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Caroline Thomas Jacobs, Director

To: Stakeholders for Liberty Utilities' 2020 Annual Report on Compliance

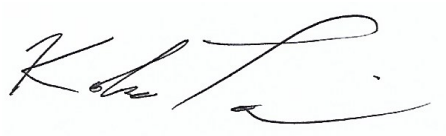
November 23, 2022

Enclosed is the Draft Annual Report on Compliance (ARC) for Liberty Utilities' 2020 Wildfire Mitigation Plan (WMP).

On November 23, 2022, this Draft ARC is hereby published for public review and comment. Opening comments must be submitted no later than December 13, 2022. Reply comments must be submitted no later than December 23, 2022.[1]

Comments must be submitted to Energy Safety's e-filing system in the 2020 ARC docket (#2020-ARC).[2]

Sincerely,



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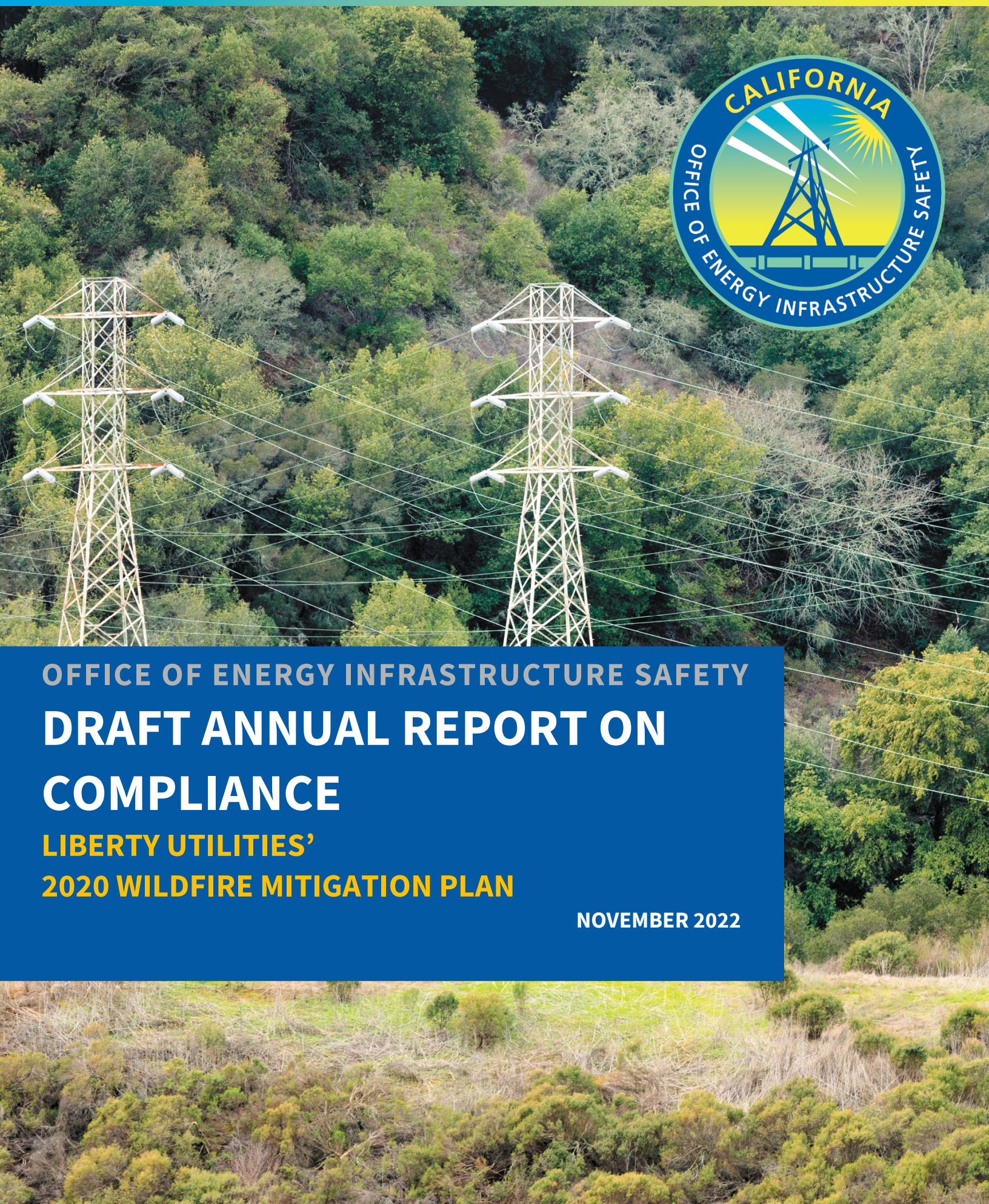
[1] Dates falling on a Saturday or holiday as defined in Government Code Section 6700 have been adjusted to the next business day in accordance with Government Code Section 6707.
[2] Submit comments to the 2020-ARC docket via the Energy Safety https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2020-ARC (accessed November 16, 2022).



OFFICE OF ENERGY INFRASTRUCTURE SAFETY

DRAFT ANNUAL REPORT ON COMPLIANCE

LIBERTY UTILITIES' 2020 WILDFIRE MITIGATION PLAN

NOVEMBER 2022

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1.0 EXECUTIVE SUMMARY

The Office of Energy Infrastructure Safety (Energy Safety) is tasked with evaluating and either approving or denying Wildfire Mitigation Plans annually filed by electrical corporations pursuant to Public Utilities Code section 8386 et seq. The law also directs Energy Safety to ensure that the electrical corporations have complied with their plans.

Pursuant to Government Code section 15475.1, Energy Safety's primary objective is to ensure that electrical corporations reduce wildfire risk and comply with energy infrastructure safety measures. Therefore, as detailed in the Compliance Framework set forth in this Annual Report on Compliance (ARC), Energy Safety's evaluation of Liberty Utilities' (Liberty) performance to its 2020 WMP went beyond a "check-box" exercise of looking at whether Liberty met its initiative targets and instead wholistically evaluated whether Liberty's performance in 2020 reduced the risk of Liberty equipment igniting a catastrophic wildfire.

Energy Safety's compliance review process is conducted through a variety of means including field inspections, audits, and analysis of data submitted by Liberty to Energy Safety. Substantial compliance with a WMP includes meeting not only program targets and plan objectives, but also reducing risk. As such, Energy Safety also evaluated several performance metrics, including ignition and Public Safety Power Shutoff metrics, as well as metrics that reveal the risk on the system from unresolved conditions discovered during Liberty's inspections of its infrastructure. Energy Safety also performed an analysis that compared the electrical corporation's performance during the 2020 WMP compliance period to trends from previous years.[1] Finally, Energy Safety reviewed Liberty's self-assessment in its Electrical Corporation Annual Report on Compliance (EC ARC) and the findings of its independent evaluator.

Based on Energy Safety's analysis and evaluation of Liberty's WMP and subsequent filings, Energy Safety finds that Liberty substantially complied with its 2020 WMP during the compliance period, January 1 to December 31, 2020. Liberty completed the majority of its WMP initiatives and resolved all defects discovered by Energy Safety. Further, Energy Safety's analysis of Liberty's performance metrics showed a decrease in ignitions, wire down events, and outages compared to previous years.

Despite finding Liberty substantially complied with its 2020 WMP, Energy Safety identified several shortcomings in its review of Liberty's reported data and filings related to data governance. However, on balance, Liberty's failure to correctly report data did not amount to

[1] Energy Safety looked at previous year performances dating back to 2015, where available and reported in Liberty's data submissions, or any year thereafter for which data was available and reported.

a failure to substantially comply with its 2020 WMP. Energy Safety's complete review of Liberty's implementation of its 2020 WMP is detailed below.

2.0 INTRODUCTION

This Annual Report on Compliance (ARC) presents the Office of Energy Infrastructure Safety's (Energy Safety's) statutorily mandated assessment of Liberty's compliance with its 2020 Wildfire Mitigation Plan (WMP).[2] Mitigation of wildfire risk is a highly dynamic and circumstantial endeavor that varies as a function of climate, weather, topography, and fuel conditions. The factors impacting catastrophic wildfire risk vary both temporally and geographically. Just as the mitigations to address an electrical corporation's wildfire risk are specifically unique to the dynamics of its territory, location, infrastructure, and various other temporal factors, Energy Safety's assessment of compliance with WMPs is equally tailored to the electrical corporation's unique scenario and circumstances.

Liberty submitted its 2020 WMP on February 7, 2020. Energy Safety reviewed the plan and issued a conditional approval on June 10, 2020.

2.1 Background

In 2019, following the devastating wildfires in 2017 and 2018, the California Legislature passed several bills increasing regulatory supervision of electrical corporations' efforts to reduce utility-related wildfires. Assembly Bill (AB) 1054 and AB 111 created Energy Safety and tasked it with reviewing WMPs submitted annually by electrical corporations and ensuring compliance with those plans.[3] Energy Safety's primary objective is to ensure that electrical corporations reduce wildfire risk and comply with energy infrastructure safety measures.[4]

2.2 Legal Authority

Energy Safety is responsible for overseeing compliance with electrical corporations' WMPs.[5] Energy Safety has broad authority to obtain and review information and data and to inspect property, records, and equipment of every electrical corporation in furtherance of its duties, powers, and responsibilities.[6] In addition to performing an overall assessment of compliance[7] with the WMP, Energy Safety audits each electrical

[2] Pub. Util. Code, § 8386.3(c).
[3] The legislation which created Energy Safety mandated that the office be formed on January 1, 2020, as the Wildfire Safety Division (WSD) of the California Public Utilities Commission (CPUC) and transition to Energy Safety under the California Natural Resources Agency (CNRA) on July 1, 2021 – 18 months after being formed.
[4] Gov. Code, § 15475.1.
[5] Pub. Util. Code, § 8386.3(c).
[6] Gov. Code, § 15475.
[7] Pub. Util. Code § 8386.3(c)(4).

corporation's vegetation management work for compliance with WMP requirements[8] and performs other reviews and audits. Energy Safety may rely upon metrics[9] to evaluate WMP Compliance, including performance metrics adopted by the California Public Utilities Commission (CPUC).[10] Annually, in consultation with Energy Safety, the CPUC adopts a wildfire mitigation plan compliance process.[11] The CPUC adopted the 2020 Compliance Process via Resolution WSD-012 on November 23, 2020.[12]

2.3 Annual Compliance Process Cadence

Pursuant to Public Utilities Code section 8385(a)(1), a "compliance period" means a period of approximately one year. In its Compliance Operational Protocols issued on February 16, 2021, Energy Safety defined the compliance period for 2020-2022 WMPs as January 1 to December 31 for each calendar year of the three-year WMP.[13]

Public Utilities Code section 326(a)(3) instructs that Energy Safety utilize visual inspection of electrical corporation infrastructure and wildfire mitigation programs as a means of assessing WMP compliance. Furthermore, Public Utilities Code section 8386.3(c) outlines the baseline statutory framework for assessing WMP compliance through a series of audits, reviews, and assessments performed by Energy Safety, independent evaluators, and the electrical corporations themselves. The statutory framework also lays out a defined timeframe for several of the compliance assessment components as follows:

- Three months after the end of an electrical corporation's compliance period, each electrical corporation must submit a report addressing the electrical corporation's compliance with the plan during the prior calendar year.[14] Pursuant to this requirement, Liberty submitted its Electrical Corporation Annual Report on Compliance (EC ARC) for its 2020 WMP on March 31, 2021.
- Six months after the end of an electrical corporation's compliance period, an independent evaluator must submit an Independent Evaluator Annual Report on Compliance (IE ARC). The independent evaluators are engaged by each electrical corporation to review and assess the electrical corporation's compliance with its plan for the prior year. As a part of this report, the independent evaluator must determine whether the electrical corporation

[8] Pub. Util. Code § 8386.3(c)(5)(A).
[9] Pub. Util. Code §§ 326(a)(2), 8389(b)(1).
[10] Pub. Util. Code § 8389(d)(4).
[11] Pub. Util. Code § 8389(d)(3).
[12] https://energysafety.ca.gov/wp-content/uploads/docs/compliance-process/20201008-compliance-staff-proposal_final.pdf
[13] https://efiling.energysafety.ca.gov/Search.aspx?docket=2021-OPS_GUIDELINES
[14] Pub. Util. Code, § 8386.3(c)(1).

failed to fund any activities included in its plan.[15] Liberty selected NV5 as its independent evaluator for compliance with the 2020 WMP. NV5 issued its IE ARC for Liberty's 2020 WMP on July 1, 2021.

- In parallel with the above assessments, Energy Safety audits vegetation management activities. The results of the audit must specify any failure of the electrical corporation to fully comply with the vegetation management requirements in the wildfire mitigation plan. Energy Safety then grants the electrical corporation a reasonable amount of time to correct and eliminate any deficiency specified in the audit.[16] Subsequently, Energy Safety issues a report describing any failure of the electrical corporation to substantially comply with the substantial portion of the vegetation management requirements in the electrical corporation's WMP.[17]
- Eighteen months after the electrical corporation submits its compliance report pursuant to section 8386.3(c)(1), or twenty-one months after the end of the compliance period, Energy Safety completes its annual compliance review to determine whether the electrical corporation substantially complied with its WMP.[18] Energy Safety memorializes its conclusions in this ARC.

3.0 ARC COMPLIANCE FRAMEWORK

Public Utilities Code prescribes that the overarching intended objective of electrical corporation wildfire mitigation planning efforts is to ensure that electrical corporations are constructing, maintaining, and operating their infrastructure in a manner that will minimize the risk of catastrophic wildfire.[19] The statutory objective of a WMP, and consequently the focus of Energy Safety's assessment of compliance, is wildfire risk reduction. An Electrical Corporation's obligations extend beyond meeting WMP targets. If the risk of catastrophic wildfire is not reduced, an electrical corporation has not satisfied the objective of its WMP. Therefore, Energy Safety's compliance evaluation of the 2020 WMPs went beyond an assessment of whether an electrical corporation met all stated targets (e.g. number of miles of covered conductor installed) to also examine whether the electrical corporation has reduced the risk of catastrophic wildfires. Energy Safety also evaluated whether there were systemic issues that hindered the electrical corporation's ability to meet targets and reduce wildfire risk.

[15] Pub. Util. Code, § 8386.3(c)(2)(B)(i).
[16] Pub. Util. Code, § 8386.3(c)(5)(C).
[17] Id.
[18] Pub. Util. Code, § 8386.3(c)(4); CPUC Resolution WSD-012 2020 WMP Compliance Process. November 2020. https://energysafety.ca.gov/wp-content/uploads/docs/compliance-process/20201008-compliance-staff-proposal_final.pdf
[19] Pub. Util. Code, § 8386(a).

Energy Safety's compliance evaluation examined the totality of data and findings before the department and applied rigorous analysis to determine whether an electrical corporation substantially complied with its WMP.

Energy Safety conducted its compliance assessment to answer the following questions:

1. Did the electrical corporation implement its WMP through completion of approved initiatives (i.e., did the electrical corporation meet its stated qualitative and quantitative targets)?
2. Did the electrical corporation achieve the stated objectives set forth in its 2020 WMP (see Section 4.2)?
3. Was the electrical corporation's performance consistent with achieving wildfire risk reduction?

3.1 Completion of Approved WMP Initiatives

To assess compliance with approved WMP initiatives, Energy Safety evaluated whether the electrical corporation met all stated quantitative and qualitative targets set by the Electrical Corporation in its plan. Energy Safety particularly focused on those initiatives directly associated with the achievement of WMP objectives as well as those that constituted a significant portion of financial expenditures by the electrical corporation as the expenditures demonstrated where the electrical corporation focused most of its resources to reduce wildfire risk. For 2020 only, Energy Safety also assessed whether the electrical corporation satisfied the conditions placed upon it through Energy Safety's conditional 2020 WMP approval (see Section 4.1).

Where an electrical corporation failed to meet a stated target, Energy Safety evaluated the rationale provided by the electrical corporation, if any, for such failure. Energy Safety also looked for systemic issues that may have caused underperformance, e.g., conflicting/inconsistent documentation, poor communication practices, or substandard quality control practices (see Section 3.3).

Finally, Energy Safety evaluated the quality of WMP initiative implementation. Even where an electrical corporation met a target for work volume, to comply with a WMP and ensure reduction of risk, the work must be completed correctly and in an effective, high-quality manner.

3.2 2020 WMP Objectives

To assess whether an electrical corporation achieved its 2020 WMP objectives, Energy Safety relied upon the information sources set forth in Section 3.4 below. Where an electrical corporation failed to meet a stated objective, Energy Safety evaluated the rationale, if any,

provided by the electrical corporation. Energy Safety also looked for systemic issues that may have caused underperformance (see Section 3.3).

