Application No.:	A.25-06-017
Exhibit No.:	Liberty-03-E
Witnesses:	P. Stoltman A. Lykens S. Moore

(U 933-E)

Mountain View Fire Cost Recovery Application

Before the California Public Utilities Commission

Liberty-03: Prudence of Operations

Errata

(Clean Version)

Tahoe Vista, California

December 9, 2025

Liberty-03: Prudence of Operations

Table Of Contents

Liberty-03: Prudence of Operations

Table Of Contents (Continued)

Liberty-03: Prudence of Operations

List of Figures (Continued)

I.

Executive Summary

In this chapter of testimony, Liberty Utilities (CalPeco Electric) LLC ("Liberty") demonstrates that it prudently designed, inspected, maintained, and operated its facilities to provide safe and reliable service to its customers at the time of the Mountain View Fire. Liberty's programs and policies conformed to regulatory requirements and were consistent with industry practices for wildfire mitigation.

Liberty has operated as a utility in California since approximately 2011, when it purchased the utility system from NV Energy and began serving customers previously served by Sierra Pacific Power Company ("Sierra Pacific"). Liberty's operations are small compared to the State's large investor-owned utilities, serving approximately 50,000 customers in the Lake Tahoe region of northern California. Approximately 672 miles of primary overhead distribution lines and 33 miles of overhead transmission lines comprise Liberty's electric system. A significant portion of Liberty's service area lies within areas designated as High Fire Threat Districts ("HFTD"). In the years preceding the Mountain View Fire, Liberty implemented programs and policies to address the evolving wildfire risk landscape and to mitigate the risk of wildfires posed by its equipment, calibrated to the specifics of Liberty's service area, which includes mountainous, densely-forested, and remote terrain, and extreme and variable weather conditions. Enhancing these wildfire mitigation efforts has been an area of focus for Liberty, touching every aspect of its operations—design and construction, inspection and maintenance, and system operation and emergency preparedness.

Liberty's design and construction standards meet the regulatory requirements set forth in the Commission's General Orders ("GO"), including clearance and spacing requirements for conductors, pins, and insulators, and strength and loading requirements for poles. To further mitigate wildfire risk, Liberty focused on hardening its grid, including by using larger wires and crossarms, proactively installing covered conductor, replacing expulsion fuses, and increasing deployment of system automation equipment. For instance, at the time of the Mountain View Fire, Liberty was executing a multi-phase project approved in its 2019 General Rate Case ("GRC") to rebuild the distribution line at issue—the Topaz 1261 Circuit—with larger wire and covered conductor. Liberty also deployed system protection devices to monitor and respond to conditions on its system, reducing risk by detecting and clearing fault conditions. The Topaz 1261 Circuit had two SCADA-enabled automatic reclosers owned

by Liberty, and Liberty's system protection operated as expected on the day of the fire, interrupting fault conditions consistent with the device settings.

Liberty regularly inspected and maintained its electrical facilities. These inspection and maintenance programs helped to ensure Liberty's equipment was kept in safe working order and that potential hazards were timely addressed. Liberty patrolled and inspected poles, conductors, and other equipment pursuant to timelines established in GO 165, and performed intrusive pole inspections and substation inspections on a schedule that met or exceeded regulatory requirements. In 2020, Liberty conducted a system-wide survey and detailed inspection of all overhead distribution facilities, including the specific facilities adjacent to the fire's origin area. These specific facilities had no overdue repairs at the time of ignition. In 2020, Liberty also made strides to modernize its data collection during inspections, prioritizing the transition from paper forms to a dynamic electronic form.

Liberty also had procedures to maintain vegetation in proximity to Liberty's electric facilities, thereby reducing the ignition risk posed by vegetation contacting electric facilities. These included clearance of vegetation around conductors and specified poles to comply with requirements set forth in GO 95 and the Public Resources Code, as well as identification and removal of hazard trees. In 2020, Liberty piloted a LiDAR scan of vegetation clearance across half of its service area to support vegetation management work. This LiDAR scan showed that vegetation clearance at the spans adjacent to the fire's origin area exceeded regulatory requirements. To further reduce wildfire risk, Liberty implemented a Tree Mortality Removal Project to manage fuels resulting from exponentially-increasing rates of tree mortality in its service area. Liberty also implemented its first state-recognized Forest Resilience Corridor in 2020 to proactively thin out vegetation and remove hazard trees along utility rights-of-way in densely-forested areas.

Finally, Liberty's operational procedures and emergency preparedness plans focused on reducing wildfire risk and protecting public safety. Liberty's System Control Center monitored the company's electric system and communicated with field personnel to address system alerts or other unanticipated outages or issues. Liberty worked with a fire science and risk modeling firm to develop and implement wildfire mitigation tools, including its Public Safety Power Shutoff ("PSPS") protocol and a Fire Potential Index ("FPI") that forecasted fire threat using indices that measured correlation with fire occurrence and fire size. To complement these efforts, Liberty installed weather stations across its service area, including on the Topaz 1261 Circuit, the outputs of which were used by Liberty's fire science and risk modeling consultant to validate Liberty's PSPS predictive tool through monitoring and

comparison of weather forecast models with observed conditions and to support situational awareness. Liberty also focused on enhancing its emergency preparedness plans and emergency management capabilities. On the day of the Mountain View Fire, Liberty field personnel responded within minutes of the fire's ignition to assist with emergency response and to protect public safety.

II.

Overview of Liberty's Service Area and the Specific Facilities at Issue

This section provides an overview of Liberty's service area, including the portion of its service area designated as facing heightened wildfire risk. This section also describes the specific facilities immediately adjacent to the origin area of the Mountain View Fire.

A. Liberty's Service Area Contains Challenging Terrain With High Fire Risk

Liberty is an investor-owned utility that provides electricity to customers in California. Liberty took over Sierra Pacific's California service area in approximately 2011, following the Commission's approval of this transaction in October 2010.[1] Today, in California, Liberty provides electricity to approximately 50,000 residential and commercial/industrial customers across seven counties around the Lake Tahoe area. This service area extends as far north as Portola and as far south as Walker. Approximately 80 percent of Liberty's customers are located in the Lake Tahoe Basin. Liberty's service area contains large swaths of remote and mountainous terrain, with elevations ranging from 9,050 feet in Olympic Valley to just under 5,000 feet at Portola. The vast majority of Liberty's customers—nearly 90 percent—are located at elevations greater than 6,000 feet. Weather conditions in Liberty's service area range between frequent and heavy snowfall during cold winters, and dry and windy conditions and warm temperatures in late summer and early fall. Operating an electric system in this terrain and in these conditions comes with unique challenges. Much of Liberty's service area contains densely-covered forest vulnerable to wildfire spread under certain conditions. And a number of residential communities within Liberty's service area are located in the wildland-urban interface, which increases the potential for wildfires to threaten life safety and cause significant property damage.

Within its service area in California, Liberty operates approximately 672 miles of primary overhead distribution lines, nearly 800 miles of secondary overhead distribution lines, approximately 33 miles of overhead transmission lines, and 12 substations. Liberty also operates a smaller number of underground distribution and transmission lines. Liberty has approximately 120 dedicated employees,

---

[1] *See* D.10-10-017.

many of whom live and work in the area served by Liberty. This includes approximately 6 engineers, 6 designers, 20 linemen, 5 troubleshooters, 5 inspectors, and 72 employees in electric operations, among others.

