

Winter 2024-25 Analysis; With and Without Everett Marine Terminal



Introduction

This analysis :

- Reviews 2024-25 winter operations with and without the Everett LNG facility
- Is intended to quantify the sensitivity of the loss of Everett to energy adequacy given that the reliability must run contract with Mystic/Everett terminates on June 1, 2024
- Uses the same (deterministic) model as prior winter analyses
- Is different from the probabilistic model that the ISO is collaborating on with EPRI

2024/25 Winter Analysis – Assumptions

- Loads are scaled to 2024-2025
 - Peak load modeled for moderate and severe winters is 19,900 MW and 20,600 MW, respectively
- Energy demand modeled for moderate and severe winters is 29,500 GWh and 31,500 GWh, respectively
- Behind-the-meter (BTM) PV nameplate capacity of ~7280 MW
 - Loads and energy demand are reduced accordingly
- Similar to the 2023/24 analysis, incremental fuel of ~3Bcf LNG and ~10 million gallons of oil assumed from the Inventoried Energy Program*
- Fuel oil is assumed to be distributed similar to winter 2022/23

*This estimate is on the lower end of expected incremental fuel



2024/25 Winter Analysis – Assumptions

- Assume maximum LNG injection capability of 1.2 Bcf/day with Everett
- Assume maximum LNG injection capability of 0.8 Bcf/day without Everett
- Imports range from 3000 – 4000 MW, but set at 1500 MW in hours when temperatures dip below 20° F
- Offshore wind ranges from 380 – 800 MW nameplate
- No significant, multiple or long-duration generator or transmission contingencies



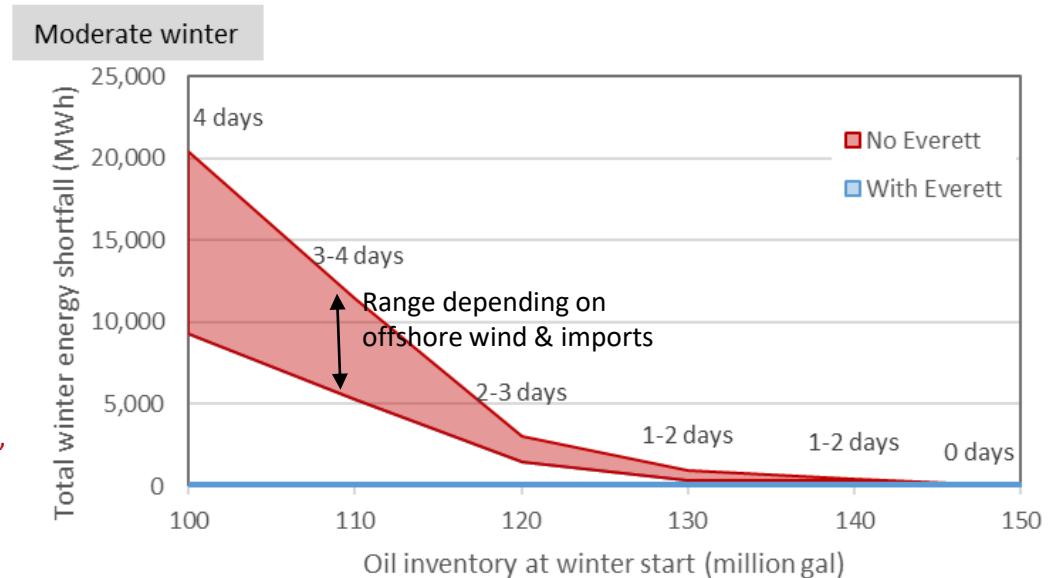
Moderate Winter Sensitivity Analysis

With Everett:

- Assumed max available LNG injection capability is 1.2 Bcf/day
- No energy shortfall in any scenario studied

Without Everett:

- Assumed max available LNG injection capability is 0.8 Bcf/day
- Energy shortfall fully mitigated with increased fuel oil inventory
 - Assuming lower oil inventory (~100 million gallons), energy shortfall ranges from ~10,000 to ~20,000 MWh distributed over 4 days
 - Assume daily energy on a cold winter day is ~400,000 Mwh
 - This translates to roughly 0.6-1.2% of daily energy consumed across those four days



