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July 21, 2023

DATA REQUEST RESPONSE

LIBERTY UTILITIES (LIBERTY)

Data Request No.:	OEIS-P-WMP_2023-LU-002
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Subjects:	Q01. Regarding Emergency Preparedness Back-up Battery Q02. Regarding Vegetation Management LiDAR Inspections Q03. Regarding Independent Review of Risk Modelling Q04. Regarding Risk Modeling In-House Capability
Date Received:	July 18, 2023
Due Date:	July 21, 2023

Q01. Regarding Emergency Preparedness Back-up Battery:

a. Liberty describes a back-up power program in Section 2.1.3 of its Plan to Support Populations with Access and Functional Needs During PSPS.

   i. What type of battery back-up service does Liberty provide to medical baseline customers?

   ii. In 2021 and 2022, how many customers participated in this back-up power program? How many customers does Liberty project to participate in the program in 2023, 2024, and 2025?

Response to Q01.:

a.

   i. Liberty proposed a behind-the-meter battery program for medical baseline customers in its Customer Resiliency Program application (A.22-02-008). Cal Advocates opposed the program, and the proposal was dropped in a settlement agreement submitted to the CPUC in that proceeding. Liberty is currently reevaluating options for providing back-up service to its medical baseline customers.

   ii. Liberty did not have a battery back-up service for medical baseline customers in 2021 and 2022. Liberty does not have customer projections for a battery back-up service for medical baseline customers in 2023, 2024 and 2025.

Q02. Regarding Vegetation Management LiDAR Inspections:

a. Has Liberty performed a cost-benefit analysis of its annual LiDAR inspections?

   i. If so, provide a brief discussion of the results of that cost-benefit analysis.

b. Has Liberty performed any type of effectiveness study or studies as it relates to its LiDAR inspections, including, but not limited to, the effectiveness of LiDAR to accurately calculate clearance distances and identify potential fall-in hazards?

   i. If so, provide a brief discussion of the results of that study/those studies.

Response to Q02.:

a.

i. Yes, Liberty completed a cost-benefit analysis of its annual LiDAR inspections after 2020 when the program was first implemented. The results of that analysis showed LiDAR inspections provide a lower cost per mile for performing inspections than that of ground-based inspections. Additional benefits have been realized due to the ability to perform these inspections on an annual basis resulting in a decrease in time between inspections. Below is a table demonstrating the cost difference between Liberty's various vegetation inspection methods from 2020.

Year	*Inspection*	*Cost**	*Miles Inspected***	*Cost per Mile*
2020	Detailed	$555,763.00	233	$2,385.25
2020	Patrol	$420,800.00	331.2	$1,270.53
2020	LiDAR	$369,298.00	328	$1,125.91
* Source: Attachment A WMP Performance Metrics Data pg.15 (2021 WMP Update)				
** Source: LU Notification of Substantial VM Completion in 2020				

b.

i. Liberty has not conducted an effectiveness study related to the use of LiDAR inspections. The use of LiDAR technology for utility vegetation management has been in use for several years and Liberty has relied on the use of industry specific studies that have been previously conducted to validate the accuracy of the technology. Previous studies determined LiDAR as a superior method of inspections when evaluating vegetation to conductor distances, because it eliminates human error and provides a higher degree of accuracy over vegetation inspectors.

Additionally, Liberty receives an annual technical report from its LiDAR vendor which provides data regarding calibration and accuracy of the sensors used to perform the inspections. The Liberty program LiDAR data is thoroughly tested for data accuracy and consistency using ground survey data collected at the same time as the aerial LiDAR collection. This review will confirm the data across the system is internally consistent (point to point) as well as surface to ground. The relative accuracy (internal consistency of the point to point measurement) of the data set is 2.7 cm (0.09 ft). The absolute data accuracy of the lidar surface compared to 901 ground control points was 3.5 cm (0.11ft) RMSEz (Root Mean Squared Error) and 6.8 cm (0.22 ft) at the 95 percent confidence level (RMSEz x 1.96). The result is generated by comparing the ground control points to the

LiDAR surface. This is tested using industry standards for APSRS Guidelines for Vertical Accuracy Reporting for Lidar Data.

Q03. Regarding Independent Review of Risk Modelling:

a. In Section 6.6.1 (page 101) of its WMP, Liberty states that independent review is not applicable due to being in the early stages of implementing and using a new wildfire risk model.

   i. Once Liberty has fully implemented its wildfire model, what does Liberty expect the independent review process for its wildfire risk modeling, and the data collection and generation of its wildfire risk modeling?

   ii. What elements of Liberty's wildfire risk modeling does it expect will require independent review (e.g., model integration, input data, review triggers)?

Response to Q03.:

a.

   i. Liberty expects the independent review process to be inclusive of an assortment of SMEs in the fields of wildfire, terrain, and statistics.

   ii. The independent review process should encompass the data inputs and the statistical framework/model.

Q04. Regarding Risk Modeling In-House Capability:

a. Regarding Section 6.1.1, Independent Review and Section 6.6.2, Model Controls, Design, and Review; what parts of Liberty's risk modeling capabilities will remain "in-house" after the Technosylva model is fully implemented?

   i. How are Technosylva's analytics used to make risk mitigation decisions.

   ii. Describe the roles and functions Liberty's staff have in the process that uses vendor analytics to produce risk identification, prioritization, and mitigation decisions.

b. Besides Technosylva, what other risk modeling vendors and subject matter experts will be involved in the on-going operation of Liberty's wildfire risk modeling, once fully implemented?

Response to Q04.:

a. After the risk modeling framework is fully implemented, Liberty will be able to run scenarios, develop model characteristics, and gain tactical insights from the risk modeling.

   i. Technosylva's analytics will be inputs to the risk-based decision-making frameworks that Liberty is developing in conjunction with Direxyon. The frameworks are under development and Liberty is identifying how the data and analytics will be used to inform decisions.

   ii. Liberty's staff are directly involved in decision making, collection and review of data inputs/outputs, and the development of the overall risk framework.

b. Besides Technosylva, Liberty plans to continue to work with Reax and Direxyon on its wildfire risk modeling. Liberty subject matter experts ("SMEs") will be involved in the on-going operation of Liberty's wildfire risk modeling, including SMEs from data analytics, operations, regulatory, planning and engineering.

If you have any questions or require any additional information, please contact me at:

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