Liberty's service area is divided into two districts for electric operations, with individual service operations for each district. Liberty's South Lake Tahoe District comprises the portion of the service area in the South Lake Tahoe region, including parts of El Dorado, Mono, and Alpine Counties. Liberty's North Lake Tahoe District comprises the portion of the service area in the North Lake Tahoe region, including parts of Placer, Nevada, Sierra, and Plumas Counties. The 120kV systems out of the Carson Valley, Nevada serve as the primary transmission source for the South Lake Tahoe District, while the 120kV systems out of Truckee and Verdi, California serve as the primary transmission source for the North Lake Tahoe District. The two districts are independent control areas for distribution switching, and distribution interconnection between the two areas is limited.

Liberty's service area encompasses large swaths of territory currently designated as high fire risk areas. In the years following the 2007 wildfires in Southern California, the Commission led two rulemakings to develop regulations to mitigate the risk of wildfires posed by utility facilities: R.08-11-005 and R.15-05-006. Through these rulemakings, the Commission developed and adopted fire threat maps, which tied to new requirements for utility equipment in areas designated as high risk. Prior to the Commission's adopting the final High Fire Threat District ("HFTD") Map in early 2018,[2] the Commission used a fire-threat map for Northern California developed jointly by the University of California at Berkeley and Reax Engineering Inc. ("Reax Map").[3] Under this interim fire-threat map, approximately 26 percent of Liberty's service area was designated as either "very high" or "extreme" fire risk.

The Commission's final HFTD Map, adopted in January 2018, significantly expanded the extent of Liberty's service area designated as fire risk. Liberty actively participated in the development of the proposed rules and the HFTD Map in R.15-05-006 in July 2017.[4] The HFTD Map consisted of three fire-threat areas: Tier 3 extreme fire-threat areas; Tier 2 elevated fire-threat areas; and "Zone 1" areas comprised of Tier 1 High Hazard Zones ("HHZs") from the United States Forest Service and California

---

[2] D.17-12-024 at 145-146.

[3] D.12-01-032 at 171-172.

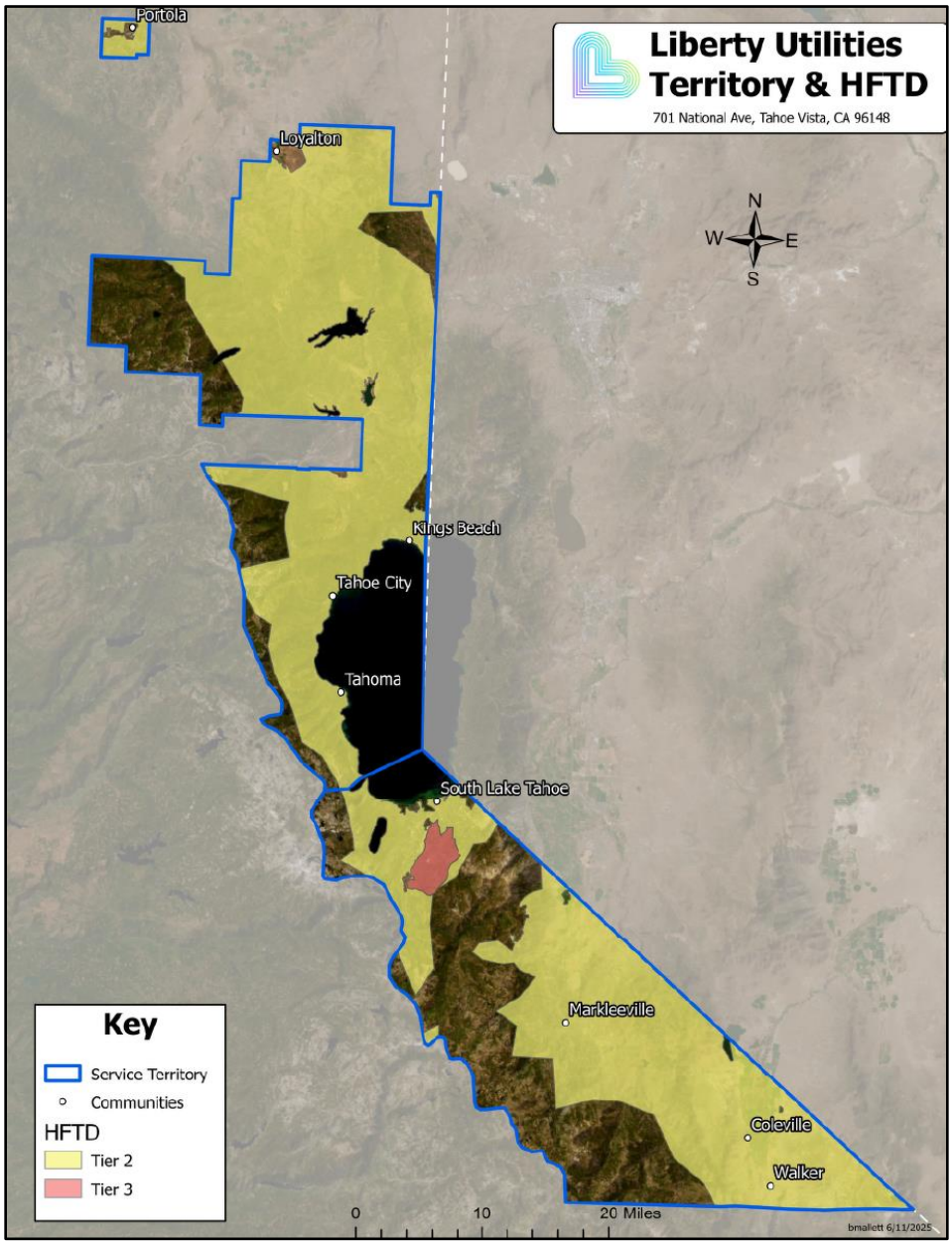
[4] D.17-12-024 at 11-12.

Department of Forestry and Fire Protection ("Cal Fire")'s joint map of Tree Mortality HHZs.[5] The HFTD Map designated approximately 63 percent of Liberty's service area as Tier 2 or Tier 3 HFTD, with almost all of Liberty's electrical equipment and infrastructure (approximately 94 percent) within HFTD Tier 2 and 3 areas. Consistent with its regulatory obligations under these two rulemakings, Liberty incorporated the HFTD designations into its maintenance, inspection, and vegetation management practices.

The area where the Mountain View Fire ignited in Walker, California, is designated as Tier 2 HFTD under the Commission's final HFTD Map, though this area was not designated as a high fire risk area under the interim Reax Map.

[5] *Id.* at 2.

