2024 RTP – Generation Assumptions Update

ERCOT
Regional Transmission Planning

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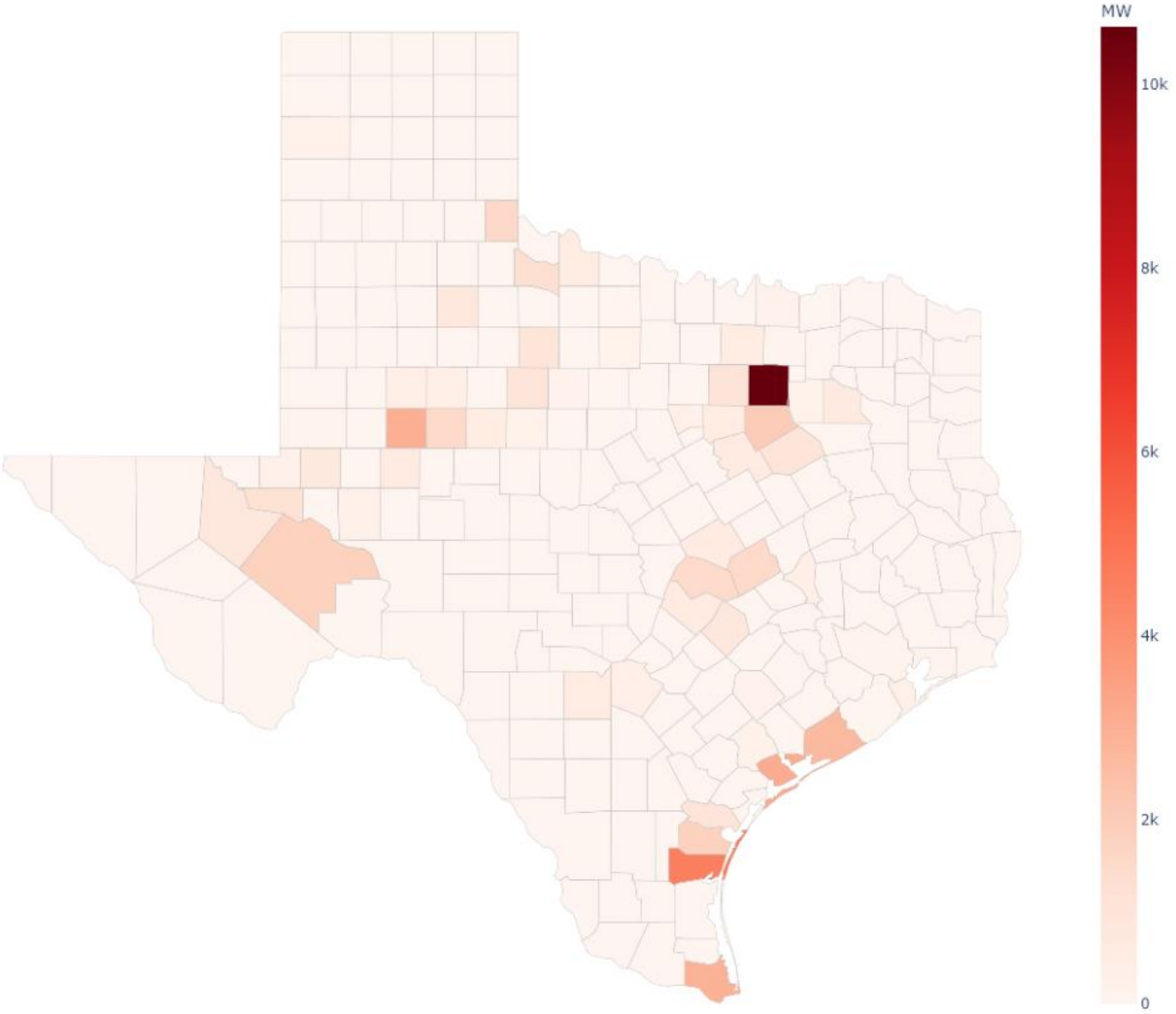
Recap: Challenges with Generation Assumptions

- Significant amount of large load was submitted by the TSPs during the 2024 Regional Transmission Plan (RTP) load review process with quantifiable evidence provided from the following categories
  - Signed contract
  - Letter from a TSP officer attesting to such load growth
- The total amount of large load to be incorporated in the 2024 RTP is approximately 59 GW by summer 2030
- The total load in the 2030 summer peak case is approximately 153 GW with self-serve load excluded (2023 RTP 2029 summer peak case load was approximately 111 GW)
- The total available generation based on the 2024 RTP assumptions in the 2030 summer peak case is less than 120 GW excluding Private Use Network (PUN) units

Recap: Challenges with Generation Assumptions

- RTP has used split cases with the load inside the study region maintained at the forecasted level and the load outside of the study region scaled down to balance the total load and generation
- The significant difference in available generation and forecasted load could result in scaling down the load outside of the study region to as low as 50% for some study regions
- Additional steps outside of the current planning practices are needed to create planning models that can accommodate the large amount of load additions

2024 RTP Large Load Location Map



Considerations in the 2024 RTP Generation Assumptions Development

- Develop a single study case instead of four split cases for each study year with sufficient generation to cover the load, losses, and reserves
- 2024 LTSA high load growth scenario preliminary capacity expansion results (to be presented at a later RPG meeting) indicates the need for additional dispatchable Generation Resources to supply the significant amount of large load additions
- Additional dispatchable Generation Resources may also be needed to maintain system stability with the significant amount of large load additions

2024 RTP Generation Assumptions Proposal

- Add Generation Resources in the interconnection queue that haven't met Planning Guide Section 6.9(1) requirements yet, but
  - Have signed the Interconnection Agreement
  - Are dispatchable Generation Resources without a signed Interconnection Agreement that have either completed or started the Full Interconnection Study (FIS)
- Add additional dispatchable Generation Resources not in the interconnection queue in the areas with significant amount of large load additions

Hydrogen Load

- 2024 RTP incorporated more than 6 GW of hydrogen load
- At this time, there is no clear indication in the current interconnection queue that the hydrogen loads will be co-located with renewable Generation Resources
- 2024 RTP will assume that the hydrogen load will withdraw 100% of their energy consumption from the grid
  - Hydrogen load's arrangement with renewable Generation Resources are not available to ERCOT
  - Power flow software do not have the capability to model any arrangement between the hydrogen load and their contracted renewable Generation Resources
  - Hydrogen load will be modeled the same way as other load

Next Steps

- The proposal to address the generation challenges in the 2024 RTP needs to be implemented immediately to ensure the on-time completion of the 2024 RTP
- The identified issues, however, affect not only the RTP but also the Steady State Working Group (SSWG) case development and transmission planning in general
- Broader discussions are needed to address the challenges brought by the unprecedented amount of large load requests
- ERCOT plans to follow up with Planning Guide Revision Requests for the needed changes in the planning assumptions/processes

Questions and Comments

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