3.3 Achieving Wildfire Risk Reduction

The 2020 WMP is the base year in the first three-year WMP cycle (2020-2022). As such, Energy Safety was limited in making direct determinations on the effectiveness of the 2020 WMP in reducing wildfire risk in that same year as the benefits of some actions may take time to come to fruition. Energy Safety conducted a trend analysis on several outcome metrics (e.g., ignitions) from 2015-2020, normalized for weather and fuel conditions, to assess prior performance and to track any notable changes that occurred in 2020. Energy Safety will again evaluate these metrics at the end of the three-year WMP cycle to evaluate correlations between WMP implementation performance and outcomes.

Energy Safety further analyzed how the electrical corporation prioritized implementation of WMP initiatives to determine whether work was undertaken in the areas of highest risk. Not all areas in an electrical corporation's service territory present equal ignition risk or consequence. Therefore, it is not enough to meet a target; WMP initiatives must first be concentrated and deployed in the areas of highest risk to buy down as much risk as possible.

Finally, Energy Safety undertook a holistic evaluation of all relevant information sources and assessments, including field verifications, to bring to light systemic failings of the electrical corporation that may hinder its ability to reduce catastrophic wildfires. Such failings could contribute to increased risk on the system even if WMP targets are achieved. Therefore, Energy Safety looked for trends across analyses to weave together a deeper and more nuanced understanding of WMP compliance.

3.4 Information Sources Used for ARC Analysis

Energy Safety relied upon the following sources of information to conduct its analysis:

- Information provided by the electrical corporation i.e., the EC ARC, Quarterly Initiative Updates, compliance self-reporting
- Information provided by the independent evaluator's review of the electrical corporation's compliance with its 2020 WMP (IE ARC)
- Findings from Energy Safety field inspections
- Findings from Energy Safety's audits and assessments of the electrical corporation
- Data submitted to Energy Safety by the electrical corporation[20] including responses to data requests

[20] Energy Safety receives data from the electrical corporation through three main paths: Quarterly Advice Letter submissions, Quarterly Data Request submissions, and Quarterly Initiative Updates.

3.4.1 EC ARC

Three months after the end of the compliance period, the electrical corporation must submit a report to Energy Safety addressing its compliance with its approved 2020 WMP.[21] The Compliance Operational Protocols outline the minimum requirements and structure for Liberty's 2020 WMP compliance review report.[22] The report must include:

- An assessment of whether the electrical corporation achieved the risk reduction intent by implementing all of their approved WMP initiatives, i.e., the degree to which initiative activities have reduced ignition probabilities. If the electrical corporation failed to achieve the intended risk reduction, Energy Safety required the electrical corporation to provide a detailed explanation of why and a reference to where associated corrective actions were incorporated into their most recently submitted WMP.
- A full and complete listing of all change orders[23] and any other operational changes, such as initiative location changes, made to WMP initiatives, with an explanation of why the changes were necessary, and an assessment of whether the changes achieved the same risk reduction intent.
- Descriptions of all planned WMP initiative spend vs. actual WMP initiative spend and an explanation of any differentials between the planned and actual spends.
- A description of whether the implementation of WMP initiatives changed the threshold(s) for triggering a Public Safety Power Shutoff (PSPS) event and/or reduced the frequency, scale, scope, and duration of PSPS events.

A summary of all defects identified by Energy Safety within the annual compliance period, the corrective actions taken and the completion and/or estimated completion date.[24]

3.4.2 IE ARC

Each year before March 1, Energy Safety, in consultation with the Office of the State Fire Marshall, must publish a list of qualified independent evaluators.[25] The electrical corporations must each engage an independent evaluator from the list to review and assess its compliance with the respective approved WMP.[26] The independent evaluator must issue a report, referred to as the Independent Evaluator Annual Report on Compliance (IE ARC), by July 1 of each year covering the previous calendar year. As a part of the report, the

[21] Pub. Util. Code, § 8386.3(c)(1).
[22] Wildfire Safety Division – Compliance Operational Protocols, pages 10-12.
[23] See CPUC Resolution WSD-002, pages 32-35, for detail regarding the 2020 WMP change order process.
[24] The defect summary component of the ARC contents does not supplant detailed defect correction responses, which shall be filed with WSD throughout the year as needed (see Appendix Part 2. Response and Corrective Action Timeline in the Operational Protocols for details).
[25] Pub. Util. Code § 8386.3 (c)(2)(A).
[26] Pub. Util. Code, § 8386.3(c)(2)(B).

independent evaluator must determine whether the electrical corporation failed to fund any activities included in its plan.[27] [28] Energy Safety considered the independent evaluator's findings in this ARC, but the independent evaluator's findings are not binding on Energy Safety's final determination of WMP compliance.[29]

3.4.3 Inspections

Pursuant to Public Utilities Code section 326(a)(3), to ensure electrical corporations complied with their WMPs and operated their infrastructure in a manner that reduces wildfire risk, Energy Safety conducted detailed visual inspections of electrical infrastructure to verify work was performed by electrical corporations, as reported in approved WMPs, and to assess the condition of infrastructure.

Energy Safety began conducting inspections related to the 2020 WMPs in May 2020. Inspections covered core wildfire mitigation efforts related to vegetation management, system hardening, situational awareness, and emergency preparedness and response, in addition to general compliance with applicable Government Order (GO) 95 requirements. The review and analysis of data compiled on findings from these inspections formed the basis of Energy Safety's observations and conclusions in Section 5.3.

3.4.4 Audits

Public Utilities Code section 8386.3(c)(5) requires Energy Safety to perform an audit to determine whether the electrical corporation "substantially complied with the substantial portion"[30] of its vegetation management requirements in its WMP. Energy Safety refers to this audit as the "Substantial Vegetation Management" (SVM) audit. Pursuant to Public Utilities Code section 8386(c)(5), Energy Safety conducted an audit of Liberty's compliance with the vegetation management requirements in its 2020 WMP.

Finally, Energy Safety retained a contractor, Crowe, LLC, to conduct a performance audit of WMP expenditures.

3.4.5 Data

Energy Safety analyzed performance metrics and other data when assessing whether the electrical corporation complied with its 2020 WMP. Energy Safety required electrical

[27] Id.
[28] The independent evaluator reviews performed for the 2020 WMPs were the first of their kind and completed in a considerably truncated timeframe.
[29] Pub. Util. Code, § 8386.3(c)(2)(B)(ii).
[30] Pub. Util. Code, § 8386.3(c)(5)(C).

corporations to submit spatial and non-spatial data through Quarterly Data Reports (QDRs), Quarterly Initiative Updates (QIUs), and Quarterly Advice Letters (QALs).

4.0 LIBERTY'S 2020 WMP

The 2020 WMP Guidelines (Guidelines) were issued on December 16, 2019, via *Administrative Law Judge's Ruling on Wildfire Mitigation Plan Templates and Related Material and Allowing Comment*.[31] The 2020 WMP Guidelines outlined the requirements and expectations for the 2020 WMP submissions including reporting templates, metrics, timelines, structure, and minimum levels of detail. The 2020 WMP Guidelines were designed to:

- Increase standardization of information collected on electrical corporations' wildfire risk exposure,
- Enable systematic and uniform review of information each electrical corporation submits, and
- Move electrical corporations toward an effective long-term wildfire mitigation strategy, with systematic tracking of improvements over time.[32]

The 2020 WMP Guidelines structured the submission into five sections, as follows:

1. Persons responsible for executing the plan
2. Metrics and underlying data
3. Baseline ignition probability and wildfire risk exposure
4. Inputs to the plan and directional vision including objectives
5. Listing of wildfire mitigation initiatives for each year of the three-year plan period

4.1 Conditional Approval

In its disposition of Liberty's 2020 WMP, Energy Safety issued a conditional approval that identified and classified certain deficiencies requiring varying responsive action. Energy Safety evaluated Liberty's fulfilment of its 2020 WMP conditions in this ARC. Energy Safety's assessment regarding resolution of conditions placed on Liberty's 2020 WMP are further discussed in Section 5.7.

Energy Safety released Resolution WSD-002, *Guidance Resolution on 2020 Wildfire Mitigation Plans Pursuant to Public Utilities Code Section 8386* (Guidance Resolution). The Guidance Resolution applied to the electrical corporations collectively and contained deficiencies and

[31] See CPUC Rulemaking R.18-10-007.
[32] CPUC Resolution WSD-002, page 2.

associated conditions (remedies).[33] Deficiency Guidance-5 noted that electrical corporations combined various initiatives into broader programs and reported data at the programmatic level. This aggregation made it difficult to track progress against individual initiatives, among other issues. The associated condition to Deficiency Guidance-5 required electrical corporations to disaggregate initiatives in their quarterly filings.[34]

As a result of the required disaggregation, some electrical corporation data submissions, including quarterly filings and Quarterly Initiative Updates (QIUs), reference a different number of initiatives than that set forth in the electrical corporation's WMP. In this ARC, Energy Safety reported the number of initiatives as they were presented in the underlying reference document.

4.2 2020 WMP Objectives

The 2020 WMP Guidelines required each electrical corporation to describe the specific objectives of its 2020 WMP in section 4.1.[35] The 2020 WMP Guidelines also specified that objectives must be described with respect to the following timeframes:

1. Before the upcoming wildfire season (as declared by CALFIRE)
2. Before the next annual update
3. Within the next three years
4. Within the next 10 years[36]

In determining whether Liberty substantially complied with its 2020 WMP, Energy Safety considered and weighed the plan's objectives. For the purposes of this ARC, Energy Safety only considered Liberty's objectives with respect to the first two timeframes.

Liberty described the directional vision for its 2020 WMP through both short- and long-term strategies. In the short-term, Liberty's 2020 WMP focused on developing "resiliency corridors" to mitigate PSPS impacts and building foundational situational awareness capabilities to inform its operations and work practices.[37] Liberty indicated that completion of its "resiliency corridors" will enable it to keep critical infrastructure energized in most regions of its service territory during a PSPS event.[38] Liberty stated that its long-term strategy is founded in extensive hardening of its infrastructure and implementation of its advanced situational awareness capabilities to improve its operations and work practices.[39]

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[33] The Guidance Resolution did not apply to the Independent Transmission Operators, Horizon West and Trans Bay Cable, as they received a full approval of their respective 2020 WMPs.
[34] CPUC Resolution WSD-002, page 24.
[35] 2020 WMP Guidelines, page 43.
[36] *Id*.
[37] Liberty 2020 WMP, Section 4, page 25.
[38] Liberty 2020 WMP, Section 4.1.4, second bullet, page 26.
[39] Liberty 2020 WMP, Section 4, page 25.

Liberty explicitly committed to the following:[40]

1. Before the upcoming wildfire season:
- Issue a Request for Proposal (RFP) for a complete system-wide assessment and asset inventory.
    - The asset inventory will provide a complete look at the system and enable Liberty to understand, identify, and remove hazards at a programmatic level on a system-wide basis.
- Expand and refine its current wildfire risk analysis and initial assessments to prioritize WMP initiatives.
- Utilize updated asset data collected in future risk analyses.

2. Before the next annual update:
- Implement new operational procedures and train employees and contractors during Red Flag Warning (RFW) days or high fire risk conditions.
- Update datasets and migrate existing asset inventory data into a centralized location.
- Use the updated asset inventory data to track asset life cycle including maintenance and replacement work.
- Continue to implement system hardening initiatives.
- Continue development of resiliency corridors to prepare for a PSPS event.
- Hire additional staff required to implement the 2020 WMP.

4.3 Liberty's 2020 WMP Initiatives

The 2020 WMP Guidelines required each electrical corporation to group its discussion of wildfire mitigation initiatives into the 10 categories listed in Table 1, below.

Liberty's 2020 WMP included a total of 79 initiatives allocated across the 10 categories.[41] Table 1 below provides a summary of Liberty's allocation of WMP initiatives across categories, its reported planned spending in each category for 2020, and the percentage of the total 2020 WMP budget the spending in each category comprised.

[40] Liberty 2020 WMP, Section 4.1, pages 25-26.
[41] See Section 4.1 for an explanation of the source of some reporting discrepancies in initiative numbers and targets.

Table 1: Liberty's 2020 WMP Initiatives by Category

Initiative Category	No. of Initiatives [42]	2020 Planned Spend[43]	% of 2020 WMP Budget
Risk assessment and mapping	1	$0	0%
Situational awareness and forecasting	6	$450,000	1%
Grid design and system hardening	17	$9,740,500	32%
Asset management and inspections	15	$10,758,544	35%
Vegetation management and inspections	20	$8,770,000	29%
Grid operations and protocols	6	$0	0%
Data governance	4	$665,000	2%
Resource allocation methodology	0	$0	0%
Emergency planning and preparedness	6	$240,000	0.8%
Stakeholder cooperation and community engagement	4	$75,000	0.2%
Total	**79**	**$30,699,044**	**100%**

Some initiatives provided quantitative targets (e.g., miles completed for system hardening initiatives). Other initiatives included qualitative targets (e.g., integration of all vegetation data into a singular database as a data governance initiative). A few included both qualitative and quantitative targets, while several included no measurable targets at all.

Energy Safety also reviewed the planned spend for each WMP initiative to assess how Liberty prioritized its risk mitigation efforts as a function of the percentage of total budget allocated across WMP categories and initiatives. Table 2 provides an overview of Liberty's planned 2020-2022 WMP spend.[44]

Table 2: Liberty's Planned 2020-2022 WMP Expenditures

Planned 2020-2022 WMP Costs	
2020	$30 million
2021	$32 million
2022	$27 million
2020-2022 Plan Period	**$88 million**

[42] Liberty 2020 WMP, Section 5.3 Detailed wildfire mitigation programs.
[43] Liberty EC ARC, pages 11-17, Table 1: Planned 2020 WMP Initiative Spend vs Actual 2020 WMP.
[44] CPUC Resolution WSD-007, pages 3-4.

Table 3: Liberty's 2020 WMP Top 10 Initiatives by Planned Spend

Initiative #	Initiative Name	2020 Planned Spend[45]	% of 2020 WMP Budget
5.3.4.10	Other discretionary inspection of transmission electric lines and equipment	$6,000,000	20%
5.3.5.15	Remediation of at-risk species	$4,500,000	15%
5.3.4.1	Detailed inspections of distribution electric lines and equipment	$3,500,000	11%
5.3.3.3	Covered conductor installation	$3,198,000	10%
5.3.5.5	Fuel management and reduction of "slash" from vegetation management activities	$2,000,000	7%
5.3.3.16	Undergrounding of electric lines and/or equipment	$1,757,500	6%
5.3.3.7	Expulsion fuse replacement	$1,544,000	5%
5.3.3.13	Pole loading infrastructure hardening and replacement program based on pole loading assessment program	$1,515,000	5%
5.3.4.3	Improvement of inspections	$890,000	3%
5.3.3.12	Other corrective action	$750,000	2%
Total		$25,654,500	84%

Table 3 lists the top 10 initiatives by planned spend. The last row in Table 3 shows that the 10 listed initiatives (out of 79 total) make up 84% of Liberty's total 2020 WMP planned spend.

5.0 COMPLIANCE ASSESSMENTS

In the following sections, Energy Safety provides the findings from the compliance source inputs it relied upon in making its annual determination of compliance in this ARC.

5.1 Liberty Self-Assessed Compliance Reporting

Liberty timely submitted its EC ARC on March 31, 2021. The Compliance Operational Protocols required electrical corporations to discuss "the degree to which initiative activities have reduced ignition probabilities"[46] in their EC ARCs. Unlike other electrical corporations, Liberty did not explicitly discuss its year-end progress in implementing its 2020 WMP initiatives in response to this requirement in its EC ARC. Instead, Liberty provided a more general response indicating that it met the risk reduction intent of its 2020 WMP through enhancement and

[45] Liberty EC ARC, page 11-17, Table 1: Planned 2020 WMP Initiative Spend vs Actual 2020 WMP.
[46] Compliance Operational Protocols, page 10.

expansion of its existing wildfire mitigation programs, as well as development and implementation of new programs.[47]

In its EC ARC, Liberty reported the following:

1. Liberty formed a team of internal analysts and a consultant to establish and refine its risk modeling capabilities.[48]
2. Liberty developed first-generation wildfire risk models and mapping tools that cover its entire service territory, which will allow it to incorporate objective, quantitative analysis into its future wildfire risk mitigation decision-making.[49]
3. Liberty installed 19 weather stations equipped with fuel moisture sensors in its HFTD areas, bringing the total number of weather stations in its service territory to 29.
    a. Previously installed weather stations were also retrofitted with fuel moisture sensors.
    b. Fuel moisture sensors provide data crucial to accuracy of localized wildfire risk forecasts.[50]
4. In addition to the weather stations, Liberty implemented several other initiatives to improve its situational awareness and operational response capabilities.
    a. Began finalizing a partnership with ALERTWildfire to implement use of their camera network.
    b. Installed continuous monitoring sensors and Supervisory Control And Data Acquisition (SCADA) controls on four line reclosers.
        i. This type of monitoring allows Liberty to more quickly determine fault and outage locations and dispatch resources to resolve such issues and decrease potential ignition response times.
        ii. Data collected from these devices can be analyzed to identify issues requiring repair before they manifest into a potential ignition.
    c. Developed a Fire Potential Index (FPI) assessment tool in late 2020 to convert environmental, statistical, and scientific data into an easily understandable daily forecast of fire risk conditions that are used to inform operations and work practices.
        i. The FPI represents Liberty's first-ever specialized fire risk modeling tool.
        ii. Liberty modeled its FPI on methodologies implemented by larger electrical corporations.[51]
        iii. Liberty's FPI has been incorporated into its Fire Prevention Plan, which details work procedures that its staff must follow based on daily fire risk conditions.[52]
5. Liberty conducted detailed visual inspections on all its overhead infrastructure.
    a. Through the process of these inspections, Liberty updated its asset inventory for accuracy.