Figure 1: Map of Liberty's Service Area and HFTD Designations



B. Specific Facilities

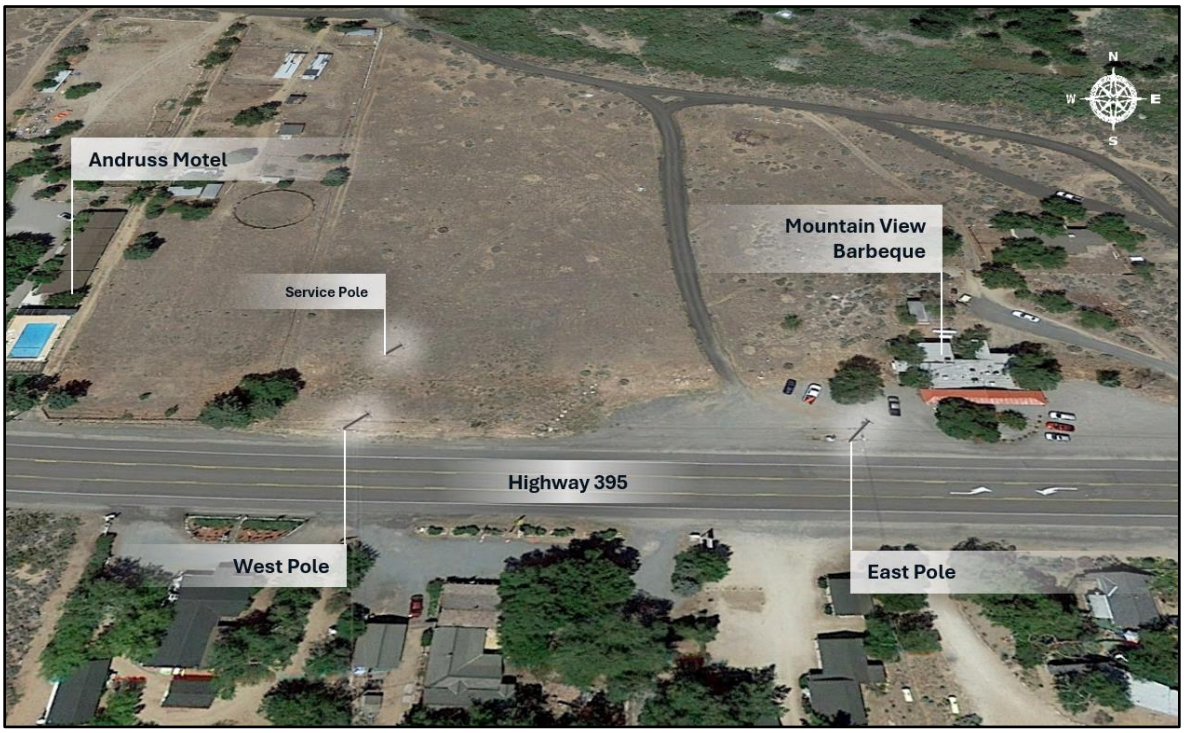
For ease of reference in the Application and this supporting testimony, the specific Liberty poles and overhead facilities near where the Mountain View Fire ignited are identified below and referred to as the "Specific Facilities." The Mountain View Fire ignited near the town of Walker in Mono County, California. As discussed in *Liberty-02: Ignition*, Cal Fire issued a report on the origin and cause of the Mountain View Fire, referred to throughout as the fire agency report. The fire agency report identified

the "most probable cause" of the Mountain View Fire as an "energized conductor contacting the ground" and igniting cured annual grasses.[6] Liberty's facilities adjacent to the origin area identified by the fire agency report are part of the Topaz 1261 Circuit and specifically include the span between Pole 266731 (the "West Pole") and Pole 40288 (the "East Pole"), or the "Subject Span."

The Topaz 1261 Circuit originates from Topaz Substation, an NV Energy substation in Nevada, with Liberty's facilities beginning at the California-Nevada border. Liberty's portion of the circuit is monitored and protected by two remote automatic line reclosers—the 1261 R1 and 1261 R2 Reclosers. The 1261 R2 Recloser is the closest protective device to the Specific Facilities and is located approximately 2.7 miles upstream of the Subject Span. In the first quarter of 2021, the Topaz Circuit served approximately 754 customers. The mainline of the Topaz 1261 Circuit uses four-wire construction, with three phase conductors and a neutral wire. Some of the smaller branch lines of the Topaz 1261 Circuit are single-phase. The Subject Span is parallel to Highway 395, which runs east and west through the town of Walker. The West Pole is adjacent to the Andruss Motel, and the East Pole is adjacent to the Mountain View Barbeque restaurant. Additionally, a triplex service connection ran perpendicular to Highway 395 between the West Pole and a service pole in the grassy field to the north. Figure 2 shows Liberty facilities in and around where the Mountain View Fire originated.

[6] Appendix A to *Liberty-02C: Ignition*, at 21.

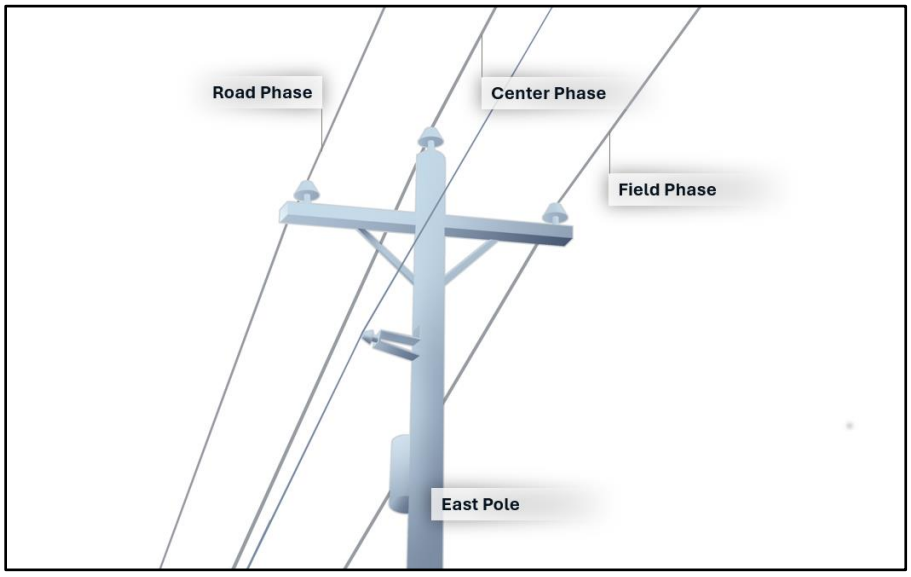
Figure 2: Liberty Facilities Near the Origin Area of the Mountain View Fire

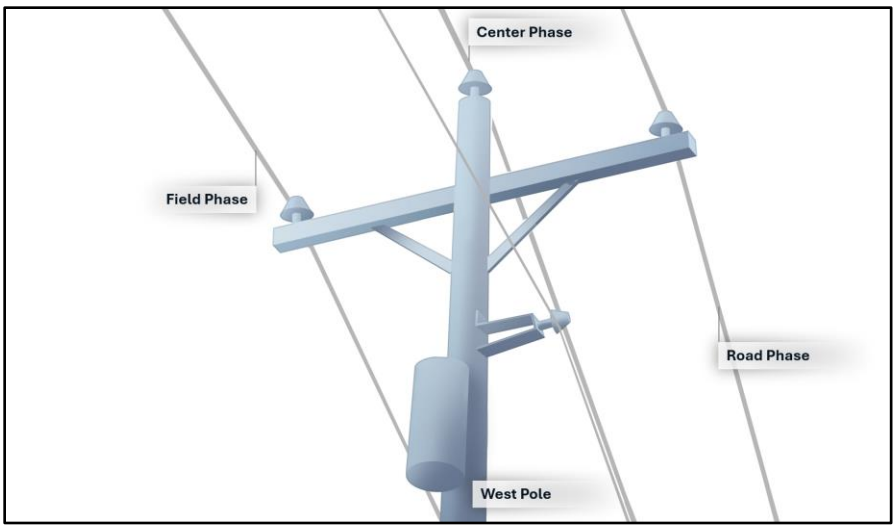


The distribution conductors on the Subject Span are arranged in a triangular crossarm configuration, with the outside phases attached to insulators mounted on crossarms and the center phase elevated and attached to an insulator mounted on the top of the poles. The neutral wire is attached to horizontal insulators mounted to the pole. The conductors on the Subject Span were #4 ACSR (Aluminum Conductor Steel Reinforced), which has a steel core surrounded by aluminum strands. Figure 3 through Figures 4 (Top) and 5 (Bottom): Simplified Graphics Illustrating Configuration of Equipment on the East and West Poles below illustrate the Subject Span and the Specific Facilities.

