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Request from: Office of Consumer Counsel

Question:

(STORM) Identify each storm that exceeded the dollar threshold but did not qualify as an IEEE 1366 MED, and explain why extraordinary recovery is still appropriate.

Response:

While informative, IEEE 1366 Major Event Days ("MEDs") is not any type of measure of a "major storm event" or "catastrophic" storm event for operational or ratemaking purposes. Many of the Company's ERP events do not meet the definition of MED, nor should an ERP event meet the definition.

With respect to the IEEE reliability standard, a reporting day with a SAIDI greater than the threshold value is designated as a MED. The threshold value, or "TMED," defines when the system is experiencing outage severity beyond what is normally expected for the system, based on the utility's historical outage performance. That historical outage performance includes the Company's response to ERP events that are experienced year-to-year with restoration occurring within a reasonable time frame for the system, *thereby limiting the duration of customer outages*. This is a critical feature of the IEEE MED calculation.

Please refer to OCC-852, Attachment 1, which provides a description of the calculation of the IEEE TMED (Threshold for Major Event Days). As noted, the methodology flags and excludes from the reliability measure those days that exceed a threshold based on the past four years of daily SAIDI. The fundamental intent of calculating the threshold value as part of the IEEE MED metric is evident through the calculation in that it sets the threshold at 2.5 standard deviations over the mean. To help contextualize this, in a normal distribution, only 1.24% of samples have a value that are 2.5 standard deviations above the mean. In other words, the days above the TMED have an uncharacteristically high SAIDI and are performance outliers (low frequency, high impact).

Such days can be days with unusually intense weather causing customer outages to endure or days with events having *non*-weather-related causes that inordinate customer interruptions and associated durations. For example, in Docket No. 25-12-13, the Company provided the example of 04/11/2019, which was a day that qualified as an IEEE MED and for exclusion from IEEE-based reliability metrics reporting. The outage events that contributed to the high daily SAIDI were related to a plane crash, not a weather event. Thus, the IEEE methodology is focused on the identification of days that are uncharacteristically high in SAIDI regardless of the cause of the

event, which is consistent with the fact that IEEE MED is designed to be a reporting methodology focused on delineating the system's normal performance in terms of outage duration (SAIDI).

Because it is designed to be a reliability measure focused on outage durations for customers, MED is designed to remove from the measure of reliability only those days that are exceptional from an outage duration (SAIDI) perspective so that electric utilities can measure the level of reliability (i.e., non-outage conditions for customers) more accurately and consistently. To achieve that outcome, TMED is designed to single out only very substantial outage *durations*, which would be only those events where the customer outages are so "dense" within a day that the utility cannot limit the duration of those outages to the levels existing in the historical data. As a result, by definition, the IEEE reliability standard is in no way indicative of the measure of storm damage or associated customer outages, and nor would it serve as an appropriate storm threshold for determining "major" or "catastrophic" storms from a ratemaking perspective. To the contrary, MED contemplates that the Company normally *will move quickly* to restore customers after weather events in the timeframes historically achieved, so that only events with extensive customer outage durations (such as the days during Storm Isaias restoration) beyond recent historical experience are excluded from the reliability measure.

Looking at it in reverse, if the damage from a storm event caused customer outages that were *not* addressed because the Company did *not* secure crews to restore power to customers and did *not* resolve those customer outages in line with historical performance, then those customer outages would linger, potentially triggering a TMED at some point in time, as compared to historical data. However, this type of response by the Company would be unacceptable from a customer perspective. In addition, over time, these longer duration restorations would become "normalized" in the IEEE MED computation and would no longer trigger a MED, which is a concept that is completely antithetical to the requirements of the ERP and would be unacceptable to customers, rendering MED to be an ineffective tool for identification of "major" or "catastrophic" impacts to customers or to the Company.

The crux of the issue is that there is no general nexus between the IEEE MED result and the actual storm impacts or resulting customer outages, because there the IEEE MED does not generate any expectation as to the actual value of the SAIDI that will qualify as an outlier (or an uncharacteristically high SAIDI days).

For this reason, the IEEE MED also inappropriate benchmark to determine the number of crews that should have been procured to assist with storm restoration, as is implied by the question. Moreover, the IEEE MED is a backward-looking metric and not a forward-looking planning tool, i.e., it is only calculable after-the-fact based on actual, historical data. As an ex-post metric that is calculated after the fact, the IEEE MED cannot serve as an input to Eversource's restoration processes, storm preparedness, storm response or associated costs incurred. Eversource prepares for storm events using weather forecasts, outage-prediction models and experience and expertise, among other factors to understand the expected level of outages and procure appropriate crews

and resources. The restoration times, crew procurements and restoration costs depend on the level of damage incurred and the Company's execution of the restoration and response effort. This means that, in most circumstances, the duration of customer outages will most likely *not* fall outside the deadband of a 2.5 standard deviation.