[47] Liberty EC ARC, pages 1-2.
[48] Liberty EC ARC, page 8.
[49] Liberty EC ARC, page 2.
[50] Liberty EC ARC, pages 2-3.
[51] Liberty EC ARC, pages 2-4.
[52] Liberty EC ARC, page 7.

   b. Liberty will use this information to measure future wildfire risk reduction.[53]
   c. This inspection effort generated "a significant number" of GO 95-related repairs required on Liberty's infrastructure.[54]
   d. The asset inventory survey revealed that not all field changes were being tracked or updated in a timely manner, and that improvements in those processes are needed.[55]
6. Liberty digitized its field data collection forms.
   a. This digitization of a formerly paper-driven process allowed Liberty to collect, store, and analyze more system data in 2020 than in the previous five years combined.[56]
7. Liberty developed and implemented PSPS operations and communications protocols (or PSPS playbooks) leveraging the knowledge and information gained through its improved situational awareness capabilities.[57]
8. Although Liberty's resiliency program is in its nascent phase, installation of covered conductor and microgrids are primary elements to Liberty's development of "resiliency corridors."[58]
9. Liberty's PSPS thresholds are currently fixed and do not change based on progress of implementing WMP initiatives.[59]
10. Liberty has only ever had one PSPS event in its history.[60]
11. Liberty implemented numerous emergency planning and community engagement efforts in 2020.
   a. Filled the positions of Emergency Manager and Fire Protection Specialist in early 2020.
   b. Liberty hosted 29 meetings with public safety partners to provide details on its wildfire mitigation, PSPS preparedness, and community outreach efforts.
   c. Held nine regional PSPS workshops and conducted three PSPS tabletop exercises.
   d. Hosted seven virtual townhall meetings to provide localized updates on wildfire mitigation work happening in specific communities.
   e. Made improvements to and trained personnel, in the office and in the field, on work procedures in conditions of elevated wildfire risk.[61]

5.2 Independent Evaluator Review

Liberty selected NV5 as the independent evaluator to assess its compliance with the 2020 WMP. NV5 issued its Liberty IE ARC on July 1, 2021. Energy Safety carefully weighed the quality and utility of the Liberty IE ARC when evaluating Liberty's compliance with its approved 2020 WMP.

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[53] Liberty EC ARC, page 5.
[54] Liberty EC ARC, page 6.
[55] *Id*.
[56] Liberty EC ARC, page 7.
[57] *Id*.
[58] Liberty EC ARC, page 5.
[59] Liberty EC ARC, page 18.
[60] *Id*.
[61] Liberty EC ARC, pages 8-9.

Due to the short time between the execution of its IE contract and production of the Liberty IE ARC, and following deliberation with Energy Safety, NV5 proposed to focus its efforts and available resources on Liberty's 2020 WMP initiatives it deemed to have the greatest impact on Liberty's efforts to mitigate its wildfire and PSPS risk.[62] As a result, of the 79 initiatives in Liberty's 2020 WMP, NV5 reviewed 29 (or 37%).[63] NV5's findings related to the 29 initiatives reviewed generally fell into three categories as follows:

1. **Compliant** – NV5 indicated having reasonable assurance that Liberty met the WMP target
2. **Noncompliant** – NV5 determined that Liberty did not meet the WMP target
3. **Undetermined** – NV5 was unable to determine whether Liberty met the WMP target

Table 4 below provides a summary of NV5's findings grouped by the above categories.

Table 4: Summary of Liberty's IE ARC Findings by Finding Category

Finding Category	No. of Initiatives
Compliant	14
Noncompliant	3
Undetermined	12
Total	**29**

NV5 reported that for initiatives 5.3.5.15 – Remediation of at-risk species,[64] 5.3.5.16 – Removal and remediation of trees with strike potential to electric lines and equipment, and 5.3.5.20 – Vegetation management to achieve clearances around electric lines and equipment, Liberty failed to complete all miles as targeted in the WMP. Specifically for initiatives 5.3.5.16 and 5.3.5.20, NV5 performed field validation of 28 poles.[65] Of the sampled items inspected, 10.7% of the sampled locations were found non-compliant.[66]

On September 10, 2021, Liberty provided comments on the IE ARC.[67] Liberty stated that it did not set specific targets for initiatives 5.3.5.16 and 5.3.5.20 because initiative 5.3.5.15 was inclusive of all three initiatives.[68] Liberty asserted that instead of providing a single finding for

[62] Liberty IE ARC, page 5.
[63] Liberty IE ARC, pages 101-104.
[64] Liberty's combined targets of 380-line miles for this initiative also included initiative 5.3.5.16 and 5.3.5.20. NV5 confirmed Liberty only completed remediation and removal of 374 of 380-line miles for the combined initiatives.
[65] The IE intended to sample 33 sites as that is the number necessary for a statistically valid random sample but not all of the sites identified for sample were accessible to the field verification team.
[66] Liberty IE ARC, pages 17 and 18.
[67] Liberty Utilities LLC's comments on final Independent Evaluator Report on Compliance, filed on September 10, 2021.
[68] Liberty Utilities LLC's comments on final Independent Evaluator Report on Compliance, filed on September 10, 2021, page 2.

initiative 5.3.5.15 to align with its WMP, the IE reported the same finding for all three initiatives. Furthermore, Liberty stated that it completed 374 of 380 line miles (or 98%) for the three combined initiatives, which it considered a success during a "rigorous" year.[69] Energy Safety published Liberty's IE ARC for public review and comment, and did not receive any public comments.

5.2.1 Energy Safety's Assessment of Disputed IE Findings

Energy Safety reviewed the IE ARC, Liberty's comments, and a subsequent data request response for open items. Energy Safety disagrees with Liberty on part of its assessment of the IE's findings. Although Liberty did not separate the costs between the three different initiatives, it is reasonable for the IE to assess compliance of each initiative individually. In fact, Energy Safety identified the lack of measurable, quantifiable objectives for each WMP initiative (Guidance-8) and grouping of multiple initiatives into singular programs as deficiencies in 2020 WMPs in Resolution WSD-002. Despite this grouping of initiatives and the lack of quantifiable targets, Energy Safety agrees with Liberty that completion of 374 of 380 line miles (98%) planned for tree remediation work constitutes a good faith effort to complete the initiatives. Energy Safety determines that Liberty was compliant for all three initiatives.

5.3 Inspections

Energy Safety conducted a total of 63 inspection activities of Liberty's infrastructure in 2020. A summary of inspection activities and defects are presented in Table 5 below.

Table 5: 2020 Inspection Results of Liberty Service Territory

Metrics Considered	Totals
Total Inspection Activities	63
Total Defects	4
Defect Rate	6.35%
Total Defect Resolutions	4
Defect Resolution Rate (Total Defect Resolutions/Total Defects)	100%

5.3.1 Field Inspection Defect Findings

Defects found during Energy Safety's inspections all pertained to exposed ground wires. In 2020, Liberty had a defect rate of 6.35% and timely resolved all the defects identified by Energy Safety.

[69] Liberty Utilities LLC's comments on final Independent Evaluator Report on Compliance, filed on September 10, 2021, page 2.

5.4 Audits

Energy Safety conducted two audits on Liberty's 2020 WMP activities. Descriptions of the audits and associated findings are presented in the following sections.

5.4.1 Substantial Vegetation Management (SVM) Audit

On August 11, 2022, Energy Safety issued its SVM audit for Liberty. In the audit, Energy Safety evaluated Liberty's quantitative commitments[70] and verifiable statements.[71] Energy Safety reviewed available information and requested additional documentation to evaluate whether Liberty fully met its quantitative commitments and executed its verifiable statements. Energy Safety found Liberty was not compliant in two out of the 20 vegetation initiatives audited in its 2020 WMP, as detailed in Table 6 below.[72] Additionally, one of the 20 vegetation initiatives was determined to be not applicable to Liberty's SVM audit.

Table 6: Energy Safety's Analysis of Liberty's 2020 WMP Vegetation Management Initiatives

2020 WMP Initiative Number	2020 WMP Initiative Name	Determination[73]
5.3.5.1	Additional Efforts to Manage Community and Environmental Impacts	Compliant
5.3.5.2	Detailed Inspections of Vegetation Around Distribution Electric Lines and Equipment	Compliant
5.3.5.3	Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	Compliant
5.3.5.4	Emergency Response Vegetation Management Due to Red Flag Warning or Other Urgent Conditions	Compliant
5.3.5.5	Fuel management and reduction of "slash" from vegetation management activities	**Noncompliant**
5.3.5.6	Improvement of Inspections	Compliant
5.3.5.7	LiDAR Inspections of Vegetation Around Distribution Electric Lines and Equipment	Compliant

[70] E.g., miles of lines to inspect, minimum work quality thresholds, etc.
[71] E.g., holding public meetings with communities regarding future vegetation management activities, training personnel on utilities protocols, etc.
[72] Liberty SVM audit, pages 4 and 5.
[73] As used in this context, "Compliant" means the utility was able to provide Energy Safety document(s) to support statements made in its 2020 WMP. "Noncompliant" means the utility was not able to provide Energy Safety document(s) to support commitments and statements made in its 2020 WMP. "Not Applicable" means Energy Safety cannot conduct an analysis for this initiative. Energy Safety's analysis did not assess the quality of how said WMP statement was executed.

2020 WMP Initiative Number	2020 WMP Initiative Name	Determination[73]
5.3.5.8	LiDAR Inspections of Vegetation Around Transmission Electric Lines and Equipment	Compliant
5.3.5.9	Other Discretionary Inspection of Vegetation Around Distribution Electric Lines and Equipment, Beyond Inspections Mandated by Rules and Regulations	Compliant
5.3.5.10	Other Discretionary Inspection of Vegetation Around Transmission Electric Lines and Equipment, Beyond Inspections Mandated by Rules and Regulations	Compliant
5.3.5.11	Patrol Inspections of Vegetation Around Distribution Electric Lines and Equipment	Compliant
5.3.5.12	Patrol Inspections of Vegetation Around Transmission Electric Lines and Equipment	Compliant
5.3.5.13	Quality Assurance / Quality Control of Inspections	Compliant
5.3.5.14	Recruiting and Training of Vegetation Management Personnel	Compliant
5.3.5.15	Remediation of At-Risk Species	**Noncompliant**
5.3.5.16	Removal and Remediation of Trees with Strike Potential to Electric Lines and Equipment	Compliant
5.3.5.17	Substation Inspections	Not Applicable
5.3.5.18	Substation Vegetation Management	Compliant
5.3.5.19	Vegetation Inventory System	Compliant
5.3.5.20	Vegetation Management to Achieve Clearances Around Electric Lines and Equipment	Compliant

In the SVM audit, Energy Safety specified three required Corrective Actions for Liberty to either resolve or explain its failures and it required Liberty to provide a Corrective Action response. On September 12, 2022, Liberty timely provided its Corrective Action response.[74]

After reviewing Liberty's response to the Corrective Actions, on September 30, 2022, Energy Safety issued its final SVM Report finding that Liberty sufficiently addressed one of the three Corrective Actions. The remaining two insufficient corrective actions were related to reporting requirements. Energy Safety found that these deficiencies did not constitute

[74] Liberty 2020 SVM Audit Corrective Action Plan is published on Energy Safety's e-filing system in the 2020 WMP Substantial Vegetation Management Audits docket and available here: https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2020-SVM (accessed on September 29, 2022).

substantial noncompliance. In its final SVM Audit Report, Energy Safety reaffirmed that Liberty failed to meet the commitment, in initiative 5.3.5.5, to host multiple public workshops during the compliance period (January 1, 2020 to December 31, 2020). Considering the sufficiency of the compliant initiatives, Energy Safety found Liberty substantially compliant with the substantial portion of the vegetation management requirements in their approved 2020 WMP.

5.4.2 Performance Audit of WMP Expenditures

On June 29, 2020, Energy Safety engaged Crowe, LLC to conduct an independent audit of WMP expenditures by the six investor-owned electrical corporations that submitted 2019 and 2020 WMPs.[75] The purpose of Crowe's audit was to examine expenditures in the execution of investor-owned electrical corporation WMP programs and initiatives relative to their prior General Rate Cases (GRCs). Crowe assessed the relationship between expenses and/or investments identified in the 2019 and 2020 WMPs and operating and capital expenditures approved in previous GRCs.

One objective of this audit was to determine whether Liberty's actual expenditures to date, and documented future planned expenditures, comported with the activities approved in the 2019 and 2020 WMPs and for which Liberty received funding in its GRC or similar applications submitted to the CPUC between 2017 and 2020.[76] The audit did not contain negative findings related to this objective.[77]

5.5 Data Analysis

Relying upon data timely submitted by Liberty, Energy Safety undertook an analysis of Liberty's WMP initiative performance. Energy Safety undertook this analysis to ensure that Liberty completed its 2020 initiatives as stated in its WMP.

5.5.1 Initiative Performance Analysis

Energy Safety analyzed whether Liberty achieved its WMP initiative targets. To conduct this analysis, Energy Safety relied upon Liberty's Q4 2020 Quarterly Initiative Update (QIU) submission from March 31, 2021, and Liberty's EC ARC.

Energy Safety requires electrical corporations to submit a QIU to track progress on implementation of their WMP initiatives. The purpose of the QIU is for both the electrical corporation and Energy Safety to have a holistic understanding of the electrical corporation's

[75] The six investor-owned electrical corporations are: Pacific Gas and Electric, Southern California Edison, San Diego Gas & Electric, PacifiCorp, Liberty Utilities, and Bear Valley Electric Service.
[76] Liberty's 2019 and 2020 Wildfire Mitigation Plans (WMPs) engagement letter.
[77] Performance Audit of Liberty Wildfire Mitigation Plan Expenditures Final Report, date: December 27, 2021.

annual targets and projected quarterly progress towards completion of each initiative through the course of the WMP compliance period. In addition to projected progress, electrical corporations report actual progress for each initiative quarterly; this information enables Energy Safety to track the electrical corporation's compliance with its initiative targets throughout the year.

Energy Safety reviewed the Q4 2020 QIU report submitted by Liberty on March 31, 2021, to verify the completion of Liberty's 2020 WMP initiatives and its adherence to the Compliance Operational Protocols.

5.5.1.1 Results

Because Liberty inaccurately, improperly, and inconsistently reported data related to initiative completion across various documents, analyzing Liberty's initiative performance was difficult. As also discussed in Section 4.3, Liberty's 2020 WMP listed 79 initiatives allocated across the 10 initiative categories. However, Liberty reported work on only 43 initiatives in its Q4 2020 QIU, making up just over half of the total initiatives reported in its 2020 WMP. Listed in the table below are the number of initiatives reported across each initiative category in both Liberty's 2020 WMP and Q4 2020 QIU.

Table 7: Initiatives Reported by Category in Liberty's 2020 WMP and Q4 2020 QIU

Initiative Category	No. of Initiatives in 2020 WMP[78]	No. of Initiatives in Q4 2020 QIU
Risk assessment and mapping	1	1
Situational awareness and forecasting	6	3
Grid design and system hardening	17	8
Asset management and inspections	15	15
Vegetation management and inspections	20	10
Grid operations and protocols	6	2
Data governance	4	2
Resource allocation methodology	0	0
Emergency planning and preparedness	6	1
Stakeholder cooperation and community engagement	4	1
Total	**79**	**43**

The 43 initiatives reported in Liberty's Q4 2020 QIU included a mixture of initiatives with quantitative and qualitative targets. In addition to the discrepancies in the number of initiatives reported in its 2020 WMP and Q4 2020 QIU, Liberty also included quantitative

[78] Liberty 2020 WMP, Section 5.3 Detailed wildfire mitigation programs.

targets and reported progress against those targets in its Q4 2020 QIU for several initiatives that did not include those targets in its approved 2020 WMP. Moreover, Liberty's Q4 2020 QIU reported progress towards some initiatives that had no targets specified in its 2020 WMP nor Q4 2020 QIU. In addition, Liberty provided status updates in its Q4 2020 QIU for initiatives that had no targets specified in any Liberty filings and no progress reported in the Q4 2020 QIU. Finally, in Liberty's EC ARC, it reported status updates on two situational awareness initiatives with qualitative targets (5.3.2.2: Continuous monitoring sensors – ALERTWildfire cameras and 5.3.2.4: Forecast of a fire risk index, fire potential index, or similar) that were not included in the 43 initiatives reported in its Q4 2020 QIU. Presented in the table below is a summary of the number of initiatives reported across the various permutations of conditions discussed above.