Figure 3: Post-Fire Image of Triangular Crossarm Configuration of 1261 Topaz Circuit Over the Origin Area of the Mountain View Fire

Figures 4 (Top) and 5 (Bottom): Simplified Graphics Illustrating Configuration of Equipment on the East and West Poles





III.

Liberty Took Steps to Mitigate Wildfire Risk

Although Liberty had not experienced a large wildfire attributed to its electrical infrastructure since taking over from Sierra Pacific in 2011, Liberty recognized the risk of wildfire in its service area and took steps to mitigate that risk. In the years preceding the Mountain View Fire, Liberty expanded its efforts in light of the increasing risk of wildfires across the State due to extreme weather and persistent drought conditions.

Liberty submitted its first Fire Prevention Plan ("FPP") in 2012, pursuant to the Commission's direction in Rulemaking (R.) 08-11-005, the fire safety rulemaking initiated after the 2007 wildfires in Southern California[7] D.12-01-032 established different FPP requirements for utilities operating in Southern California and Northern California. While FPPs were mandatory for investor-owned utilities in Southern California, they were required for investor-owned utilities in Northern California only if the utility determined, with respect to its facilities within high-fire threat areas identified in the Reax Map, that "it is reasonably foreseeable that the probability of 3-second wind gusts exceeding the maximum working stresses for such facilities during a Red Flag Warning is 3% or more during a 50-year period."[8] Liberty analyzed whether this criterion was met using data from Remote Automated Weather Stations ("RAWS") operated by the National Weather Service ("NWS"). Because the available RAWS data did not indicate whether gusts lasted three seconds or more, to promote public safety and a proactive

[7] *See* D.12-01-032, Ordering Paragraph 3, and revisions of D.17-12-024.

[8] D.12-01-032, Ordering Paragraph 3.v.

approach, Liberty assumed that all maximum gusts met the criterion and determined that an FPP was needed for its facilities located within Threat Zones 3 and 4 of the Reax Map.

As noted in Resolution E-4576, Liberty's first FPP identified several programs and procedures aimed at reducing wildfire risk in the relevant high fire threat areas.[9] These included proactive measures during Red Flag conditions, such as patrols of circuits in high-fire areas if wind gusts at peak elevations exceeded 76.5 mph, operational counter measures such as putting reclosers on "fire settings," pausing discretionary maintenance and vegetation management activities, and de-energizing circuits only if no customer required service and the Commission approved an application to do so.

Following implementation of Senate Bill 901 ("SB 901"), which expanded requirements for all utilities to submit a Wildfire Mitigation Plan ("WMP"), Liberty submitted its first WMP in February 2019. In February 2020, Liberty submitted its Revised 2020 Wildfire Mitigation Plan ("2020 WMP"), which the Commission conditionally ratified in June 2020.[10] Liberty's 2020 WMP built upon its 2019 WMP, as well as the plans of other California utilities, and reflected guidance from the Commission. The 2020 WMP allocated $40 million in capital investments for wildfire mitigation-focused asset management and inspection initiatives, system hardening projects, operational practices, and situational awareness tools, as summarized below.

Asset Management and Inspections. Liberty's 2020 WMP outlined goals for its asset management and inspection programs, including conducting the detailed system-wide asset survey described in Section V.A.2 below, upgrading its inspection program to a digital format, continuing its intrusive pole inspection program, and piloting a LiDAR inspection of its distribution system.

Grid Design and System Hardening. Liberty's 2020 WMP committed significant resources to hardening its system, such as installing covered conductor, replacing and upgrading distribution poles, replacing expulsion fuses, investing in grid topology, further deploying system automation equipment, undergrounding certain lines, removing tree attachments, installing larger size conductor under its wire upgrade program, and conducting upgrades and repairs in light of the system-wide asset survey.

Situational Awareness. Liberty's WMP included significant measures to enhance situational awareness. These tools included installing weather stations, developing a Fire Potential Index ("FPI") that uses sophisticated modeling to forecast the level of wildfire risk, increasing deployment of

---

[9] Resolution E-4576 (May 24, 2013), at 5-6.

[10] *See* Resolution WSD-007 (Jun. 19, 2020).

monitoring sensors and SCADA-enabled devices including reclosers, and additional monitoring of lines and equipment in elevated fire risk conditions.

Vegetation Management and Inspections. Liberty's WMP focused on its efforts to increase the frequency of vegetation management inspections, conduct detailed inspections and remediation of vegetation to support compliance with clearance requirements, reduce strike potential posed by hazard trees, remove dead and dying trees in high tree mortality areas, and manage fuels. Liberty also planned to develop a formal quality assurance program and to pilot LiDAR inspections of vegetation clearance around poles and conductors.

System Operations and Protocols. Liberty's 2020 WMP outlined its plans to replace older reclosers and the restrictions it places on non-wildfire mitigation work on elevated fire risk days, such as designating a fire safety monitor in each work crew, reviewing daily fire risk ratings, and limiting or refraining from activities such as the use of chainsaws, weed eaters, blasting welding, pole setting, and removal, and replacing conductors off-road or on unimproved roads. The WMP also outlined Liberty's PSPS protocol, based on a newly-developed predictive tool supported by a third-party fire science and risk modeling expert firm engaged by Liberty.

Emergency Planning and Preparedness. Liberty's 2020 WMP focused on enhancing its emergency preparedness and emergency management capabilities. To that end, the WMP described Liberty's plans to hire additional personnel to manage emergency response activities, public safety partnerships, and fire mitigation initiatives and associated training, audit, and outreach.[11] Liberty also planned to conduct emergency response exercises and workshops with local communities and public safety partners regarding wildfire mitigation, emergency planning, and response coordination.

Liberty made significant progress implementing the measures outlined in its 2020 WMP. In a report issued at the end of 2022, the Office of Energy Infrastructure Safety ("OEIS") concluded that Liberty substantially complied with its 2020 WMP and met most of the WMP's quantitative and qualitative targets.[12] OEIS reviewed 45 of 79 initiatives outlined in the 2020 WMP. Of those, OEIS found that Liberty missed five quantitative targets and two qualitative targets. For two of the missed targets, OEIS found that Liberty had achieved more than 95 percent completion.[13] OEIS determined

---

[11] In 2020, Liberty hired an Emergency Manager and Fire Protection Specialist.

[12] *See* Office of Energy Infrastructure Safety, *Annual Report on Compliance*, Liberty Utilities' 2020 Wildfire Mitigation Plan, Dec. 2022.

