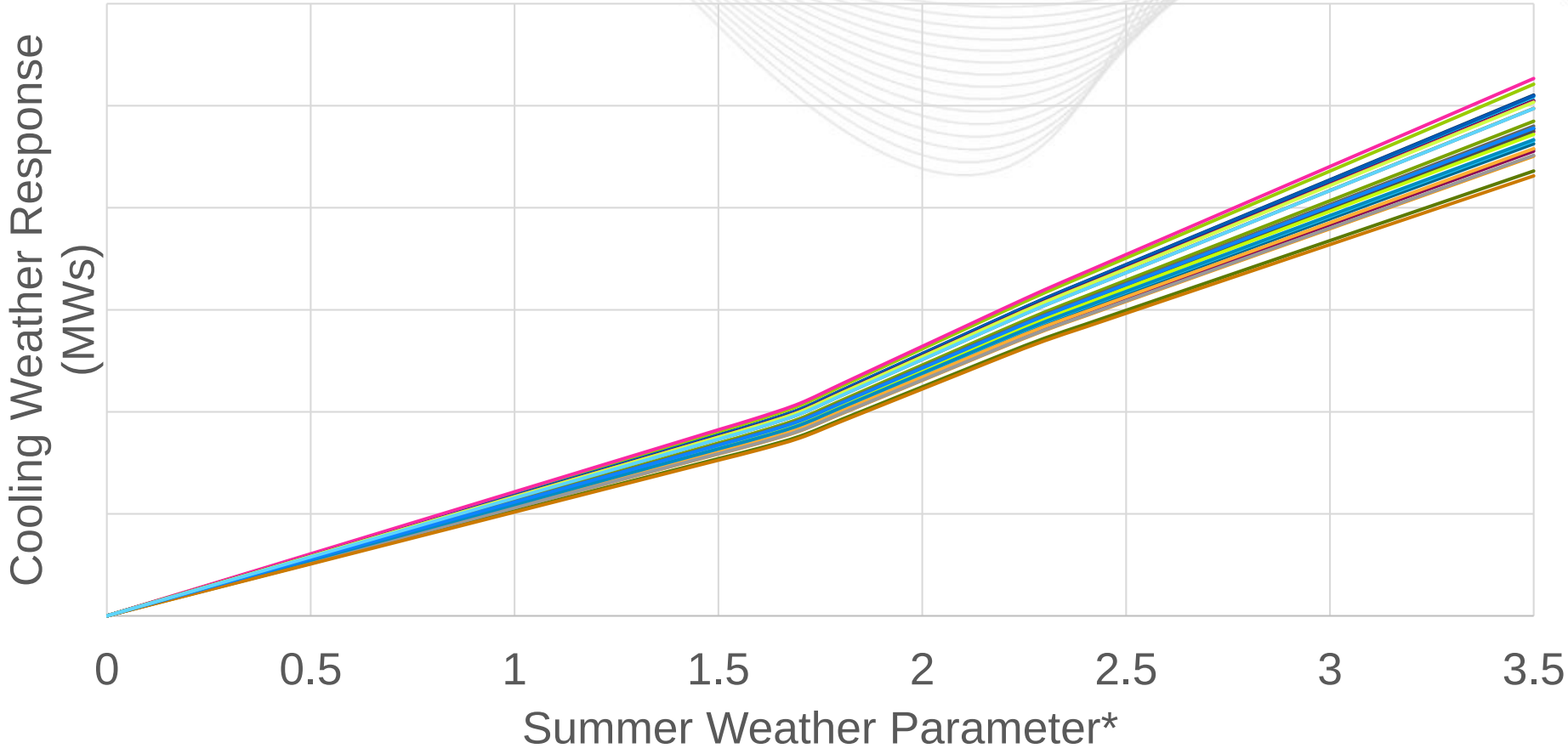
From 9/3 LAS Cooling Spline – Load vs Weather



Updates to Weather Treatment

- Splines are modeled against XCool, which is Cool index produced by sector model process multiplied with weather
  - As of 9/3
    - For each spline segment
      - Segment is solved at average weather
      - One segment per forecast year
  - Now
    - For each spline segment
      - Multiple segments per forecast year representing the years in the weather simulation

Cooling Splines Example



Each forecast year for each zone has a set of weather responses that vary by weather simulation year.