Table 8: Number of Liberty's 2020 WMP Initiatives, Targets, and Progress as Reported in its Various 2020 WMP Filings (x means reported)

Target Reported in 2020 WMP	Target Reported in Q4 2020 QIU	Progress Reported in Q4 2020 QIU	Status Reported in Q4 2020 QIU	Status Reported in EC ARC	No. of Initiatives	Corresponding Table(s)
x	x	x	x	-	18	Table 9 and Table 10
x	-	x	x	-	4	Table 11
x	-	-	-	x	2	Table 12
-	x	x	x	-	4	Table 13 and Table 14
-	-	x	x	-	6	Table 15
-	-	-	x	-	11	Table 16
Total					**45**	

In the following tables, Energy Safety presents the results of its analysis of Liberty's initiative performance, as reported in its Q4 2020 QIU and EC ARC. Each table is representative of the unique permutation of targets, progress, and status reported through Liberty's various WMP filings. Table 9 and Table 10 detail Liberty's performance relative to initiatives with targets reported in the 2020 WMP and targets and/or status reported in the Q4 2020 QIU, broken out by initiatives with quantitative and qualitative targets, respectively. Table 11 lists Liberty's 2020 WMP initiatives with targets reported in its 2020 WMP, no targets reported in its Q4 2020 QIU, and with progress reported in the QIU. Table 12 lists Liberty's 2020 WMP initiatives with targets reported in the 2020 WMP, status reported in the EC ARC, and not reported in the Q4 2020 QIU at all. Table 13 and Table 14 detail Liberty's performance relative to initiatives with no targets reported in the 2020 WMP but targets and/or status reported in the Q4 2020 QIU, broken out by initiatives with quantitative and qualitative targets, respectively. Table 15 lists Liberty's 2020 WMP initiatives with no targets reported in its 2020 WMP nor its Q4 2020 QIU, but with progress reported in the QIU. Table 16 lists Liberty's 2020 WMP initiatives that did

not include a target in the 2020 WMP nor Q4 2020 QIU, and had no progress reported but did include a status in the QIU.

5.5.1.1.1 Results for Initiatives with 2020 WMP Targets / Targets, Progress, and/or Status Reported in Q4 2020 QIU

Table 9: Target Reported in 2020 WMP/Target, Progress, and/or Status Reported in Q4 2020 QIU (Quantitative)

Initiative No.	Initiative Name	Target Units	WMP Target	QIU Reported Progress	QIU Reported Status
5.3.3.8	Grid topology improvements to mitigate or reduce PSPS events	Microgrids installed	4	4	Complete
5.3.2.1	Advanced weather monitoring and weather stations	Weather Stations installed	20	19	In progress
5.3.3.3	Covered conductor installation	Line miles installed	5	6.8	Complete
5.3.4.1	Detailed inspections of distribution electric lines and equipment	Line miles inspected	1,635	842	In Progress
5.3.4.6	Intrusive pole inspections	Poles inspected	3,113	3,113	In Progress
5.3.5.1	Additional efforts to manage community and environmental impacts	Line miles treated	14	14	In progress
5.3.5.2	Detailed inspections of vegetation around distribution electric lines and equipment	Line miles inspected	230	233	In progress
5.3.3.16	Undergrounding of electric lines and/or equipment	Line miles undergrounded	4	0.75	-
5.3.4.11	Patrol inspections of distribution electric lines and equipment	Line miles inspected	2,050	2,050	In progress
5.3.3.7[79]	Expulsion fuse replacement	Expulsion fuses replaced	720	853	In progress

[79] In Liberty 2020 WMP, page 59, target of Line miles to be treated is 2,055, however, Liberty reported Expulsion fuses replaced target and actual progress for this initiative in Q4 2020 QIU.

Table 10: Target Reported in 2020 WMP with Progress and/or Status Reported in Q4 2020 QIU (Qualitative)

Initiative No.	Initiative Name	WMP Target[80]	QIU Reported Progress	QIU Reported Status
5.3.1.1	A summarized risk map that shows the overall ignition probability and estimated wildfire consequence along the electric lines and equipment	Complete risk model	Nearly Completed	Complete
5.3.2.2	Continuous monitoring sensors	Procurement of DFA units and signed contract	Accomplished	In Progress
5.3.4.3	Improvement of inspections	Begin development of new inspection application to be deployed on mobile devices[81]	-	In Progress
5.3.4.14	Quality assurance / quality control of inspections	Establish a program for QA/QC of equipment inspections, contingent on ability to hire resource in time [82]	-	In Progress
5.3.6.3	Personnel work procedures and training in conditions of elevated fire risk	Improve Fire Potential Index Operating Conditions	Completed	In Progress
5.3.7.2	Collaborative research on utility ignition and/or wildfire	Data provided to University of Reno for High	Completed	In Progress

[80] Targets in Table 11 are equivalent to the targets reported in Liberty's 2020 WMP for such initiatives.
[81] Liberty did not report the correct WMP target for this initiative in its Q4 2020 QIU. Liberty's Q4 2020 QIU, Row "18," Column "V" states the target for this initiative as, "Enterprise GIS coming in 2022."
[82] Liberty did not report the correct WMP target for this initiative in its Q4 2020 QIU. Liberty's Q4 2020 QIU, Row "28," Column "V" states the target for this initiative as, "RFP developed in 2021, bid in 2022."

Initiative No.	Initiative Name	WMP Target[80]	QIU Reported Progress	QIU Reported Status
		Impendence Fault Detection Study		
5.3.9.1	Adequate and trained workforce for service restoration	Update Corporate Emergency Management Plan	Completed	Complete
5.3.10.1	Community engagement	Increase public awareness	Completed	In Progress

Energy Safety's review of initiatives presented in Table 9 and Table 10 found that Liberty met its 2020 WMP target for 18 initiatives and did not meet its 2020 WMP target for four initiatives:

1. 5.3.2.1 – Advanced weather monitoring and weather stations: Liberty installed 19 weather stations against a target of 20 (95% complete).
2. 5.3.3.16 – Undergrounding of electric lines and/or equipment: Liberty undergrounded 0.75 line miles against a target of 4 (19% complete) (in Table 10).
3. 5.3.4.3 – Improvement of Inspections: Liberty reported no progress on this initiative in its Q4 2020 QIU and reported the status of the initiative as "In Progress."
4. 5.3.4.14 – Quality Assurance / Quality Control of Inspections: Liberty reported no progress on this initiative in its Q4 2020 QIU and reported the status of the initiative as "In Progress." (Table 11).

Similar to Liberty's reporting discrepancies and inconsistencies discussed earlier, the information Energy Safety reviewed in Table 9 and Table 10 also contained errors that complicated Energy Safety's analysis. For the two incomplete initiatives with qualitative targets presented in Table 10 (initiatives 5.3.4.3 and 5.3.4.14), Liberty's Q4 2020 QIU contained different targets than were presented in its 2020 WMP. In addition, for these initiatives, Liberty reported no actual progress and only indicated a status as being "In Progress." Even then, the statuses reported by Liberty also seemed to potentially be in error. For example, Liberty reported the status of initiative 5.3.4.3 – Improvement of inspections as "In progress," but in its EC ARC, Liberty reported that it purchased new software in 2020 that allowed it to digitize its inspection records and collect, store, and analyze more system data in 2020 than in the previous five years combined (See Section 5.1). In addition, as shown in Table 10, Liberty inconsistently reported the progress and status of many of its 2020 WMP initiatives with qualitative targets. Often, these inconsistencies were contradictory that made it unclear whether the target for an initiative had been met or not. For all but one of the eight initiatives presented in Table 10, Liberty's reported progress and status did not align in its Q4 2020 QIU. For most, Liberty reported the progress as "Completed," but reported the status as "In progress," which cannot be true simultaneously.

Energy Safety also discovered another error in the Liberty's reported data presented in Table 9 resulting from its failure to adhere to Energy Safety's reporting instructions. The QIU template provided by Energy Safety included a "Read Me" sheet with detailed reporting instructions and definitions for every data field in the report. In accordance with those provided definitions, Energy Safety clearly stated that the data reported in Columns R through U in the QIU were to be cumulative progress for initiatives with qualitative targets.[83] Nevertheless, for initiative 5.3.4.1 – Detailed inspections of distribution electric lines and equipment, an initiative with a quantitative target of 1,635 line miles for inspection in 2020, Liberty reported that it completed of 842 lines miles in Column U, representing its cumulative total from Q1 through Q4 2020. Upon initial review, this data indicated that Liberty also failed to meet its 2020 WMP target for this initiative by nearly half. However, this information directly contradicted both Liberty's EC ARC and IE ARC. In its EC ARC, Liberty stated that it completed detailed overhead inspections of its entire system in 2020.[84] In Liberty's IE ARC, NV5 reported that, based on the various documents it reviewed, it had "reasonable assurance [that] Liberty [met] the performance obligation of this initiative."[85] After further review, Energy Safety determined that the value Liberty reported in its Q4 2020 QIU for this initiative was in error. Instead of reporting the values in Columns R though U in as cumulative progress throughout the year, as defined in the QIU template provided by Energy Safety, Liberty reported values representative of inspections completed in each quarter. When summed, these values totaled 1,635 line miles inspected, matching Liberty's 2020 WMP target for initiative 5.3.4.1.[86] Accordingly, after reviewing the totality of data available, Energy Safety determined that Liberty met its 2020 WMP target for this initiative.

Regarding initiative 5.3.3.16 – Undergrounding of electric lines and/or equipment, while Liberty completed just under 20% of its 2020 WMP target, Liberty's 2020 WMP also clarified that its undergrounding plans were primarily driven by its "Rule 20" program.[87] Rule 20 is a set of policies and procedures established by the CPUC to regulate the conversion of existing overhead electrical lines and equipment to underground, and the levels of ratepayer funding required. The criteria of the Rule 20 program do not explicitly include wildfire mitigation as a basis for undergrounding. Accordingly, the progress towards this initiative reported by Liberty was reflective of its execution of the Rule 20 undergrounding program and was not representative of undergrounding work Liberty undertook explicitly for wildfire risk mitigation.

[83] QIU, "Read Me" sheet, Rows 37-40.
[84] Liberty EC ARC, pages 5-6.
[85] Liberty's IE ARC, page 21.
[86] The sum of values reported by Liberty in Columns R-U in its Q4 2020 QIU is 1,635 line miles inspected (0 + 368 + 425 + 842 = 1,635).
[87] Liberty 2020 WMP, page 59.

5.5.1.1.2 Results for Initiatives with 2020 WMP Targets, No Targets Reported in Q4 2020 QIU, and Progress Reported in QIU

Table 11: Initiatives with Targets Reported in 2020 WMP, No Targets Reported in Q4 2020 QIU, and Progress Reported in QIU

Initiative No.	Initiative Name	Target Units	WMP Target	QIU Reported Progress
5.3.5.11	Patrol inspections of vegetation around distribution electric lines and equipment	Line miles inspected	150	331.2
5.3.5.15	Remediation of at-risk species	Line miles treated	380 Begin to develop a tree failure database to track system reliability and species failure characteristics	131.7
5.3.5.16	Removal and remediation of trees with strike potential to electric lines and equipment	Line miles treated	Removal and remediation of trees with strike potential is continuous and ongoing through Routine Vegetation Maintenance and CEMA programs in accordance with required laws and regulations	243.1
5.3.5.10	Other discretionary inspections of vegetation around transmission electric lines and equipment	Line miles inspected	50	50

As presented in the table above, Liberty didn't list any target for four initiatives in its Q4 2020 QIU. As another example of Liberty's inconsistent reporting, Liberty reported quantitative progress towards all four initiatives, but two of those initiatives, 5.3.5.15 – Remediation of a-risk species and 5.3.5.16 – Removal and remediation of trees with strike potential to electric lines and equipment, included qualitative targets in Liberty's 2020 WMP. In Liberty's 2020 WMP, initiative 5.3.5.15 also included a quantitative target of 380 line miles treated in

addition to its qualitative target.[88] However, both the independent evaluator review[89] and Energy Safety's SVM audit[90] discovered that Liberty intended the 380 line mile target to be inclusive of three different initiatives in its 2020 WMP (5.3.5.15, 5.3.5.16, and 5.3.5.20). Regardless, upon summing the total progress reported across all three initiatives, Energy Safety determined that Liberty completed a total of nearly 375 line miles against a target of 380 (99% of this WMP target).

5.5.1.1.3 Results for Initiatives with Missing Targets, Status, and/or Progress as Reported in Q4 2020 QIU, 2020 WMP, and EC ARC

Table 12: Initiatives with Reported 2020 WMP Targets and EC ARC Status

Initiative No	Initiative Name	WMP Target	EC ARC Reported Status
5.3.2.2	Continuous monitoring sensors – ALERTWildfire cameras	Partner with ALERTWildfire. Evaluate replacement of cameras	Finalizing the implementation of the ALERTWildfire camera network Partnership
5.3.2.4	Forecast of a fire risk index, fire potential index, or similar	Fully implement FPI. Refine use of FPI	Completed

Table 13: Initiatives with No WMP Target Reported but Target and Progress Reported in Q4 2020 QIU (Quantitative)

Initiative No.	Initiative Name	Target Units	QIU Target	QIU Reported Progress
5.3.3.9[91]	Installation of system automation equipment	Reclosers	4	4
5.3.4.15	Substation inspections	Substations inspected	46	46

[88] Liberty 2020 WMP, page 87.
[89] Liberty's IE ARC, pages 15-16.
[90] Report on 2020 SVM Audit of Liberty, pages 3-4.
[91] Liberty did not state specific number of Reclosers to install in 2020. However, Liberty 2020 WMP, page 60, stated "Within the next 3 years – Install reclosers at a rate of four per year. Implement Distribution Automation Control system."

Table 14: Initiatives with No WMP Target Reported but Target and Progress Reported in Q4 2020 QIU (Qualitative)

Initiative No	Initiative Name	QIU Target	QIU Reported Progress	QIU Reported Status
5.3.4.4	Infrared inspections of distribution electric lines and equipment	RFP developed in 2021, bid in 2022	-	In Progress
5.3.7.1	Centralized repository for data	Developing a centralized data lake by end of year	-	In Progress

Energy Safety's review of Liberty's 2020 WMP initiatives, as presented in Table 12 through Table 14 did not find any missed targets. However, Energy Safety did identify additional reporting inconsistencies by Liberty. As shown in Table 12, Liberty reported two initiatives in both its 2020 WMP and EC ARC that were not reported in its Q4 2020 QIU, as expected. Furthermore, Liberty reported targets and progress for a total of four initiatives, presented in Table 13 and Table 14 above, that did not include any targets in its 2020 WMP and were presented for the first time in its Q4 2020 QIU.[92] Liberty did not submit any change orders related to its 2020 WMP initiatives to change the scope or scale of its initiatives.

5.5.1.1.4 Results for Initiatives with No Targets Reported and Status Reported in Q4 2020 QIU

Table 15: Initiatives with No Quantitative Targets in 2020 WMP nor Q4 2020 QIU, but Quantitative Progress Reported in QIU

Initiative No.	Initiative Name	Target Units	Target	QIU Reported Progress
5.3.3.6	Distribution pole replacement and reinforcement, including with composite poles	Poles replaced	-	62
5.3.3.12	Other corrective action	Tree attachment removals	-	60
5.3.5.5	Fuel management and reduction of "slash" from vegetation management activities	Tons of biomass removed	-	376.4

[92] Liberty's Q4 2020 QIU was submitted on April 1, 2021, nearly a full year after Energy Safety approved its 2020 WMP on June 10, 2020.