[13] *Id.*

that the missed targets "did not have direct impact on ignition risks on Liberty's system" or "significantly hinder Liberty's ability to mitigate its wildfire risk."[14] OEIS noted that Liberty's performance metrics showed a decrease in ignitions, wire down events, and outages compared to previous years. OEIS also conducted 63 safety inspections and found only four deficiencies, all of which were timely resolved by Liberty.

IV.

Liberty Designed and Constructed Its Facilities to Support Safe and Reliable Operation

Liberty's design and construction standards support its core mission of providing safe and reliable electric service to its customers at reasonable rates. In the years preceding the Mountain View Fire, Liberty designed and constructed its electric system in accordance with GO 95 standards, including conductor clearance and spacing requirements, as well as pole strength and loading requirements. While Liberty acquired the utility system from NV Energy in 2011 and did not originally design and construct the facilities, over time Liberty was working to upgrade, rebuild, and update its system. Liberty focused on system modernization and hardening, including installing covered conductor, identifying and replacing nonexempt hardware (per Cal Fire) including expulsion fuses, removing tree attachments, and deploying additional SCADA-enabled circuit breakers and reclosers. In addition to supporting compliance with regulatory requirements, Liberty recognized that these initiatives would reduce the risk of ignition posed by its overhead electrical equipment. To that end, at the time of the fire, Liberty was proactively rebuilding the Topaz 1261 Circuit (referred to as the "Topaz Line Rebuild Project"). While the Specific Facilities had not yet been rebuilt, they had a triangular crossarm configuration that allowed for greater spacing and clearances between conductors than flat-top configurations with all phases supported by horizontal crossarms.

A. Liberty Designed and Constructed its Electric System to Comply With Regulatory Requirements and to Reduce Wildfire Risk

Design and construction of Liberty's overhead distribution system is governed by Liberty's Overhead Electric Standards. Liberty's Standards Committee has met periodically since acquisition of the facilities to review and evaluate the governing standards. Liberty uses both in-house and outside engineers to support the design and construction of utility facilities.

---

[14] *Id.* at 51.

Liberty's design and construction standards conform to the requirements of GO 95. Given the location of its service area, Liberty's Overhead Electric Standards are designed to comply with GO 95's heavy loading requirements. Liberty's standard for new construction of 4-wire overhead distribution facilities at 12.47 kV provides for a minimum of 8-foot, and in most instances 10-foot, crossarms. Conductor clearances mandated by GO 95 are built into Liberty's design standards, along with additional clearance for long spans, deflections by the wind, sag from ice or snow, and elevations above 3,000 feet. Clearance standards are required to be met under all expected operating conditions, including sag from operating load, ice, and wind loading. In some instances Liberty used line spacers to mitigate the potential for line contact at the discretion of field personnel.

The Specific Facilities' conductor clearances at the West Pole were consistent with Liberty's standards and exceeded GO 95 requirements. As noted above, the triangular crossarm configuration provided increased separation between the phase conductors, as well as the neutral wire. The center phase conductor was mounted to an insulator attached to the top of the East and West Poles, while the outer phase conductors were attached to insulators mounted at either end of 8-foot crossarms. Triangular crossarm construction remains consistent with Liberty's Overhead Electric Standards.[15] For this type of construction on distribution facilities, GO 95 mandates a minimum horizontal separation of 17.5 inches between conductors, with the elevated center phase having a vertical separation at least equal to the pin spacing for the voltage class (*i.e.*, 17.5 inches).[16] Post-fire measurements recorded radial clearances of 54 inches between center and road and field phases at the West Pole. Liberty's standards for both poles utilized 8-foot cross arms, with insulators mounted at pre-fabricated through-holes approximately four inches from either end of the crossarms. Based on these dimensions and configuration, the calculated horizontal and vertical clearances at the East and West Poles exceeded GO 95's requirements.

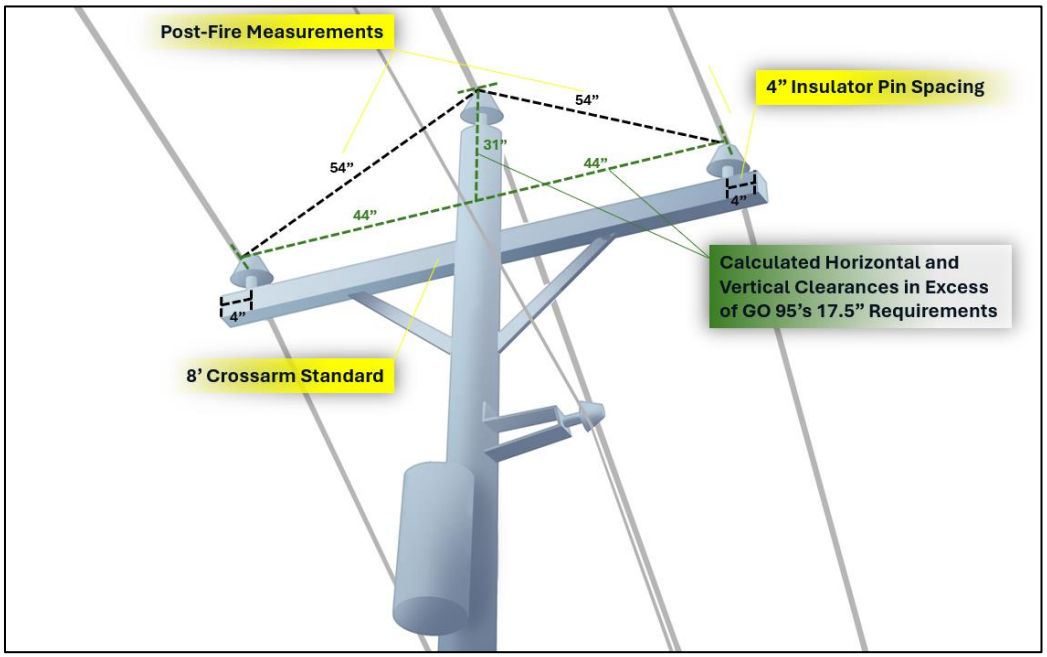
---

[15] For new construction, triangular crossarm construction is typically implemented with 10-foot fiberglass crossarms and extended spacing to satisfy avian protection requirements.

[16] *See* GO 95, Rule 54.4(C)(1)(c) ("When crossarms are used to support conductors of the same circuit at different levels (as in triangular or vertical configuration), the crossarms may be arranged so that the vertical separation of the conductors of the same circuit shall not be less than the pin spacings of Table 2, Case 15."); *id.*, Rule 38, Table 2, Case 15.

Figures 6 (Left) and 7 (Right): Post-Fire Conductor Radial Clearance Measurements at West Pole[17]

Figure 8: Annotated Demonstration of Measured Radial and Calculated Horizontal and Vertical Conductor Clearances



Liberty's overhead electric distribution system is supported by more than 22,000 poles across its service area. These poles range in age from newly installed poles to legacy poles installed by Sierra

[17] Distance of 54 inches between the center and road phase conductors (left photograph) and between center and field phase conductors (right photograph).

