



To: The Public, Local and State Agencies, and Stakeholders for Liberty Utilities' 2021 Wildfire Mitigation Plan Independent Evaluator Annual Report on Compliance

July 15, 2022

Enclosed is the Final 2021 Wildfire Mitigation Plan (WMP) Independent Evaluator Annual Report on Compliance detailing the independent evaluator's assessment of Liberty Utilities' (Liberty) compliance with its 2021 WMP. This report was prepared by Liberty's contracted independent evaluator and issued to the Office of Energy Infrastructure Safety (Energy Safety) on July 1, 2022, to fulfill the requirements of Public Utilities Code Section 8386.3(c)(2)(B)(i).

The content of this report is the work product of the respective independent evaluator. The findings and conclusions in this report do not represent the views or opinions of the Office of Energy Infrastructure Safety (Energy Safety) or any of its employees. Pursuant to Public Utilities Code Section 8386.3(c)(2)(B)(ii) the independent evaluator's findings are not binding on Energy Safety. Neither Energy Safety nor the State of California, nor any officer, employee, or any of its contractors or subcontractors makes any warranty, express or implied, or assumes any legal liability whatsoever for the contents of these documents.

On July 15, 2022, a public version of this 2021 WMP Independent Evaluator Annual Report on Compliance is published for public review and comment. Please be advised, information designated by Liberty as confidential has been redacted from the published report. Comments must be submitted no later than August 15, 2022.<sup>1</sup> Comments must be submitted to Energy Safety's e-filing system in the 2022 Independent Evaluator docket (#2022-IE).<sup>2</sup>

Sincerely,

Melissa Semcer  
Deputy Director | Electrical Safety Directorate  
Office of Energy Infrastructure Safety

---

<sup>1</sup> Dates falling on a Saturday, Sunday, or a holiday as defined in Government Code Section 6700 have been adjusted to the next business day in accordance with Government Code Section 6707.

<sup>2</sup> Submit comments to the 2022-IE docket via the Energy Safety e-filing system here: <https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2022-IE> (accessed June 28, 2022)



**NV5**

**INDEPENDENT EVALUATOR  
ANNUAL REPORT ON  
COMPLIANCE**

Independent Evaluators: **Guidehouse Inc. & NV5**

Utility: **Liberty**

June 30, 2022

# INDEPENDENT EVALUATOR ANNUAL REPORT ON COMPLIANCE

## TABLE OF CONTENTS

<b>1. Executive summary</b> .....	<b>1</b>
<b>2. Introduction</b> .....	<b>7</b>
Methodology and Approach .....	8
<b>3. Independent evaluator review of compliance</b> .....	<b>9</b>
3.1 WMP Activity Completion .....	9
3.1.1 Sampling Methodology and Discussion .....	9
3.1.2 Large Volume Quantifiable Goal/Target – Field Verifiable .....	13
3.1.2.1 Review of Initiatives .....	14
3.1.2.2 Trends and Themes .....	21
3.1.3 Large Volume Quantifiable Goal/Target – Not Field Verifiable .....	21
3.1.3.1 Review of Initiatives .....	22
3.1.3.2 Trends and Themes .....	28
3.1.4 <i>Small Volume Quantifiable Goal/Target</i> .....	28
3.1.4.1 Review of Initiatives .....	28
3.1.4.2 Trends and Themes .....	38
3.1.5 Qualitative Goal/Target .....	38
3.1.5.1 Review of Initiative .....	38
3.1.5.2 Trends and Themes .....	47
3.2 Verification of Funding .....	47
3.3 Verification of QA/QC Programs .....	53
<b>4. Conclusion</b> .....	<b>56</b>
<b>5. Appendices</b> .....	<b>ii</b>

## 1. EXECUTIVE SUMMARY

*The Executive Summary should contain key takeaways from the Independent Evaluator’s evaluation, including key findings from the Independent Evaluator’s audit of Wildfire Mitigation Plan (WMP) activity completion, verification of funding, and verification of QA/QC programs.*

This report provides a review of the wildfire mitigation initiatives Liberty Utilities (CalPeco Electric or “Liberty”) implemented in 2021 and an accounting of whether Liberty met its performance objective targets, whether it is underfunding any of those initiatives, and whether Liberty is following its QA/QC processes. The Independent Evaluator (IE) review of these elements determined that Liberty is working towards implementing its initiative objectives, but many did not meet the targets set forth in the WMP. Relatedly, Liberty underfunded many of the WMP initiatives. The shortfalls in both the spending and the implementation were aggravated by the Caldor and Tamarack fires that burned into the Liberty’s service territory diverting resources away from mitigation efforts. Lastly, while Liberty has begun implementing its QA/QC processes, additional maturation is needed within those programs to achieve the desired results.

The table below illustrates the IE findings for those initiatives that were not deemed sufficient due to sufficient evidence to completely validate the evidence during the review period, a lack or insufficiency of evidence, or funding below the planned 2021 targets set forth by the ***Liberty Utilities 2021 Wildfire Mitigation Plan Update 2021***.

**Table 1: Liberty 2021 WMP Execution - Insufficient Findings**

2021 Initiative Number	Initiative Name	Finding	Detail on Finding
7.3.2.1	Advanced weather monitoring and weather stations	This initiative target was not met	The IE determined based on the evidence provided and responses to the data requests, Liberty did not install any of the initiatives 10 weather stations due to Tamarack and Caldor fire responses and supply chain issues impacted Liberty's ability to meet installation targets.
7.3.2.2	Continuous monitoring sensors	This initiative target was not met	The IE has determined that the quantitative target for installing 10 DFAs for this initiative as described in the 2021 WMP was not met.
7.3.3.3	Covered conductor installation	This initiative target was not met	The IE determined that the quantitative target of installing

2021 Initiative Number	Initiative Name	Finding	Detail on Finding
			9.1 circuit miles of covered conductor for this initiative as described in the 2021 WMP was not met.
7.3.3.6	Distribution pole replacement and reinforcement, including with composite poles	This initiative target was not met	Liberty only completed 211 pole replacements against a goal of 440 for 2021.
7.3.3.7	Expulsion fuse replacement	This initiative target was not met	Liberty only completed 867 pole replacements against a goal of 1500 for 2021.
7.3.3.9	Installation of system automation equipment	This initiative target was not met	Based on the WMP target and supporting evidence, the IE has reasonable assurance this target was not met.
7.3.3.12	Other corrective action	Inconclusive	The IE was not able to validate the target of 60 green jacket installations in 2021. The Q4 QIU stated that 37 of the 60 installations were performed, but relevant data and evidence was not provided to the IE to substantiate this information.
7.3.4.1	Detailed Inspections	This initiative target was not met	The IE was only able to verify the completion of 59.8 miles of inspections against an original goal of 210 and a modified goal of 328 miles
7.3.4.6	Intrusive pole inspections	This initiative target was not met	Based on the available information and discussion with Liberty CalPeco, the IE has reasonable assurance Liberty performed 3,506 intrusive pole inspections, however, this is short of the stated goal of 3,600 inspections.
7.3.4.14	Quality assurance / quality control of inspections	This initiative target was not met	The IE has determined that the target for this initiative as described in the 2021 WMP

2021 Initiative Number	Initiative Name	Finding	Detail on Finding
			was still in progress and not met in 2021.
7.3.4.15	Substation inspections	This initiative target was not met	Liberty completed 38 substation inspections on the 13 substations in their territory, however, this is short of the stated goal of 46 substation inspections.
7.3.5.1	Additional efforts to manage community and environmental impacts	This initiative target was not met	Liberty was not able to treat 13-line miles for additional efforts to manage community and environmental impacts.
7.3.5.2	Detailed inspections of vegetation around distribution electric lines and equipment	This initiative target was not met	Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE determined that the target for this initiative as described in the 2021 WMP was not met.
7.3.5.7	LiDAR inspections of vegetation around distribution electric lines and equipment	This initiative target was not met	Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE determined that the target for this initiative as described in the 2021 WMP was not met.
7.3.5.15	Remediation of at-risk species	This initiative target was not met	Liberty was only able to treat 238 of the targets 328 line miles planned in 2021
7.3.5.16	Removal and remediation of trees with strike potential to electric lines and equipment	This initiative target was not met	Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE determined that the target for this initiative as described in the 2021 WMP was not met.
7.3.6.1	Automatic recloser operations	This initiative target was not met	Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE has

2021 Initiative Number	Initiative Name	Finding	Detail on Finding
			determined that the qualitative target for this initiative as described in the 2021 WMP was not met.
7.3.6.3	Personnel work procedures and training in conditions of elevated fire risk	Inconclusive	The IE determined with reasonable assurance the evidence Liberty provided demonstrated that the Fire Prevention Plan (FPP) training was conducted on 6/17/21. However, the IE was not able to verify that all required employees, contractors, and consultants that conduct activities in the wildland areas of the service territory received the <b>Fire Prevention Plan Training</b> and attended the training on 6/17/21.
7.3.7.1	Centralized repository for data	This initiative target was not met	The IE determined that Liberty was not able to develop a centralized data lake by end of 2021
7.3.2.1	Advanced weather monitoring and weather stations	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.2	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.3	Covered conductor installation	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.6	Distribution pole replacement and reinforcement, including with composite poles	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.7	Expulsion fuse replacement	Initiative Underfunded	See Section 3.2 for more details.

2021 Initiative Number	Initiative Name	Finding	Detail on Finding
7.3.3.12	Other corrective action	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.16	Undergrounding of electric lines and/or equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.3	Improvement of inspections	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.4	Infrared inspections of distribution electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.9	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.13	Pole loading assessment program to determine safety factor	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.14	Quality assurance / quality control of inspections	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.15	Substation inspections	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.1	Additional efforts to manage community and environmental impacts	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.5	Fuel management and reduction of “slash” from vegetation management activities	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.7	LiDAR inspections of vegetation around distribution electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.11	Patrol inspections of vegetation around distribution electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.



2021 Initiative Number	Initiative Name	Finding	Detail on Finding
7.3.5.13	Quality assurance / quality control of vegetation inspections	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.15	Remediation of at-risk species	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.16	Removal and remediation of trees with strike potential to electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.20	Vegetation management to achieve clearances around electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.6.7	Stationed and on-call ignition prevention and suppression resources and services	Initiative Underfunded	See Section 3.2 for more details.
7.3.7.1	Centralized repository for data	Initiative Underfunded	See Section 3.2 for more details.
7.3.7.2	Collaborative research on utility ignition and/or wildfire	Initiative Underfunded	See Section 3.2 for more details.
7.3.9.1	Adequate and trained workforce for service restoration	Initiative Underfunded	See Section 3.2 for more details.
7.3.10.1	Community engagement	Initiative Underfunded	See Section 3.2 for more details.

## 2. INTRODUCTION

*The Introduction should contain upfront context and a high-level summary of the work performed by the Independent Evaluator*

Liberty Utilities (CalPeco Electric) (“Liberty”) is a small multi-jurisdictional utility serving approximately 49,000 customers along the western and southern shores of Lake Tahoe in northern California. Liberty’s service area covers a relatively compact area of forested wildlife habitats encompassing dense vegetation, high mountains, and the local communities. Accordingly, Liberty’s service area represents areas of California Public Utilities Commission-defined High Fire Threat Districts (HFTDs) including Tier 2 elevated and Tier 3 extreme risk areas.

The state of California has seen an increase of disastrous wildfires in recent years. In the last decade, the California Department of Forestry and Fire Protection (CAL FIRE) reports that larger and more aggressive fires are occurring year over year resulting from prolonged drought conditions, a hotter climate, historic fire suppression, forest management, and bark beetle infestations. Several of the most damaging fires, including but not limited to the Camp Fire and the Dixie Fire, were ignited by utility equipment and operations. This spurred California to pass legislation and supporting regulations requiring electrical corporations (ECs) to develop and implement an annual wildfire mitigation plan (WMP), submit periodic filings on the implementation of initiatives under the WMP, and submit to an Independent Evaluation to review and assess the EC’s compliance with their WMP<sup>1</sup> by a qualified independent evaluator (IE)<sup>2</sup>.

### **Wildfire Mitigation Plan Independent Evaluation Engagement**

This report serves as the IE Annual Report on Compliance (IEARC or “Report”) that aligns with the scope executed in this work in accordance with the scope set forth by the Office of Energy Infrastructure Safety (“Energy Safety”) on November 5, 2021.<sup>3</sup> All California ECs are required to engage and contract with a qualified IEs to perform the compliance assessment and deliver a report before July 1, 2022.

This IE report aims to verify WMP compliance activities of Liberty for its 2021 performance as it corresponds to the initiatives the IOU planned to accomplish in 2021 compared to actual performance, whether those activities were funded appropriately, and validate and describe the EC’s QA/QC programs for WMP compliance.

---

<sup>1</sup> Public Utilities Code (PUC) § 8386.3.

<sup>2</sup> NV5 and Guidehouse were designated as an eligible Qualified Independent Evaluator on February 8, 2022 as part of the 2021 WMP: Revised 2022 IE Enlistment available at <https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52018&shareable=true>.

<sup>3</sup> California Public Utilities Commission, “Final Independent Evaluator Scope of Work for the Review of Compliance with 2020 WMP,” April 21, 2021 (“April 21 IE Scope of Work”). Available at [https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About\\_Us/Organization/Divisions/WSD/Final%20IE%20SOW\\_20210421.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/Final%20IE%20SOW_20210421.pdf).

## Methodology and Approach

The Report is the product of the IE's assessments of the EC's WMP, publicly available documentation submitted to the Energy Safety, data request responses, field visits, and interviews with the EC's subject matter experts (SMEs). The Report scope includes an assessment of the successful implementation of the ECs' WMP initiative activities, funding, and QA/QC efforts executed in 2021.

To perform this assessment, the IE adopted the following approach:

- **Review publicly available information, including the WMP:** The IE reviewed publicly available information to prepare for the assessment including the subject utility's WMP, and other publicly released or submitted documents. Review publicly available documents, which should include, at minimum, the WMP initiatives
- **Prepare initiative and subsequent data requests:** The first data request focused on programmatic level documentation such as the utility's vegetation management program, inspection program, grid hardening program(s), etc. Additional information to request includes any of the WMP submissions that are not on public websites or not available in useful formats and supplemental geographic information system (GIS) spatial data. This provides the IE a baseline understanding of available documentation apart from publicly available sources.
- **Document discovery review:** Review the supplemental information about the WMP initiatives in the Quarterly Data Reports (QDRs), Annual Report on Compliance (ARC), and the Quarterly Initiative Update (QIU). Review each data request response for completeness, responsiveness, and thoroughness. These materials should address all three subject areas addressed in the report – implementation of initiatives, initiative funding and QA/QC material.
- **Perform risk assessment for field inspections:** Using GIS maps submitted by the EC, the IE identified areas where there is a substantial intersection between risk areas, including High Fire Threat Districts and Wildland Urban Interface populations and WMP initiative activities across the utility's service territory to select meaningful locations for possible site visits to verify initiative activities performed in 2021.
- **Conduct field inspection survey:** This includes a visual patrol assessment of identified circuits and electrical assets within the selected areas. Results are captured on site and incorporated with other findings of the document discovery tasks.
- **Interpret document and field inspection results:** Utilizing the WMP and other related compliance documents submitted to the Energy Safety, the IE reviews the field inspection site notes, data request responses, and other evidence of the performed WMP activities and prepared findings surrounding each scoped initiative activity. The IE also conducts interviews, as needed, with SME personnel to gain additional details and clarify questions on program and project targets and QA/QC performance.

### 3. INDEPENDENT EVALUATOR REVIEW OF COMPLIANCE

*The Independent Evaluator Review of Compliance section is for the Independent Evaluator to provide an overview of its process for review and assessment of the electrical corporation's compliance with its WMP.*

*In the sections below, provide a review of the electrical corporation's WMP activity completion, verification of funding and verification of QA/QC programs.*

#### 3.1 WMP Activity Completion

*The WMP Activity Completion section should detail the Independent Evaluator's review and verification of compliance for all WMP activities that have specific quantifiable or qualitative performance goals/targets set forth in the electrical corporation's 2020 WMP.*

*In-scope WMP activities have been broken out into four categories:*

- 1. Large volume ( $\geq 100$  units) + quantifiable goal/target + field verifiable WMP activities*
- 2. Large volume ( $\geq 100$  units) + quantifiable goal/target + non-field verifiable WMP activities*
- 3. Small volume ( $< 100$  units) + quantifiable goal/target WMP activities*
- 4. Qualitative goal/target WMP activities*

*The Energy Safety expects Independent Evaluators to assess compliance via multiple dimensions, including work completion, work quality, and adherence to applicable protocols and procedures. For Field Verifiable WMP activities, the Independent Evaluator must verify work quality in addition to completion of initiative installation and adherence to applicable protocols and procedures. For all other WMP activities, the Independent Evaluator must verify initiative installation and adherence to applicable protocols and procedures.*

#### 3.1.1 Sampling Methodology and Discussion

*In this section, the Independent Evaluator should describe its sampling methodology, the samples that were chosen, and areas of focus. The Independent Evaluator may include the samples that were chosen in the Appendix instead of this section.*

*The Independent Evaluator should also include a discussion of how results of the sampled assessment are indicative of the electrical corporation's broader implementation of WMP initiatives, to give the Energy Safety an understanding of the process the Independent Evaluator used to estimate full completion.*

#### IE Evidence Sampling Methodology

The IE approach to sampling initiatives attempted to formalize a strategy to achieve a statistically valid representative sample of project initiatives in a manner that is objective.

The IE conducted a random sample of the data for each initiative requiring it. The sample size is based upon the North American Electric Reliability Corporation (NERC) **ERO Sampling**

**Handbook Revision 1.0.**<sup>4</sup>This methodology is recognized by the Generally Accepted Government Auditing Standards (GAGAS or “the Yellow Book” which is the US federal government’s General Accounting Office’s auditing guidebook) and the Institute of Internal Auditors (IIA).<sup>5</sup>This handbook sets forth the statistically valid sample size for different populations as can be seen in **Table 2: Sampling Methodology Based on Overall Population** below. This method is used to sample populations of tens of thousands of relays and cyber devices, among other things, in accordance with NERC’s obligations mandated by FERC as part of the Federal Power Act Sec 215.<sup>6</sup>

**Table 2: Sampling Methodology Based on Overall Population**

Sample Table A	
Population Description	Sample Selection
<b>Statistical Sampling</b>	
<b>Primary Population</b>	
(Examples: Substations, Generating Stations, ESPs, PSPs,	<b>Using Statistical Sampling</b>
1-8	Entire population
9 +	8 Samples
<b>Dependent Population of Elements:</b>	
(Examples: Relays, CCAs, Routers, Firewalls & Other	<b>Using Statistical Sampling</b>
1-9	All Elements
10-19	9 Samples
20-40	16 Samples
41-100	23 Samples
101-1000	29 Samples
1001 +	33 Samples
<b>Independent Population of Elements:</b>	
(Examples: Transmission Segments, Blackstart units, Outages, Mis-operations, Daily Operations reports, Line Ratings, others)	<b>Using Statistical or Judgemental Sampling</b>
1-9	All Elements
10-19	9 Samples
20-40	16 Samples
41-100	23 Samples
101-1000	29 Samples
1001 +	33 Samples

Once a sample size is generated, the IE developed and utilized a random sampling tool developed in Excel, to automatically select the sample from the list based on the table above. The IE applied that methodology to the populations of identified elements in the selected

<sup>4</sup> ERO Sampling Handbook, Revision 1.0, North American Electric Reliability Corp. (2015). Available at [https://www.nerc.com/pa/comp/Documents/Sampling\\_Handbook\\_Final\\_05292015.pdf](https://www.nerc.com/pa/comp/Documents/Sampling_Handbook_Final_05292015.pdf).

<sup>5</sup> *Id.* at p. 1.

<sup>6</sup> 16 U.S.C. § 824o.

areas. The IE used the same sampling methodology for initiatives that were and were not field verifiable.