Initiative No.	Initiative Name	Target Units	Target	QIU Reported Progress
5.3.5.7	LiDAR inspections of vegetation around distribution electric lines and equipment	Line miles inspected	-	328
5.3.6.6	Stationed and on-call ignition prevention and suppression resources and services	Number of vehicles	-	2
5.3.5.13	Quality assurance / quality control of vegetation inspections	Line miles inspected	-	57.1

Table 16: Initiatives with No Targets Reported in 2020 WMP nor Q4 2020 QIU, No Progress Reported in QIU, but Status Reported in QIU

Initiative No.	Initiative Name	WMP Target/ QIU Progress	Status
5.3.2.3	Fault indicators for detecting faults on electric lines and equipment	-	In Progress
5.3.3.5	Crossarm maintenance, repair, and replacement	-	-
5.3.4.2	Detailed inspections of transmission electric lines and equipment	-	N/A
5.3.4.5	Infrared inspections of transmission electric lines and equipment	-	In Progress
5.3.4.7	LiDAR inspections of distribution electric lines and equipment	-	N/A
5.3.4.8	LiDAR inspections of transmission electric lines and equipment	-	N/A
5.3.4.9	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	-	N/A
5.3.4.10	Other discretionary inspection of transmission electric lines	-	N/A
5.3.4.12	Patrol inspections of transmission electric lines and equipment	-	N/A
5.3.4.13	Pole loading assessment program to determine safety factor		In Progress
5.3.5.20	Vegetation management to achieve clearances around electric lines and equipment	-	In Progress

Lastly, Liberty reported status on 17 initiatives in its Q4 2020 QIU that had no previously reported targets or progress. These initiatives represented 38% of the total initiatives reported in Liberty's Q4 2020 QIU. One of these initiatives, 5.3.3.5 – Crossarm maintenance, repair, and replacement, was included in Liberty's Q4 2020 QIU with no reported details on targets, progress, or status. Because these initiatives did not have targets reported in Liberty's 2020 WMP nor Q4 2020 QIU, Energy Safety did not have a basis from which to assess satisfactory completion.

5.5.1.1.5 Overall Assessment

Overall, Energy Safety reviewed the 45 initiatives reported in Liberty's Q4 2020 QIU, and found the following:

- Liberty's inconsistent reporting and failure to follow Energy Safety's instructions complicated and hindered Energy Safety's analysis of initiative completion.
- 17 (or 38%) of the initiatives reported in Liberty's Q4 2020 QIU did not have targets reported in any other filings related to Liberty's 2020 WMP.
- Liberty failed to complete a total of five targets tied to seven 2020 WMP initiatives. However, of the five, Liberty nearly met its targets for two initiatives, 5.3.2.1 and 5.3.1.15 (combined with 5.3.1.16 and 5.3.5.20).
    - 5.3.2.1 – Advanced weather monitoring and weather stations: Liberty installed 19 weather stations against a target of 20 (95% complete).
    - 5.3.3.16 – Undergrounding of electric lines and/or equipment: Liberty undergrounded 0.75 line miles against a target of 4 (19% complete).
    - 5.3.5.15, 5.3.5.16, and 5.3.5.20 (various vegetation management initiatives): Liberty completed approximately 375 line miles of work against a target of 380 (99% complete).
    - 5.3.4.3 – Improvement of Inspections: Liberty reported no progress on this initiative in its Q4 2020 QIU and reported the status of the initiative as "In Progress."
    - 5.3.4.14 – Quality Assurance / Quality Control of Inspections: Liberty reported no progress on this initiative in its Q4 2020 QIU and reported the status of the initiative as "In Progress."

5.6 Wildfire and Risk Reduction Outcomes

Energy Safety uses a metric, the red flag warnings circuit mile days (RFWCMD) for overhead assets, to depict wildfire risk normalized for the size of an electrical corporation's service territory and its proportion of overhead electrical lines. Use of this metric allowed for comparisons across reporting years and enabled assessment of performance in 2020 relative to previous trends from 2015-2019. As shown in Figure 1 below, Liberty has seen an increase

in extreme fire weather events since 2015 with a significant spike in 2018. The RFWCMD experienced in 2020 represents the largest value (i.e., worst fire weather and greatest exposure) over the six-year reporting period. The increase in RFWCMDs over the last six years, as seen in Figure 1 below, underscores the importance of effective wildfire mitigation planning and execution of mitigation efforts.

Energy Safety requires electrical corporations to report data, such as ignitions in the HFTD, that will enable Energy Safety to, over time, assess whether an electrical corporation's wildfire mitigation planning activities successfully achieve the primary objective of a WMP – reducing catastrophic wildfire risk and reliance on PSPS. As noted earlier in this document, it is not enough to solely evaluate whether an electrical corporation met its targets for implementing specific initiatives if ultimately the electrical corporation did not reduce the risk of catastrophic wildfires.

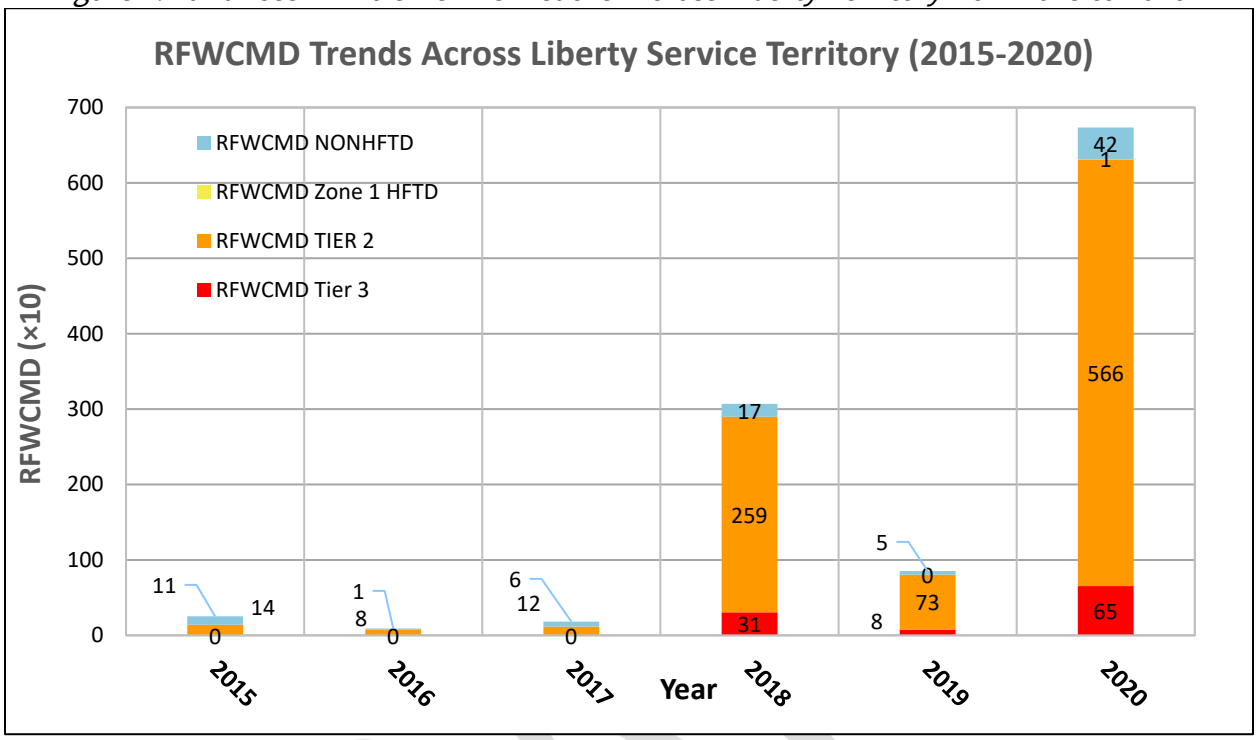
In 2020, Energy Safety evaluated a variety of metrics (calculations based on data provided) to set a baseline that can be measured against in future years, including several metrics adopted in the 2020 WMP Guidelines.[93] In addition to these metrics, Energy Safety also utilized the knowledge and expertise gained since the adoption of the 2020 WMP Guidelines to present additional metrics correlated to Liberty's wildfire risk. Where data was available and applicable, Energy Safety evaluated different permutations of ignition risk metrics to also account for geographical risk factors, as indicated by HFTD tiers, and causal information.

Energy Safety relied upon data reported in an electrical corporation's 2020 WMP as well as Quarterly Data Report (QDR) submissions from May 3, 2021. Energy Safety also performed analysis that compared the electrical corporation's performance during the 2020 WMP compliance period to trends from previous years.[94] Metrics analyzed are discussed in the following sections.

[93] See Attachment 4 of CPUC Resolution WSD-001, titled "WMP Metrics."

[94] Energy Safety looked at previous year performances dating back to 2015, where available and reported in Liberty's data submissions, or any year thereafter for which data was available and reported.

Figure 1: Variances in Extreme Fire Weather Across Liberty Territory from 2015 to 2020[95]



5.6.1 Ignition Risk

Energy Safety evaluated ignition risk as a function of various metrics reported in Liberty's QDR submission. Liberty reported these risk metrics in Table 7.1 and Table 7.2 of its QDR submission (QDR Table 7.1 and QDR Table 7.2, respectively). Ignition risk metrics considered include:

1. **Ignitions** – incidents in which electrical corporation infrastructure was involved.
2. **Wire down events** – incidents in which overhead electrical lines fall to the ground or land on objects.
3. **Vegetation-caused outages** – outages experienced in which the cause was determined to be vegetation contact with electrical lines.
4. **Unplanned outages** – all unplanned outages experienced.

5.6.1.1 Ignition Data

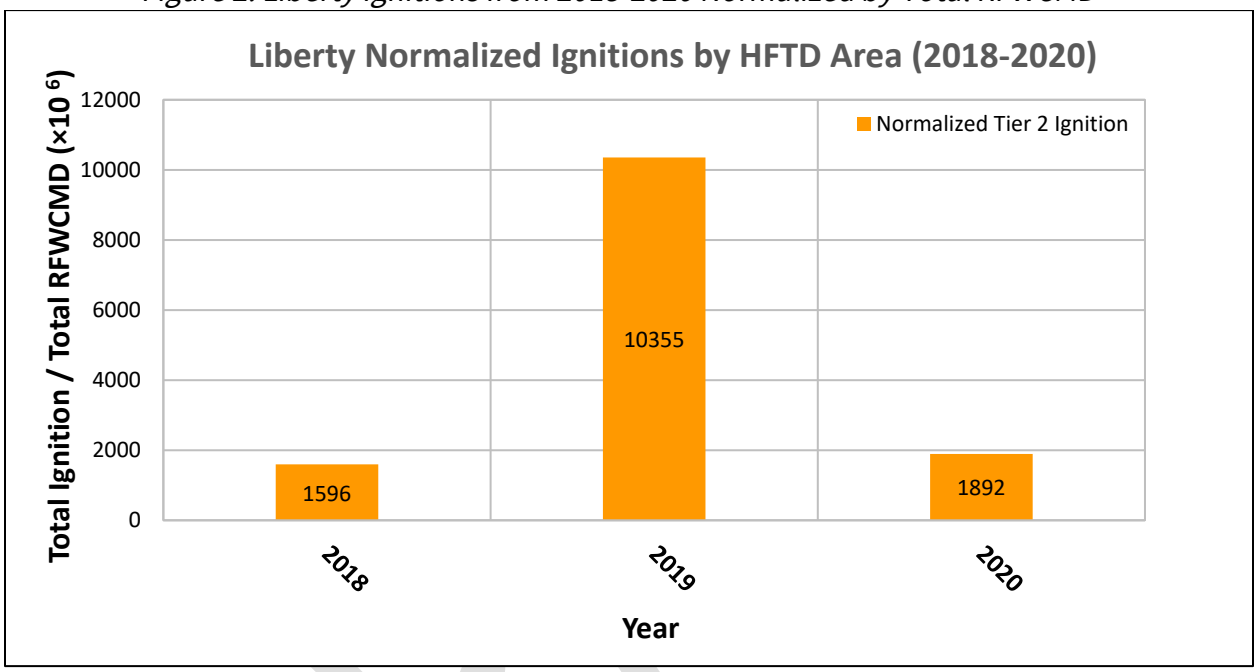
QDR Table 7.2 includes data on Liberty's ignitions from 2018 through 2020, plotted below.[96] Liberty did not report any ignitions in non-HFTD and Tier 3 HFTD areas on its distribution assets nor did it report any ignitions on its transmission assets during the reporting period. In

[95] QDR Table 6, "Red Flag Warning Circuit Mile Days."
[96] Liberty reported having no ignitions from its assets in 2015, 2016, and 2017.

total, Liberty reported five ignitions caused by fuse damage or failure and one ignition caused by conductor damage or failure between 2018 to 2020.[97]

Figure 2 below plots the ignitions in Tier 2 HFTD areas of Liberty's service territory normalized by the RFWCMD in Tier 2 only for each year reported.

Figure 2: Liberty Ignitions from 2018-2020 Normalized by Total RFWCMD[98]

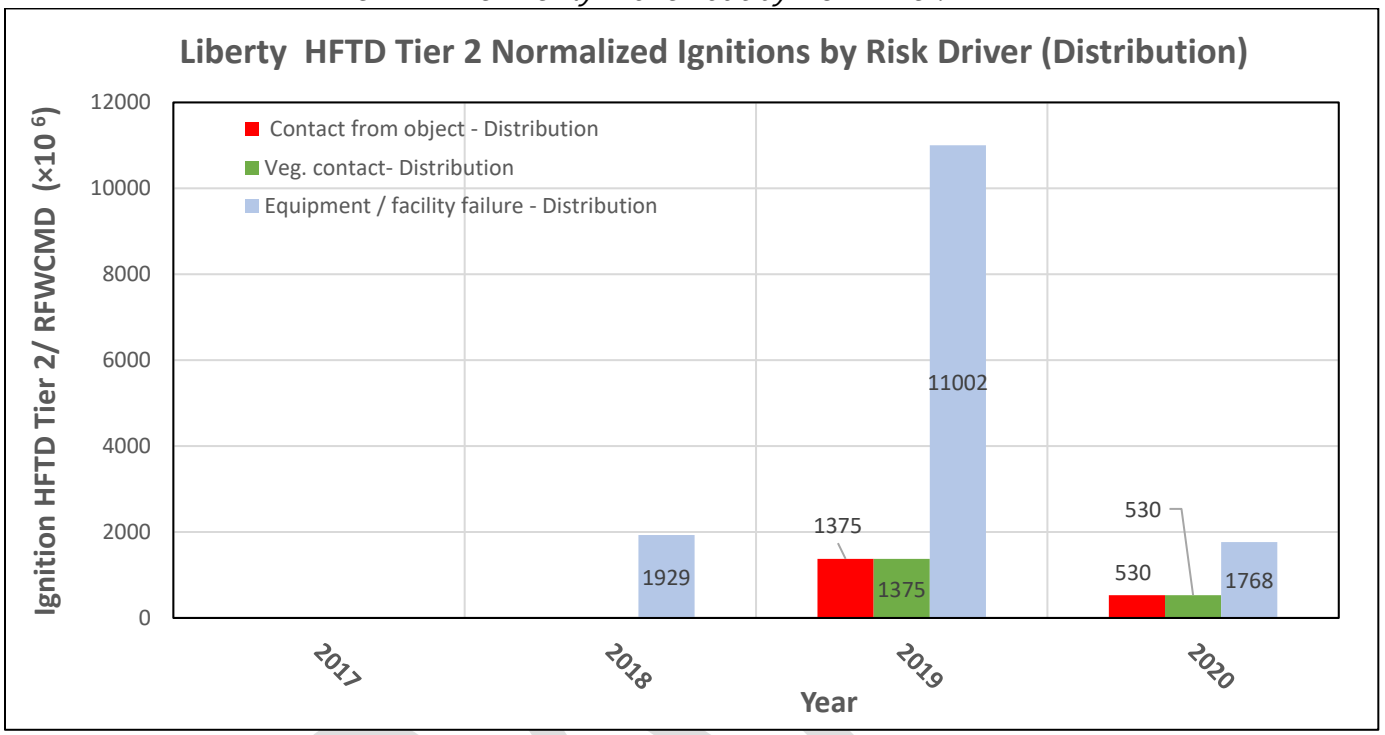


As can be seen from the above figure, Liberty saw a spike in normalized ignitions in 2019 but a decrease in 2020. Given the limited sample size of data, Energy Safety did not identify any trends from analysis of Liberty's normalized ignitions in Tier 2 HFTD areas.

Figure 3 shows the drivers of Liberty's ignitions in Tier 2 HFTD areas during the 2017-2020 period.

[97] Liberty 2020 WMP Attachment 1, Table 7.2.
[98] QDR Table 7.2, "Key recent and projected drivers of ignitions by HFTD region."