Pacific. GO 95 requires that utility poles meet specified "safety factors," *i.e.*, design criteria to accommodate the structural load exerted by wind, ice, and the weight of attached facilities. The calculation of these safety factors is referred to as "pole loading." Liberty performs pole loading calculations through its industry-standard "O-Calc" software on all poles that are being replaced, or have an increase in loading from proposed new attachments, including covered conductor upgrades, consistent with GO 95 and Liberty's "Wood Pole Loading Criteria" standard. The number, size, height (*i.e.* ground clearances) requirements, wind loading, and dead-ending tension of conductors supported by a pole were the primary factors Liberty used to assess pole strength requirements. Liberty designed and constructed poles to meet GO 95's heavy loading standard. Higher class poles were also required for unusually long spans, heavy conductor loads, or heavy equipment installation.

In the years preceding the Mountain View Fire, Liberty also undertook system hardening initiatives aimed at wildfire mitigation, safety, and reliability. For instance, over time Liberty was upgrading and hardening its legacy Sierra Pacific distribution facilities by widening crossarms to increase conductor spacing and upgrading and installing additional poles to make the facilities more resilient and to reduce span lengths. Liberty began installing covered conductor on certain distribution circuits traversing HFTDs. Liberty also initiated a multi-year program to replace expulsion fuses in its service area to further reduce ignition risk. Specifically, Liberty has been replacing conventional fuses that can expel hot particles with non-expulsion fuse types to reduce ignition risk. Liberty prioritized replacement of transformer fusing before turning to tap/lateral fusing to coordinate its system protection schemes.

Liberty undertook the 7300 Line Rebuild project, which involved replacing approximately 15,000 feet of overhead lines with covered conductors near Tahoe City. Likewise, as discussed in more detail below, Liberty undertook the Topaz Line Rebuild Project. When installing covered conductor, Liberty performs pole loading calculations to confirm safety factors and upgrades poles as necessary to appropriately support covered conductor, which is heavier than bare conductor. Another important system hardening initiative was construction of the Sagehen microgrid to serve a research facility run by the University of California, Berkeley. The purpose of this project was to enable Liberty to de-energize during fire season a three-mile distribution line that traverses a high-fire area to serve this single facility. Liberty's 2019 GRC committed $84 million in capital expenditures on system hardening and other initiatives targeting safety and reliability over the rate case period. Several of these projects focused on circuits in areas with exposure to extreme weather conditions, including the Topaz 1261 Circuit.

B. Liberty Was Proactively Rebuilding the Topaz 1261 Circuit to Account for Local Conditions and Mitigate Wildfire Risk

Liberty prioritized the Topaz 1261 Circuit for system hardening because of its location within a Tier 2 HFTD and its exposure to harsh weather conditions. As Liberty explained in its 2019 GRC, the Topaz 1261 Circuit was identified based on its history of more frequent outages, and the rebuild project would improve reliability and "mitigate the risk of fires sparked from downed wires on the circuit."[18] This was a multi-year project and the original design specified upgrading overhead lines from existing #4 ACSR conductor to #2 ACSR conductor. #2 ACSR conductor is larger in diameter, stronger, and able to carry more load. Later phases involved installation of covered conductor. Covered conductor has a protective sheath that protects the conductor from risks associated with contact by animals, vegetation, another line, or the ground, thereby significantly reducing the risk of ignition. The covering also helps protect the equipment from severe winds and extreme cold. Other utilities in California were similarly just beginning to deploy expanded covered conductor programs through distribution reconductoring projects aimed at reducing wildfire risk. The Commission approved the Topaz Line Rebuild Project and scope in D.20-08-030, stating "We find it reasonable to approve the project for it adds to Liberty's system reliability, wildfire risk mitigation, and a stronger circuit system. Costs are approved for this project from 2019 through 2021."[19]

Because of its scale and cost, the Topaz Line Rebuild Project was designed and executed as a multi-phase, multi-year project to minimize the rate impact on customers and support manageable execution by the utility. The project increased wire size, replaced uninsulated wire with covered conductor, and upgraded poles based on GO 95 "heavy" loading standards. Liberty engaged contractors to support design, planning, and execution of the reconductoring project.

The first phase of the project began with Liberty's facilities near the California-Nevada border and closest to NV Energy's Topaz Substation. Phases progressed along the circuit, with the final phase to cover the end of the circuit. In 2020, Liberty completed a total of 3.17 miles of covered conductor replacement and at the time of the Mountain View fire Liberty was in the middle of executing phase five of the project. Indeed, on the morning of the fire, Liberty personnel and contractors were actively working on reconductoring a portion of the circuit approximately one mile northwest of the Specific

---

[18] D.20-08-030 at 12 ("Topaz Line Rebuild Project").

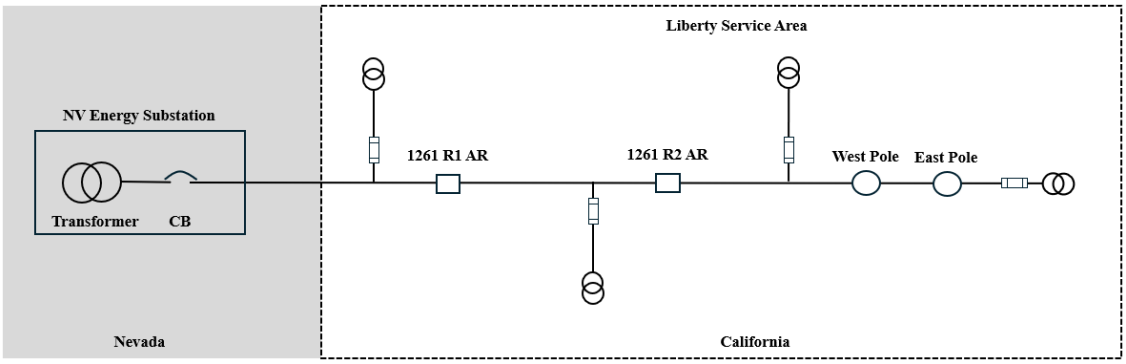
[19] *Id.* at 12-13 (discussing the "Topaz Line Rebuild Project").

Facilities. The Specific Facilities were located near the end of the mainline of the Topaz 1261 Circuit and were part of phase six of the project. Phase six encompassed the last approximately 1.5 miles of the circuit and was completed in 2022.[20]

C. Liberty Deployed Protection Devices to Detect and Respond to Fault Conditions on Its Distribution System

Like other electric utilities, Liberty deploys protection devices to monitor activity on its system and quickly detect and respond to fault conditions that arise. Protection devices on distribution lines include circuit breakers and relays at substations, line reclosers installed on the circuit, and overhead fuses for branch line [and end-of line] protection. These protection devices are designed to work together in a coordinated manner to detect and interrupt fault conditions that occur downstream of their locations, by operating to isolate and de-energize the line section(s) experiencing a fault. Fuses closer to the ends of distribution lines or line segments reduce fault duration and total fault energy, which reduces ignition risk and the potential for conductor damage.

Figure 9: Simplified Illustration of Protection Coordination for the 1261 Topaz Circuit



Liberty was upgrading its system protection devices over time, increasing system automation and installing SCADA-enabled devices including reclosers. In November 2020, Liberty had two remote automatic reclosers on the Topaz 1261 Circuit, the 1261 R1 Recloser and 1261 R2 Recloser.[21] Liberty had recently upgraded both devices to replace aging, oil-filled, models with more modern, SCADA-

[20] The request for proposal (RFP) process for phase six was initiated during the early months of 2021, and construction on phase six was completed in 2022.

