The Weather Years ("WY") load forecasting process is a standard process completed at the end of the load forecast process. Below is a summary of the process used to develop the weather year forecast for 2028:

1. Specify a model to predict hourly load by company based upon 2012-2019 energy requirements and weather.
2. Using the model from step 1, predict hourly load for 2028 based upon actual weather that occurred in each year from 1973 to 2021. This step results in 49 hourly forecasts.
3. On a monthly basis, scale hourly energy requirements from the weather year forecasts based on the ratio of (a) normal weather energy requirements (aka, the CPCN load forecast) less energy requirements for "forecast items with unique load shapes" and (b) the monthly mean of WY energy requirements.
    a. Note: "Forecast items with unique load shapes" have hourly profiles materially different from the system load profile and include Distributed Solar, Electric Vehicles, New Company Uses, and new Major Account customers.[1] These items are layered in separately because of their unique load shapes.
    b. Additionally, at the end of step 3, adjust any peak model results that appear to be unreasonable. For example, the low temperature for the winter peak day in 1994 was around -20°F and the average temperature for the day was around -10°F, but temperatures this low were not experienced during the model training period (2012-2019). The coldest days in the model training period were experienced during the polar vortex event of 2014. Therefore, several factors that have occurred since 2014 need to be considered to assess the reasonableness of "out-of-sample" forecast results and forecasts for weather conditions like the polar vortex where there is limited historical data on which to base the forecast. Those factors include loss of municipal and coal mining loads, gain of BlueOval SK, energy efficiency gains, customer growth, space heating electrification, etc. Factoring in all of those, five model hourly results appeared to be unreasonable, so those were manually adjusted. On net, these were downward adjustments. Two winter peaks and one summer peak were adjusted downward, and two winter peaks were adjusted upward.
4. Layer the forecast items with unique load shapes onto each of the scaled weather year forecasts from step 3. Distributed solar profiles reflect the solar irradiance from the weather year wherever possible.[2] As a result, the average of distributed solar load reductions can be immaterially different from the level of distributed solar load reductions in the normal weather forecast.

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[1] The New Company Uses represent company uses that have been added since the line loss study was completed in 2012 and are therefore not included as part of the line loss rates used to gross up sales to energy requirements.
[2] See TAJ-2, Section 5.2.2. "For historical years for which we have solar irradiance data (since 1998), the distributed generation profile matches that year's weather profile. For prior years, the distributed generation profile represents an average of the years that are available."

5. To account for this difference, scale energy requirements resulting from step 4 to total energy requirements including unique load shapes from the normal weather load forecast based on the ratio of normal weather energy requirements and the average of weather year energy requirements from step 4.
6. Perform a load factor adjustment on the result from step 5 such that the mean of the weather year peaks equals the CPCN load forecast peaks by season while not changing total energy requirements.[3]
    a. The result of step 6 is the hourly weather year forecast used in the Reserve Margin Analysis and other reliability analyses performed by Generation Planning.

[3] This is an addition to and improvement in the process used in the IRP. Also, Step 5 is a new addition to the process resulting from this Data Request, so it was not a step in the process for the version of the weather years filed in the CPCN case.