Figure 3: Liberty Distribution Ignitions in Tier 2 HFTD Areas from 2017-2020 Normalized by RFWCMD in Tier 2 Only Broken out by Risk Driver.[99]



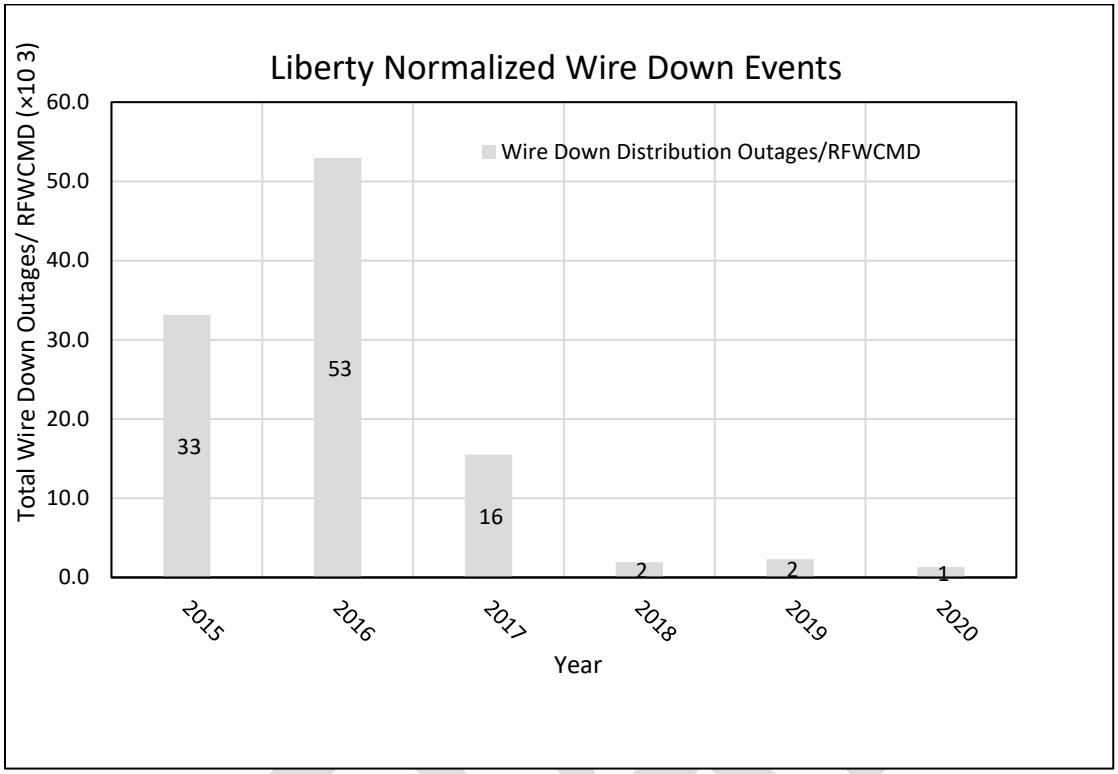
As shown in the figure above, Liberty's main driver of normalized ignitions was "Equipment / facility failure." This ignition driver constitutes more than half of Liberty's ignitions in all reporting years. Examples of such equipment/facility failures are damaged fuses and conductor damage and failures.

5.6.1.2 Wire Down Event Data

QDR Table 7.1, metrics 1 through 16 include data on Liberty's distribution and transmission wire down events from 2015 through 2020, which were normalized for RFWCMD and plotted below in Figure 4. Wire down events can be a precursor to ignitions; therefore, Energy Safety will look for a downward trend over time.

[99] QDR Table 7.2, titled, "Key recent and projected drivers of ignitions by HFTD region."

Figure 4: Liberty Normalized Total Wire Down Events from 2015-2020 Normalized by RFWCMD.[100]



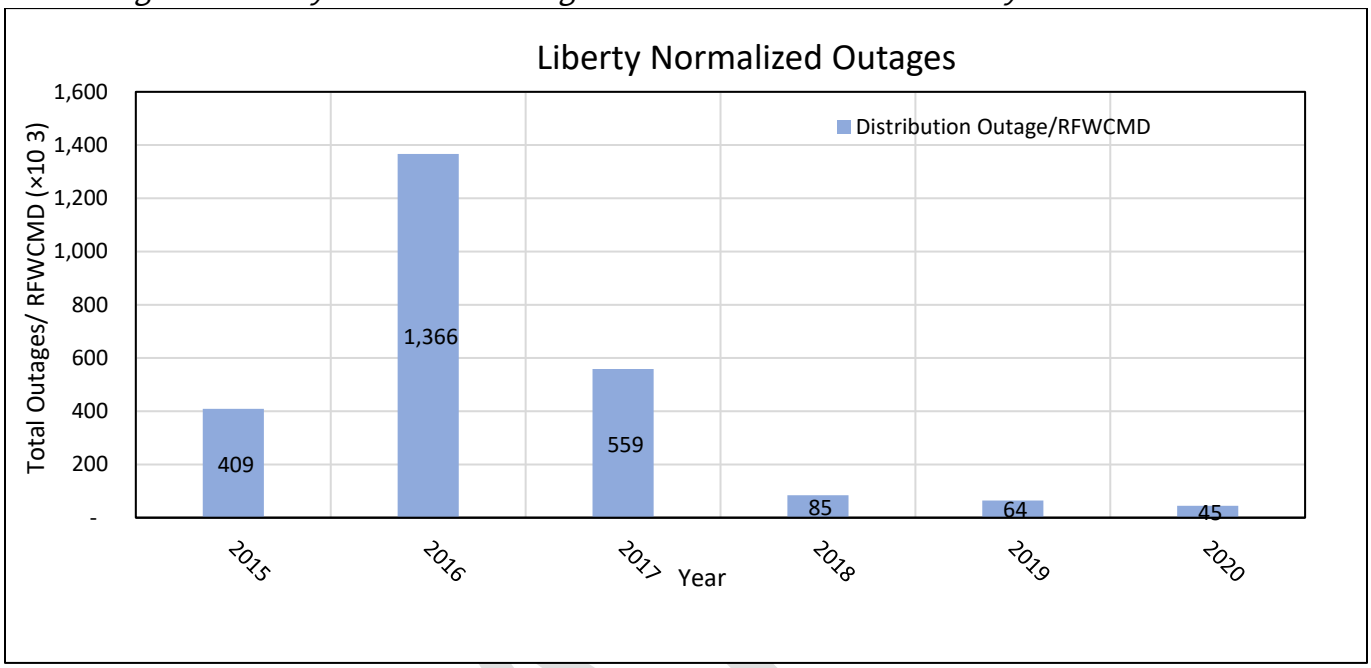
Liberty did not report any wire down events on its transmission assets. As seen in the figure above, Liberty's normalized wire down events on distribution assets trended down over the reporting period. Compared to the five-year average from 2015 through 2019, Liberty's normalized wire down events on its distribution assets decreased by over 95% in 2020.

5.6.1.3 Outage Data

QDR Table 7.1, metrics 17 through 32 include data on distribution and transmission outages of all cause types from 2015 through 2020. Unplanned or unscheduled outages correlate to a potential for ignitions on the system, although they are not as strong a predictor as wire down events. Figure 5 below plots Liberty's transmission and distribution outages normalized for RFWCMD.

[100] QDR Table 7.1, titled, "Key recent and projected drivers of risk events."

Figure 5: Liberty Normalized Outages from 2015-2020 Normalized by RFWCMD

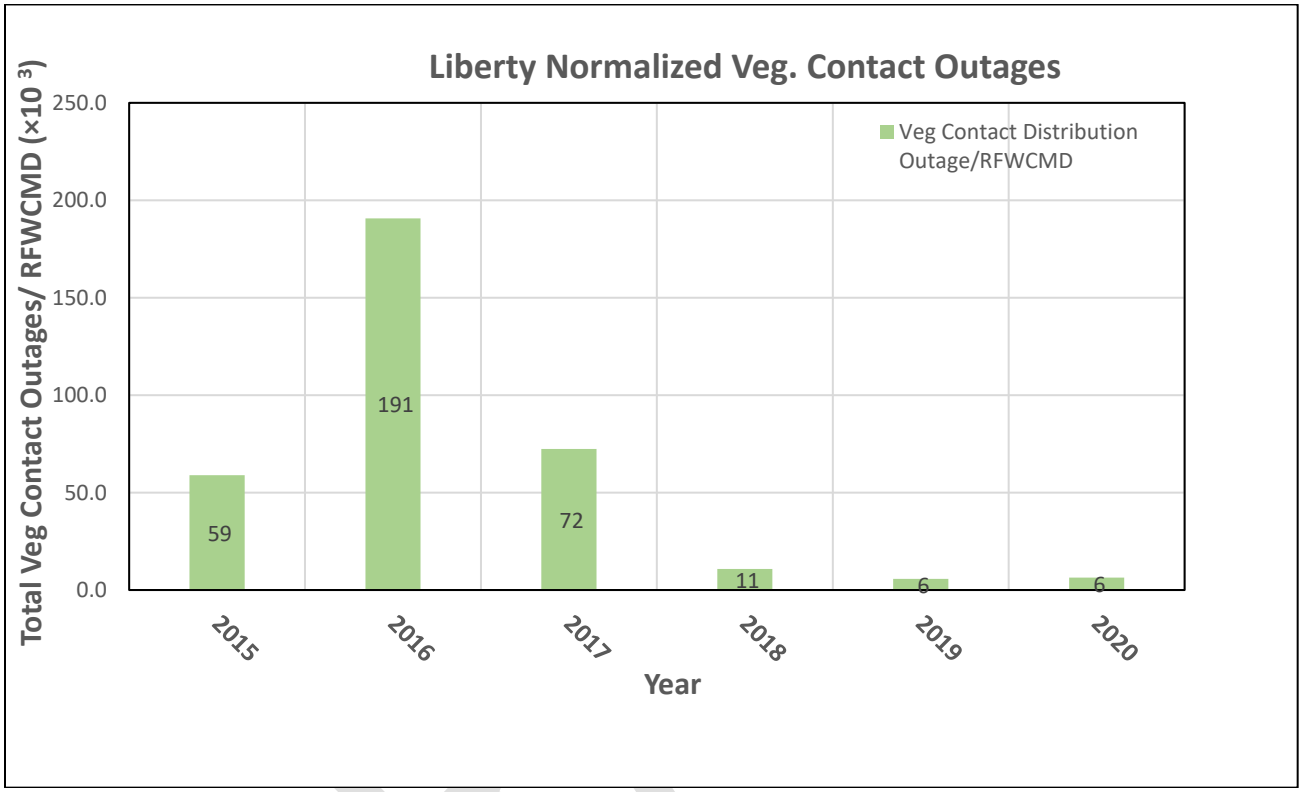


Liberty did not report any outages for its transmission assets. As seen in the figure above, similar to normalized wire down events, Liberty's normalized total outages trended down during the reporting period. Compared to the five-year average from 2015 through 2019, Liberty's normalized unplanned outages on its distribution assets decreased by over 90% in 2020.

5.6.1.3.1 Vegetation-Caused Outage Data

QDR Table 7.1, metrics 17a and 25a include data on transmission and distribution outages that are caused by vegetation contact from 2015 through 2020. Figure 6 below plots Liberty's transmission and distribution vegetation contact-caused outages normalized for RFWCMD.

Figure 6: Liberty Normalized Vegetation Contact Outages from 2015-2020 Normalized by RFWCMD[101]



Liberty did not report any vegetation caused outages on its transmission assets. As seen in the figure above, like normalized unplanned outages, Liberty's normalized vegetation caused outages also trended down during the reporting period. Compared to the five-year average from 2015 through 2019, Liberty's normalized vegetation caused outages on its distribution assets decreased by over 91% in 2020.

5.6.2 PSPS Risk

While useful as a wildfire mitigation measure, PSPS carries its own risks to customers. As such, electrical corporations must reduce the duration, scope, and frequency[102] of PSPS events.[103] With the exception of San Diego Gas & Electric Company, for most electrical

[101] QDR Table 7.1, "Key recent and projected drivers of risk events."

[102] 2021 Performance Metrics Data Templates titled "Attachment-2.3-to-wsd-011-2021-performance-metrics-data-templates.xlsx," sheet "Table 11"; duration is defined as customer hours per year; scope is defined as circuit-events, measured in number of events multiplied by number of circuits de-energized per year; frequency is defined as number of instances where utility operating protocol requires de-energization of a circuit or portion thereof to reduce ignition probability per year.

[103] Pub. Util. Code, § 8386(c)(6) and (c)(7).

corporations, broad use of PSPS as a wildfire mitigation measure did not occur until 2018. As such, limited data is available to conduct a trend analysis.

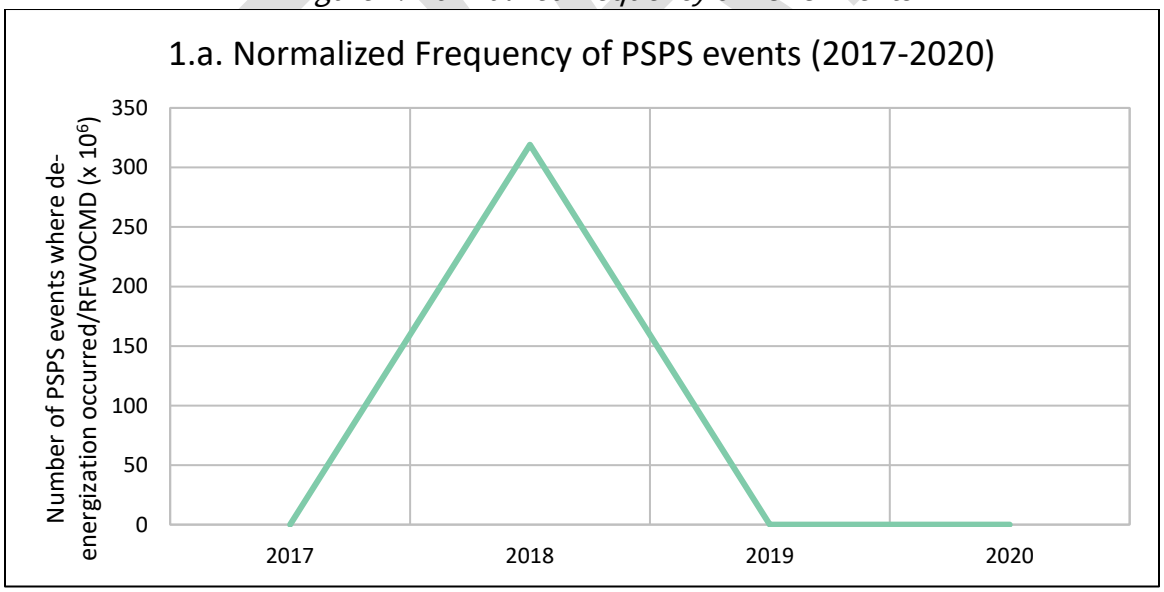
Liberty reported data on its use of PSPS and other PSPS metrics in Table 11 of its QDR (QDR Table 11).[104] Again, Energy Safety applied the RFWCMD metric as a normalizing parameter.

Liberty stated in its 2020 WMP that it was developing best practices to establish safeguards for customers and the public during PSPS events. These strategies primarily focused on increasing communication capabilities regarding potential and active events. [105]

Because these PSPS communication strategies are not requirements per Energy Safety's 2020 WMP Guideline Outcome Metrics, those strategies were not evaluated per this annual report on compliance.

Liberty did not perform a PSPS in 2020 and no customers were impacted by PSPS in 2020. Liberty has historically only initiated one PSPS event, which was in 2018, and did not deploy PSPS again through 2020. The figure below presents Liberty's normalized PSPS frequency data, but given the lack of PSPS events implemented by Liberty and resultant lack of PSPS data, Energy Safety did not identify any trends from this analysis.

Figure 7: Normalized frequency of PSPS Events[106]



[104] Broad use of PSPS as a wildfire mitigation measure did not occur until 2018, and as such, limited data is available for analysis.
[105] Liberty's 2020 WMP, pages 109-110.
[106] QDR Table 11, "Recent use of PSPS and other PSPS metrics."

5.6.3 Identified and Unresolved Risk

To ensure safe operations and the reduction of wildfire risk, Energy Safety expects that electrical corporations maintain electrical lines and equipment through: (1) thorough inspection of those lines and equipment to identify conditions that increase wildfire risk, and (2) expedient remediation of conditions identified during inspections to reduce known wildfire risks. Unresolved conditions leave known wildfire risk on the system.

In Table 1 of its QDR (QDR Table 1), Liberty reported data on findings from inspections it performed in accordance with its 2020 WMP.[107] The inspection data provided in QDR Table 1 includes detail on:

- Asset classification (i.e., transmission or distribution).
- Inspection type (i.e., detailed inspection, patrol inspection, other inspection).
- Location (i.e., in or out of HFTD areas).
- Priority of findings (i.e., Level 1, Level 2, or Level 3).[108]
- Number of circuit miles inspected for each inspection type.

The priority levels of inspection finding data reported in QDR Table 1 are derived from the CPUC's GO 95, Rule 18, which outlines requirements for electrical corporation maintenance programs and resolution of safety hazards. Rule 18 identifies three priority levels, described below:

1. **Level 1** – an immediate risk of high potential impact to safety or reliability requiring immediate corrective action.
2. **Level 2** – any other risk of at least moderate potential impact to safety or reliability requiring corrective action no later than 36 months.
3. **Level 3** – any risk of low potential impact to safety or reliability requiring corrective action within 60 months with some exceptions.[109]

In addition to data on inspection findings, Energy Safety assessed data on Liberty's progress on fixing the unresolved conditions. Energy Safety requested data from Liberty on the number and type of conditions it fixed during the 2020 WMP compliance period.[110] The data on conditions fixed by Liberty is of the same detail and includes the same assumptions as the inspection finding data in QDR Table 1.[111]

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[107] QDR Table 1, Metric 1 titled, "Grid Condition Findings."
[108] CPUC's GO 95, Rule 18 identifies and defines priority levels, and associated corrective action timeframes, applicable to identified noncompliance issues. Level 1 findings are of highest concern and Level 3 are of lowest concern.
[109] See CPUC GO 95, Rule 18(B)(1)(a).
[110] Energy Safety Data Request DR 088 sent on May 10, 2022.
[111] Liberty response to Energy Safety Data Request DR 088 received on May 20, 2022.