[21] As described above, the Topaz 1261 Circuit originated at NV Energy's Topaz Substation and was protected at that end by a substation recloser owned by NV Energy.

capable devices. Specifically, Liberty upgraded the 1261 R1 Recloser in 2015 and the 1261 R2 Recloser around March 2020, installing G&W Viper-S reclosers and Schweitzer Engineering Laboratories controllers.[22] Both reclosers could be remotely controlled, meaning Liberty's system control had the ability to remotely select the operating mode and enable or disable hot line tagging. The 1261 R2 Recloser was located approximately 2.8 miles upstream (or source-side) of the Subject Span.

Protection device settings determine how they will operate. Specifically, the settings determine the magnitude and duration of fault current required for the device to operate and de-energize a line. Liberty developed multiple settings to address different situations, including "normal" and "fire mode" conditions. The settings for the 1261 R1 Recloser and 1261 R2 Recloser were designed to coordinate with each other and with NV Energy's system protection at its Nevada substation.

As set forth in *Liberty-02* and discussed further in Section VI.B.3 below, Liberty's protection devices in the area of the Mountain View Fire ignition operated as expected on November 17, 2020.

V.

Liberty Inspected and Maintained Its Facilities Pursuant to Comprehensive Inspection and Maintenance Programs

In 2020, Liberty had comprehensive inspection and maintenance programs for its electric facilities that conformed to Commission regulations. These programs included patrols and detailed inspections of overhead lines, intrusive pole inspections, and substation inspections. Liberty's inspection and maintenance programs mitigated the risk of ignition from electrical infrastructure by identifying and repairing deteriorating equipment and other potential safety hazards in the field. The Specific Facilities were inspected numerous times in the years preceding the Mountain View Fire, and there were no past due repairs at the time of the fire. Liberty also had robust vegetation management programs that mitigated the potential for vegetation to grow or fall into overhead lines and addressed vegetation around poles consistent with regulatory requirements. Given that large parts of Liberty's service area are mountainous, densely-forested, and remote, these programs played a vital role in reducing the risk of ignition posed by vegetation growth near Liberty's overhead electric equipment.

[22] An SEL-351 R2 controller was installed for the 1261 R1 Recloser and an SEL-651 RA controller for the 1261 R2 Recloser.

A. Liberty Inspected Its Overhead Facilities in Accordance With Regulatory Requirements

1. Liberty's Routine Patrols and Detailed Inspections Pursuant to GO 165

GO 165 governs inspection cycles for electric distribution facilities. As set forth in GO 165, a patrol inspection is a "a simple visual inspection, of applicable utility equipment and structures, that is designed to identify obvious structural problems and hazards," which may be conducted "in the course of other company business." Prior to 2019, Liberty performed patrols of overhead lines in rural areas every two years, consistent with GO 165.[23] Depending on the terrain and accessibility of lines, Liberty typically performed these patrols by vehicle or helicopter. As part of the fire safety rulemaking, the Commission updated the frequency of patrols for rural areas in Tier 2 and Tier 3 HFTDs, giving utilities until September 1, 2018 and June 30, 2019 to update their procedures for Tier 3 and Tier 2 HFTDs, respectively.[24] Since performing its detailed systemwide asset survey in 2020, Liberty has performed annual patrols of all overhead lines which are not subject to a detailed inspection in any given year.[25] For patrol inspections, inspectors used hard-copy circuit maps, which they highlighted, dated, and initialed as they completed their patrols.

Liberty also performed detailed inspections of poles, conductors, and other overhead equipment such as pad-mounted transformers, regulators, capacitors, and switching and protective devices.[26] GO 165 defines a "detailed inspection" as an inspection "where individual pieces of equipment and structures are carefully examined, visually and through use of routine diagnostic test, as appropriate, and (if practical and if useful information can be so gathered) opened, and the condition of each rated and recorded."[27] Liberty inspected approximately 20

---

[23] Per GO 165, III.A (Definitions), a "rural" area is defined as "those areas with a population of less than 1,000 persons per square mile" as determined by the census bureau. The Mountain View Fire ignited in the Walker Census Designated Place (CDP), which is a "rural" area for purposes of GO 165.

[24] D.17-12-024 at 154-155 (OP 4).

[25] Liberty does not have a separate inspection and patrol program for its transmission lines. Patrols and inspections on overhead transmissions equipment follow the same procedures and are considered part of the same program as patrols and inspections for distribution facilities.

[26] Liberty's procedures prescribed detailed inspections of all submersible transformers and switches every three years, in accordance with GO 165 requirements.

[27] GO 165, III.A(4).

percent of the system annually, meaning that overhead electrical equipment was subject to detailed inspection on a five-year cycle, in line with GO 165 requirements.

Liberty utilized experienced system inspectors and qualified contractors to perform patrols and detailed inspections of its electrical facilities. Inspectors, regardless of whether they were employees or contractors, were certified journeyman linemen. During detailed inspections, inspectors viewed the poles, conductors, and secondary lines from the ground with binoculars, looking for potential safety hazards and issues that could cause service disruptions. The inspectors checked that associated equipment such as transformers, regulators, capacitors, and switching and protective devices were in good condition, that conductors had good clearances, and that facilities were otherwise consistent with Liberty's standards.

Prior to mid-2020, inspectors recorded the results of detailed inspections on paper forms and, if a pole failed inspection, flagged "condition codes" and other infractions on their checklist to identify the specific condition to be remediated, as well as the priority level for repairs. In 2020, Liberty transitioned from hard-copy detailed inspection forms to digital data collection to improve the efficiency and effectiveness of its process. Pursuant to the new process, inspectors recorded detailed inspection data using a questionnaire in Fulcrum, a field data collection and process management software tool. Through Fulcrum, linemen also began to take photographs to document the condition of the pole, conductors, and other equipment.

Conditions identified for remediation by inspectors during patrols and inspections were entered into a database. A physical work order packet was then created and given to a foreman or the engineering team, depending on the type of repair or replacement.[28] Each identified condition was assigned a priority level consistent with GO 95's definition of safety and/or reliability risk.[29] Liberty's repair timelines for conditions identified through inspections were consistent with GO 95 requirements. Once repairs were completed, the paper packet was dated, signed, and returned to be documented in the database.

---

[28] Today, work orders are generated in SAP and sent to an assigned employee using a work order management software.

[29] According to GO 95, Level 1 findings are those with an immediate safety and/or reliability risk with high probability for significant impact. Level 2 findings are those with a variable (non-immediate high to low) safety and/or reliability risk. And Level 3 findings are those with an acceptable safety and/or reliability risk.