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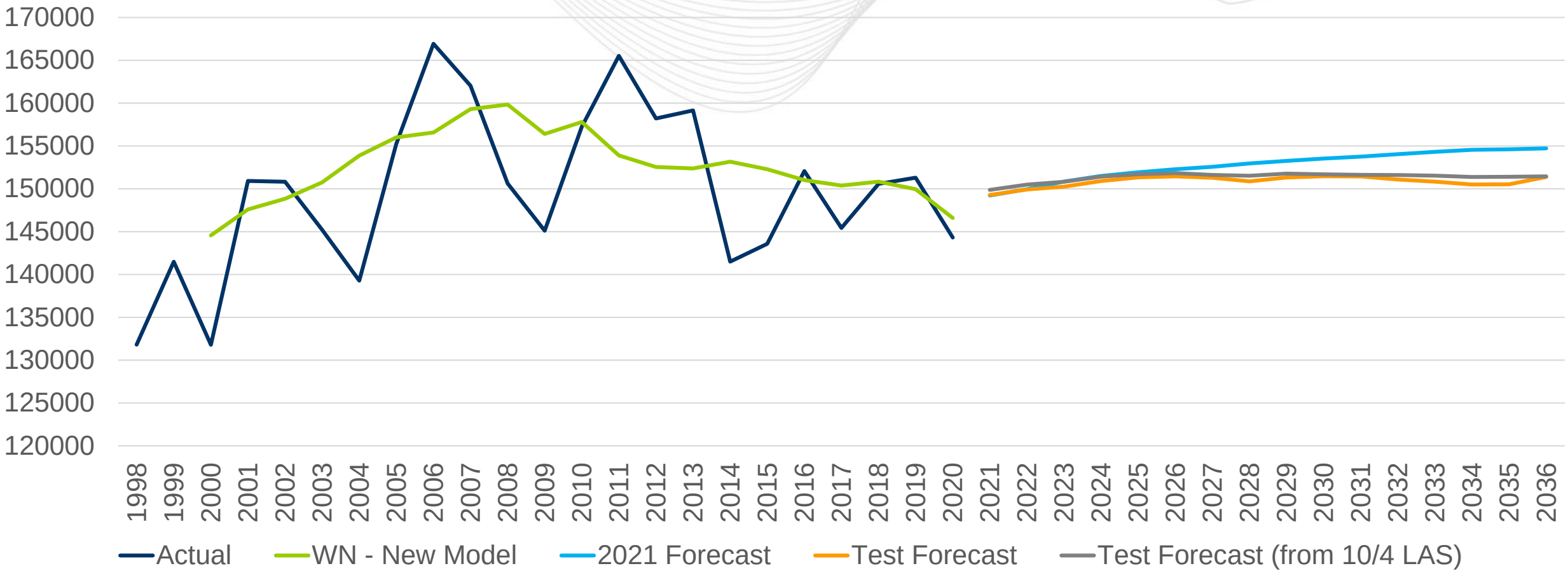
Inclusion in Peak/Energy Model

- Weather splines are included in the final model to derive load forecast distributions.
  - At October 4th LAS, splines interacted with weather were included on the right hand side of the equation and the model was allowed to determine the coefficient. Ideally want a coefficient equal to 1.0, though some zones strayed from this and this impacted forecasts.
  - Now, splines are interacted with weather but are used to decrement the left hand side. In other words, load is reduced by weather response in the estimation and then gets re-constituted in the forecast. This fixes the coefficient to 1.0.

Summer Peak Forecast*



**** This is not an official forecast, it reflects the impacts of the changes discussed.***

Final Thoughts

- Trend variable
  - Forecasts show trend variable through entire forecast time period. Per stakeholder discussion, thinking remains to likely cut off trend at some forecast period (i.e. 5 years out).

- This, along with other materials presented at two prior LAS meetings, summarize methodology changes expected to be implemented for 2022 Load Forecast. Please provide any additional comments ASAP.

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