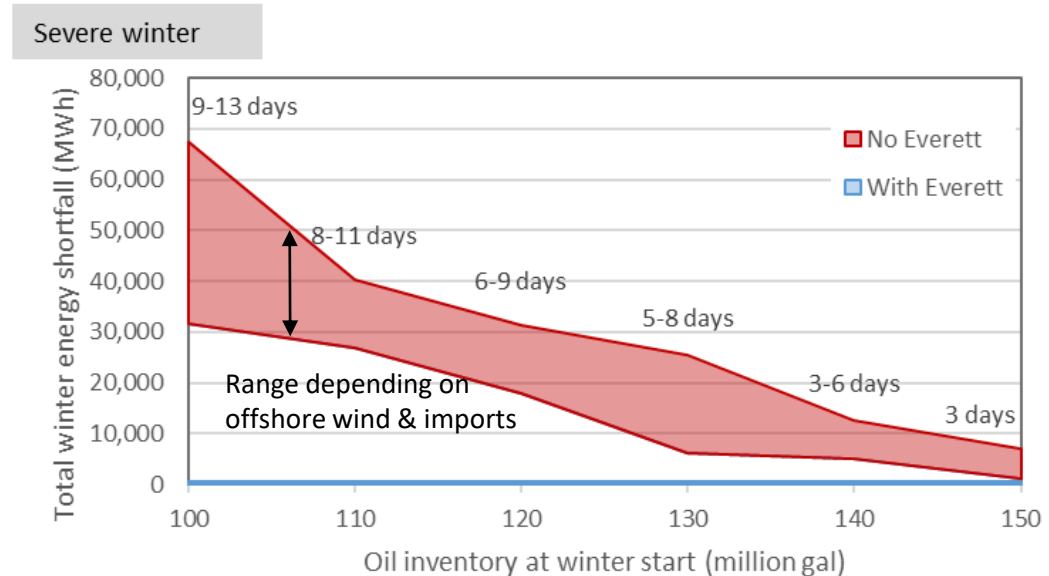
Severe Winter Sensitivity Analysis

With Everett:

- Assumed max available LNG injection capability is 1.2 Bcf/day
- No energy shortfall in any scenario studied

Without Everett:

- Assumed max available LNG injection capability is 0.8 Bcf/day
- Energy shortfall mostly mitigated with increased fuel oil inventory
 - Assuming lower oil inventory (~100 million gallons), energy shortfall ranges from ~30,000 to ~67,000 MWh distributed over 9-13 days
 - Assume daily energy on a cold winter day is ~400,000 Mwh
 - This translates to roughly 0.6-1.8% of daily energy across those 9-13 days



Everett Marine Terminal – Other Factors

- From a qualitative standpoint, the ISO has discussed its concerns about the retirement of existing infrastructure before new infrastructure is in-service
 - That concern extends to Everett
 - Given the uncertainty of the pace of future winter load growth from electrification, limited LNG import facilities, delays in new infrastructure being built, and other changes to the resource mix, including retirements, the ISO continues to believe that the region would be prudent to retain its limited gas infrastructure in the mid-term
- The ISO doesn't have the expertise to assess the operational capability of the regional pipeline system without Everett and will rely on the expertise of pipelines and the LDC's to identify any operational concerns

Conclusion

- Data shows limited exposure to energy shortfalls in 2024/25 without Everett
- Factors leading to this result:
 - Acceleration of behind-the-meter (BTM) PV nameplate capacity
 - Limited load growth
 - Expectation that the Inventoried Energy Program will add incremental fuel
 - Additional off-shore wind in-service
 - Assumption that the ‘capacity’ of Everett will be picked up by the remaining LNG facilities and oil storage and that those facilities are available in the winter season
- This analysis doesn’t provide clear quantitative evidence of the need to retain Everett for electric system reliability
 - The ISO has previously stated the qualitative factors that may warrant the need for Everett in the mid-term
- As a consequence, the ISO sees its role as limited to providing any additional quantitative analysis that may be needed by the region to help inform its decision making on the need for Everett
 - The EPRI study results (released by May 12) will shed further information about the operational impacts to extreme weather events in 2027, with and without Everett