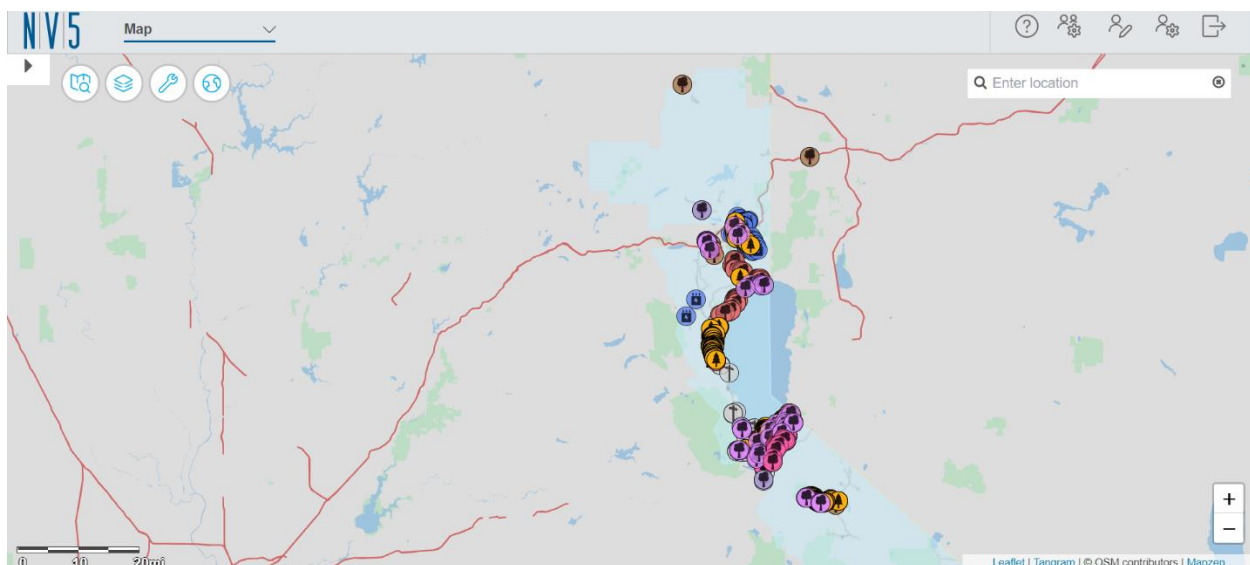
### Review of Discovery & Field Inspection Results

Field inspection findings contributed to the documentation discovery process by validating whether activities were executed in accordance with the WMP description of activities. The IE compared these results with documentation produced by the electrical corporation to verify accuracy in reporting.

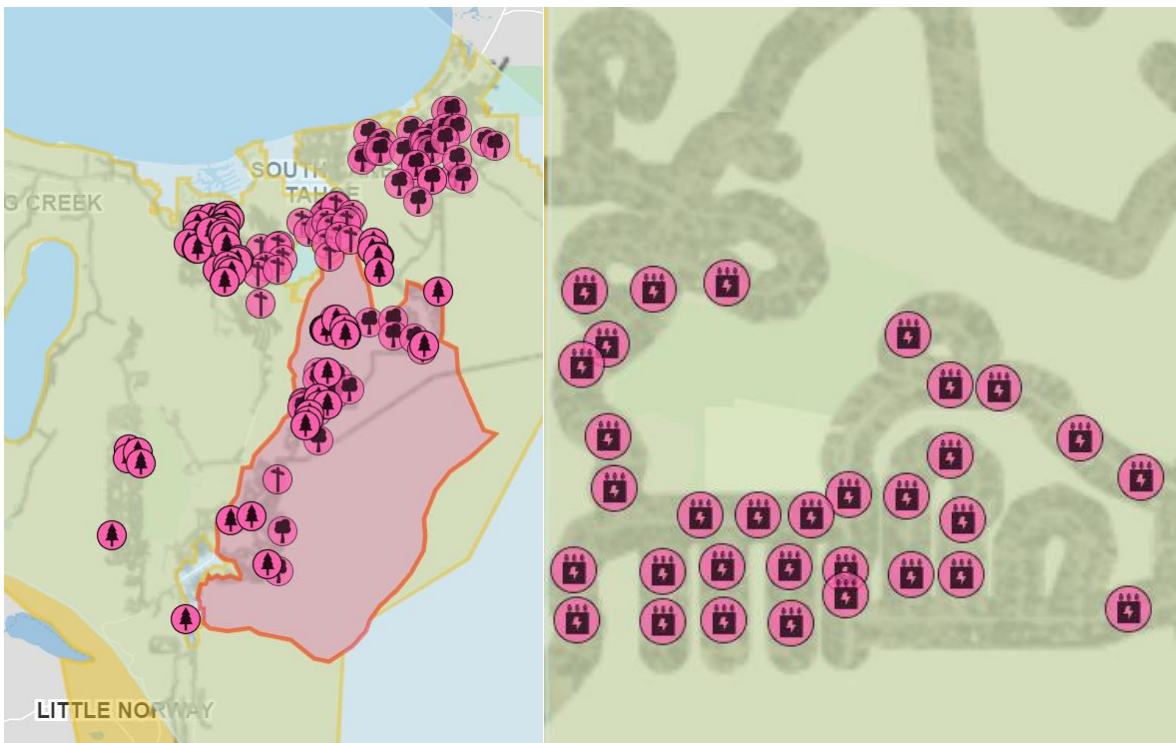
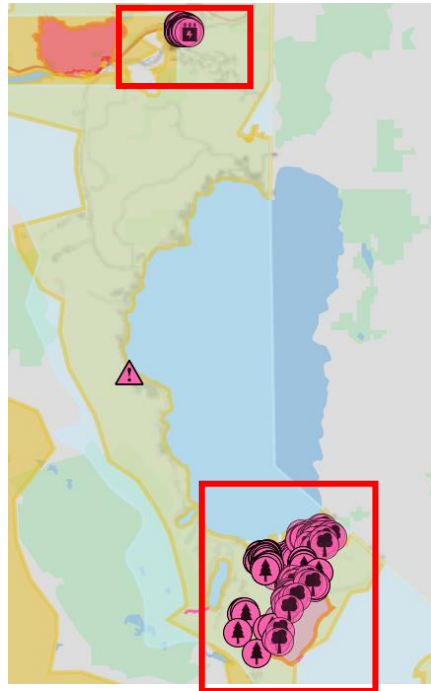
The IE identified sample areas with conditions illustrating high fire risk and ignition potential within the electrical corporation's service territory. The field inspection location boundaries were layered over the service territory of the utility, along with owned and operated assets, and other geological factors to determine the location of the evaluation. As the principal map, the IE layered the three Tiers within the CPUC's HFTD map.

The IE concentrated its field verification efforts within two specific regions/zones. The selected area was identified through both risk and practical considerations. The practical element focused on the accessibility of the locations for both physical, ground based, inspections and possible UAV operations as well as the observability of the work completed. The final regions were selected in consultation with Energy Safety and focused on areas that (1) had significant levels of field verifiable activities completed, (2) provided the ability to perform the greatest number of verifications given the time frame allowed, and (3) had conditions that present high fire risk and ignition potential. The IE then developed and utilized a random sampling tool developed within our proprietary mapping and auditing tool, INSITE, to randomly select assets for field verification within the chosen zones.

The image below illustrates the amount of reported field verifiable work completed by Liberty Utilities in 2021 as part of the efforts made to comply with the WMP.



IE field verification activities were concentrated in the areas shown below. Site selection was made using the methodology and criteria explained above and in consultation with Energy Safety.



### 3.1.2 Large Volume Quantifiable Goal/Target – Field Verifiable

The following is a list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Field Verifiable category and their respective goals/targets:

**Table 3: Large Volume, Quantifiable Goal, Field Verifiable Initiatives**

WMP Section	Program Category	WMP Initiative	Target Units	2021 Target <sup>7</sup>	Target Met
7.3.3.6	Grid Design & System Hardening	Distribution pole replacement and reinforcement, including with composite poles	Poles	400	No
7.3.3.7	Grid Design & System Hardening	Expulsion fuse replacement	Expulsion Fuses Replaced	1500	No
7.3.5.5	Vegetation Management	Fuel management and reduction of “slash” from vegetation management activities	Tons of Biomass Removed	2,100	Inconclusive
7.3.5.15	Vegetation Management	Remediation of at-risk species	Line Miles Treated	230	No
7.3.5.16	Vegetation Management	Removal and remediation of trees with strike potential to electric lines and equipment	Number of line miles treated	360	No
7.3.5.20	Vegetation Management	Vegetation management to achieve clearances around electric lines and equipment	Line Miles Treated	328	Yes

<sup>7</sup> California Public Utilities Commission, “Final Independent Evaluator Scope of Work for the Review of Compliance with 2020 WMP,” April 21, 2021.

[https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About\\_Us/Organization/Divisions/WSD/Final%20IE%20SOW\\_20210421.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/Final%20IE%20SOW_20210421.pdf)

<sup>7</sup> 2021 targets were provided by Liberty in *NV5-Liberty-WMP-05\_6.2.21.xls*



### 3.1.2.1 Review of Initiatives

*This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Large Volume Quantifiable Goal/Target – Field Verifiable category. Independent Evaluators shall conduct field verification to confirm installation, work quality, and adherence to applicable utility protocols and standards for such work.*

*Include the electrical corporation's list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Field Verifiable category, including respective goals/targets for each, in the Appendix or within the body of this subsection.*

#### **Distribution pole replacement and reinforcement, including with composite poles (7.3.3.6)**

According to section 7.3.3.6 of **Liberty CalPeco 2021 WMP Update PUBLIC**, inspections were performed on Liberty's entire network of distribution poles following a system-wide 2020 survey. Based on G.O. 95 conditions (Level 1, 2, or 3), inspectors identified distribution poles which required replacement. During 2021, Liberty targeted a large volume quantifiable goal of replacing 400 level 2 poles in HFTD 2 areas. The quarterly pole replacement projections Liberty produced for 2021 can be reviewed in **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised**.

Liberty declared the status as in progress, per the **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised**, for the 2021 large volume quantitative goal. Liberty reported 211 distribution pole replacements took place in 2021; 16 replacements in Q1, 22 replacements in Q2, 54 replacements in Q3, and 119 replacements in Q4.

The IE requested location data for the applicable system hardening activities from Liberty in **Data Request 2**. Liberty responded to the data request but failed to provide corresponding documentation in reference to the large volume quantitative goal at-hand. Due to the omission of relevant supporting evidence and inability to review progress toward the 2021 goal, the IE sent a follow up email requesting Liberty to provide global positional coordinate data for all applicable work performed within system hardening activities. Liberty provided a spreadsheet itemizing pole replacement, covered conductor installation, expulsion fuse replacement, and UG conductor installation activities. The spreadsheet details the record ID, GPS coordinates, circuit ID, previous and new assets numbers, and unit types for each of the four activities. The data within the spreadsheet can be reviewed in **LU\_Completed\_Grid\_Hardening\_2021\_20220519**. The IE observed 211 pole replacement activities recorded within the provided spreadsheet. Liberty committed to a large volume quantitative goal of completing 400 pole replacements in 2021. The provided spreadsheet did not provide job numbers, completion dates, or work order numbers for the pole replacement activities.

To further verify Liberty completed the pole replacement activities, the IE performed a field inspection review of 32 of the reported replacements by Liberty. The field inspection showed that all 32 sampled pole replacements were compliant. The results of the inspection can be found in Table 4 below. Based on the field inspection, the IE has reasonable assurance Liberty performed 211 pole replacement activities in 2021.

**Findings:** Based on the WMP target and supporting evidence, the IE has reasonable assurance Liberty did not meet its goal of 400 pole replacement activities in 2021. Liberty was able to complete 211 pole replacements in 2021. The IE recommends Liberty continue to complete all level 2 replacements in 2022 before initiating level 3 pole replacement activities.

**Table 4: Pole Replacements Field Verification Results**

Inspection Date	Asset ID	Circuit ID	Status
5/22/2022	294976	MEY3500	Compliant
5/22/2022	294975	MEY3500	Compliant
5/22/2022	294974	MEY3500	Compliant
5/22/2022	294973	MEY3500	Compliant
5/22/2022	294972	MEY3500	Compliant
5/22/2022	294971	MEY3500	Compliant
5/22/2022	294969	MEY3500	Compliant
5/22/2022	294968	MEY3500	Compliant
5/22/2022	294967	MEY3500	Compliant
5/22/2022	294966	MEY3500	Compliant
5/22/2022	294965	MEY3500	Compliant
5/22/2022	294964	MEY3500	Compliant
5/22/2022	294963	MEY3500	Compliant
5/22/2022	294962	MEY3500	Compliant
5/22/2022	294961	MEY3500	Compliant
5/22/2022	294960	MEY3500	Compliant
5/22/2022	294976	MEY3500	Compliant
5/23/2022	294975	MEY3500	Compliant
5/23/2022	294974	MEY3400	Compliant
5/23/2022	294973	MEY3200	Compliant
5/23/2022	294972	MEY3200	Compliant
5/23/2022	294971	MEY3200	Compliant
5/23/2022	294969	MEY3200	Compliant
5/23/2022	294968	MEY3200	Compliant
5/23/2022	294967	MEY3200	Compliant
5/23/2022	294966	MEY3200	Compliant
5/23/2022	294965	MEY3200	Compliant
5/23/2022	294964	MEY3200	Compliant
5/23/2022	294963	MEY3200	Compliant
5/23/2022	294962	MEY3500	Compliant
5/22/2022	294961	MEY3500	Compliant
5/22/2022	294960	MEY3500	Compliant

#### Expulsion Fuse Replacement (7.3.3.7)

**Liberty CalPeco 2021 WMP Update PUBLIC** included a 2021 target for this initiative to install

1,500 fuses per year until approximately 9,000 fuses in Liberty’s HFTD Tier 2 and Tier 3 areas are replaced. Reported in the *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised* quarterly submission workbook, Liberty indicates that 867 fuses were installed in 2021. In the *Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan\_Revised\_20220404* Liberty explains that in 2021 it was able to resolve its supply chain issues by expanding the pool of suppliers and intends to maintain its target of 1,500 expulsion fuse replacements for 2022. Project spend for this initiative in the ARC indicated a forecast spend of \$1,200,000 with an actual reported spend of \$599,778. Liberty provided detail to the variance stating, “Tamarack and Caldor fire responses and supply chain issues impacted Liberty's ability to meet installation targets.”

The IE submitted *Data Request 2* for locational data details demonstrating where, what types of actions, and dates of actions executed for the 2021 WMP activities. Liberty provided document *LU\_Completed\_Grid\_Hardening\_2021\_20220519* which included the necessary information to conduct random sampling for field and desktop verification. The IE submitted *Data Request 5* to obtain verification of location of the 32 sampled fuses as well as the evidence of work performed so a desktop evaluation could be conducted.

The IE surveyed the sample locations within Liberty’s service area. As seen in Table 5, 31 of the 32 assets surveyed received satisfactory results with one asset being found to be non-compliant due to missing information. It is important to note that following the random sampling Liberty informed the IE that nine of the randomly sampled assets were provide in the master list in error. The one asset that failed inspection fell into this grouping. Liberty provided the following explanation for the error:

“Of the 32 fuse locations listed in this audit, 9 of them did not actually have fuses replaced. This is due to a reporting and data collection error. When 9 locations (transformers) were checked in the field, it was found that those locations did not have or require fuses because the transformers were CSP style. CSP stands for Completely Self-Protected. The field personnel recorded the CSP status but also entered the date in the “fuse install date” field by mistake. Then when the source data was pulled for reporting we failed to filter out the records that had an install date but also had a status of CSP. Liberty should not have recorded an install date and should have checked the status field to catch this mistake. This will be corrected in the future.”

The remainder supports evidence that fuse installations within the field inspection area were installed in compliance with associated rules and regulations.

**Table 5: Expulsion Fuse Replacement Field Verification Results**

Inspection Date	Asset ID	Circuit ID	Status
5/22/2022	751329	GLS7400	Compliant
5/22/2022	750739	GLS7400	Compliant
5/24/2022	750710	GLS7400	Compliant
5/23/2022	750682	GLS7400	Compliant
5/23/2022	750377	GLS7400	Compliant
5/23/2022	750376	GLS7400	Compliant
5/23/2022	619325	GLS7400	Compliant

Inspection Date	Asset ID	Circuit ID	Status
5/22/2022	615994	GLS7400	Compliant
5/22/2022	548114	GLS7400	Compliant
5/23/2022	517513	GLS7400	Compliant
5/23/2022	514885	GLS7400	Compliant
5/23/2022	104227	GLS7400	Compliant
5/23/2022	103458	GLS7400	Compliant
5/23/2022	102485	GLS7400	Compliant
5/22/2022	102435	GLS7400	Compliant
5/23/2022	102314	GLS7400	Compliant
5/23/2022	102149	GLS7400	Compliant
5/23/2022	79585	GLS7400	Compliant
5/23/2022	79464	GLS7400	Compliant
5/23/2022	75520	GLS7400	Compliant
5/23/2022	64678	GLS7400	Compliant
5/23/2022	64677	GLS7400	Compliant
5/22/2022	50965	GLS7400	Compliant
5/22/2022	50915	GLS7400	Compliant
5/22/2022	48430	GLS7400	Non-Compliant
5/23/2022	45600	GLS7400	Compliant
5/23/2022	41915	GLS7400	Compliant
5/22/2022	40648	GLS7400	Compliant
5/22/2022	39265	GLS7400	Compliant
5/22/2022	34299	GLS7400	Compliant
5/22/2022	15477	GLS7400	Compliant
5/23/2022	11653	GLS7400	Compliant

**Finding:** Based on the WMP target and supporting evidence, the IE determine that Liberty did not meet its goal of 1500 fuses in 2021. Liberty was only able to complete 867 fuses in 2021 due to Tamarack and Caldor Fires as well as supply chain issues.

#### **Fuel management and reduction of “slash” from vegetation management activities (7.3.5.5)**

According to the table for initiative 7.3.5.5 in “*Liberty\_2021\_QIU\_Q4\_FINAL\_Revised,*” Liberty planned to perform several projects focused on fuel management and reduction in slash. Liberty planned to remove 2,100 tons of biomass in 2021.

The IE submitted a data request for additional documents demonstrating the completion of the inspections for the 2,118-line miles. In response, Liberty provided the Vegetation Management Plan “*VM-02-2\_Vegetation Management Plan,*” as an initial artifact, which does not reference the WMP. It is noted the WMP provided a significant amount of detail in comparison to the Vegetation Management plan.

The IE reviewed the initial documents provided by Liberty and determined Liberty's stated the actual biomass removed was 2,118 tons. The IE determined supplemental documents were needed to validate and complete the evaluation. The IE submitted *Data Request 1* for documents to demonstrate the removals were completed as proposed for 2021. Liberty provided document "**2021 Completed VM**" which included a list of fuel management and reduction of "slash" from vegetation management activities during 2021. The IE requested an interview to discuss the process and documentation. The IE conducted an interview with Liberty, during which Liberty walked through their evidence and explained their program. It was also confirmed that the list provided was extracted from a database that stores the details from each inspection ticket. The IE had Liberty explain the process. During the discussions, it was noted that the information in the evidence provided by Liberty did not allow for verification of biomass removals. The IE submitted *DR 4*, item 46 for an updated report that includes a mapped-out version addressing the tons of biomass removed.

To further validate that the biomass removal addressed the target for 2021, Liberty provided document **Response to NV5-LIB DR4** that provides the details to calculate the amount of biomass removed. The report provided accounts for 2,118 tons of biomass, specific to this initiative. Upon completion of the documentation review and the interviews, the IE has reasonable assurance Liberty is meeting the obligation of this initiative.

**Finding:** Based on the WMP, documentation reviewed, and interviews, the IE has reasonable assurance Liberty has performed the fuel management and reduction of "slash" from vegetation management activities required for this initiative activity as described in the 2021 WMP. However, the IE was unable to perform field verifications during the review period and therefore the findings for this initiative were inconclusive.

#### **Remediation of at-risk species (7.3.5.15)**

According to document **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised**, specific to remediation of at-risk species, Liberty planned to implement and perform this maintenance on 328-line miles for initiative 7.3.5.15 in 2021.

Liberty's actual line miles treated for initiative was 238-line miles for initiative 7.3.5.15 in 2021. To demonstrate this, Liberty provided the Vegetation Management Plan (**VM-02-2\_Vegetation Management Plan**) as an initial artifact, which does not reference the WMP. This plan included high-level standards for remediations as identified in the WMP. It is noted the WMP provided a significant amount of detail in comparison to the Vegetation Management Plan.

The IE submitted *Data Request 1* for additional documents to demonstrate remediations were completed on the stated line miles. Liberty provided document "**2021 Completed VM**" in response. The IE reviewed the provided document and performed a follow up interview with Liberty personnel during which Liberty walked through their evidence and explained their remediation program. During the discussions, it was also noted that the information in the evidence provided by Liberty did not allow for verification of line miles. The IE submitted *DR 4*, item 46 for an updated report that includes a mapped-out version that addresses the line miles for initiative 7.3.5.15. During the interview it was confirmed that the list provided was extracted

from a database that stores the details from each inspection ticket. The IE had Liberty explain the inspection process and display a sampling of tickets associated with the inspection list.

