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Request from: Public Utilities Regulatory Authority

Question:

(VEGETATION MANAGEMENT) Exhibit CLP-VMP-1, p. 47. Has the Company attempted to estimate how the new trimming program would improve SAIDI scores? Explain.

Response:

The System Average Interruption Duration Index ("SAIDI") reflects both the number of customers interrupted and the duration of those interruptions. The impact of a vegetation-related outage varies based on the location and nature of the event, the extent of equipment damage, the availability of information identifying the outage and its location, and the field conditions and work required to safely restore service. Weather, access limitations, and the number of concurrent outages also affect restoration duration.

The proposed Vegetation Management Plan ("VMP") is intended to reduce vegetation-related outages; however, these event-specific factors limit the Company's ability to translate the proposed program into quantified improvements in SAIDI.

The Company's Reliability Tree Work ("RTW") program is designed to allow the Company to address the locations on scheduled circuits where overhang and Enhanced Tree Trimming ("ETT") clearances were not previously achieved on the portion of those circuits that serve the most customers and are highly susceptible to tree-related outages, particularly in relation to circuit backbones that were addressed through the ETT program over 20 years ago. RTW will encompass trimming of overhanging branches, as overhanging branches that break and fall on the power lines account for approximately 24% of the tree-related outages on the system. By targeting the zones with overhang that serve the highest number of customers through the RTW program, risk will be mitigated. The program will also strive to remove all overhang and trees in close proximity, although the Company remains constrained by tree owner consent and tree warden limitations.

Please refer to Exhibit CLP-VMP-1 on page 30-31, summarized on page 19 of Exhibit CLP-VMP-2, where the Company proposes the RTW program. The RTW program will be key in preventing vegetation outages from outside zone overhanging limb fall-in and inside zone tree fall-in on high priority line segments with the goal of achieving clearance of 10 ft of vegetation from ground to sky where permission allows.

Please refer to pages 49-51 of Exhibit CLP-VMP-1 which is also summarized on page 11 of Exhibit CLP-VMP-2. The Company selected 21 circuit zones with high System Average Interruption Duration Index (SAIDI) for targeted vegetation management in 2023. The table and summary table on page 50 of Exhibit CLP-VMP-1 below shows pre- and post-treatment customer reliability (CMI and CI) for circuit zones that received targeted vegetation management. This targeted vegetation management included seeking to remove within 10 feet of the outermost conductor and all overhanging vegetation. On average, the segments where targeted vegetation management was performed experienced a 94% reliability improvement demonstrating a benefit for these circuits associated with removal of overhang, trees that are too close to the distribution system, and removal of high-risk trees.

The University of Connecticut 2022 Study, A Statistical Framework for Evaluating the Effectiveness of Vegetation Management in Reducing Power Outages Caused during Storms in Distribution Networks (please refer to Exhibit CLP-VMP-4), demonstrated that, "enhanced vegetation management is particularly helpful in reducing trouble spots for lower severity storms, with reductions between 45.8% and 63.8%, and substantially reduces trouble spots during the most severe events when vegetation management is particularly comprehensive, demonstrating a 37.3% reduction when compared with circuits with little to no enhanced tree trimming." The reliability improvements were observed in individual storm events as well as in annual totals. The University of Connecticut 2022 study further elaborates that, "when compared with previous studies in the effectiveness of vegetation management activities, this analysis provides a better understanding of how more rigorous vegetation management standards (applying ETT) help reduce outages at an individual event level, for both the more frequent events and those less frequent, stronger storms, which may also occur more frequently in the future due to climate change."

Please refer to Exhibit CLP-TSP-3 where the company estimates approximately 3% reliability improvement resulting from the proposed VMP, and to Exhibit CLP-TSP-4, where the Company illustrates the impact of enhanced vegetation management and an estimated 35% SAIDI improvement on zones that currently have bare wire conductor and have had on average more than one (1) interruption per year in the examined period (2020-2023).