Table 17 below provides an overview of the circuit miles Liberty inspected in 2020, broken out by inspection type.

Table 17: Miles of Inspection Completed by Liberty in 2020

Inspection Type	Distribution Miles Inspected[112]	Transmission Miles Inspected	Transmission & Distribution Miles Inspected[113]
Detailed	982	41	**1,023**

As noted in Table 1 of its QDR, Liberty only identified findings from Detailed Inspections, and did not report findings from "Patrol" or "Other" inspection types. Liberty completed distribution and transmission detailed inspections on 1,023 miles within its service territory. As discussed in Section 5.5.1, Liberty inaccurately and inconsistently reported its initiative targets and progress against those targets across documents. Often, these inconsistencies were contradictory that made it unclear whether the target for an initiative had been met. However, based on the data reported in its QDR, detailed inspections on distribution assets made up over 96% of all inspections performed by Liberty.

Table 18 and Table 19 below detail the number of inspection findings and fixes, broken out by priority level, Liberty made on its distribution and transmission infrastructure, respectively.

Table 18: Conditions Found and Fixed on Liberty's Distribution Infrastructure in 2020

Analysis	Level 1	Level 2	Level 3	Total
Conditions Found	56	1,425	10,086	**11,567**
Conditions Fixed	40	101	17	**158**
Difference	**16 More Found**	**1,324 More Found**	**10,069 More Found**	**11,409 More Found**

Table 19: Conditions Found and Fixed on Liberty's Transmission Infrastructure in 2020

Analysis	Level 1	Level 2	Level 3	Total
Conditions Found	2	1	26	**29**
Conditions Fixed	1	0	67	**68**

[112] This number of distribution miles inspected conflicts with Liberty's 2020 Q4 QIU as seen in Section 5.5.1 of this ARC reported as 842 distribution miles inspected.

[113] Liberty's IE ARC p.22 references Liberty reported 2,272 distribution miles inspected and 40 transmission miles inspected for a total of 2312 miles inspected as a result of 2020 WMP Initiatives 5.3.4.1 and 5.3.4.2 (Detailed inspections of distribution and transmission lines). The IE also noted that "Liberty could not identify the source or basis for the reported number of circuit miles inspected."

Analysis	Level 1	Level 2	Level 3	Total
Difference	1 More Found	1 More Found	41 More Fixed	39 More Fixed

As shown in the tables above, Liberty found more conditions that required repair or remediation than it was able to fix on all levels of distribution and for both Level 1 and Level 2 conditions of transmission. On distribution assets, the largest difference in findings over fixes are attributed to the significant amount of Level 3 condition findings compared to the amount fixed, a difference of over 10,069 (over 99% of the total difference). Nevertheless, Liberty consistently had more findings across all priority levels than it was able to fix on its distribution infrastructure. For transmission assets, Liberty had more fixes than findings overall. However, Liberty also had more Level 1 and Level 2 conditions found than fixed, representing the two highest priority classifications associated with risk on its transmission system.

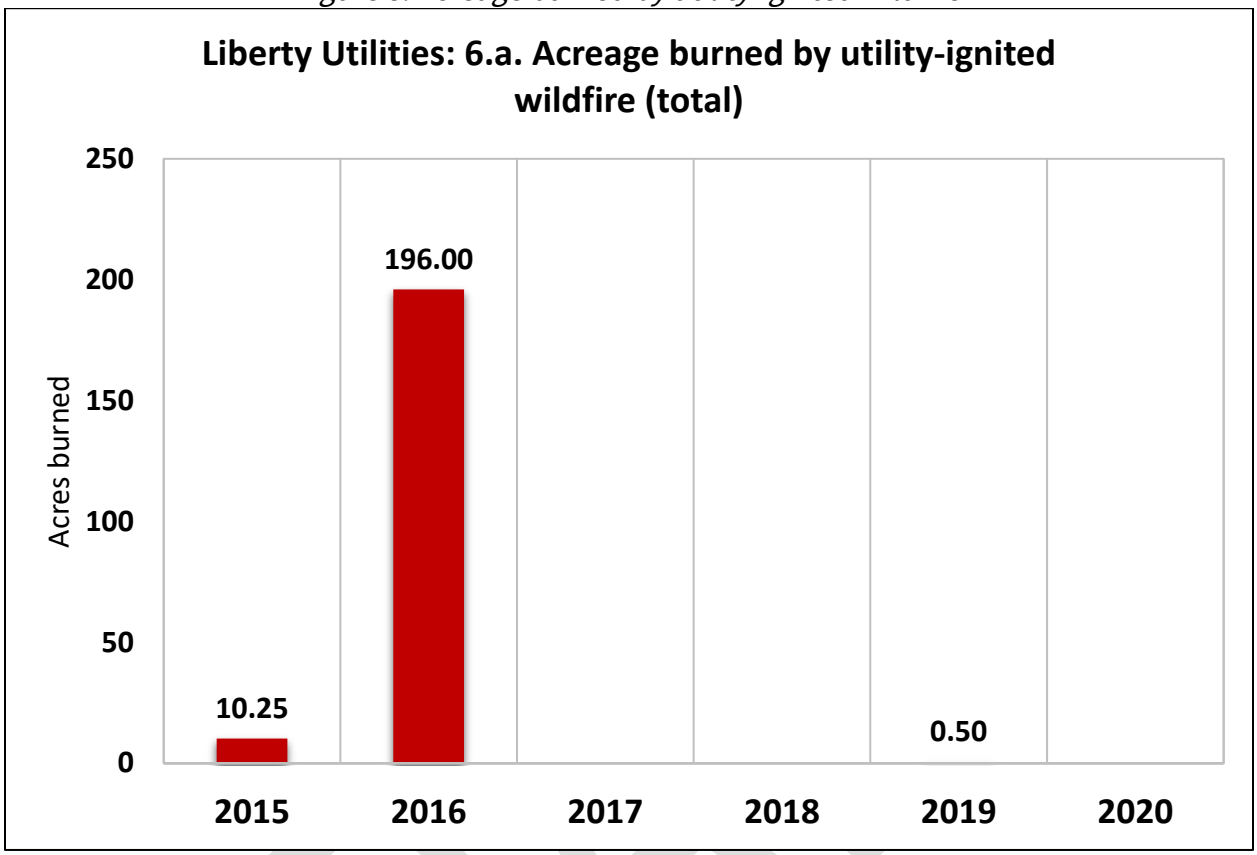
5.6.4 Wildfire Outcomes

Table 2 of the QDR (QDR Table 2) provides data on impacts from electrical corporation-related wildfires including:

1. Acres burned
2. Structures damaged/destroyed
3. Injuries/fatalities
4. Value of assets destroyed

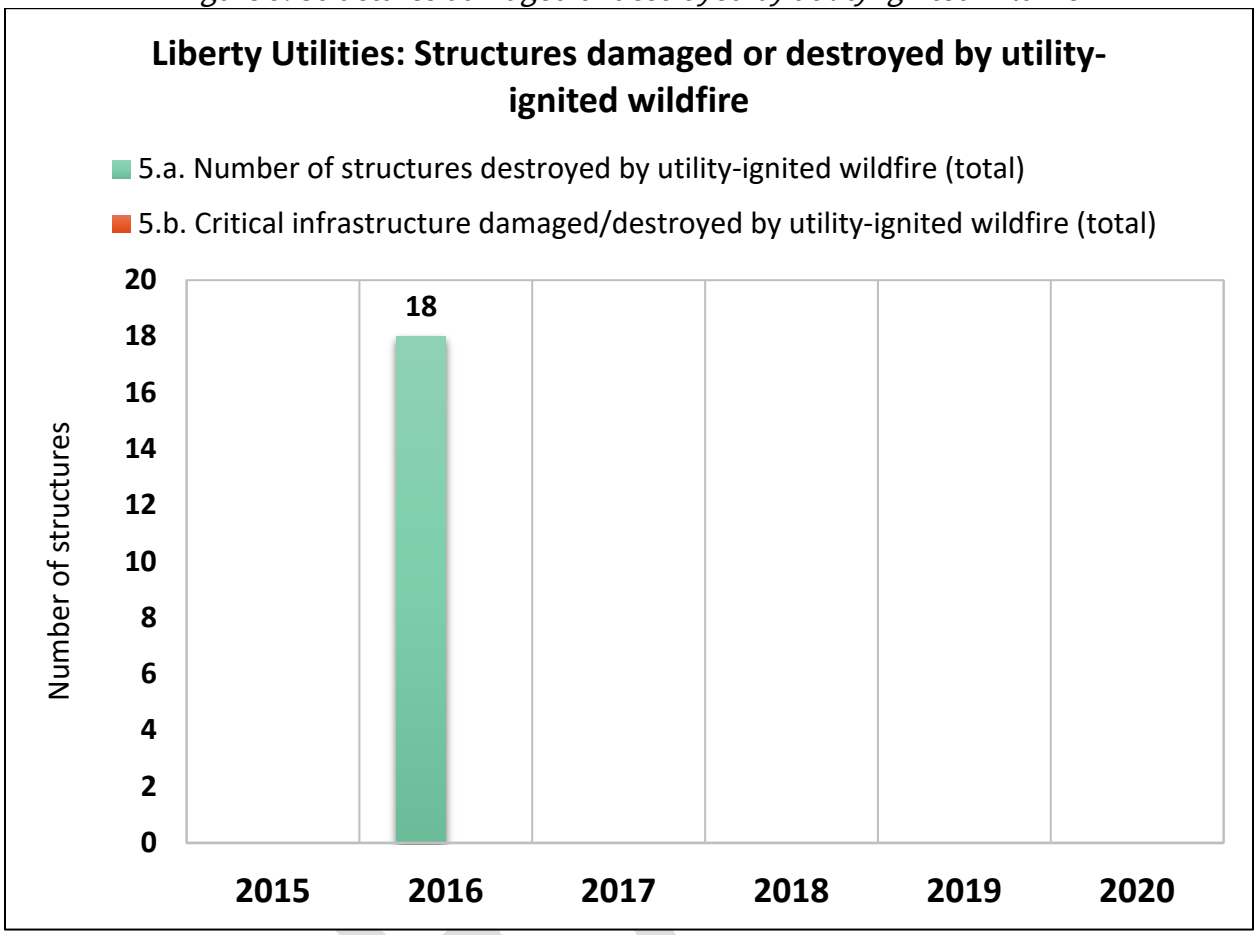
Presented in the figures below is Liberty's performance relative to the above outcome metrics from 2015 through 2020.

Figure 8: Acreage burned by utility-ignited wildfire



As shown above, there was a peak in 2016 of acres burned from wildfires ignited by Liberty's infrastructure over the six-year reporting period, but there were minimal acres burned in 2019 (0.50 acres) and there were no acres burned in 2020.

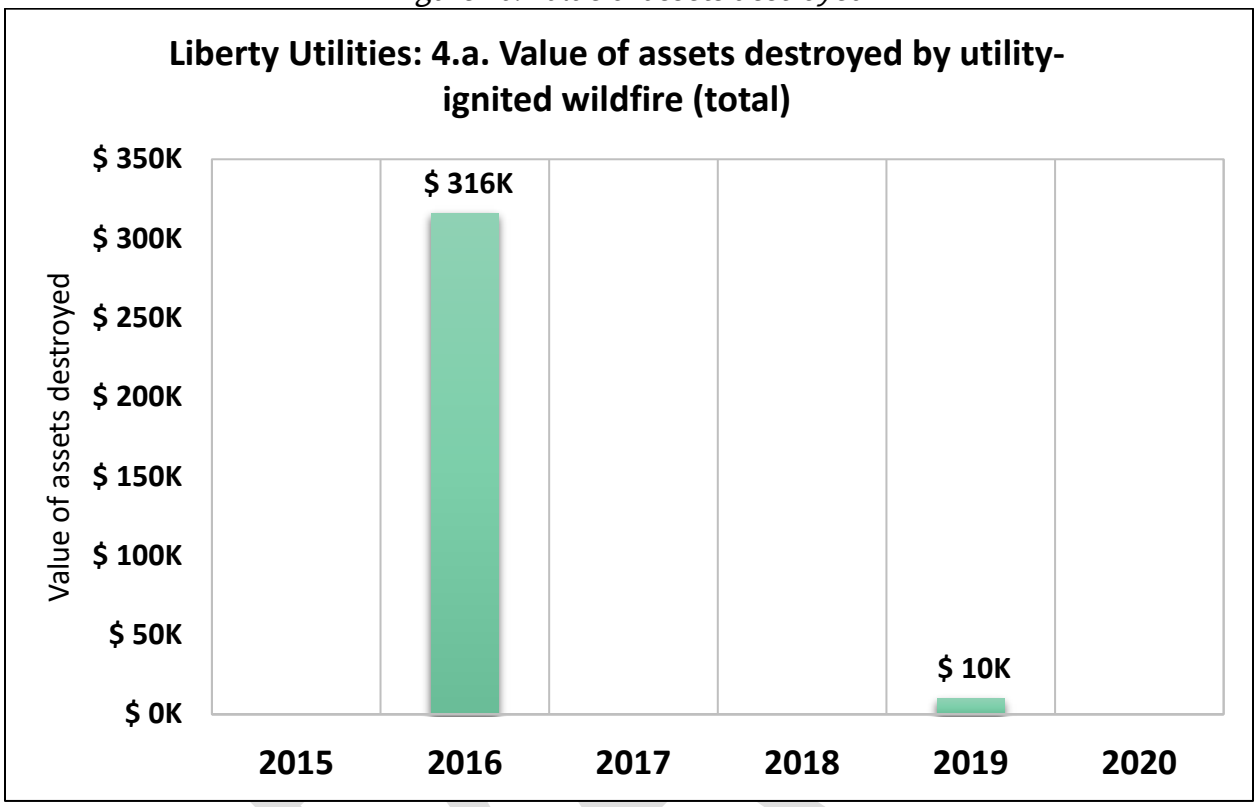
Figure 9: Structures damaged or destroyed by utility-ignited wildfire



As shown in the figure above, 2016 was the only year that wildfires related to Liberty's electrical lines and equipment destroyed structures (18 structures); however, the 2016 wildfires did not damage or destroy critical infrastructure. Liberty reported no structures or critical infrastructure damaged or destroyed since 2016. Additionally, though not shown in the figure above, there were no fatalities or injuries attributable to Liberty-ignited wildfires during the reporting period.[114]

[114] Data in QDR, Table 2.

Figure 10: Value of assets destroyed



Like the number of acres burned and structures destroyed, the value of assets destroyed peaked in 2016 as shown in the figure above. Liberty had a half-acre utility-ignited wildfire in 2019 that resulted in destruction of assets valued at $10,000, but as the previous figures showed, there were no fatalities, injuries, or structural damage reported in 2019. Furthermore, Liberty did not have any reported negative outcomes from wildfires in 2020.

5.7 Disposition of 2020 WMP Conditions

In 2020, Energy Safety issued a conditional approval of Liberty's 2020 WMP. The conditional approval identified the severity of each issue (as set forth below) and set forth required remediations.

1. **Class A** – aspects of the WMP are lacking or flawed
2. **Class B** – insufficient detail or justification provided in WMP
3. **Class C** – gaps in baseline or historical data, as required in 2020 WMP Guidelines

Class A deficiencies were of the highest concern and required electrical corporations to submit a remedial compliance plan (RCP) within 45 days of approval. Class B deficiencies were of moderate concern and required electrical corporations to submit to quarterly reporting, with the first of such reports being due 90 days after approval. Finally, Class C deficiencies were of least concern and required electrical corporations to submit additional detail and information or otherwise come into compliance in its 2021 annual WMP update. Accordingly, Energy Safety only considers Liberty's resolution of its Class A and Class B conditions in this ARC. Responses to and resolution of Class C deficiencies will be evaluated with respect to Energy Safety's assessment of Liberty's 2021 WMP update.

Liberty timely submitted its RCP and First Quarterly Report (QR) as required by Resolutions WSD-002 and WSD-003. On December 30, 2020, Energy Safety issued its evaluation of the RCP and issued a Notice of Noncompliance. On January 21, 2021, Energy Safety issued its evaluation of the QR and issued a Notice of Noncompliance. Table 20 and Table 21 below provide the conditions and Energy Safety's determination of sufficiency.