To further validate that the remediations, Liberty provided document ***Response to NV5-LIB DR4*** in response to DR 4, item 46, which maps out the line miles specific to this initiative. The report provided accounts for 238-line miles treated for 7.3.5.15.

The IE also performed field verifications for this initiative by sampling 21 maintenance orders of the total population of maintenance orders for 2021. The field verification was performed between May 11, 2022, and May 13, 2022. During the field verifications, the IE was unable to verify the work had been completed or they couldn't locate the tree as described for at least four (4) work orders.

**Finding:** Based on the WMP, documentation reviewed, interviews, and field verifications, the IE has reasonable assurance that Liberty did not meet the obligation of this initiative.

#### **Removal and remediation of trees with strike potential to electric lines and equipment (7.3.5.16)**

According to document ***Liberty\_2021\_QIU\_Q4\_FINAL\_Revised***, specific to addressing removal and remediation of trees with strike potential to electric lines and equipment, Liberty planned to implement and perform this maintenance on 150-line miles for initiative 7.3.5.16 in 2021.

Liberty provided the Vegetation Management Plan "***VM-02-2\_Vegetation Management Plan***", as an initial artifact, which does not reference the WMP. This plan included high-level standards for remediations as identified in the WMP. It is noted the WMP provided a significant amount of detail in comparison to the Vegetation Management Plan.

The IE submitted *Data Request 1* for additional documents to demonstrate remediations were completed on the stated line miles. Liberty provided document "***2021 Completed VM***" in response. The IE reviewed the provided document and performed a follow up interview with Liberty personnel during which Liberty walked through their evidence and explained their remediation program. During the discussions, it was also noted that the information in the evidence provided by Liberty did not allow for verification of line miles. The IE submitted DR 4, item 46 for an updated report that includes a mapped-out version that addresses the line miles for initiative 7.3.5.16. During the interview it was confirmed that the list provided was extracted from a database that stores the details from each inspection ticket. The IE had Liberty explain the inspection process and display a sampling of tickets associated with the inspection list.

To further validate that the remediations, Liberty provided document ***Response to NV5-LIB DR4*** in response to DR 4, item 46, which maps out the line miles specific to this initiative. The report provided accounts for 127.6-line miles treated for 7.3.5.16.

The IE also performed field verifications for this initiative by sampling 32 remediation orders of the total population of remediation orders for 2021. The field verification was performed between May 11, 2022, and May 13, 2022. During the field verifications, the IE was unable to verify the work had been completed or they couldn't locate the tree as described for at least three (3) work orders.

**Finding:** Based on the WMP, documentation reviewed, interviews and field verifications, the IE has reasonable assurance that Liberty did not meet the obligation of this initiative.

#### **Vegetation management to achieve clearances around electric lines and equipment (7.3.5.20)**

According to document *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised*, specific to addressing Vegetation Management to achieve clearances around electric lines and equipment, Liberty complies with General Order 95, rule 35. Liberty uses the prescribed guidance to establish necessary and reasonable clearances, the minimum clearances set forth in Table 1, Cases 13 and 14, measured between line conductors and vegetation under normal conditions are maintained, and removal and remediation of trees with strike potential is continuous and ongoing through Routine Vegetation Maintenance and Catastrophic Event Memorandum Account (CEMA) programs in accordance with required laws and regulations.

Liberty planned to implement and perform this maintenance on 328-line miles for initiative 7.3.5.20 in 2021.

Liberty's actual stated line mile treated for initiative was 360-line miles for initiative 7.3.5.20 in 2021. Liberty provided the Vegetation Management Plan "**VM-02-2\_Vegetation Management Plan**", as an initial artifact, which does not reference the WMP. This plan included high-level standards for clearances as identified in the WMP. It is noted the WMP provided a significant amount of detail in comparison to the Vegetation Management Plan.

The IE submitted *Data Request 1* for additional documents to demonstrate clearances were completed on the stated line miles. Liberty provided document "**2021 Completed VM**" in response. The IE reviewed the provided document and performed a follow up interview with Liberty personnel during which Liberty walked through their evidence and explained their clearance program. During the discussions, it was also noted that the information in the evidence provided by Liberty did not allow for verification of line miles. The IE submitted DR 4, item 46 for an updated report that includes a mapped-out version that addresses the line miles for initiative 7.3.5.20. During the interview it was confirmed that the list provided was extracted from a database that stores the details from each inspection ticket. The IE had Liberty explain the inspection process and display a sampling of tickets associated with the inspection list.

To further validate that the clearances were accurate, Liberty provided document **Response to NV5-LIB DR4** in response to DR 4, item 46, which maps out the line miles specific to these initiatives. The report provided accounts for 360-line miles treated for 7.3.5.20. This demonstrates Liberty met and treated more line miles than the initial targeted line miles were for initiative 7.3.5.20 in 2021.

The IE also performed field verifications for this initiative by sampling 19 clearance maintenance orders of the total population of orders for 2021. The field verification was performed between May 11, 2022, and May 13, 2022. During the field verifications it was determined all clearances were compliant

**Finding:** Based on the WMP, documentation reviewed, field verifications, and interviews, the IE has reasonable assurance that Liberty met the obligation of this initiative and the targeted line miles.

### 3.1.2.2 Trends and Themes

*Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Large Volume Quantifiable Goal/Target – Field Verifiable initiatives.*

The IE did not note any significant trends or themes with respect to Liberty’s large volume quantifiable goal/target – field verifiable initiatives.

### 3.1.3 Large Volume Quantifiable Goal/Target – Not Field Verifiable

The following is a list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Not Field Verifiable category and their respective goals/targets:

**Table 6: Large Volume, Quantifiable Goal, Not Field Verifiable Initiatives**

WMP Section	Program Category	WMP Initiative	Target Units	2021 Target	Target Met
7.3.4.1	Asset Management & Inspections	Detailed inspections of distribution electric lines and equipment	Line Miles Inspected	52	No
7.3.4.6	Asset Management and Inspections	Intrusive pole inspections	Intrusive Pole Inspections	3,600	No
7.3.4.11	Asset Management and Inspections	Patrol inspections of distribution electric lines and equipment	Patrol Inspection (Line Miles)	2,050	Yes
7.3.5.2	Vegetation Management	Detailed inspections of vegetation around distribution electric lines and equipment	Number of line miles inspected	207	No
7.3.5.7	Vegetation Management	LiDAR inspections of vegetation around distribution electric lines and equipment	Number of line miles inspected	730	No
7.3.5.11 &12	Vegetation Management	Patrol inspections of vegetation	Number of line miles inspected	150	Yes



WMP Section	Program Category	WMP Initiative	Target Units	2021 Target	Target Met
		around distribution electric lines and equipment			
7.3.5.13	Vegetation Management	Quality assurance / quality control of vegetation inspections	Number of line miles treated	136	Yes

### 3.1.3.1 Review of Initiatives

*This section should include the Independent Evaluator’s findings and assessment of utility compliance with activities that fall into the Large Volume Quantifiable Goal/Target – Not Field Verifiable category. Independent Evaluators shall select a sample to seek additional documentation and conduct SME interviews, as needed, to verify that the activity was completed and executed in accordance with all applicable work procedures and protocols.*

*Include the electrical corporation’s list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Not Field Verifiable category, including respective goals/targets for each, in the Appendix or within the body of this subsection.*

#### Detailed Inspections of Distribution Electric Lines and Equipment (7.3.4.1)

The IE reviewed Sections 7.3.4.1. in the **Liberty CalPeco 2021 WMP Update** which states that Liberty’s “inspection program meets the minimum requirements as outlined in G.O. 165. These detailed inspections involve careful examination of assets. When issues are found, they are then evaluated by the planning and engineering departments for a final decision or work plan for repair or replacement.”<sup>8</sup>

The IE reviewed the **Liberty Q4 QIU** where it was reported that it had inspected a total of 210 distribution circuit miles against a goal of completing 52 circuit miles. The inspection of the 210 distribution circuit miles, resulted in the following findings: 8 Level 1, 76 Level 2, and 351 Level 3 findings in all.

The IE reviewed the **2021 Detailed\_Inspections** containing the results of the completed Asset Survey in response to the *Data Request 3*. The sheet contained data that appears to be an export from Liberty’s Fulcrum system containing 760 inspection records that include criteria for each entry such as GIS Data, inspection date, Status (Pass/ Fail/ repaired/etc.), pole number, Pole Replacement, Priority (Level 1,2,3), codes for failed inspections and other information. The IE requested further information to validate that the 760 inspections correlate to the 210 total

---

<sup>8</sup> Liberty CalPeco 2021 WMP Update at p. 97.

circuit miles report in the QIU. Liberty provided a response to *Data Request 6* stating that they had changed their original goal from 210 miles of inspections to 328 miles, however the IE was only able to verify that 59.8 miles of detailed inspections had been completed from the data provided.

**Finding:** Based on the WMP target and supporting evidence, the IE can say with reasonable assurance that Liberty performed detailed inspections on 59.8 miles of distribution lines and equipment but has fallen short of both the original goal of 210 miles and the modified goal of 328 miles.

#### Intrusive Pole Inspections (7.3.4.6)

According to the *Liberty CalPeco 2021 WMP Update* for this initiative, Liberty CalPeco's intrusive pole inspection program is on a 10-year inspection cycle and performed by contractors. Wood poles that have previously passed intrusive inspections are also on the 10-year inspection cycle, which exceed the G.O. 165 requirement of 20 years. At a minimum, all poles are visually inspected and, when intrusive inspections are needed, they are excavated around the base of the pole and may include a sound-and-bore test. Poles are also treated with preservative paste or liquid at this time. Weakened poles are either reinforced or replaced based on shell thickness measurements.

The IE reviewed the *LIB 2021 Q4 QIU*, that identified the initiative's "Target Units" as Intrusive Pole inspections, with an "Annual Quantity Target" as 3,600 and "Actual Quantity Q1-Q4" of 3,506 Inspections completed.

The IE noticed asked for the total population of intrusive pole inspections completed in 2021 in *Data Request 3*. Liberty provided the invoices for ten circuits which included the location data for each pole inspected along each circuit. The table below outlines the number of poles inspected on each circuit.

**Table 7: Poles Inspected by Circuit**

Circuit	Poles Inspected
Brockway 4201	141
Brockway 4202	500
Brockway 5100	86
Brockway 5200	1,154
Kings Beach	64
Northstar	2
Squaw Valley	364
Tahoe 5201	965
Tahoe 7201	84
Tahoe 629	146
<b>Total</b>	<b>3,506</b>

**Finding:** Based on the WMP target and supporting evidence, the IE has reasonable assurance Liberty performed 3,506 intrusive pole inspections, however, this is short of the stated goal of 3,600 inspections.

#### **Patrol Inspections of distribution electric lines and equipment (7.3.4.11)**

In section 7.3.4.11 of the *Liberty CalPeco 2021 WMP Updated PUBLIC* Liberty states that it performs patrols of its electric system looking for issues with overhead structures or obvious hazards that impact the safety and reliability of the system. The IE reviewed the *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised* and identified Liberty's target was to perform patrol inspections of 2,050 electric line miles. In this document, Liberty indicated that it performed the patrol inspection of the target goal of 2,050 electric line miles.

The IE submitted *Data Request 3* for evidence to support and demonstrate completion of this initiative. In response, Liberty provided **2021 SLT-NLT Line Patrol**. The IE then submitted *Data Request 6* specifically requesting Liberty provide the circuit miles for the applicable circuits that underwent inspections in 2021, including the SLT and NLT patrol inspections, to verify the patrol inspections add up to the 2,050 miles indicated in the QIU. Liberty responded to *Data Request 6* by stating that Liberty revised the patrol inspection target goal from 2,050 miles, as reported in the *Liberty CalPeco 2021 WMP Updated PUBLIC* to 502.9 miles. The IE notes Liberty did not provide an explanation for the revised patrol inspection goal. Liberty also provided *Patrol\_and\_Detailed\_Inspections\_2021.xlsx*. This spreadsheet identifies the patrol inspections, in miles for SLT and NLT Transmission and Distribution. The spreadsheets identify Liberty performed 662.3 miles of patrol inspections.

**Finding:** Based on the WMP target and supporting evidence, the IE has reasonable assurance Liberty performed patrol inspections of 662.3 electric line miles. This exceeds Liberty's revised patrol inspections target but is short of the goal of 2,050 electric line miles of inspections as stated in the *Liberty CalPeco 2021 WMP Updated PUBLIC*.

#### **Detailed inspections of vegetation around distribution electric lines and equipment (7.3.5.2)**

According to document *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised*, Liberty planned to perform detailed inspections for 207-line miles of vegetation along entire circuits in which individual trees would be examined and the condition of each is rated and recorded. These inspections are used to prescribe pruning and removal of vegetation as a safeguard against grow-ins or fall-ins and to conform to applicable laws and regulations G.O. 95 and PRC 4292.

The IE reviewed the initial documents provided by Liberty and determined 177-line miles were the actual miles Liberty stated had been inspected, however, supplemental documents were needed to validate and complete the evaluation. The IE submitted a data request for additional documents demonstrating the completion of the inspections for the 177-line miles. In response, Liberty provided the Vegetation Management Plan "**VM-02-2\_Vegetation Management Plan,**"

as an initial artifact, which does not reference the WMP.<sup>9</sup> This plan included high-level standards for inspections and clearances as identified in the WMP. It is noted the WMP provided a significant amount of detail in comparison to the Vegetation Management plan.

The IE submitted *Data Request 1* for documents to demonstrate the inspection was completed as proposed for 2021. Liberty provided document “**2021 Completed VM**” which included a list of the detailed inspections performed during 2021. The IE requested an interview to discuss the process and documentation. The IE conducted an interview with Liberty, during which Liberty walked through their evidence and explained their program. It was also confirmed that the list provided was extracted from a database that stores the details from each inspection ticket. The IE had Liberty explain the inspection process. During the discussions, it was noted that the information in the evidence provided by Liberty did not allow for verification of line miles. The IE submitted DR 4, item 46 for an updated report that includes a mapped-out version that addresses the line miles inspected.

To further validate that the inspections covered 177-line miles, Liberty provided document **Response to NV5-LIB DR4** that provides line mile details specific to this initiative. The report provided evidence that detailed inspections had occurred and a mapping for 178-line miles completed in 2021. Upon completion of the documentation review and interviews, the IE has reasonable assurance Liberty is performing detailed inspections as prescribed.

**Finding:** Based on the WMP, documentation reviewed and interviews, the IE has reasonable assurance Liberty has not performed all the detailed inspections of vegetation around distribution and transmission electric lines and equipment required for this initiative activity as described in the 2021 WMP, specifically, there were several work orders that did not account for the tree hazard type. Liberty also did not meet the projected target for line miles.

#### **LiDAR inspections of distribution and transmission electric lines and equipment (7.3.5.7)**

According to the document **Liberty CalPeco 2021 WMP Updated PUBLIC** Liberty piloted the LiDAR inspections of vegetation around electric lines and equipment for half of its service territory. Since the pilot project proved successful and based on document **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised**, Liberty planned to implement the LiDAR inspections of 730-line miles in 2021.

The IE reviewed the initial documents provided by Liberty and determined Liberty’s actual line miles documented as inspected was 701-line miles, however, supplemental documents were needed to validate and complete the evaluation. The IE submitted a data request for additional documents demonstrating the completion of the inspections for the 701-line miles. In response, Liberty provided the Vegetation Management Plan “**VM-02-2\_Vegetation Management Plan**”, as an initial artifact, which does not reference the WMP. This plan included high-level standards

---

<sup>9</sup> The IE notes that Liberty has drafted a set of new vegetation management program and practice documents that align with its 2021 WMP. Those documents did not apply to the 2020 WMP and its implementation and are outside the scope of this review.

for inspections and clearances as identified in the WMP. It is noted the WMP provided a significant amount of detail in comparison to the Vegetation Management plan.

The IE submitted *Data Request 1* for documents to demonstrate the inspection was completed as proposed for 2021. Liberty provided document “**2021 Completed VM**” which included a list of the LiDAR inspections performed during 2021. The IE requested an interview to discuss the process and documentation. The IE conducted an interview with Liberty, during which Liberty walked through their evidence and explained their program. It was also confirmed that the list provided was extracted from a database that stores the details from each inspection ticket. The IE had Liberty explain the inspection process and display a sampling of tickets associated with the inspection list. During the discussions, it was noted that the information in the evidence provided by Liberty did not allow for verification of line miles. The IE submitted DR 4, item 46 for an updated report that includes a mapped-out version addressing the line miles inspected.

To further validate that the inspections covered 701-line miles, Liberty provided document **Response to NV5-LIB DR4** that maps out the line miles specific to this initiative. The report provided accounts for 701-line miles. Upon completion of the documentation review and the live demonstration, the IE has reasonable assurance Liberty met the obligation of this initiative.

**Finding:** Based on the WMP, documentation reviewed and interviews, the IE has reasonable assurance Liberty has performed the LiDAR inspections of distribution and transmission electric lines and equipment required for this initiative activity as described in the 2021 WMP. However, Liberty did not meet the projected target.

#### **Patrol Inspections of vegetation around distribution electric lines and equipment (7.3.5.11)**

According to document **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised** for this initiative, Liberty planned to inspect for dead and dying trees throughout its entire system by performing an inspection of the circuits under the CEMA. Liberty’s electric distribution facilities are surveyed. This is accomplished by conducting an assessment from one side of the tree (side nearest the electric facilities) and were ground-based, vehicle-based, or aerial-based, as appropriate for the site conditions, type of infrastructure, and tree population being considered.

Liberty planned to implement the patrol inspections of 150-line miles in 2021.

Liberty’s actual stated line mile inspections for 2021 was 179 miles of line. Liberty provided the Vegetation Management Plan “**VM-02-2\_Vegetation Management Plan**”, as an initial artifact, which does not reference the WMP. This plan included high-level standards for inspections and clearances as identified in the WMP. It is noted the WMP provided a significant amount of detail in comparison to the Vegetation Management plan.

The IE submitted *Data Request 1* for additional documents to demonstrate inspections were completed on 179-line miles. Liberty provided document “**2021 Completed VM**” in response. The IE reviewed the provided document and performed a follow up interview with Liberty personnel during which Liberty walked through their evidence and explained their patrol inspections program. The IE had Liberty display a sampling of tickets associated with the inspection list to verify the information matches. During the discussions, it was also noted that the information in the evidence provided by Liberty did not allow for verification of line miles.

The IE submitted *DR 4* for an updated report that includes a mapped-out version that addresses the line miles inspected. During the interview it was confirmed that the list provided was extracted from a database that stores the details from each inspection ticket. The IE had Liberty explain the inspection process.

To further validate that the inspections covered at least 179-line miles, Liberty provided document ***Response to NV5-LIB DR4*** in response to DR 4, item 46, which maps out the line miles specific to this initiative. The report provided accounts for 179 total line miles covered in the inspections. This was also accounted for in the ***LIB 2020 Q4 QIU***. This demonstrates Liberty inspected more than the initial targeted line miles for 2020.

**Finding:** Based on the WMP, documentation reviewed, and interviews, the IE has reasonable assurance Liberty performed patrol inspections of vegetation around distribution electric lines and equipment required for this initiative activity as described in the 2021 WMP. The IE noted Liberty inspected more line miles than projected for this initiative.

#### **Quality assurance / quality control of vegetation inspections (7.3.5.13)**

According to document ***Liberty\_2021\_QIU\_Q4\_FINAL\_Revised***, specific to quality assurance / quality control of vegetation inspections, Liberty planned to implement and perform this QA/QC on 136-line miles for initiative 7.3.5.13 in 2021.

Also, according to the QIU referenced above, Liberty's actual line miles treated for initiative was 155-line miles for initiative 7.3.5.13 in 2021. To demonstrate this, Liberty provided the Vegetation Management Plan ***VM-02-2\_Vegetation Management Plan*** as an initial artifact, which does not reference the WMP. This plan included high-level standards for remediations as identified in the WMP. It is noted the WMP provided a significant amount of detail in comparison to the Vegetation Management Plan.

