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Witness: John P. Dipaola-Tromba, Sean D. Redding and Jenna M. Turner
Request from: Office of Consumer Counsel

Question:

(Vegetation Management) Please provide the results of any comparison the Company has performed between LiDAR assessments and arborist field assessments, including the number and type of vegetation conditions identified by each method and any material differences in the resulting work plans.

Response:

Please refer to the Company's response to OCC-104[i] that provides an overview of LiDAR in comparison to LiDAR alternatives (e.g. Arborist field assessments), including the associated cost per mile.

The LiDAR pilot and Arborist field assessments are not directly comparable.

The LiDAR pilot was established to determine the viability of terrestrial LiDAR in Connecticut, obtain quantitative data to assess vegetation conditions along the heavily forested electric distribution system, and directly compare the efficacy and associated costs of condition-based and cycle-based maintenance programs. The quantitative data obtained through the LiDAR pilot captured fall-in risk and exact vertical and horizontal vegetation encroachment distanced from the conductors that were then analyzed systematically on a work unit level and assigned a risk level based on specification clearances. Please refer to Exhibit CLP-CMP-2, on page 14, for a summarized LiDAR pilot analysis demonstrating that of the scanned miles (approximately 4,000) 88.16% presented fall-in risk, 70.55% presented vegetation overhang, and 74.92% presented vegetation encroachment within the trim zone. The LiDAR pilot was not utilized to determine or structure the 2026 work plan; however, multiple condition-based scenarios were developed. Please refer to Exhibit CLP-VMP-2, on page 34, for condition-based scenarios developed using the LiDAR pilot data.

The Arborist field assessments were utilized to determine relative zone-level, isolating device to isolating device, prioritization on selected 2026 laterals (approximately 1,620 miles). The zone-level prioritization was a qualitative assessment of the vegetation encroachment and overhead conditions across the entire zone. Fall-in risk was not evaluated at the time of assessment. Of the assessed zone mileage, 38.43% was low priority, 36.01% was medium priority, and 25.56% was higher priority.

Prior Referenced Response:

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[i] OCC-104 Question:

(VMP/LiDAR). The company is proposing to institute LiDAR, presented as a new program component, which will cost $950,000 (Exhibit CLP-VMP-2 page 25 of 29).

What is the alternative to LiDAR and the cost? Provide analysis on the pros and cons of using LiDAR.

OCC-104 Response:

Please refer to pages 13-14 of Exhibit CLP-VMP-2, summarizing a ground-based LiDAR pilot performed by the Company in 2025 at a cost of $153 per mile. LiDAR is an effective and accurate method of assessing vegetation conditions along heavily forested electric distribution systems. As discussed on pages 33-34 of Exhibit CMP-VMP-1, the processing and classification of the LiDAR data is translated to segment level encroachment risk based on a composite evaluation of encroachment based on the VMP specifications along the segment. The segment level risk can then be evaluated by zone, isolating device to isolating device, and the customer and outage impact, so work can be prioritized and sequenced to optimize trimming for reliability.

Additionally, the LiDAR processed data can be ingested into work management software to assist with planning, scheduling, and issuing work out to contractor tree crews. There is also potential for the LiDAR to be used for contracting scheduled maintenance, providing data to contactors to identify specifically where work is needed and volumetric measures of vegetation to be trimmed. This could also assist with pricing and line-of-sight decisions on what needs to be trimmed. One aspect of LiDAR that could be perceived as a "con" is that risk tree evaluation may be limited by obstructions (e.g., trees closer to the terrestrial pulsed-laser scan); however, this will be mitigated separately through the VMP's Risk Tree Removal ("RTR") program.

The alternatives to LiDAR include (1) satellite remote sensing, (2) Arborist field assessment, and (3) no encroachment assessment.

1. Satellite remote sensing: The Company performed a satellite remote sensing pilot at a cost of $376 per mile. The encroachment assessment was not accurate (<60%) and is limited by GIS and canopy overhang. The tree health risk was also not accurate (<50%) and included false positives and negatives in the data.

2. Arborist field assessment: The Company utilized the Vegetation Management team of CT licensed Arborists to perform encroachment assessments in 2025 at a cost of $117 per mile. The cost to perform this manual assessment was similar to LiDAR but with less granularity available in the assessment data. While field assessment data can be utilized for point-in-time decision making, the lack of granularity does not allow the Company to quantify the associated volumetric workload that may assist with more precise VMP budgeting and generate more competitive pricing from contractors. Unlike LiDAR point cloud data, the manual field assessment data is not digestible by work management software and does not allow the Company to prioritize and sequence work precisely to optimize trimming for electric system reliability. Less granularity also does not allow the Company to hold maintenance contractors accountable to the vegetation conditions prior to maintenance trimming that can be compared post-maintenance trimming cycle.

3. No encroachment assessment: The Company recognizes that there is also the option to not perform any assessment at a cost of $0 per mile; however, the true cost of not assessing the vegetation conditions on the

system is the potential impact to reliability that may occur by not assessing encroachment and fall in risks to the electric system.