Liberty failed to resolve its lone Class A deficiency, and 7 out of 14 Class B deficiencies within the 2020 WMP compliance period.

Table 20: Class A Deficiencies from Liberty's 2020 WMP

Deficiency/ Condition No.	Deficiency Title	Sufficiency Finding
Guidance-3	Lack of risk modeling to inform decision-making.	Insufficient

Table 21: Class B Deficiencies from Liberty's 2020 WMP

Number	Deficiency/ Condition Number	Deficiency Title	Sufficiency Finding
1	Guidance-1	Lack of risk spend efficiency (RSE) information	Insufficient
2	Guidance-2	Lack of alternatives analysis for chosen initiatives	Sufficient
3	Guidance-4	Lack of discussion on PSPS impacts	Insufficient
4	Guidance-5	Aggregation of initiatives into programs	Sufficient
5	Guidance-6	Failure to disaggregate WMP initiatives from standard operations	Insufficient
6	Guidance-7	Lack of detail on effectiveness of "enhanced" inspection programs	Sufficient
7	Guidance-9	Insufficient discussion of pilot programs	Insufficient
8	Guidance-10	Data issues - general	Sufficient
9	Guidance-11	Lack of detail on plans to address personnel shortages	Insufficient

Number	Deficiency/ Condition Number	Deficiency Title	Sufficiency Finding
10	Guidance-12	Lack of detail on long-term planning	Sufficient
11	LIB-1	Liberty did not describe methods for tracking effectiveness of its covered conductor initiative	Insufficient
12	LIB-2	Liberty reports inspection frequencies that raise concerns about effectiveness	Insufficient
13	LIB-4	Liberty notes the challenge of attracting and retaining employees in the high-cost Lake Tahoe area	Sufficient
14	LIB-5	Data governance	Sufficient

6.0 DISCUSSION

Energy Safety considered the totality of the evidence before determining whether an electrical corporation substantially complied with its WMP. Energy Safety finds that Liberty substantially complied with its 2020 WMP.

Below, Energy Safety presents its assessment of Liberty's performance to each of the evaluation criteria set forth in the Compliance Framework followed by an assessment of the systemic issues.

6.1 Completion of 2020 Initiatives

As discussed in Section 5.5.5.1, Liberty's Q4 2020 QIU and EC ARC reported progress on 45 initiatives, compared to the 79 initiatives in Liberty's 2020 WMP (or 57%). As discussed further in Section 6.4 below, Liberty's various reports included numerous discrepancies and errors. Despite these issues, Energy Safety finds that Liberty met most of the qualitative and quantitative targets in its 2020 WMP. The following are the five targets Liberty failed to meet during the 2020 WMP compliance period:

1. 5.3.2.1 – Advanced weather monitoring and weather stations: Liberty installed 19 weather stations against a target of 20 (95% complete).
2. 5.3.3.16 – Undergrounding of electric lines and/or equipment: Liberty undergrounded 0.75 line miles against a target of 4 (19% complete).
3. 5.3.5.15, 5.3.5.16, and 5.3.5.20 (various vegetation management initiatives): Liberty completed approximately 375 line miles of work against a target of 380 (99% complete).

4. 5.3.4.3 – Improvement of Inspections: Liberty reported no progress on this initiative in its Q4 2020 QIU and reported the status of the initiative as "In Progress."
5. 5.3.4.14 – Quality Assurance / Quality Control of Inspections: Liberty reported no progress on this initiative in its Q4 2020 QIU and reported the status of the initiative as "In Progress."

Of the initiatives with missed quantitative targets, Liberty completed at least 95% of its WMP target except for initiative 5.3.3.16 – Undergrounding of electric lines and equipment. Energy Safety finds that although this missed target was large (only 19% complete), the scope of the initiative was small (target of four miles) and the initiative was executed under a Liberty program (Rule 20) that was not explicitly implemented for wildfire risk mitigation (See Section 5.1.1.1.1). Moreover, Energy Safety finds that for its two missed initiatives with qualitative targets Liberty conflated targets, progress, and status between its 2020 WMP, Q4 2020 QIU, and EC ARC; making it unclear how substantial the misses were. For example, while Liberty did not report progress for initiative 5.3.4.3 in its Q4 2020 QIU, its EC ARC and IE ARC included details regarding steps Liberty made towards improving its inspections (See Section 5.1.1.1.1).

Despite Liberty's clear need for improvement on data tracking and reporting of initiative progress, Liberty was able to meet the targets for most of its initiatives. The missed initiative targets did not have direct impact on the ignition risks on Liberty's system. Thus, Energy Safety finds that Liberty's missed targets or the impacts of those failures did not significantly hinder Liberty's ability to mitigate its wildfire risk.

6.2 Achieving 2020 WMP Objectives

Liberty's 2020 WMP objectives were generally broad and, with few exceptions, lacked specific measurable outcomes. Nevertheless, given that 2020 is the base year for the first three-year cycle and is therefore setting the baseline against which to measure Liberty, Energy Safety finds that Liberty fulfilled many of its 2020 WMP objectives.

Energy Safety's analysis of Liberty's performance to its objectives was broken into three sections. First, Energy Safety discussed objectives set to be achieved before the upcoming (2020) wildfire season. It then presented its analysis on performance prior to the next annual update (2021). Finally, Energy Safety presented its findings on Liberty's performance to its overall directional vision and objectives. The objectives are listed in full in Section 4.2.

Before the 2020 wildfire season, Liberty committed to the following:[115]

- Issue a Request for Proposal for a complete system-wide assessment and asset inventory.

[115] Liberty 2020 WMP, page 25.

- Expand and refine its current wildfire risk analysis and initial assessments to prioritize WMP initiatives.

Energy Safety finds that, in 2020, Liberty met its first objective because it conducted a system-wide inventory of all overhead assets (See Section 5.1).[116] Liberty was largely successful in achieving its objective to expand and refine its wildfire risk analysis. As discussed in Section 5.1, Liberty developed first-generation wildfire risk models and mapping tools that cover its entire service territory, which will allow it to incorporate objective, quantitative analysis into its future wildfire risk mitigation decision-making. Liberty also contracted with Reax Engineering to conduct a comprehensive fire spread and consequence model, which was completed in September 2020.[117] Liberty's operations and engineering teams used the data from its system-wide survey and wildfire spread and consequence model to prioritize and plan for wildfire mitigation work. Therefore, Energy Safety finds that Liberty achieved the objectives outlined in its 2020 WMP for completion before the 2020 wildfire season.

Before the 2021 WMP update, Liberty committed to the following:[118]

- Implement new operational procedures and train employees and contractors during RFW days or high fire risk conditions.
- Continue to implement system hardening initiatives.
- Continue development of resiliency corridors to prepare for a PSPS event.
- Hire additional staff required to implement the 2020 WMP.

In 2020, Energy Safety finds that Liberty met its first objective by developing its first Fire Potential Index model that covers its entire service territory and provides granular, daily fire-risk forecasts. Liberty incorporated the FPI model into its Fire Prevention Plan, which it used to inform day to day operations of its staff and identify daily fire risk conditions. Liberty also trained personnel, in the office and in the field, on work procedures in conditions of elevated wildfire risk (See Section 5.1).

As discussed in Section 5.5.1 and Section 6.3 above, Liberty met its second objective to implement system hardening initiatives by completing nearly all its system hardening initiatives. Liberty also met its objective for hiring staff to implement the 2020 WMP. Liberty formed a team of internal analysts and hired a consultant to establish and refine its risk modeling capabilities. Liberty also filled the positions of Emergency Manager and Fire Protection Specialist to support its emergency planning and response efforts (See Section 5.1).

[116] Liberty EC ARC, page 5.
[117] Liberty EC ARC, page 11.
[118] Liberty 2020 WMP, page 26.

Energy Safety discusses Liberty's objective to continue implementation of resiliency corridors to prepare for a PSPS event below, as the resiliency corridors were identified by Liberty as its short-term strategy for mitigating wildfire risk in its 2020 WMP. Therefore, Energy Safety finds that Liberty met its objectives for completion prior to the 2021 WMP Update.

Liberty's overarching 2020 WMP directional vision and objectives:

Liberty described the directional vision for its 2020 WMP through both short- and long-term strategies. In the short-term, Liberty's 2020 WMP focused on developing "resiliency corridors" to mitigate PSPS impacts and building foundational situational awareness capabilities to inform its operations and work practices.[119] Liberty stated that its long-term strategy is founded in extensive hardening of its infrastructure and implementation of its advanced situational awareness capabilities to improve its operations and work practices.[120]

Although Liberty did not implement a PSPS event in 2020, Energy Safety finds that Liberty was generally successful in executing these overarching objectives. Energy Safety's SVM audit found Liberty compliant with its forest resilience corridor commitment in initiative 5.3.5.1 (See Section 5.4.1). Additionally, Energy Safety found that Liberty installed weather stations, partnered with ALERTWILDFIRE, developed a Fire Potential Index, installed fault and outage monitors to increase Liberty's situational awareness, and developed and implemented "PSPS Playbooks" to guide and structure its operational response during PSPS events. Finally, as stated previously, Liberty also completed most of its system hardening WMP initiatives.

As is seen in the objectives presented above, Liberty's 2020 WMP was primarily focused on building out certain foundational capabilities and systems (e.g., system-wide asset inventory, first-generation risk model, FPI, etc.) to better allow it to assess and mitigate its wildfire risk. To that end, Energy Safety finds that Liberty met its 2020 WMP overall directional vision and objectives.

6.3 Reducing Wildfire Risk

The 2020 WMP is the base year in the first three-year WMP cycle (2020-2022). As such, Energy Safety was limited in making direct determinations on the effectiveness of the 2020 WMP in reducing wildfire risk in that same year as the benefits of some actions may take time to come to fruition.

Pursuant to Government Code section 15475.1, Energy Safety's primary objective is to ensure that electrical corporations reduce wildfire risk and comply with energy infrastructure safety measures. Therefore, as stated in the Compliance Framework, Energy Safety's evaluation of Liberty's performance to its 2020 WMP goes beyond a check-box exercise of whether Liberty

[119] Liberty 2020 WMP, Section 4, page 25.
[120] Liberty 2020 WMP, Section 4, page 25.

met its initiative targets to instead evaluate whether Liberty's performance in 2020 reduces the risk of Liberty equipment igniting a catastrophic wildfire. As noted in the Compliance Framework, given that 2020 is the first year in a three-year cycle and the benefits of work deployed in 2020 may accrue over time, Energy Safety's evaluation largely focuses on establishing baseline measures against which to measure Liberty's performance over time. However, even with limited data, Energy Safety can make some findings about Liberty's ability to reduce wildfire risk on its system in 2020.

Measuring ignitions provided the most direct measure of electrical corporation wildfire risk. Other metrics, such as wire down events and unplanned outages correlate with wildfire risk because some portion of these events will result in ignitions.

As shown in Section 5.6, Liberty has seen an increase in extreme fire weather events since 2015 with 2020 being the worst extreme fire weather year over the six-year reporting period. Despite this uptick in extreme fire weather events, Liberty did not implement a PSPS event in 2020 and has only implemented one PSPS event since 2015. Nevertheless, Liberty has taken several actions to better prepare for effective execution of a PSPS event, should the need arise (See Section 5.1 and Section 6.2). Regarding ignition risks, Energy Safety finds that trends and correlations were undetectable given the small sample size of data. From 2015 through 2020, Liberty reported a total of 27 ignition events (13 in 2020), all occurring in Tier 2 HFTD areas. After peaks in 2019, Energy Safety finds that Liberty's normalized ignitions trended down in 2020, and there were no notable outcomes (i.e., acres burned, structures destroyed, etc.) from the ignition events that did occur (See Section 5.6). In addition, Energy Safety notes that all Liberty's other ignition risk related metrics, including wire down events, unplanned outages, and vegetation-caused outages, decreased by over 90% in 2020 when compared to five-year historical averages from 2015 through 2019.

Although Liberty's wildfire risk data mostly provided positive indications of wildfire risk reduction, Energy Safety did identify a substantive concern. Specifically, Figure 3 shows that the primary driver for Liberty's ignitions every year is the "Equipment/facility failure" category. Alone, this issue may not present a concern, but when coupled with the data presented in Section 5.6.3, it raises potential concerns about Liberty's asset management capabilities. Specifically, across its entire distribution system, Liberty consistently found more conditions requiring repair than it was able to fix. Especially concerning is that, in 2020, Liberty found more Level 1 conditions presenting high risk with high potential impacts to safety and reliability than it was able to fix on both its distribution and transmission infrastructure. Level 1 findings require immediate repair in accordance with existing regulation; leaving any such risks on the system unaddressed for extended periods of time significantly increases potential wildfire risk. Furthermore, while much of Liberty's backlog is attributed to Level 3 findings, any unresolved inspection findings on the system leave unresolved risk that could increase the risk of a wildfire. Energy Safety will continue to monitor this issue to ensure Liberty is appropriately addressing inspection findings, Nonetheless, on balance and overall, Liberty's performance in 2020 shows decreased

negative outcomes on its system demonstrating adequate performance in reducing wildfire risk.

6.4 Systemic Issues

Energy Safety did not find any systemic issues that hindered Liberty's ability to adequately implement its WMP. However, Energy Safety's analysis of Liberty's performance in 2020, particularly in terms of its reporting of targets, progress, and status in various reporting documents, indicates issues with data governance.

Liberty reported its targets, progress, and status differently through its various WMP filings: the 2020 WMP, Q4 2020 QIU, and its 2020 EC ARC (See Section 5.5.1.1), making it difficult for Energy Safety to assess compliance. For example, Liberty only reported about half of the initiatives in its approved 2020 WMP in its Q4 2020 QIU. Liberty also reported and assigned targets to initiatives in its Q4 2020 QIU for which there were no targets included in its 2020 WMP. Moreover, in some instances, even when targets were reported correctly, Liberty did not follow Energy Safety's instructions and guidance, evidenced by Liberty erroneously reporting certain data for individual quarters when the definition of those data fields indicated the data must be reported cumulatively (See Section 5.5.1.1.1). In addition, Liberty also had issues clearly articulating its targets and objectives for other initiatives. For example, Liberty reported a target of 380 line miles for initiative 5.3.5.15 but when questioned by Energy Safety (SVM audit) and the independent evaluator about failing to meet this target, Liberty clarified that this target was intended to apply to three initiatives (5.3.5.15, 5.3.5.16, and 5.3.5.20) collectively. However, Liberty's 2020 WMP did not indicate that this was its intent nor its plan.

These types of errors made it difficult for Energy Safety to evaluate compliance against Liberty's targets and raised concerns about Liberty's ability to understand and manage its wildfire mitigation data, as well as the wildfire mitigation work being completed on its infrastructure. Energy Safety finds that these reporting inconsistencies were a direct result of Liberty failing to have clear, measurable, and actionable targets and timelines for implementation of several 2020 WMP initiatives.

Energy Safety cannot emphasize enough the importance of accurate recordkeeping and data management to achieving wildfire risk reduction. An electrical corporation must accurately track its progress of wildfire mitigation activities along its electrical infrastructure against its targets in the WMP.

Though Energy Safety finds this issue pervasive in 2020, it did not hinder Liberty's ability to achieve the desired wildfire risk and consequence outcomes. Nevertheless, Energy Safety expects Liberty to thoroughly assess its processes and systems for tracking, maintaining, and reporting its WMP data to ensure it significantly improves the accuracy and consistency of its various WMP related submissions.

7.0 CONCLUSION

After considering all the sources of information before it, Energy Safety finds that Liberty substantially complied with its 2020 WMP during the compliance period—January 1 to December 31, 2020. Liberty successfully completed most of its initiatives, and Liberty, with an inspection defect rate of 6.45%, timely addressed all defects found by Energy Safety. Additionally, Energy Safety found that Liberty substantially complied with a substantial portion of its vegetation management requirements in the Substantial Vegetation Management audit. Finally, Energy Safety's review of Liberty's wildfire risk data showed decreases in all notable metrics, including normalized ignitions, wire down, and outages in 2020. However, Liberty had extensive issues with data tracking and reporting that Energy Safety will monitor in future ARC evaluations. Despite Liberty's shortcomings with its data tracking and reporting, Liberty largely accomplished its 2020 WMP objectives and reduced the wildfire and PSPS risk on its system compared to historical performance. Energy Safety will continue to monitor Liberty's implementation of its ongoing wildfire mitigation activities and push Liberty to improve its ability to ultimately achieve the elimination of utility-caused catastrophic wildfires in California.

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APPENDIX

LIST OF PUBLIC DOCUMENTS REFERENCED

APPENDIX

LIST OF PUBLIC DOCUMENTS REFERENCED:

1. Liberty 2020 WMP
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17. 2020 WMP Guidelines https://energysafety.ca.gov/wp-content/uploads/docs/misc/docket/322133494.pdf
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