The IE submitted *Data Request 1* for additional documents to demonstrate the QA/QC's were completed on the stated line miles. Liberty provided document "***2021 Completed VM***" in response. The IE reviewed the provided document and performed a follow up interview with Liberty personnel during which Liberty walked through their evidence and explained their program. During the discussions, it was also noted that the information in the evidence provided by Liberty did not account for verification of QA/QC on the treated line miles. The IE submitted DR 4, item 46 for an updated report that includes a mapped-out version that addresses the line miles for initiative 7.3.5.13., as well as the document ***VM-04\_Post\_Work\_Verification\_1.0***. During the interview, Liberty displayed multiple documents, including document ***Liberty\_Year\_End\_Report***, which provides a summary of records assessed.

To further validate that the QA/QC, Liberty provided document ***Response to NV5-LIB DR4*** in response to DR 4, item 46, which maps out the line miles specific to this initiative. The report provided accounts for 155-line miles treated for 7.3.5.13. This demonstrates Liberty met more line miles than the initial targeted line miles were for initiative 7.3.5.13 in 2021.

**Finding:** Based on the WMP, documentation reviewed, and interviews, the IE has reasonable assurance that Liberty met the obligation of this initiative and the targeted line miles. The IE noted Liberty performed this on more line miles than projected for this initiative. However, the

IE recommends Liberty determine a more clearly defined way of demonstrating this initiative is being met.

### 3.1.3.2 Trends and Themes

*Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Large Volume Quantifiable Goal/Target – Not Field Verifiable initiatives.*

The IE did not note any significant trends or themes with respect to Liberty's large volume quantifiable goal/target – non-field verifiable initiatives.

### 3.1.4 Small Volume Quantifiable Goal/Target

#### 3.1.4.1 Review of Initiatives

*This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Small Volume Quantifiable Goal/Target category. Independent Evaluators shall perform data/documentation review and conduct SME interviews, as needed, to verify completion of these activities and adherence to all applicable work procedures and protocols.*

*Include the electrical corporation's list of initiatives that fall into the Small Volume Quantifiable Goal/Target category, including respective goals/targets for each, in the Appendix or within the body of this subsection.*

**Table 8: 2021 Small Volume, Quantifiable Initiatives**

WMP Section	Program Category	WMP Initiative	Target Units	2021 Target <sup>10</sup>	Target Met
7.3.2.1	Situational Awareness & Forecasting	Advanced weather monitoring and weather stations	Weather Stations Installed	10	No
7.3.2.2	Situational Awareness & Forecasting	Continuous monitoring sensors	DFA Units Installed	10	No
7.3.2.3	Situational Awareness & Forecasting	Fault indicators for detecting faults on electric lines and equipment	Fault Indicators Installed (As Needed Program)	N/A	Not Evaluated
7.3.2.4	Situational Awareness & Forecasting	Forecast of a fire risk index, fire potential index, or similar	No target indicated	N/A	Yes
7.3.2.5	Situational Awareness & Forecasting	Personnel monitoring areas of electric lines and	No target indicated	N/A	Yes

<sup>10</sup> 2021 targets were provided by Liberty in *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised.xls*

WMP Section	Program Category	WMP Initiative	Target Units	2021 Target <sup>10</sup>	Target Met
		equipment in elevated fire risk conditions			
7.3.3.12	Grid Design & System Hardening	Other corrective action	Green Jacket Insulation Installations	60	No
7.3.3.3	Grid Design & System Hardening	Covered conductor installation	Line Miles	9.1	No
7.3.3.8	Grid Design & System Hardening	Grid topology improvements to mitigate or reduce PSPS events	Line Miles	0.5	Yes
7.3.3.9	Grid Design & System Hardening	Installation of system automation equipment	Automatic Reclosers Installed	3	No
7.3.3.12	Grid Design & System Hardening	Other corrective action	Tree Attachment Removals	60	No
7.3.3.16	Grid Design & System Hardening	Undergrounding of Electric Lines and/or Equipment	Line Miles	0	Yes
7.3.4.15	Asset Management & Inspections	Substation inspections	Substations Inspected	46	No
7.3.5.1	Vegetation Management & Inspections	Additional efforts to manage community and environmental impacts	Line Miles Treated	13	No

### Advanced weather monitoring and weather stations (7.3.2.1)

The IE reviewed Section 7.3.2.1 of the **2021 WILDFIRE MITIGATION PLAN UPDATE (REVISION)**, and **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised**, which all report that Liberty's target for 2021 was to install ten Weather Stations in order to advance Liberty's weather modeling and situational awareness capabilities to better understand wildfire risks and more precisely target Public Safety Power Shut (PSPS) de-energization events to affect as few customers as possible, while still addressing dangerous fire threat conditions.

The IE submitted *Data Request 2* for supporting evidence of the installation of the weather stations to further verify that the weather stations installation was completed. Liberty provided to *Data Request 2* a statement that Liberty did not install any weather stations in 2021.

**Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan\_Revised20220404** stated in the Planned 2021 WMP Initiative Spend vs. Actual 2021 WMP Initiative Spend table stated that the Tamarack and Caldor fire responses and supply chain issues impacted Liberty's ability to meet installation targets.



**Finding:** Based on the WMP target and supporting evidence, the IE determined Liberty did not meet its program target of 10 weather station installations due to Tamarack and Caldor fire responses and supply chain issues.

#### **Continuous monitoring sensors (7.3.2.2)**

Liberty's **2021 WMP Update PUBLIC** in section 7.3.2.2 states that Liberty's quantitative target for 2021 was to install 10 Distribution Fault Anticipation (DFA) units on circuits in Liberty's HFRA.

Per the **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised**, Liberty's quantitative target for 2021 was to install 10 DFA units and reported the initiative status as "In Progress" with zero installations in 2021.

**Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan\_ Revised20220404** states that Liberty contracted with Texas A&M to deploy ten DFA units. In 2021, the units were delivered, circuit/substation locations were selected for five units, and additional materials were ordered for their installation. Liberty is determining location feasibility for the remaining five units, and selection will be based on fire risk mapping and substation capability to host the equipment.

The IE submitted *Data Request 2* for supporting evidence of the installation of DFAs to further verify that the DFA installation was completed. Liberty provided to *Data Request 2, DFAs in 2021*, that provided evidentiary support that six DFAs were installed in 2021. Additional information included Type of Device, location and additional GIS coordinates for the specific location and date installed.

The IE submitted *Data Request 3* to obtain work order or materials purchase orders, etc. to further verify that DFAs were completed. In its response to *Data Request 3*, Liberty reported that was a miscommunication in their response to *Data Request 2* regarding the six **DFAs in 2021**, these devices are similar technology to DFAs, but are not part of the DFA pilot program. Liberty provided **DFA\_PO.pdf**, **DFA\_manual**, and **DFA\_InstallationOverview** that provided evidentiary support that that Liberty contracted with Texas A&M to deploy 10 DFA units and the DFA project material was purchased.

A follow up call with the Liberty SMEs confirmed that none of the DFA units were deployed in 2021.

**Finding:** Based on the WMP, the reported **Q4 QIU information**, the **Annual Report on Compliance for 2021**, the documentation reviewed, and SME interviews, the IE has determined that Liberty did not meet its goal of installing 10 DFAs in 2021.

#### **Fault indicators for detecting faults on electric lines and equipment (7.3.2.3)**

Liberty's **2021 WMP Update PUBLIC** in section 7.3.2.3 states that Liberty's Fault indicators are installed on an as-needed basis by troublemen and/or as recommended by troublemen.

Per the **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised**, Liberty did not have this initiative in place for 2021.

IE submitted *Data Request 2* to obtain the supporting documentation to corroborate the installation of Fault indicators installed on an as-needed basis by troublemen and/or as recommended by troublemen in 2021. In response Liberty stated that any fault indicators installed in 2021 were not tracked for WMP as Liberty did not have this initiative in place for 2021. Liberty is piloting two circuits in Tier 3 in 2022.

**Finding:** The IE did not evaluate this initiative in the WMP as Liberty did not have this initiative in place for 2021.

#### **Forecast of a fire risk index, fire potential index, or similar (7.3.2.4)**

Liberty's **2021 WMP Update PUBLIC**, states that Liberty's Fire Potential Index (FPI) is a comprehensive assessment tool designed to heighten awareness of daily forecast fire conditions to aid in operational decision making. FPI converts environmental, statistical, and scientific data into an easily understood forecast of short-term fire threat for Liberty's service territory. FPI forecasts up to seven days of fire threat potential.

The **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised** did not identify any Quantitative or Qualitative Targets for 2021 and listed the initiative status as complete.

#### **Per the Liberty Annual Report on Compliance for 2021 Wildfire Mitigation**

**Plan\_Revised20220404**, that reported that in addition to considering the input from Liberty's fire science consultant, Reax, which monitored available weather data, Liberty mobilized on-the-ground resources to patrol and assess local conditions. These circuit crews provided input based on real-time risk assessments in the field. In addition to real-time weather conditions, the EOC reviewed and considered local system conditions, input from public safety partners, alternatives to de-energization, and mitigation options.

The IE submitted *Data Request 2* to obtain supporting documentation to corroborate that Liberty has developed a web-based monitoring and operational support tool that displays FPI values by zones, in addition to PSPS weather analytics and forecasting. In response to *Data Request 2*, Liberty provided a URL to the Tahoe Fire Weather Page (its web based tool), **2019-08-20 Liberty Utilities de-energization thresholds.pdf**, **2019-10-08 - Reax Liberty Utilities FPI proposal**, and **FPI Methodology 101519 (002)**. The documentation provided corroborated that Liberty has developed a web-based monitoring and operational support tool that displays FPI values by zones, in addition to PSPS weather analytics and forecasting.

The IE scheduled a call with Liberty SMEs on 5/19/2022 to clarify and confirm that the development of the FPI methodology and tool were the intended initiative target.

**Finding:** Based on the WMP, documentation reviewed, and SME interviews, the IE has reasonable assurance Liberty has worked with Reax Engineering and developed the FPI and PSPS forecasting tools clarified as the initiatives target during the 5/19/2022 meeting. These forecasting tools have been foundational in developing the methodology for the deployment of resources during elevated fire risk events. The web-based monitoring and operational support tool displays FPI values by zones, in addition to PSPS weather analytics and forecasting required for this initiative activity as described in the 2021 WMP.

**Personnel monitoring areas of electric lines and equipment in elevated fire risk conditions (7.3.2.5)**

Liberty's **2021 WMP Update PUBLIC**, states that Liberty will activate proactive patrols along power lines. Operations personnel are deployed to observe conditions along the electrical system (vegetation issues, equipment condition, wire sag and sway, and any potential system damage related to the weather event) that may pose a threat to public safety. Liberty monitors forecast and real-time weather conditions by utilizing weather station data and fire weather prediction tools. FPI and PSPS zones, which receive individualized forecasts, help to determine the specific circuits that are predicted to experience elevated fire risk conditions. This knowledge allows for patrol resources to be more accurately and efficiently deployed. Liberty has worked with Reax Engineering to develop the FPI and PSPS forecasting tools. These forecasting tools have been foundational in developing the methodology for the deployment of resources during elevated fire risk events.

The **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised** did not identify any Quantitative or Qualitative Targets for 2021 and listed the initiatives status as in progress.

Per the **Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan\_Revised20220404**, that reported that in addition to considering the input from Liberty's fire science consultant, Reax, which monitored available weather data, Liberty mobilized on-the-ground resources to patrol and assess local conditions. These circuit crews provided input based on real-time risk assessments in the field. In addition to real-time weather conditions, the EOC reviewed and considered local system conditions, input from public safety partners, alternatives to de-energization, and mitigation options.

The IE submitted *Data Request 2* to obtain supporting documentation to corroborate that Liberty monitors forecast and real-time weather conditions by utilizing weather station data and fire weather prediction tools. Liberty provided to *Data Request 2*, a URL to the Tahoe Fire Weather Page (its web based tool), emails and its **LU Fire Prevention Plan 10-9-2020 (FPP)** which provided documentation to corroborate that Liberty monitors forecast and real-time weather conditions by utilizing weather station data and fire weather prediction tools. The FPP states that Liberty CalPeco will utilize alerts from Reax to determine if a proactive patrol of electrical equipment and vegetation clearances is warranted and that Liberty CalPeco will activate proactive fire patrols if forecasted conditions for Fosberg Fire Weather Index and Average Wind Gust reach 90% or greater for PSPS threshold.

The IE was not able to identify or determine a defined goal for this initiative and requested a call with Liberty SMEs on 5/19/2022. During this call, Liberty SMEs clarified that intention of this initiative's target was for Liberty to monitor forecast and real-time weather conditions by utilizing weather station data and fire weather prediction tools required for this initiative activity as described in the 2021 WMP and mobilized on-the-ground resources to patrol and assess local conditions.

IE requested additional documentation via a follow up email for supporting evidence demonstrating that Liberty mobilized proactive patrols during evaluated fire risk events. Liberty reported that they do not have an established method for tracking of activated proactive

patrols during evaluated fire risk events and were not able to provide any additional supporting evidence regarding the number of activated proactive patrols during evaluated fire risk events that occurred in 2021.

**Finding:** Based on the WMP, documentation reviewed, and SME interviews, the IE has reasonable assurance Liberty monitors forecast and real-time weather conditions by utilizing weather station data and fire weather prediction tools required for this initiative activity as described in the 2021 WMP and mobilized proactive patrols on-the-ground resources to patrol and assess local conditions during evaluated fire risk events. IE recommends that the Liberty develops a defined target for this initiative and develop a method of tracking the number of activated proactive patrols during evaluated fire risk events.

### Covered Conductor Installation (7.3.3.3)

According to the *Liberty CalPeco 2021 WMP Update Public* for this initiative, Liberty selected covered conductor as a system hardening initiative to reduce the risk of wildfire. The service area covers the Lake Tahoe area, which sees a large influx of visitors during peak tourism seasons, which coincides with peak fire season. The Liberty service area is located in the High Sierras and is prone to wildfire risk. The service area includes limited resources (roads, infrastructure, emergency response, and ingress/egress).

Liberty set a goal of installing 9.1 line miles of covered conductor by the end of 2021. According to Liberty's 2021 4<sup>th</sup> quarter initiative update (*Liberty\_2021\_QIU\_Q4\_FINAL\_Revised*) Liberty installed 3.75 line miles of covered conductor. Liberty provided a list of work orders associated with all of the grid hardening efforts (*LU\_Completed\_Grid\_Hardening\_2021\_20220519*) for review as part of *Data Request 2*. The list included three workorders for installing covered conductor. The three workorders covered installation of 7.99 line miles of covered conductor installation. This exceeds the reported 3.75 line miles in the 2021 Q4 QIU but still is below the stated 2021 goal of 9.1 line miles.

In addition to the tabletop review, the IE performed a field verification of randomly selected locations in which the work was performed. The IE randomly sampled the GIS locations provided by Liberty and selected 29 locations in which to perform field verification that the covered conductor was installed within the Liberty system. The results of the field verification identify one of the twenty-nine locations in which Liberty was non-compliant. Asset ID 27600 on the MEY3400 circuit was found to be non-compliant. The covered conductor was installed but insulated conductor spacers are currently stacked at pole 293842 and have not been applied to the conductor span. The conductor movement could occur, leading to unmitigated aeolian vibration and premature conductor fatigue at the points of suspension. Full results of the visual inspections are listed below and can be found in the field report log (*LIBERTY Field Report Log*)

**Table 9: Covered Conductor Field Inspection Results**

Inspection Date	Asset ID	Circuit ID	Status
6/3/2022	28469	MEY3400	Compliant
6/3/2022	28467	MEY3400	Compliant

Inspection Date	Asset ID	Circuit ID	Status
6/3/2022	28465	MEY3400	Compliant
6/3/2022	28463	MEY3400	Compliant
5/23/2022	28461	MEY3400	Compliant
5/23/2022	28459	MEY3400	Compliant
6/3/2022	27602	MEY3400	Compliant
5/23/2022	27600	MEY3400	Non-Compliant
6/3/2022	20888	MEY3400	Compliant
6/3/2022	20855	MEY3400	Compliant
6/3/2022	20853	MEY3400	Compliant
6/3/2022	20851	MEY3400	Compliant
6/3/2022	20849	MEY3400	Compliant
6/3/2022	20847	MEY3400	Compliant
6/3/2022	20818	MEY3400	Compliant
6/3/2022	20816	MEY3400	Compliant
5/23/2022	20814	MEY3400	Compliant
5/23/2022	20781	MEY3400	Compliant
5/23/2022	20779	MEY3400	Compliant
5/23/2022	20777	MEY3400	Compliant
5/23/2022	20775	MEY3400	Compliant
5/23/2022	20755	MEY3400	Compliant
5/23/2022	20753	MEY3400	Compliant
5/23/2022	20751	MEY3400	Compliant
5/23/2022	20749	MEY3400	Compliant
5/25/2022	20720	MEY3400	Compliant
6/3/2022	20705	MEY3400	Compliant
6/3/2022	20653	MEY3400	Compliant
5/25/2022	20540	MEY3400	Compliant

**Finding:** Based on the WMP target and supporting evidence, the IE determined Liberty did not meet its goal of installing 9.1 circuit miles in 2021. Liberty was able to complete installation of 7.99 circuit miles of covered conductor in 2021. Additionally, during visual inspection, one location was found in which the work was not completed as necessary.

#### **Grid Topology Improvements to Mitigate or Reduce PSPS Events (7.3.3.8)**

According to the *Liberty CalPeco 2021 WMP Update Public* for this initiative, Liberty selected covered conductor as a system hardening initiative to reduce the risk of wildfire. The service area covers the Lake Tahoe area, which sees a large influx of visitors during peak tourism seasons, which coincides with peak fire season. The Liberty service area is located in the High Sierras and is prone to wildfire risk. The service area includes limited resources (roads, infrastructure, emergency response, and ingress/egress).

Liberty set a goal of performing topology improvements for 0.5 line miles in 2021. According to Liberty's 2021 4<sup>th</sup> quarter initiative update (*Liberty\_2021\_QIU\_Q4\_FINAL\_Revised*) Liberty completed topology improvement work on 0.5 line miles. Liberty provided further clarification on the work being completed in response to *Data Request 5*.

Liberty stated that the work done was also part of the work done as part of the covered conductor work (7.3.3.3). Liberty stated the following, "A brief explanation of the project is contain[ed] in section 7.3.3.3 of the WMP as follows: The Brockway 4202 circuit project will install covered conductor on a section of the circuit out of the Kings Beach Substation. The project has three main objectives: (1) to harden the system in high priority areas to mitigate wildfire risks; (2) to reduce outage times and increase reliability along the circuit; and (3) to provide a resiliency corridor to provide power to key customers in the area from the Kings Beach generators in the event of an outage in the area."

Liberty provided multiple documents, listed below as part of the response to verify that the work was completed.

- ***Brockway 4202 Response (Item 3)*** – Explanation of the work performed for 7.3.3.8 in 2021
- ***Brockway Cost Data*** – Cost breakdown for the Brockway work to be performed in 2021 and 2022
- ***Brockway Resiliency as-built 1*** and ***Brockway Resiliency as-built 2*** – As-built drawings showing the work that was completed on the Brockway work
- ***Insp. Rpt. 17895 Liberty Utilities WMP*** – Quality control inspection paperwork for the Brockway work
- ***Pole Structure Inspection Sheet*** – Inspection sheet for the poles involved in the Brockway work

**Finding:** Based on the WMP target and supporting evidence, the IE was able to determine Liberty was able to complete upgrades to the Brockway 4202 circuit as identified in the fourth quarter QIU, and meet its goal for 2021.

#### **Installation of System Automation Equipment (7.3.3.9)**

According to section 7.3.3.9 of *Liberty CalPeco 2021 WMP Update PUBLIC*, Liberty targeted a small volume quantitative goal of installing three automatic reclosers in 2021. Automatic reclosers increase efficiency and allow a single substation Distribution Automation (DA) controller to remote control devices on the line and in the substation. Per *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised*, Liberty projected to install three automatic reclosers in Q3 2021.

Liberty declared the status as in progress, per the *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised*, for the 2021 target, reporting two recloser installations occurred in 2021.

The IE requested location data for the applicable system hardening activities from Liberty in *Data Request 2*. Liberty responded to the data request, but documents pertaining to activity

7.3.3.9 were not provided. Due to the omission of relevant supporting evidence and inability to review progress toward the 2021 goal, the IE issued *Data Request 6* requesting global positional coordinate data or work orders for the two automatic reclosers installed in 2021. Liberty provided a spreadsheet of recloser asset installations completed in 2021, in *Data Request 6 Response*. The spreadsheet provides the GPS coordinates, asset ID and type, installation year, stock number, and circuit ID for every recloser installation. The spreadsheet and data within can be reviewed in ***Portola\_Recloser\_Locations\_2021***.

**Findings:** Based on the WMP target and supporting evidence, the IE determined Liberty was not able to meet its goal of installing three automatic reclosers in 2021. Liberty provided documentation that confirmed two automatic reclosers were installed in 2021.

#### **Other Corrective Action (7.3.3.12)**

According to section 7.3.3.12 of ***Liberty CalPeco 2021 WMP Update PUBLIC***, Liberty is in the process of deploying a project which will protect and insulate substation equipment from debris and animal contact, reducing the risk of outages. Liberty targeted a small volume quantitative goal of installing green jacket hardware insulation on substation equipment at risk of damage from animal contact and debris such as transformer/switchgear bushings, switches, lighting arrestors, and phase transformers. Specifically, Liberty planned to install green jacket insulation on 60 substation equipment units. Liberty projected green jacket insulation installations would occur on ten substation-equipment units in Q2 of 2021, 25 substation equipment units in Q3 of 2021, and 25 substation equipment units in Q4 of 2021. The 2021 quarterly projections for activity 7.3.3.12 can be reviewed in the following spreadsheet, ***Liberty\_2021\_QIU\_Q4\_FINAL\_Revised***.

Liberty declared the status as in progress, per the ***Liberty\_2021\_QIU\_Q4\_FINAL\_Revised***, for the 2021 small volume quantitative goal. Liberty reported green jacket insulation installations took place on ten substation equipment units in Q2, two substation equipment units in Q3, and 25 substation equipment units in Q4 of 2021 totaling 37 installations for the year.

The IE requested location data for the applicable system hardening activities from Liberty in *Data Request 2*. Liberty responded to the data request but documents pertaining to activity 7.3.3.12 were not provided. Due to the omission of relevant supporting evidence and inability to review progress toward the 2021 goal, the IE issued *Data Request 6* requesting work orders or location data for the 37 equipment units which received green jacket insulation installations in 2021. Liberty abstained from providing data related to activity 7.3.3.12 in *Data Request 6 Response*.

**Findings:** Based on the WMP target and supporting evidence, the IE was not able to validate the target of 60 green jacket installations in 2021. The Q4 QIU stated that 37 of the 60 installations were performed, but relevant data and evidence was not provided to the IE to substantiate this information.

#### **Undergrounding of Electric Lines and /or Equipment (7.3.3.16)**

According to the ***Liberty CalPeco 2021 WMP Update Public*** for this initiative, Liberty stated that it does not have a formal proactive undergrounding program as part of its WMP.

Undergrounding projects are customer-initiated Rule 20A conversions of overhead systems based on county -allocated funds.

Liberty did not set a goal for undergrounding in 2021. According to Liberty's 2021 4<sup>th</sup> quarter initiative update (*Liberty\_2021\_QIU\_Q4\_FINAL\_Revised*) Liberty did not perform any undergrounding of electric lines or equipment.

Liberty provided a list of workorders associated with all of the grid hardening efforts (*LU\_Completed\_Grid\_Hardening\_2021\_20220519*) for review as part of *Data Request 2*. The list included a single workorder for undergrounding of electric lines. The workorder covered installation of 0.56 line miles of underground conductor installation.

**Finding:** In 2021 Liberty completed 0.56 line miles of underground conductor installation even though there was not a formal program for underground conductor installation included in the WMP.

#### **Substation Inspections (7.3.4.15)**

The IE reviewed Sections 7.3.4.15. in the *Liberty CalPeco 2021 WMP Update* which states that Liberty's "inspection program meets the minimum requirements as outlined in G.O. 174. These detailed inspections involve careful examination of assets. Most substations are inspected on a quarterly basis, less accessible substations are inspected annually. Liberty indicates that they have 13 substations.

The IE reviewed the *Liberty Q4 QIU* where it was reported that it had inspected a total of 46 substations against a goal of completing 46 inspections.

The IE reviewed the *InspectionReport – 2021 - equipment* containing the results of the completed Asset Survey in response to the *Data Request 3*. The sheet contained data that appears to be an export from Liberty's system containing 660 inspection records that include criteria for each entry such as substation name, GIS Data, inspection date, and other information. The IE was able to verify that the large majority of the 13 substations were inspected in the first, third, and fourth quarters of 2021, and a total of 38 substation inspections were conducted.

**Finding:** Based on the WMP target and supporting evidence, the IE determined that Liberty was not able to meet its goal of 46 substation inspections in 2021. Liberty provided evidence that 38 substation inspections on the 13 substations in their territory were completed in 2021.

#### **Additional efforts to manage community and environmental impacts (7.3.5.1)**

According to the Liberty QIU as documented in *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised* for this initiative, Liberty projected they would treat 13-line miles for additional efforts to manage community and environmental impacts.

This initiative is a part of a larger effort within Liberty's WMP program. To better understand this initiative and how it addresses wildfire mitigation activities, the IE conducted an interview the Liberty Vegetation Management group. During the discussion, Liberty stated they had two projects that this initiative was part of. The IE requested documentation of the projects to



determine what was performed to meet this initiative and to verify the actual treated line miles. In response to the request, Liberty provided an email with details of the projects referenced along with the **VM-03\_Hazard\_Tree\_Plan\_1.0** to support the email.

The IE submitted *Data Request 1* for documents to demonstrate the inspection was completed as proposed for 2021. Liberty provided document “**2021 Completed VM**” which included a list of the additional efforts performed. The IE requested an interview to discuss the process and documentation. The IE conducted an interview with Liberty, during which Liberty walked through their evidence and explained their program. It was also confirmed that the list provided was extracted from a database that stores the details from each inspection ticket. The IE had Liberty explain the inspection process. During the discussions, it was noted that the information in the evidence provided by Liberty did not allow for verification of line miles. The IE submitted DR 4, item 46 for an updated report that includes a mapped out version addressing the line miles inspected.

To further validate how many line miles were treated for this initiative, Liberty provided document **Response to NV5-LIB DR4** that maps out the line miles. The report provided accounts for 3.4-line miles. Upon completion of the documentation review and the interview, the IE has reasonable assurance Liberty met the obligation of this initiative.

**Finding:** Based on the WMP, documentation reviewed, and interviews, the IE has reasonable assurance Liberty has performed some of the additional efforts to manage community and environmental impacts required for this initiative activity as described in the 2021 WMP. However, Liberty did not meet the projected target.

#### **3.1.4.2 Trends and Themes**

*Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Small Volume Quantifiable Goal/Target initiatives.*

The IE did not note any significant trends or themes with respect to Liberty’s small volume quantifiable goal/target initiatives.

#### **3.1.5 Qualitative Goal/Target**

##### **3.1.5.1 Review of Initiative**

*This section should include the Independent Evaluator’s findings and assessment of utility compliance with activities that fall into the Qualitative Goal/Target category. Independent Evaluators shall review documentation and conduct SME interviews, as needed, to verify the qualitative goals/targets of these activities were met.*

*Include the electrical corporation’s list of initiatives that fall into the Qualitative Goal/Target category, including respective goals/targets for each, in the Appendix or within the body of this subsection.*

Table 10: Qualitative Targets

WMP Section	Program Category	WMP Initiative	2021 Target <sup>11</sup>	Target Met
7.3.1.1	Risk Assessment & Mapping	A summarized risk map that shows the overall ignition probability and estimated wildfire consequence along the electric lines and equipment	Complete First Generation Risk Model	Yes
7.3.4.3	Asset Management & Inspections	Improvement of inspections	No qualitative goal set by Liberty	N/A
7.3.4.14	Asset Management & Inspections	Quality assurance / quality control of inspections	Establish a robust QA/QC program	No
7.3.6.1	Grid Operations & Operating Protocols	Automatic recloser operations	Complete DA Pilot Program	No
7.3.6.3	Grid Operations & Operating Protocols	Personnel work procedures and training in conditions of elevated fire risk	FPP plan training conducted in Q2	Yes
7.3.6.4	Grid Operations & Operating Protocols	Protocols for PSPS re-energization	Develop PSPS Playbook and hold annual PSPS exercise.	Yes
7.3.7.1	Data Governance	Centralized repository for data	Develop a centralized data lake by end of 2021	No
7.3.7.2	Data Governance	Collaborative research on utility ignition and/or wildfire	Provide data to University of Reno for HIFD study	Yes
7.3.9.1	Emergency Planning & Preparedness	Adequate and trained workforce for service restoration	Hold 2 PSPS Training exercises (as reported by Liberty in DR 5 response)	Yes
7.3.9.2	Emergency Planning & Preparedness	Community outreach, public awareness, and communications efforts	Increase public awareness	Yes
7.3.10.1	Stakeholder Cooperation &	Community engagement	Increase public awareness	Yes

<sup>11</sup> 2020 targets were provided by Liberty in *NV5-Liberty-WMP-05\_6.2.21.xls*

WMP Section	Program Category	WMP Initiative	2021 Target <sup>11</sup>	Target Met
	Community Engagement			
7.3.10.2	Stakeholder Cooperation & Community Engagement	Cooperation and best practice sharing with agencies outside CA	No qualitative goal set by Liberty	N/A

**A summarized risk map that shows the overall ignition probability and estimated wildfire consequence along the electric lines and equipment (7.3.1.1)**

**Liberty CalPeco 2021 WMP Update PUBLIC** Section 7.3.1.1 states “In 2020, Liberty advanced from no risk model or mapping capabilities to a first-generation wildfire risk model and fire risk mapping tools.”. It also goes on to provide the following future state statement “Liberty plans to establish a formal risk management team at the utility level and plans to build on its wildfire risk models as more data and more resources are dedicated to the initiative.” To verify the state of the program and the progress that has been made in 2020 & 2021 the IE requested in *Data Request 2* documentation to corroborate these statements. Liberty provided the following documents:

- ***TN10379\_20211013T165218\_Liberty\_WMP\_Risk\_Modeling\_Workplan***
- ***Liberty Wildfire Risk Map***
- ***Circuit\_Wildfire\_Risk***

Project spend for this initiative in the ***Liberty\_2021\_QIU\_Q4\_FINAL\_Revised*** indicated a forecast of \$10,000 in OPEX with an actual reported output of \$52,535 in the ***Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan\_Revised\_20220404***. Liberty provided detail to the variance stating, “Forecast did not include 2021 costs to complete first generation wildfire risk model” In the ARC.

**Findings:** Based on the WMP target and supporting evidence, the IE determined that Liberty has met the qualitative target for the calendar year 2021. The IE found the documentation provided to be sufficient in showing the First Generation program as well as Liberty’s efforts to continue to expand on said program.

**Improvement of inspections (7.3.4.3)**

**Liberty CalPeco 2021 WMP Update PUBLIC** Section 7.3.4.3 states that Liberty will develop a digital method for inspection data collection and record keeping. Liberty has not indicated a qualitative goal for 2021 so the IE is unable to verify the work performed against a stated goal. In the financial analysis performed as a part of this evaluation the IE found that Liberty did not spend any money on this initiative in 2021.

**Finding:** Liberty did not set a qualitative goal for this initiative but did indicate that they would spend \$150,000. The IE verified that no funding was provided to this initiative which is

considered a funding deficiency. The IE can also say with reasonable assurance that Liberty performed no work on this initiative in 2021.

#### **Quality assurance / quality control of inspections (7.3.4.14)**

In section 7.3.4.14 of the **Liberty CalPeco 2021 WMP Updated PUBLIC** Liberty states that the company needs to establish a robust QA/QC program to improve compliance with company and CPUC standards. Liberty further states that it would develop a QA/QC RFP in 2021 to find a qualified, independent contractor to establish standards and perform inspections on company assets beginning in 2022.

**Finding:** Based on the WMP, the reported **Q4 QIU** information, the documentation reviewed, and SME interviews, the IE has determined that the target for this initiative as described in the 2021 WMP was still in progress and not met in 2021.

#### **Automatic recloser operations (7.3.6.1)**

Liberty's **2021 WMP Update PUBLIC**, states that Liberty is planning to install three additional line reclosers in 2021 and to replace or install at least three line reclosers per year going forward. Liberty is planning on a Distribution Automation (DA) pilot program starting in 2021 and continuing into 2022. Liberty plans to house a DA controller at one of its substations and control multiple communications enabled reclosers and substation breakers. This allows for FLISR technology to be implemented on our system. It has the added benefit of more rapid restoration after a PSPS event.

The **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised** listed the Qualitative Target as the "Completion of the DA Pilot Program" and reported the status as "In progress."

Per the **Liberty Annual Report on Compliance for 2021 Wildfire Mitigation**

**Plan\_Revised20220404**, that reported in 2021, Liberty installed two automatic reclosers. The operation of these automatic reclosers allows for remote monitoring, which can promote faster outage response and reduce electrical ignition.

The IE submitted *Data Request 3* to obtain supporting documentation to corroborate that Liberty's installation of the automatic reclosers, Liberty provided **8800-0221-0631 Por 31-32 T2&T5 - Reclosers - Lib.zip and Map-Por\_31-32\_T2&T5-Reclosers-Lib-8800-0221-0631** which provided documentation to corroborate that the installation of two automatic reclosers units.

The IE submitted *Data Request 5* to clarify Liberty's response to *Data Request 3* data request response, describing the initiative's DA pilot program starting in 2021 and continuing into 2022. Liberty plans to house a DA controller at one of its substations and control multiple communications enabled reclosers and substation breakers. This allows for FLISR technology to be implemented on our system. It has the added benefit of more rapid restoration after a PSPS event. Liberty provided **DA-kickoff-meetingnotes.pdf, DA-SEL-proposal, and Distribution Automation BC-CalPeco** which provided documentation to corroborate that the initiation of the DA project's kickoff meeting, the project proposal, and Liberty's Capital Project Business Case with a forecasted commissioning date of 6/1/2022.

**Finding:** Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE has determined that the qualitative target for this initiative as described in the 2021 WMP was not met.

### **Personnel work procedures and training in conditions of elevated fire risk (7.3.6.3)**

Liberty's **2021 WMP Update PUBLIC**, in Section 7.3.6.3 states that Liberty has designated the type of work activities that may be performed in its service territory under certain Fire Potential Index (FPI) Operating Conditions (e.g., low condition, moderate condition, high condition, very high condition, and Extreme or Red Flag Warning condition). Personnel work procedures and proper training help mitigate the risk of an ignition while performing at-risk activities that are necessary to maintain and operate the Liberty electric system. Liberty's FPI requires that all employees, contractors, and consultants that conduct activities in the wildland areas of the service territory receive this training on an annual basis. The training includes definitions of at-risk work, wildland areas, FPI, and a matrix that can be used to determine the minimum fire prevention requirements for at risk activities. Information is also provided related to working on, or adjacent to wildland fires, reporting wildland fires, and guidance for taking fire suppression action.

Liberty reported in **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised** the Qualitative target for this initiative was for the "Completion of the FPP plan training conducted in Q2" and reported that the training was conducted training for field personnel on June 17, 2021.

Liberty reported in **Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan\_Revised20220404**, that reported in 2021, Liberty conducted training and updated personnel work procedures in conditions of elevated fire risk for field personnel.

The IE submitted *Data Request 3* to obtain supporting documentation to corroborate that Liberty's the training was conducted training for field personnel on June 17, 2021. Liberty provided, the **LU Fire Prevention Plan 10-9-2020, Fire Prevention Plan Training** that included the training calendar invite with time, date, and list of invited attendees as well as the FPP training materials in **FFPI21** which provided documentation to corroborate that the required training occurred on June 17, 2021.

The IE submitted a follow up email data request to obtain supporting documentation to corroborate that all required employees, contractors, and consultants that conduct activities in the wildland areas of the service territory that received the Fire Prevention Plan Training.msg attended the training on 6/17/21. Liberty provided an expanded list of personnel that received Fire Prevention Plan Training.msg and reported that they did not have any additional information or documentation available to confirm the invited personnel attended the June 17, 2021, training.

**Finding:** Based on the WMP target and supporting evidence, The IE determined with reasonable assurance that the evidence Liberty provided demonstrated that the Fire Prevention Plan (FPP) training was conducted on 6/17/21. However, the IE was not able to verify that all required employees, contractors, and consultants that conduct activities in the wildland areas of the service territory received the **Fire Prevention Plan Training** and attended the training on 6/17/21. The IE recommends that Liberty implements a more formalized tracking process to

ensure all personnel complete the required training. It may also be helpful to provide multiple trainings or a format that allows for on-demand training.

#### **Protocols for PSPS re-energization (7.3.6.4)**

Liberty's **2021 WMP Update PUBLIC**, in Section 7.3.6.4 states that Liberty has developed its PSPS plan and will review the plan annually and plans to exercise its PSPS plan annually.

Liberty reported in **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised** the Qualitative target for this initiative was for the "Playbook developed and hold annual PSPS exercise" and reported that the PSPS exercise was held June 25, 2021.

Document **Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan\_Revised20220404** reported that in 2021, Liberty held four regional PSPS workshops and one PSPS tabletop exercise.

The IE submitted *Data Request 3* to obtain supporting documentation to corroborate that Liberty's developed a PSPS plan and conducted a PSPS Table Exercise. Liberty provided, numerous documents that include original PSPS playbooks (Emergency Response and communications playbooks), Scope of work for updated PSPS playbook, and multiple meeting invites in which the topics were PSPS playbook review which provided documentation to corroborate that the required PSPS plan was developed. In addition, Liberty provided the meeting invite, agenda for the PSPS Exercise, the PSPS Exercise materials, Incident Action Plans, **PSPS Full Scale Exercise Tracker 6\_25\_2021**, and **Public Safety Power Shut Off (PSPS) Virtual Full Scale Exercise** which provided documentation to corroborate that the required PSPS exercise was held June 25, 2021.

**Finding:** The IE determined with reasonable assurance the evidence Liberty provided demonstrated that Liberty developed a PSPS plan, conducted a review of its PSPS plan and successfully completed a tabletop exercise of the PSPS plan on June 25, 2021.

#### **Centralized repository for data (7.3.7.1)**

In section 7.3.7.1 of the **Liberty CalPeco 2021 WMP Updated PUBLIC** Liberty states that it continues to advance its usage of centralized data storage and integrate relational data systems. The IE reviewed the **Liberty\_2021\_QIU\_Q4\_FINAL\_Revised** which states Liberty intended to develop a centralized data lake by the end of 2021.

To verify Liberty's progress on this initiative, the IE submitted *Data Request 6* requesting evidence of Liberty's progress on developing a centralized data lake, including a description of Liberty's efforts on data source testing and development. In response, Liberty provided **E2 Proposal – Liberty Data Analytics**, outlining E2's proposal to provide resources, expertise, and technology to develop an end-to-end data management and reporting solution encompassing three phases of work to be performed in 2022, indicating that Liberty did not complete this effort in 2021.

**Finding:** Based on the WMP, the reported Q4 QIU information and the documentation reviewed, the IE has determined that the qualitative target for this initiative as described in the

2021 WMP was not met as Liberty did not provide evidence that it developed a centralized data lake by end of 2021.

#### **Collaborative research on utility ignition and/or wildfire (7.3.7.2)**

In section 7.3.7.2 of the *Liberty CalPeco 2021 WMP Updated PUBLIC* Liberty states that it has embarked on two collaborative research projects, including a High Impedance Fault Detection (HIFD) project with the University of Nevada, Reno. HIFD was selected for its ability to clear high impedance faults. This technology is well suited due to clear faults rapidly before ignitions in Liberty's poor grounding. The IE reviewed the *Liberty\_2021\_QIU\_Q4\_FINAL\_Revised* which states Liberty intended to provide data to the University of Nevada, Reno for the HIFD study.

To verify Liberty's progress on this initiative, the IE submitted *Data Request 6* requesting evidence of Liberty providing data to University of Nevada, Reno for the HIFD study. In response, Liberty provided *RE Two Things For UNR*, an email chain from October 2021 to December 2021 showing Liberty's correspondence with University of Nevada, Reno providing the requested data to the University. Liberty also provided, *Preliminary Report For The HIF Detection Study*, an email from March 2022 showing University of Nevada, Reno providing a draft HIFD study to Liberty.

**Finding:** Based on the WMP, the reported *Q4 QIU information* and the documentation reviewed, the IE has determined that the qualitative target for this initiative as described in the 2021 WMP was met as Liberty did provide data to the University of Nevada, Reno.

#### **Adequate and trained workforce for service restoration (7.3.9.1)**

*Liberty CalPeco 2021 WMP Updated* states that "Liberty has addressed limitations in resource sufficiency through mutual aid agreements. Liberty is also in the process of adding additional qualified journeyman linemen to its workforce to better handle both day-to-day and emergency work." No specific goal for training or adding additional qualified journeyman linemen was identified in the Quarterly Initiative workbook nor was progress to this goal tracked. When asked for clarification on the qualitative goal, Liberty reported that the goal for ensuring an adequate and trained workforce was to hold two PSPS trainings per year.

There was no evidence provided for these trainings, but evidence of an extensive PSPS tabletop exercise on 6/25/2021 was provided as part of initiative 7.3.6.4. Additionally, the 2021 Annual Report on Compliance reported four regional Community Workshops in 2021.

**Finding:** It was stated through data requests that Liberty's target for this initiative was to hold two PSPS trainings to train response personnel. Because this was not clearly stated as a goal, the IE did was not able to verify evidence of these trainings; however, it is noted that a PSPS process exists and has been tested at least once in 2021.

The IE recommends noting any qualitative goals and their progress as part of regular quarterly updates and retaining evidence of all progress made toward targets, even if they are qualitative.

**Community outreach, public awareness, and communications efforts (7.3.9.2)**

**Liberty CalPeco 2021 WMP Updated** states that “As a result, Liberty executes a robust, year-round communications and outreach effort to increase community resiliency to wildfires and educate customers and the public about PSPS and how to prepare for potential de-energization events. The goal of this effort is the increase[d] awareness and community resiliency to wildfires and PSPS.”

The outreach was reported to take the form of digital communication, newsletters, town halls, and partnership via CBOs.

To support this, the IE requested samples of the outreach sent, a schedule of communication, or other artifacts of digital communication (see item 11 in *Data Request 3*). Liberty provided several artifacts, including monthly newsletters, social media posts, and a schedule of paid advertising by medium and schedule. Posts were targeted during the summer months, where temperatures are high and fire impacts are most likely. Liberty also provided a sample of how PSPS events are communicated, if/when they occur.

**Finding:** Based on the WMP target and supporting evidence, the IE has reasonable assurance the appropriate steps were taken to fulfill that goal in alignment with what was stated in Liberty’s 2021 WMP.

As mentioned elsewhere in this document, the IE recommends a best practice of tracking year over year metrics, where feasible, to track awareness and reach of each campaign. In addition to providing stronger evidence, this practice could also help strengthen future campaigns.

**Customer support in emergencies (7.3.9.3)**

**Liberty CalPeco 2021 WMP Updated** states that “Liberty provides assistance to those who are directly impacted [by wildfires].”

No qualitative goal was set in the Initiative Update workbook, but Liberty describes the following programs to provide this support:

- Support for low income and medical baseline (MBL) customers
- Billing adjustments
- Deposit waivers
- Extended payment plans
- Suspension of disconnection and nonpayment fees
- Repair processing and timing
- Access to utility representatives

Full descriptions of these programs can be found in Liberty’s WMP.<sup>12</sup> In a response to *Data Request 5* it was stated that the qualitative goal for this initiative was to develop an Access and

---

<sup>12</sup> Liberty, *Liberty CalPeco 2021 WMP Updated*, 132-133



Functional Needs (AFN) Plan to provide aid to those population most affected by PSPS events and wildfires in general.

The Annual Report on Compliance reports that part of the media campaign during the high wildfire months was targeted toward helping people self-identify as AFN or MBL and how to enroll in the program.

**Finding:** As noted above, there was not a specific goal or target identified for this initiative beyond development of a plan. The Annual Report on Compliance reports enhancements to the plan and notes outreach to grow enrollment of eligible customers.

The evidence provided for outreach efforts does show specific ads describing aid programs and encouraging enrollment. Overall, the IE is reasonably assured that this initiative has been followed. As with other sections, it is recommended that all targets, qualitative or otherwise, are identified and progress tracked as part of regular quarterly updates.

#### **Community engagement (7.3.10.1)**

***Liberty CalPeco 2021 WMP Updated*** states that “Liberty executes a robust, year-round communications and outreach effort to increase community resiliency to wildfires and educate customers and the public about PSPS and how to prepare for potential de-energization events. The goal of this effort is the increase[d] awareness and community resiliency to wildfires and PSPS.”<sup>13</sup>

According to the WMP, the specific goals to achieve this goal (among other things) were:

- Public Safety Partner and Critical Facilities Outreach (Listening sessions, PSPS tabletop exercises, additional PSPS workshops, and meetings with stakeholder groups)
- Customer and community outreach (year-round communication via multiple mediums, virtual town halls and community events, direct-to-customer outreach, digital engagement, informational videos, social media, purchased media/ad campaigns)
- Strategy and Actions Taken to Design, Translate, Distribute, and Evaluate Effectiveness of Related Communications (after-engagement evaluations, feedback from local representatives, customer feedback, web traffic, click throughs, conversion rates, etc.)
- Strategies and Actions Taken to Address Concerns and Serve Needs of AFN Populations and Non-English-Speaking Customers (MBL customer outreach, programs for income-qualified and disadvantaged communities)

Liberty’s QIU reports the progress on this initiative for 2021 as 11 events hosted, 4 WMP and PSPS virtual workshops offered to customers, and ongoing PSPS outreach.

To validate this, the IE requested samples of the outreach and invitations or minutes from the events and workshops (see *Data Request 3*). Liberty provided workbook “***WFMP Meetings and Events\_2021***” which contains several tabs listing the various social media schedules, dates and

---

<sup>13</sup> Liberty, *Liberty CalPeco 2021 WMP Updated*, 130

times of outreach, the subject of the outreach, the person who carried out/was responsible for carrying out various outreach.

**Finding:** Based on the WMP target and supporting evidence, the IE has reasonable assurance Liberty meet its goal of increasing awareness and community resiliency to wildfires and PSPS events. The plan in place touches on many aspects of achieving this goal. The evidence provided matches the progress reported in the fourth quarter update of the 2021 QIU workbook.

The IE notes that this metric and tracking could be further improved by monitoring year over year awareness, meeting attendance, customer feedback, etc. to show “increased” awareness more clearly.

#### **Cooperation and best practice sharing with agencies outside California (7.3.10.2)**

***Liberty CalPeco 2021 WMP Updated*** states that “Liberty continues to cooperate and share best practices with agencies outside California.” Specifically, Liberty notes the proximity with Nevada as being advantageous for information sharing regarding weather data and fuel sampling to reduce costs of these programs to customers. The WMP reports standing meetings to maintain this communication pipeline. Liberty also notes memberships with several regional and wildfire-related organizations.

**Finding:** Because a specific qualitative goal was not identified in the Initiative Update workbook, no evidence was reviewed for this and Liberty’s report on these best practices are taken as attestation that the meetings took place and that regular attendance and active engagement with the affiliate groups occurred.

The IE cannot corroborate claims of cost savings or any specific outcomes of memberships with these groups.

#### **3.1.5.2 Trends and Themes**

*Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Qualitative Goal/Target initiatives.*

The IE did not note any significant trends or themes with respect to Liberty’s qualitative initiatives.

#### **3.2 Verification of Funding**

*The Verification of Funding section should document all instances in which WMP activities were funded less than 100 percent. For all such instances, the Independent Evaluator shall request and document utility explanation of such instances.*

*Fill out the table below containing initiatives which the Independent Evaluator found to be funded less than 100 percent.*

*Below the table, provide more detail on the Independent Evaluator’s findings regarding these initiatives that were funded less than 100 percent, including the utility’s explanation.*

**Table 11: Verification of Funding**

WMP Section	2020 WMP Initiative	2021 Planned Spend	2021 Actual Spend	Discrepancy	Justification
7.3.2.1	Advanced weather monitoring and weather stations	\$120,000	\$20,341	\$99,659	Tamarack and Caldor fire responses and supply chain issues impacted Liberty's ability to meet installation targets.
7.3.3.2	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	\$500,000	\$87,622	\$412,378	Liberty only replaced one oil circuit breaker in 2021 and plans to replace three in 2022.
7.3.3.3	Covered conductor installation	\$16,564,617	\$10,550,330	\$6,014,287	The Tamarack and Caldor fires impacted line construction resources. Additionally, supply chain issues impacted material availability, which delayed the Topaz CC project to 2022. The Topaz project was also impacted by new Caltrans permitting requirements. The Cathedral A CC project was partially completed in 2021 and will be completed in 2022 when the snow melts and construction can continue.
7.3.3.6	Distribution pole replacement and reinforcement,	\$10,605,000	\$5,002,532	\$5,602,468	The Tamarack and Caldor fires impacted line construction

WMP Section	2020 WMP Initiative	2021 Planned Spend	2021 Actual Spend	Discrepancy	Justification
	including with composite poles				resources and supply chain issues impacted the timing of material availability. All pole replacement designs were completed in 2021. Liberty replaced 174 poles Tier 2 poles in 2021, out of Liberty's WMP target of 400 Tier 2 poles. Liberty also replaced 13 poles associated with its intrusive pole inspections. Liberty also replaced approximately 175 poles resulting from fire or storm damage in 2021 (costs not captured in WMP costs) which impacted available resources.
7.3.3.7	Expulsion fuse replacement	\$1,200,000	\$599,778	\$600,222	Tamarack and Caldor fire responses and supply chain issues impacted Liberty's ability to meet installation targets.
7.3.3.12	Other corrective actions	\$2,290,000	\$2,015,895	\$274,105	No justification provided
7.3.3.16	Undergrounding of electric lines and/or equipment	\$1,445,414	\$902,605	\$542,809	No justification provided
7.3.4.3	Improvement of inspections	\$150,000	\$0	\$150,000	No costs incurred for this initiative in 2021.

WMP Section	2020 WMP Initiative	2021 Planned Spend	2021 Actual Spend	Discrepancy	Justification
					No other justification provided.
7.3.4.4	Infrared inspections of distribution electric lines and equipment	\$35,000	\$0	\$35,000	No costs incurred for this initiative in 2021. No other justification provided.
7.3.4.9	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	\$2,300,000	\$1,075,825	\$1,224,175	Tamarack and Caldor fire responses and supply chain issues impacted Liberty's ability to meet targets.
7.3.4.13	Pole loading assessment program to determine safety factor	\$100,000	\$0	\$100,000	No costs incurred for this initiative in 2021. No other justification provided.
7.3.4.14	Quality assurance / quality control of inspections	\$35,000	\$0	\$35,000	No costs incurred for this initiative in 2021. No other justification provided.
7.3.4.15	Substation inspections	\$10,000	\$0	\$10,000	No costs incurred for this initiative in 2021. No other justification provided.
7.3.5.1	Additional efforts to manage community and	\$750,000	\$649,784	\$100,216	Liberty was not authorized by the National Forest Service to implement

WMP Section	2020 WMP Initiative	2021 Planned Spend	2021 Actual Spend	Discrepancy	Justification
	environmental impacts				several planned projects in 2021.
7.3.5.5	Fuel management and reduction of “slash” from vegetation management activities	\$2,000,000	\$1,196,446	\$803,554	Lower than expected costs related to fuel management activities, partially related to the redirections of crews to post-fire mitigation work (7.3.5.21) that was unforeseen.
7.3.5.7	LiDAR inspections of vegetation around distribution electric lines and equipment	\$820,000	\$653,480	\$166,520	Project delays due to smoke and airspace restrictions from wildfires caused carryover into 2022
7.3.5.11	Patrol inspections of vegetation around distribution electric lines and equipment	\$450,000	\$337,829	\$112,171	Lower than expected costs related to patrol inspections.
7.3.5.13	Quality assurance / quality control of vegetation inspections	\$250,000	\$141,118	\$108,882	This initiative was implemented mid-year 2021 and the actual costs reflect six months of work.
7.3.5.15	Remediation of at-risk species	\$5,500,000	\$4,677,999	\$822,001	The reduction in planned costs was partially related to the redirections of crews to post-fire mitigation work (7.3.5.21) that was unforeseen.

WMP Section	2020 WMP Initiative	2021 Planned Spend	2021 Actual Spend	Discrepancy	Justification
7.3.5.16	Removal and remediation of trees with strike potential to electric lines and equipment	\$2,200,000	\$1,222,174	\$977,826	The reduction in planned costs was partially related to the redirections of crews to post-fire mitigation work (7.3.5.21) that was unforeseen.
7.3.5.20	Vegetation management to achieve clearances around electric lines and equipment	\$1,000,000	\$987,676	\$12,324	Actual costs approximately 1.5% different from forecast; Liberty considers this within margin of error for cost forecasts.
7.3.6.7	Stationed and on-call ignition prevention and suppression resources and services	\$298,000	\$46,426	\$251,574	Liberty purchased one out of two forecasted vehicles in 2021. Labor costs forecasted in this initiative captured in other initiatives.
7.3.7.1	Centralized repository for data	\$162,500	\$10,058	\$152,442	Labor costs forecasted captured in 7.3.8.1 and forecasted software upgrade costs not incurred.
7.3.7.2	Collaborative research on utility ignition and/or wildfire	\$255,000	\$101,263	\$153,737	Forecasted DFA costs associated with Texas A&M project captured in 7.3.2.2.
7.3.9.1	Adequate and trained workforce for service restoration	\$899,598	\$460,001	\$439,597	Less than forecasted labor costs. Some WMP-related labor costs are in base rates

WMP Section	2020 WMP Initiative	2021 Planned Spend	2021 Actual Spend	Discrepancy	Justification
					and not separately captured in WMP initiatives.
7.3.10.1	Community engagement	\$251,250	\$102,097	\$149,153	Lower than expected costs related to communication and outreach.

The IE requested data corroborating the actual spend presented in Table 12 of the QDR. Liberty provided an output of their General Ledger (GL) accounts for all wildfire mitigation initiatives. Upon review of this output the IE has reasonable assurance that the actual spend for each initiative is being tracked appropriately.

### 3.3 Verification of QA/QC Programs

*This section should include a detailed description of all QA and QC programs that the Independent Evaluator validated during its compliance review. Independent Evaluators shall review all documentation and perform interviews to validate an electrical corporation's QA and QC programs for WMP compliance.*

The following review is based on a review of Liberty's Quality Assurance/Quality Control (QA/QC) documentation included in its WMP, supporting documentation, documents requested, and interviews with Liberty's QA/QC personnel.

Liberty planned to develop a QA/QC Asset Management and Inspections program under initiative 7.3.4.14 and has developed and implemented a vegetation management QA/QC program under initiative 7.3.5.13 to ensure that their wildfire mitigation measures are performed at an acceptable level of quality consistently across its footprints and initiatives. These programs, described in Sections 7.3.4.14 and 7.3.5.13 of the WMP, and apply to their vegetation management and asset inspection programs.

#### Quality assurance / quality control of asset inspections:

Liberty does not currently have a formal QA/QC program for asset inspections for the initiative 7.3.4.14. With the increased reliance on contractors, due primarily to the addition of recently added WMP activities, Liberty recognizes that there is a need to establish a robust QA/QC program to improve compliance with company and Commission standards as well as with their WMP targets.

In its response to *Data Request 1*, Liberty reported that no QA/QC Asset Management activities occurred in 2021.



Quality assurance / quality control of vegetation management and inspections:

Since the last WMP and IE ARC, Liberty has consulted with industry experts to develop a QA/QC program that includes statistical sampling of vegetation management inspections by annual circuit miles and a formal post work verification process control.<sup>14</sup>

Liberty established a formal QA/QC program for vegetation management inspections and work under the initiative 7.3.5.13 to track the effectiveness of its contractor work performance and performs the following QA/QC activities:

- Develops and implemented an annual vegetation management (VM) Quality Control Plan.<sup>15</sup>
- Maintenance work (pre-inspection, pruning and removal) is performed by non-Liberty resources (contractors). This work is reviewed, using a defense-in-depth strategy in order to provide reasonable assurance that inspection and maintenance work is being effectively performed, which includes Post-work Verifications and Quality Control Inspections.
- Post-Work Verifications are performed by Liberty System Arborists and are the initial reviews performed to validate documentation and field work accuracy. These activities include post work documentation review (Desktop Review) for 100% of the submitted work, post work validation (Field Review) and post QC work validation (Field Review) on an as needed basis to confirm contractor QC inspections are performed.
- QC inspections are performed by appropriately trained and qualified internal or external entities whose function, and organizational reporting is independent to the VM organization. QC inspections are performed using judgmental sampling with an emphasis on an assigned inspection priority level and are intended to provide reasonable assurance of compliance.
- QC inspections include tree pruning and removal, detailed pre-inspections, hazard tree removal, and pole brushing.
- QC planning, inspection, and reporting are based on the selected circuit miles to be inspected by the VM manager. The QC inspection packages are provided to the QC inspection contractor by the System Arborist the month prior to the planned QC inspection and the QC inspection reports are provided to the VM Manager and responsible System Arborist for review in a timely manner.

**Finding:**

The IE finds Liberty has begun to perform the QA/QC work as described in the WMP and associated documents. Liberty appears to have developed and implemented a robust QA/QC

---

<sup>14</sup> Liberty Utilities 2021 Wildfire Mitigation Plan Update 2021, Section 7.3.5.13, at page 115.

<sup>15</sup> Post Work Verification Procedure, Version 1 Dated 05/21/2021, was implemented mid-year of 2021.

program for vegetation management mid-year 2021 that should continue to ensure Liberty's wildfire mitigation activities are effectively performed.

The IE notes, however, the dual nature of the QA/QC programs run separately under Asset inspections and vegetation management do not allow for common oversight, sharing of lessons learned, and optimization. Therefore, the IE recommends Liberty consider identifying responsible role/group to oversee QA/QC activities and implement lessons learned. Further, this role should also administer QA/QC programs for the entirety of the WMP to ensure a similar level of oversight across all WMP initiatives including but not limited to risk assessment, grid operations and protocols, and data governance.

Additionally, it may be beneficial for the Liberty to organize their QA/QC documents and programs into a mapping document that includes the applicable teams, roles, program documents, and evidence.

#### 4. CONCLUSION

The Conclusion section shall summarize all findings that the Independent Evaluator detailed in the sections above.

Fill out the table below with all findings.

The IE reviewed and assessed Liberty's listed initiative activities and conducted a thorough review of evidence through documentary reviews and field assessments. Many of these detailed reviews and assessments were bolstered by interviews with Liberty staff responsible for the management, oversight, and implementation of the EC's wildfire mitigation programs as well as subject matter experts responsible for technical guidance and implementation. The IE also worked with Liberty and Energy Safety staff to determine relevant materials critical to produce a statistically significant, where possible, and concrete review of Liberty's WMP work performance.

The Table 12 below presents the IE findings supported by desktop and field inspection reviews of Liberty evidence. Results and interpretations from the verification of QA/QC programs are found in Section 3.3 above. Findings associated with verification of funding are presented within Section 3.2. Table 11, below, further lists reviewed explanations and documentation determinations for underfunded activities and their associated deficiency determination.

Initiative findings are presented in accordance with the WMP Initiative Activity below.

**Table 12: IE Findings Summary**

2021 Initiative Number	Initiative Name	Finding	Detail on finding
7.3.2.1	Advanced weather monitoring and weather stations	This initiative target was not met	The IE determined based on the evidence provided and responses to the data requests, Liberty did not install any of the initiatives 10 weather stations due to Tamarack and Caldor fire responses and supply chain issues impacted Liberty's ability to meet installation targets.
7.3.2.2	Continuous monitoring sensors	This initiative target was not met	The IE has determined that the quantitative target for installing 10 DFAs for this initiative as described in the 2021 WMP was not met.
7.3.3.3	Covered conductor installation	This initiative target was not met	The IE determined that the quantitative target of installing 9.1 circuit miles of covered

2021 Initiative Number	Initiative Name	Finding	Detail on finding
			conductor for this initiative as described in the 2021 WMP was not met.
7.3.3.6	Distribution pole replacement and reinforcement, including with composite poles	This initiative target was not met	Liberty only completed 211 pole replacements against a goal of 440 for 2021.
7.3.3.7	Expulsion fuse replacement	This initiative target was not met	Liberty only completed 867 pole replacements against a goal of 1500 for 2021.
7.3.3.9	Installation of system automation equipment	This initiative target was not met	Based on the WMP target and supporting evidence, the IE has reasonable assurance this target was not met.
7.3.3.12	Other corrective action	Inconclusive	The IE was not able to validate the target of 60 green jacket installations in 2021. The Q4 QIU stated that 37 of the 60 installations were performed, but relevant data and evidence was not provided to the IE to substantiate this information.
7.3.4.1	Detailed Inspections	This initiative target was not met	The IE was only able to verify the completion of 59.8 miles of inspections against an original goal of 210 and a modified goal of 328 miles
7.3.4.6	Intrusive pole inspections	This initiative target was not met	Based on the available information and discussion with Liberty CalPeco, the IE has reasonable assurance Liberty performed 3,506 intrusive pole inspections, however, this is

2021 Initiative Number	Initiative Name	Finding	Detail on finding
			short of the stated goal of 3,600 inspections.
7.3.4.14	Quality assurance / quality control of inspections	This initiative target was not met	The IE has determined that the target for this initiative as described in the 2021 WMP was still in progress and not met in 2021.
7.3.4.15	Substation inspections	This initiative target was not met	Liberty completed 38 substation inspections on the 13 substations in their territory, however, this is short of the stated goal of 46 substation inspections.
7.3.5.1	Additional efforts to manage community and environmental impacts	This initiative target was not met	Liberty was not able to treat 13-line miles for additional efforts to manage community and environmental impacts.
7.3.5.2	Detailed inspections of vegetation around distribution electric lines and equipment	This initiative target was not met	Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE determined that the target for this initiative as described in the 2021 WMP was not met.
7.3.5.7	LiDAR inspections of vegetation around distribution electric lines and equipment	This initiative target was not met	Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE determined that the target for this initiative as described in the 2021 WMP was not met.

2021 Initiative Number	Initiative Name	Finding	Detail on finding
7.3.5.15	Remediation of at-risk species	This initiative target was not met	Liberty was only able to treat 238 of the targets 328 line miles planned in 2021
7.3.5.16	Removal and remediation of trees with strike potential to electric lines and equipment	This initiative target was not met	Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE determined that the target for this initiative as described in the 2021 WMP was not met.
7.3.6.1	Automatic recloser operations	This initiative target was not met	Based on the WMP, the reported Q4 QIU information, the documentation reviewed, and SME interviews, the IE has determined that the qualitative target for this initiative as described in the 2021 WMP was not met.
7.3.6.3	Personnel work procedures and training in conditions of elevated fire risk	Inconclusive	The IE determined with reasonable assurance the evidence Liberty provided demonstrated that the Fire Prevention Plan (FPP) training was conducted on 6/17/21. However, the IE was not able to verify that all required employees, contractors, and consultants that conduct activities in the wildland areas of the service territory received the <b>Fire Prevention Plan Training</b> and attended the training on 6/17/21.
7.3.7.1	Centralized repository for data	This initiative target was not met	The IE determined that Liberty was not able to develop a

2021 Initiative Number	Initiative Name	Finding	Detail on finding
			centralized data lake by end of 2021
7.3.2.1	Advanced weather monitoring and weather stations	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.2	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.3	Covered conductor installation	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.6	Distribution pole replacement and reinforcement, including with composite poles	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.7	Expulsion fuse replacement	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.12	Other corrective action	Initiative Underfunded	See Section 3.2 for more details.
7.3.3.16	Undergrounding of electric lines and/or equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.3	Improvement of inspections	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.4	Infrared inspections of distribution electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.9	Other discretionary inspection of	Initiative Underfunded	See Section 3.2 for more details.

2021 Initiative Number	Initiative Name	Finding	Detail on finding
	distribution electric lines and equipment, beyond inspections mandated by rules and regulations		
7.3.4.13	Pole loading assessment program to determine safety factor	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.14	Quality assurance / quality control of inspections	Initiative Underfunded	See Section 3.2 for more details.
7.3.4.15	Substation inspections	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.1	Additional efforts to manage community and environmental impacts	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.5	Fuel management and reduction of “slash” from vegetation management activities	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.7	LiDAR inspections of vegetation around distribution electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.11	Patrol inspections of vegetation around distribution electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.13	Quality assurance / quality control of vegetation inspections	Initiative Underfunded	See Section 3.2 for more details.



2021 Initiative Number	Initiative Name	Finding	Detail on finding
7.3.5.15	Remediation of at-risk species	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.16	Removal and remediation of trees with strike potential to electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.5.20	Vegetation management to achieve clearances around electric lines and equipment	Initiative Underfunded	See Section 3.2 for more details.
7.3.6.7	Stationed and on-call ignition prevention and suppression resources and services	Initiative Underfunded	See Section 3.2 for more details.
7.3.7.1	Centralized repository for data	Initiative Underfunded	See Section 3.2 for more details.
7.3.7.2	Collaborative research on utility ignition and/or wildfire	Initiative Underfunded	See Section 3.2 for more details.
7.3.9.1	Adequate and trained workforce for service restoration	Initiative Underfunded	See Section 3.2 for more details.
7.3.10.1	Community engagement	Initiative Underfunded	See Section 3.2 for more details.

# APPENDIX

**5. APPENDICES**

**TABLE OF APPENDICES**

**Table of Appendices ..... ii**

**Appendix A: Data Request Log ..... iii**

**Appendix B: Insufficient field inspection findings reports.....xi**

## APPENDIX A: DATA REQUEST LOG

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
1	1	2021 <b>Quarterly Data Reports Non-Spatial Data</b> (the non-public version, if applicable)	N/A
1	2	2021 <b>Quarterly Data Reports Spatial Data</b> (the non-public version, if applicable)	N/A
1	3	2021 <b>Annual Report on Compliance</b> (the non-public version, if applicable)	N/A
1	4	2021 <b>Quarterly Initiative Updates</b> (the non-public version, if applicable)	N/A
1	5	2021 <b>Quarterly Advice Letters/Notification Letters</b> (the non-public version, if applicable)	N/A
1	6	Provide a listing of all WMP initiative activities within the <b>four categories of sampling</b> : <ul style="list-style-type: none"> <li>• <b>Large volume</b> (<math>\geq 100</math> units) + quantifiable goal/target + field verifiable</li> <li>• <b>Large volume</b> (<math>\geq 100</math> units) + quantifiable goal/target + non-field verifiable</li> <li>• <b>Small volume</b> (<math>&lt;100</math> units) + quantifiable goal/target (could also be field verifiable)</li> <li>• <b>Qualitative</b> goal/target WMP activities</li> </ul>	N/A
1	7	Accounting of <b>Cost Data for Wildfire Mitigation Activities</b> <ul style="list-style-type: none"> <li>• may come from any of the following WMP projected, actual, and recovered financials can be found in: 2019+ General Rate Case work papers, Wildfire Mitigation Plan Memorandum Account (WMPMA), Fire Risk Mitigation Memorandum Account (FRMMA), Fire Hazard Prevention Memorandum Account (FHPMA), Catastrophic Event Memorandum Account (CEMA), the 2021 &amp; 2022 WMP, and associated quarterly reports (Quarterly Data Reports).</li> </ul>	N/A
1	8	Vegetation Management clearance specification (i.e., G.O. 95)	
1	9	Vegetation Management Plan	
1	10	Vegetation Management Plan supporting documentation	
1	11	Provide <b>sample results of QC reviews of vegetation management</b> activities conducted in 2021. (Monthly, quarterly, or annual summary report, as available).	

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
1	12	Has the utility conducted a <b>QA review</b> of its <b>vegetation management processes</b> ? <ul style="list-style-type: none"> <li>• If so, what were the results of that review?</li> </ul>	
1	13	<b>Detailed pre-inspection</b> population size in 2021 (e.g., annual circuit miles of lines, spans, number of pre-inspected locations, etc.)	
1	14	<b>Completed routine tree work</b> population size in 2021 (e.g., annual circuit miles of lines, spans, number of pre-inspected locations, etc.)	
1	15	<b>Hazard tree work</b> population size in 2021 (e.g., annual circuit miles of lines, spans, number of pre-inspected locations, etc.)	
1	16	<b>Pole clearing</b> population size in 2021 (e.g., annual number of poles that require clearing per the regulations, all poles with equipment that could be an ignition source, etc..)	
1	17	If QC reviews include a statistically valid sample size, please provide the <b>confidence level and margin of error</b> (e.g., 99% / 5%) used to determine the sample sizes for <b>Detailed Pre-Inspection</b>	
1	18	If QC reviews include a statistically valid sample size, please provide the <b>confidence level and margin of error</b> (e.g., 99% / 5%) used to determine the sample sizes for Completed <b>Routine Tree Work</b>	
1	19	If QC reviews include a statistically valid sample size, please provide the <b>confidence level and margin of error</b> (e.g., 99% / 5%) used to determine the sample sizes for <b>Hazard Tree Work</b>	
1	20	If QC reviews include a statistically valid sample size, please provide the <b>confidence level and margin of error</b> (e.g., 99% / 5%) used to determine the sample sizes for <b>Pole Clearing</b>	
1	21	Is there a <b>desktop review</b> (paper / electronic) of completed <b>VM &amp; inspection</b> work? <ul style="list-style-type: none"> <li>• If so, who conducts the desktop review?</li> <li>• What percentage of the completed work is subject to a desktop review?</li> </ul>	
1	22	Documentation for <b>Asset Management &amp; Inspections</b> Initiatives	
1	23	Provide any distribution and transmission <b>inspection management plan(s)</b>	
1	24	Provide the <b>QA/QC Plan</b> applicable to wildfire mitigation distribution and transmission <b>inspection procedures</b>	
1	25	Are all <b>equipment inspection activities</b> (e.g., patrol, detailed, infrared, LiDAR, UAV surveys, etc.) reviewed as part of the <b>QC Program</b> ? <ul style="list-style-type: none"> <li>• If not all describe which and why</li> </ul>	

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
1	26	Provide <b>sample results of QC reviews of asset management &amp; inspection</b> activities conducted in 2021. (Monthly, quarterly, or annual summary report, as available).	
1	27	Has the utility conducted a <b>QA review</b> of its <b>asset management &amp; inspection processes</b> ? • If so, what were the results of that review?	
2	1	Provide proof of completion of First Generation Risk Model	7.3.1.1
2	2	Please provide the supporting documentation to corroborate the number of Advance weather stations presented in Liberty _2021_QIU_Q4 Final Revision (e.g., list of all installed advanced Weather Stations in 2021, date of installation, location, etc.)	7.3.2.1
2	3	Please provide a representative set of available documentation associated with each installation (e.g., Equipment Purchase Orders, Completed Field installation Work Orders, other evidence demonstrating its operational) for subsequent sampling and field verification.	7.3.2.1
2	4	Please provide the supporting documentation to corroborate the number of Distribution Fault Anticipations presented in SCE Q4 2021 QIU (e.g., list of all installed DFAs in 2021, type of sensor (Aclara, TripSavers, AlertWildFire), date of installation, location, etc. ).	7.3.2.2
2	5	Please provide a representative set of available documentation associated with each installation (e.g., Equipment Purchase Orders, Completed Field installation Work Orders, other evidence demonstrating its operational) for subsequent sampling and field verification.	7.3.2.2
2	6	Please provide the supporting documentation to corroborate the installation of Fault indicators installed on an as-needed basis by troublemen and/or as recommended by troublemen in 2021 (e.g., list of all installed and/or recommended Fault Indicators, date of installation and/or recommendation, location, associated work orders, etc.).	7.3.2.3
2	7	Please provide supporting documentation that Liberty has developed a web-based monitoring and operational support tool that displays FPI values by zones, in addition to PSPS weather analytics and forecasting (e.g., Application User Guide, training materials, dated application screen captures).	7.3.2.4

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
2	8	Provide evidence that Liberty continues to monitor forecast accuracy and reliability of FPI and through the monitoring process, Liberty and Reax Engineering look to identify inconsistencies between forecast and monitored conditions in order to make improvements in forecast accuracy (e.g., monitoring reports highlighting inconsistencies, resulting improvements in the forecasts, contracts with Reax Engineering, etc.).	7.3.2.4
2	9	Please provide supporting documentation to corroborate that Liberty monitors forecast and real-time weather conditions by utilizing weather station data and fire weather prediction tools. FPI and PSPS zones, which receive individualized forecasts, help to determine the specific circuits that are predicted to experience elevated fire risk conditions and that the patrol resources were more accurately and efficiently deployed in 2021 (e.g., lists of specific circuits predicted with elevated fire risk conditions, work orders for field crews perform portals, portal reports, etc.)	7.3.2.5
2	10	Provide documentation on Liberty's proactive patrol methodology and evidence of incorporating lessons learned from field personnel and weather forecasting analysis.	7.3.2.5
2	11	Provide detail to the discrepancy in WMP language "Circuit breaker replacements are also planned for the Tahoe City and Squaw Valley Substations in 2021" versus the recorded data in the Quarterly Initiative Update for Quarter 4.	7.3.3.2
2	12	Location Data for applicable work performed under System Hardening activities. Excel sheet with Latitude, longitude, activity description, structure numbers, and activity identifiers will be accepted.	7.3.3.3 7.3.3.6 7.3.3.7 7.3.3.8 7.3.3.9 7.3.3.12
2	13	Provide documentation that the current undergrounding project (Tahoe Vista) is not a wildfire Initiative and instead a commission approved Rule 20A project, and the costs are not accounted for in FRRMA & WMPMA.	7.3.3.16
2	14	Identification Data for applicable work performed under Inspection activities. This should corroborate what is in the ARC and QIU. Excel sheet with total population of activity identifiers will be accepted.	All applicable 7.3.4 Initiatives
2	15	Please provide any process documentation for qualitative goals set for inspection initiatives.	7.3.4.3 7.3.4.14

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
3	1	Location Data for applicable work performed under Vegetation Management activities. Excel sheet with Latitude, longitude, activity description, structure numbers, and activity identifiers will be accepted.	7.3.5.1
3	2	Per the Liberty 2021 Updated WMP, please confirm if Liberty currently has a documented QA/QC program that addresses the entire WMP and provide supporting documentation.	7.3.5.13
3	3	Please provide the supporting documentation to corroborate the number of line reclosers installed in 2021 (e.g., list of all installed line reclosers in 2021, date of installation, location, purchase orders, installation work orders, etc.).	7.3.6.1
3	4	Please provide a detailed description of the 2021-2022 DA pilot project program cited in the 2021 WMP Update as well as supporting evidence of its implementation (e.g., DA Controller, date of installation, location, purchase orders, installation work orders, etc.).	7.3.6.1
3	5	Please provide the list of the applicable Liberty work personnel procedures.	7.3.6.3
3	6	Provide evidence that Liberty conducted a training for all field personnel on June 17, 2022 (e.g., Training materials, evidence that all employees, contractors, and consultants that conduct activities in the wildland areas of the service territory received this training).	7.3.6.3
3	7	Please provide Liberty's PSPS plan and supporting evidence that the plan was annual reviewed.	7.3.6.4
3	8	Provide evidence that Liberty conducted a PSPS Exercise on June 25, 2022 (e.g., PSPS Exercise materials, dated list of participants, after action notes or lessons learned, etc.)	7.3.6.4
3	9	In Liberty's response to DR 2: DFAs in 2021.xlsx was provided that listed six DFAs installed as of Q4 2021, all located in Portola. However, in the Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan_Revised20220404.pdf, it states that "In 2021, the units were delivered, circuit/substation locations were selected for five units, and additional materials were ordered for their installation. Liberty is determining location feasibility for the remaining five units, and selection will be based on fire risk mapping and substation capability to host the equipment."  Please clarify the differences in between these two documents and provide and additional supporting evidence.	7.3.2.2



DR	Item No.	Item Requested	Initiative Identifier or "N/A"
3	10	Please provide the available documentation associated with each of the 6 installations (e.g., Equipment Purchase Orders, Completed Field installation Work Orders) for subsequent sampling and field verification.	7.3.2.2
3	11	Please provide examples/samples of social media posts, emails, and other awareness ads. Include marketing schedule or plan, if applicable.	7.3.9.2
3	12	One file was provided for all Asset Inspections in DR2. This file appears to contain inspections from 2020, 2021, and 2022. We are looking for data only from 2021. There does not appear to be a way to corroborate the number presented in the QIU (210 miles inspected for 7.3.4.1, 3506 poles inspected for 7.3.4.6, 2050 miles inspected for 7.3.4.11, or 46 substations inspected for 7.3.4.15). Please provide a list or lists corroborating the numbers for these 4 initiatives	7.3.4.1 7.3.4.6 7.3.4.11 7.3.4.15
3	13	Please provide evidence of the events and workshops held (agenda, promotion, meeting minutes, etc.).	7.3.10.1
3	14	Please provide a contact person for field verification personnel.	
3	15	Please indicate is UAV personnel should submit flight plans prior to field verifications with the use of drones. Please provide contact information for any person that may need to be notified of UAV use.	N/A
4	1	Please provide all supporting program documents as referenced in the WMP	All initiatives
4	2	Please provide an attestation that the information provided in the previously provided document "2021 Completed VM.xlsx" was extracted directly for the system of record and is the exact information in all the applicable workorders. Also, provide to applicable workorders so field verification can take place.	All initiatives
4	3	Please provide additional initiative information that will correlate the work performed (e.g., inspections, maintenance, etc.) to the line miles identified in the QIU. As per discussions with the vegetation management team on 5/10/2022.	All initiatives
5	1	Provide evidence of Liberty's efforts to establish a formal risk management team at the utility level.	7.3.1.1
5	2	Please provide the qualitative goal for this initiative, as its not overtly clear in the WMP and the QIU.	7.3.3.2

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
5	3	In the Q4 QIU, Liberty states that 0.5 line miles were completed for this initiative. When viewing the 2021 WMP report (Liberty CalPeco 2021 WMP Update PUBLIC.pdf) there is no specific information provided as to the work being completed for this initiative. The WMP update simply refers back to Section 5.2. The Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan (Liberty Annual Report on Compliance for 2021 Wildfire Mitigation Plan_Revised_20220404.pdf) states that \$144,465 was spent on initiative 7.3.3.8. Please provide a narrative and supporting documentation to verify the work that was completed on the 0.5 line miles for initiative 7.3.3.8.	7.3.3.8
5	4	Please provide the goal for this initiative, as its not overtly clear in the WMP and the QIU.	7.3.4.4
5	5	Please provide the goal for this initiative, as its not overtly clear in the WMP and the QIU.	7.3.4.3
5	6	Please provide the goal for this initiative, as its not overtly clear in the WMP and the QIU.	7.3.4.14
5	7	Please provide the qualitative goal for this initiative, as its not overtly clear in the WMP and the QIU.	7.3.9.1
5	8	Please provide the qualitative goal for this initiative, as its not overtly clear in the WMP and the QIU.	7.3.9.3
5	9	Please provide the qualitative goal for this initiative, as its not overtly clear in the WMP and the QIU.	7.3.10.2
5	10	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	7.3.3.3
5	11	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	7.3.3.7
5	14	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	7.3.3.6
5	12	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	7.3.5.15
5	13	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	7.3.5.20
5	15	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	7.3.5.16
6	1	Please provide the circuit miles for the applicable circuits that underwent inspections in 2021. This includes the NLT and SLT patrol	7.3.4.11

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
		inspections which should add up to the 2050 miles indicated in the QIU.	
6	2	Please provide the circuit miles for the applicable circuits that underwent detailed inspections in 2021. This should corroborate the 210 miles indicated in the QIU.	7.3.4.1
6	3	Provide location data AND work orders for the 2 automatic reclosers installed (system automation equipment) in 2021	7.3.3.9
6	4	Provide location data and work orders for the 37 tree attachment removals performed in 2021	7.3.3.12
6	5	Please provide a description and evidence of Liberty's progress on developing a centralized data lake, including a description and evidence of Liberty's efforts on data source testing and development.	7.3.7.1
6	6	Please provide a description and evidence of Liberty providing data to University of Nevada, Reno for the HIFD study	7.3.7.2

## APPENDIX B: INSUFFICIENT FIELD INSPECTION FINDINGS REPORTS

- Electrical corporation's list of Large Volume Quantifiable Goal/Target – Field Verifiable initiatives*
- Electrical corporation's list of Large Volume Quantifiable Goal/Target – Not Field Verifiable initiatives*
- Electrical corporation's list of Small Volume Quantifiable Goal/Target initiatives*
- Electrical corporation's list of Qualitative Goal/Target initiatives*
- Electrical corporation's complete listing and description of existing QA/QC programs in place*
- Data requests and interview requests*
- Samples chosen by the Independent Evaluator*
- Financial audit reports and memorandum accounts*
- Any additional documentation*



# ASSET INSPECTION REPORT

ASSET ID	_____	INSPECTOR	_____
CIRCUIT ID	_____	INSPECTION DATE	_____
OBJECT ID	_____		
STRUCTURE TYPE	_____		

## ASSET INFORMATION

### ASSET SUBTYPE

INSPECTION TYPE	INITIAL	<input type="checkbox"/>	FOLLOW-UP	<input type="checkbox"/>
-----------------	---------	--------------------------	-----------	--------------------------

ASSET COMPLIANCE	COMPLIANT	<input type="checkbox"/>	NONCOMPLIANT	<input type="checkbox"/>
------------------	-----------	--------------------------	--------------	--------------------------

LOCATION	LATITUDE	_____	LONGITUDE	_____
----------	----------	-------	-----------	-------

### ASSET CONDITION (Describe all UNSAT/NON-COMPLIANT findings)

VISUAL INTEGRITY	SAT	<input type="checkbox"/>	UNSAT	<input type="checkbox"/>	NA	<input type="checkbox"/>	_____
AT EXPECTED LOC.?	SAT	<input type="checkbox"/>	UNSAT	<input type="checkbox"/>	NA	<input type="checkbox"/>	_____
SIGNAGE	SAT	<input type="checkbox"/>	UNSAT	<input type="checkbox"/>	NA	<input type="checkbox"/>	_____

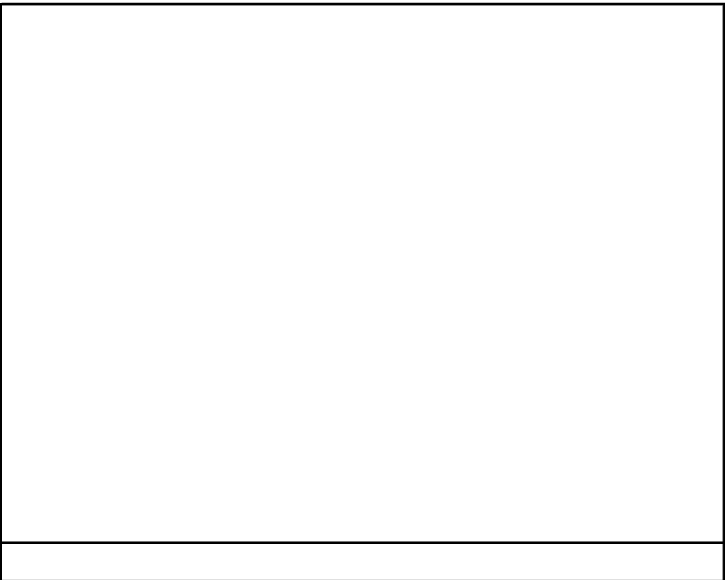
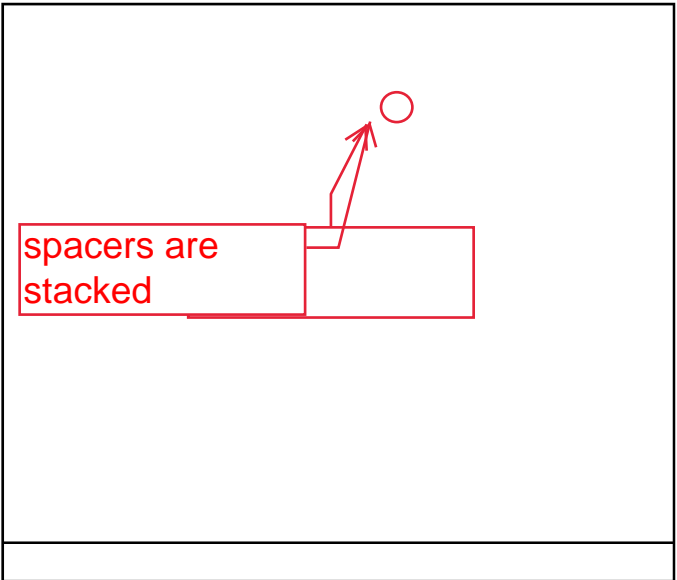
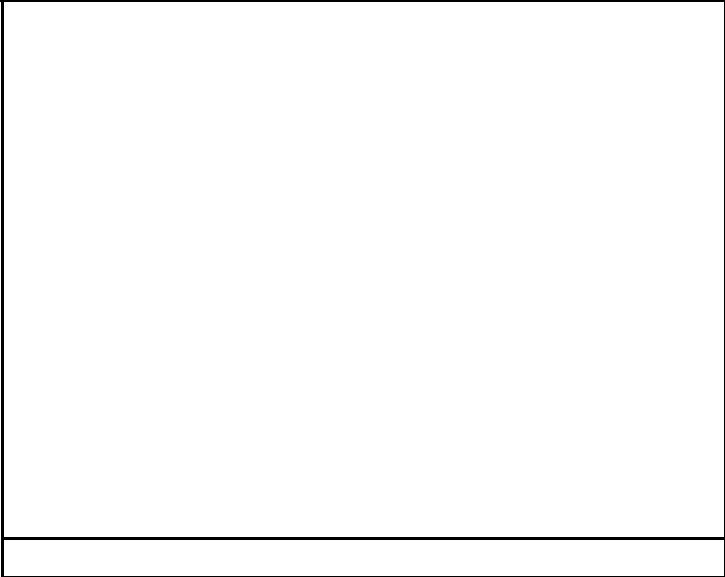
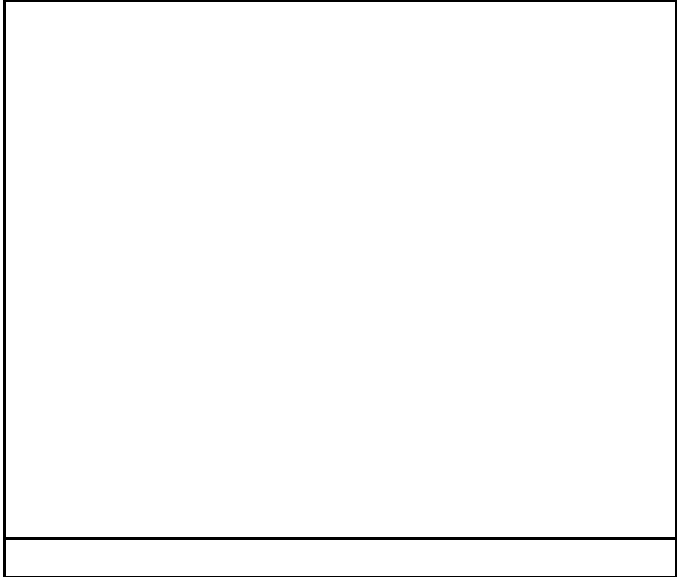
ADDITIONAL COMMENTS:



# ASSET INSPECTION REPORT

STRUCTURE NUMBER	_____	INSPECTOR	_____
ACTIVITY IDENTIFIER	_____	INSPECTION DATE	_____
UTILITY ID	_____		
STRUCTURE TYPE	_____		

## INSPECTION PHOTOS AND NOTES

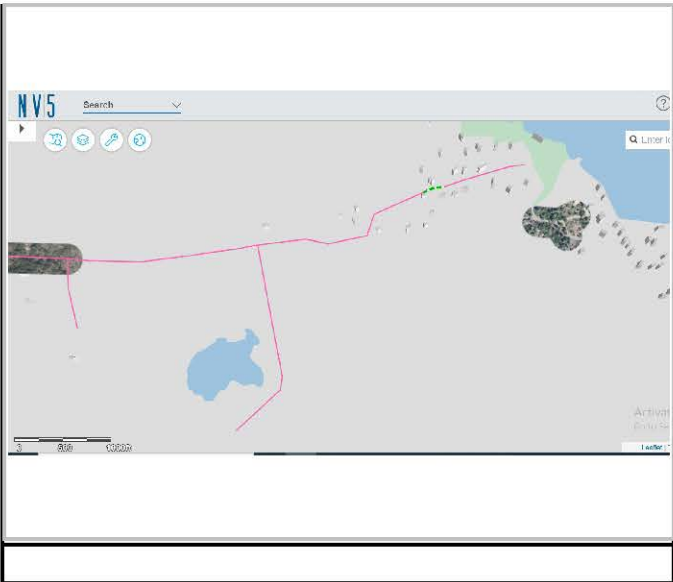




# ASSET INSPECTION REPORT

STRUCTURE NUMBER	20749/20751/20779/20814	INSPECTOR	Alan Vallow
ACTIVITY IDENTIFIER	MEY3400	INSPECTION DATE	05/23/2022
UTILITY ID	Liberty Utilities		
STRUCTURE TYPE			

## INSPECTION PHOTOS AND NOTES

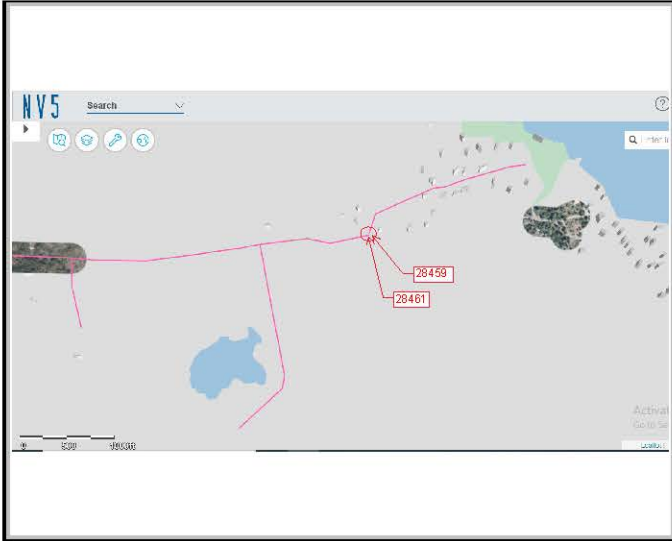




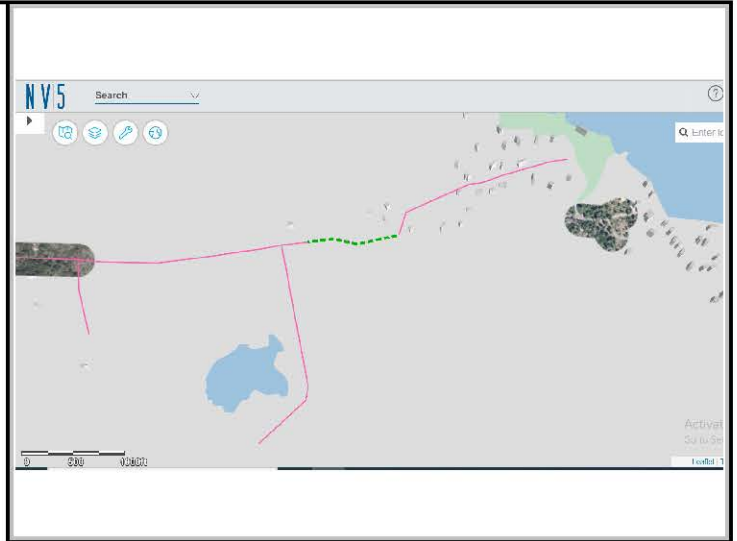
# ASSET INSPECTION REPORT

STRUCTURE NUMBER	28459/28461/20755/20753/20749	INSPECTOR	Alan Vallow
ACTIVITY IDENTIFIER	MEY3400	INSPECTION DATE	05/23/2022
UTILITY ID	Liberty Utilities		
STRUCTURE TYPE			

## INSPECTION PHOTOS AND NOTES



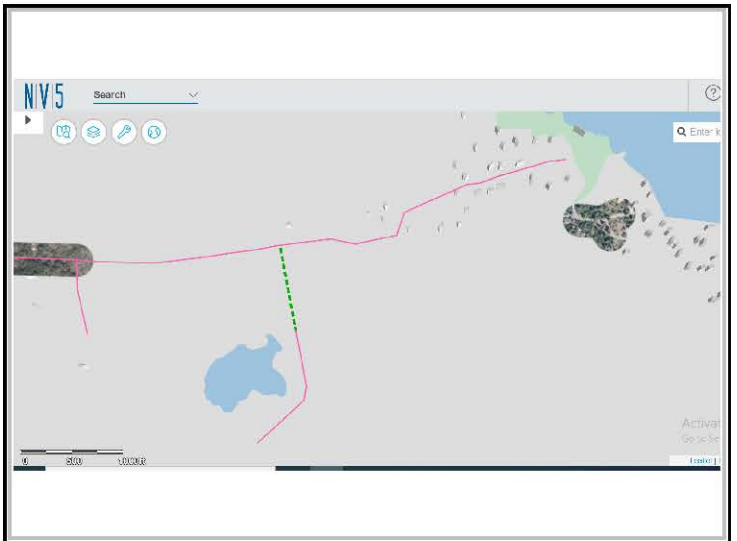
28459/28461 Visually Confirmed Complete



20755 Visually Confirmed Complete



20753 Visually Confirmed Complete



20749 Visually Confirmed Complete





# ASSET INSPECTION REPORT

STRUCTURE NUMBER	27600/20751/20814/20775	INSPECTOR	Alan Vallow
ACTIVITY IDENTIFIER	MEY3400	INSPECTION DATE	05/23/2022
UTILITY ID	Liberty Utilities		
STRUCTURE TYPE			

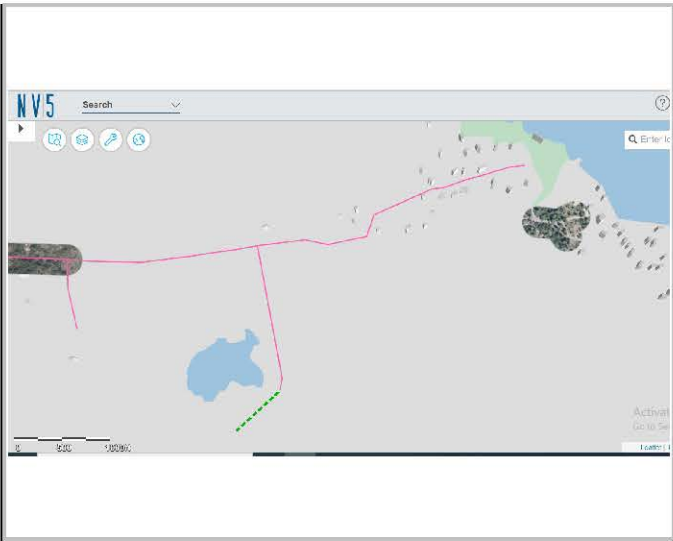
## INSPECTION PHOTOS AND NOTES



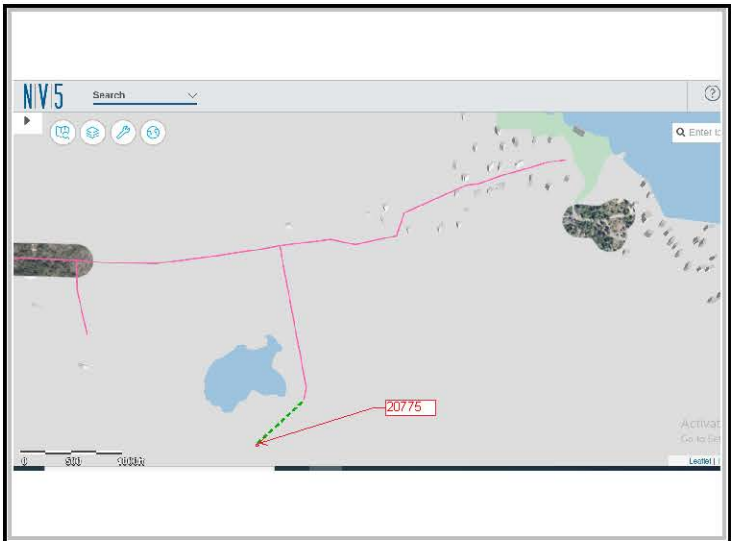
27600 Visually Confirmed Complete



20751 Visually Confirmed Complete



20814 Visually Confirmed Complete



20775 Visually Confirmed Complete



# ASSET INSPECTION REPORT

STRUCTURE NUMBER	20779/20777/20781	INSPECTOR	Alan Vallow
ACTIVITY IDENTIFIER	MEY3400	INSPECTION DATE	05/23/2022
UTILITY ID	Liberty Utilities		
STRUCTURE TYPE			

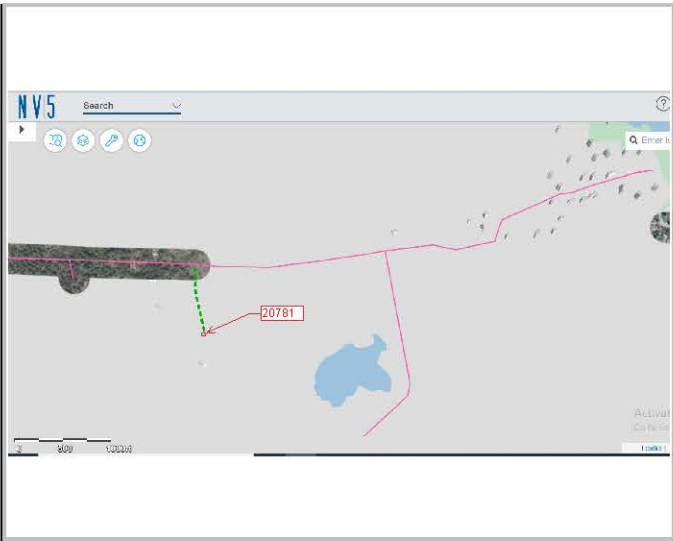
## INSPECTION PHOTOS AND NOTES



20779 Visually Confirmed Complete



20777 Visually Confirmed Complete



20781 Visually Confirmed Complete



## VEGETATION MANAGEMENT INSPECTION REPORT

<b>Utility</b>	Liberty Utility	
<b>Inspector</b>	Lexi Caselli	
<b>Tree ID</b>	85729	
<b>Location</b>	Latitude	38.917573
	Longitude	-119.969466
<b>Work Completed</b>	No	
<b>Work Type</b>	Removal Remediation	
<b>Observations</b>	Tree on site with overhanging limbs, compliant.	

### Inspection Photos



## VEGETATION MANAGEMENT INSPECTION REPORT

<b>Utility</b>	Liberty Utility	
<b>Inspector</b>	Joe Hiss	
<b>Tree ID</b>	85540	
<b>Location</b>	Latitude	38.904788
	Longitude	-119.980679
<b>Work Completed</b>	No	
<b>Work Type</b>	Removal And Remediation	
<b>Observations</b>	No tree work completed; evidence of work not observed	

### Inspection Photos



## VEGETATION MANAGEMENT INSPECTION REPORT

<b>Utility</b>	Liberty Utility	
<b>Inspector</b>	Joe Hiss	
<b>Tree ID</b>	85538	
<b>Location</b>	Latitude	38.903029
	Longitude	-119.978615
<b>Work Completed</b>	No	
<b>Work Type</b>	Removal And Remediation	
<b>Observations</b>	Tree marked for removal, but pruned for compliance	

### Inspection Photos



## VEGETATION MANAGEMENT INSPECTION REPORT

<b>Utility</b>	Liberty Utility
<b>Inspector</b>	Joe Hiss
<b>Tree ID</b>	67881
<b>Location</b>	Latitude 38.944284
	Longitude -119.95156
<b>Work Completed</b>	No
<b>Work Type</b>	Risk Species
<b>Observations</b>	Pruned for clearance, but marked for removal. Risk was not removed; tree has structural issue that was not mitigated
<b>Inspection Photos</b>	



---

## VEGETATION MANAGEMENT INSPECTION REPORT

<b>Utility</b>	Liberty Utility	
<b>Inspector</b>	Joe Hiss	
<b>Tree ID</b>	67386	
<b>Location</b>	Latitude	38.941409
	Longitude	-119.941138
<b>Work Completed</b>	N/A	
<b>Work Type</b>	Risk Species	
<b>Observations</b>	Unable to locate this tree	

### Inspection Photos

## VEGETATION MANAGEMENT INSPECTION REPORT

**Utility** Liberty Utility  
**Inspector** Joe Hiss  
**Tree ID** 66828  
**Location** Latitude 38.932846  
Longitude -119.964033  
**Work Completed** N/A  
**Work Type** Risk Species  
**Observations** Unable to determine with certainty that any work took place in past year; observed tree with con-dominant structure, which is not listed for remediation  
**Inspection Photos**





---

## VEGETATION MANAGEMENT INSPECTION REPORT

<b>Utility</b>	Liberty Utility	
<b>Inspector</b>	Joe Hiss	
<b>Tree ID</b>	65298	
<b>Location</b>	Latitude	38.942965
	Longitude	-119.972249
<b>Work Completed</b>	N/A	
<b>Work Type</b>	Risk Species	
<b>Observations</b>	Unable to locate tree with this description	

**Inspection Photos**