The Specific Facilities were subject to several patrols in the years prior to the Mountain View Fire. Liberty located patrol maps for the Topaz Circuit for patrols conducted in January 2013, April 2015, and November 2017.[30] No findings were identified for the Specific Facilities during these patrols. In May 2020, the Specific Facilities were subject to detailed inspection by an experienced Liberty journeymen lineman, as part of Liberty's detailed survey of overhead equipment (described in more detail below). The West Pole was inspected on May 6, 2020, and no conditions were identified. The East Pole was inspected on May 6, 2020, and the inspector identified a piece of idle hardware as a Level 3 repair, meaning the condition had to be remediated or reinspected within five years.[31] Both poles were ultimately replaced in 2022 as part of the Topaz Line Rebuild Project, described in detail in Part IV.B. Figure 10 summarizes the detailed inspections of the Specific Facilities in the years preceding the fire:

Figure 10: Table Summarizing Recent Detailed Inspections of the Specific Facilities

	East Pole (Pole 40288)	West Pole (Pole 266731)
Date of Last Detailed Inspection Before Fire	May 6, 2020	May 6, 2020
Findings from Last Detailed Inspection	Condition identified: idle hardware described as "insulator pin on secondary arm, road side" (Level 3 priority)	None
Previous Detailed Inspections	December 21, 2016 (No findings) June 30, 2011 (No findings)	December 20, 2016 (No findings) April 26, 2011 (Conditions identified: "Bolt Covers" and "Guys / Guards Broken / Loose")

[30] Liberty reported in its GO 165 annual reports for 2018-2020 that it completed patrols on all of its circuits in each of those years (54 circuits in 2018 and 55 circuits in 2019 and 2020). Liberty has not located further documentation confirming a patrol of the Specific Facilities between November 2017 and May 2020, when they were subject to a detailed inspection as described herein.

[31] The inspector reported the idle hardware as an "insulator pin on secondary arm, road side." Idle hardware is hardware deemed unnecessary to support the then-current facilities. The idle insulator pin did not pose a safety hazard and was identified as a Level 3 repair.

2. Liberty's Detailed and Comprehensive Systemwide Asset Survey in 2020

In 2020, Liberty deployed Liberty's journeymen linemen and engaged a contractor to perform an asset survey and detailed inspection of all overhead distribution and transmission assets. This survey included detailed visual inspections of the condition of conductors, poles, and other overhead equipment, regardless of when the equipment had last been inspected. Liberty performed this survey to update its inventory for accuracy via photographs and GPS coordinate data, to assess the condition of its assets, to plan remediation projects, and to better assess risks in its electric system. An equipment database was created to store the asset information. During this survey, Liberty performed more than 22,000 detailed inspections of overhead assets and identified a substantial number of GO 95 repairs.

B. Liberty's Intrusive Pole Inspection Program Exceeded Regulatory Requirements

Liberty performed intrusive inspections on all wood poles on a ten-year cycle, including wood poles that had previously passed intrusive inspections.[32] Liberty used a qualified contractor to perform intrusive pole inspections. During these inspections, the contractor excavated around the base of the pole and performed tests on certain poles (*e.g.*, the sound and bore test). If necessary, poles were treated with preservative paste or liquid, or fumigant. Poles determined to be weakened based on shell thickness measurements were either reinforced or replaced. These inspections and treatments ensured the structural integrity of poles and reduced the risk of pole failure. In 2020, Liberty performed intrusive inspections on approximately 3,000 poles.

At the time of the Mountain View Fire, both the West and East Poles had been inspected consistent with Liberty's ten-year inspection cycle. The West Pole was last subjected to an intrusive pole inspection on July 30, 2013. The East Pole was last subjected to an intrusive pole inspection on July 16, 2013. Liberty's records indicate the contractor performed a sound and bore test on and applied fumigant to both poles.

C. Liberty Inspected Its Substations Consistent With Regulatory Requirements

Liberty inspected its substations in accordance with regulatory requirements. As described in its Substation Inspection Plan, Liberty performed quarterly inspections for eleven substations that were

[32] This exceeded the GO 165 requirement of 20 years for wood poles that had previously passed intrusive inspections.

accessible year-round and annual inspections for two substations (Hobart and Stampede) that were not accessible for daily operations. These substation inspections were performed by qualified operators and technicians, who recorded the results of their inspections in a Substation Inspection Report. These substation inspections reduced the risk that equipment failure at a substation could create safety hazards. In 2020, Liberty performed a total of 44 substation inspections on its then-existing 13 substations, with only two that were past due.

D. Liberty's Vegetation Management Programs Mitigated the Risk of Ignition Posed By Vegetation Near Liberty's Overhead Lines

In the years prior to the Mountain View Fire, Liberty had robust vegetation management programs which supported compliance with vegetation management regulations, including GO 95, Rule 35 and Public Resources Code ("PRC") sections 4292 and 4293, and reduced ignition risk.

1. Routine Vegetation Inspections

At the time of the Mountain View Fire, Liberty's routine vegetation management program was detailed in the company's Vegetation Management Plan, which established processes and procedures aimed at preventing vegetation encroachments into regulatory clearance zones, identifying, documenting, and mitigating hazard trees, and prescribing mitigation work.[33]

Liberty used qualified and experienced contractors to perform vegetation management inspections. These contractors were required to be ISA Certified Arborists, state-licensed Registered Professional Foresters, or to otherwise have a minimum of five years' experience in forestry, arboriculture, or horticulture. Vegetation management inspections were generally performed by completing a Level 2: Basic Assessment per ANSI A300 (Part 9) Tree Risk Assessment.[34] During a Level 2 assessment, inspectors carefully examined each tree and its surrounding site by walking around the tree, if there were no customer refusal or access issues. When inspectors assessed vegetation that may encroach on a line, they considered the movement of conductors, the movement of vegetation, and the interrelationships between growth rates,

---

[33] At the time, the company was also in the process of developing specialized policies for different vegetation management functions, which were implemented in 2021. For instance, Liberty developed additional volumes focused on hazard trees, post-work verification, customer refusals, etc.

[34] A300 (Part 9) is a set of voluntary national standards and standard practices for Tree, Shrub, and Other Woody Plant Management, established by the American National Standards Institute.

control methods, and inspection frequency. If a tree was determined to have the potential to grow into the clearance distances, or fall into Liberty's facilities, within Liberty's maintenance cycle, inspectors would prescribe mitigation work. For distribution lines, trees were generally pruned to a clearance distance of 12-15 feet from Liberty's overhead lines at the time of mitigation, depending on the growth rate of the trees. If a tree was deemed to be a fall-in risk, it would be removed. By 2019, over 10,000 trees were identified annually for mitigation work.[35]

In the years prior to the Mountain View Fire, Liberty prioritized vegetation management inspections on circuits based on the number of years since the last tree trim, fire risk, circuit outage history, and operating budget. As of 2017 and years prior, Liberty's vegetation management program focused on annual planning, rather than long-term, multi-year planning, and the average number of miles completed each year equated to a vegetation maintenance cycle in excess of 7 years. Recognizing the need to implement improvements to further mitigate the risk of wildfires, Liberty engaged an experienced vegetation management specialist in 2017 to comprehensively review Liberty's vegetation management program and identify an optimum strategy. As a result of this comprehensive review, Liberty requested and received approval in its 2019 GRC for an annual budget of $3.98 million to move to a three-year cycle of vegetation management, a substantial increase in funding compared to previous rate cycles.[36] In 2019, Liberty performed detailed inspections of vegetation along approximately 219 line miles of its overhead electrical lines and equipment, a substantial increase over prior years. In 2020, Liberty exceeded its three-year cycle goal by performing detailed vegetation inspections on approximately 233 line miles.

Liberty managed its tree work inventories and workloads through the Vegetation Management System (VMS) database. This database tracked circuit inspections, notification and tree work progress, provided work orders, and retained historical inspection and tree work data. A tree was added to Liberty's inventory if it was identified as requiring mitigation work. Each tree was assigned its own tree identification number, which could be used to generate new

---

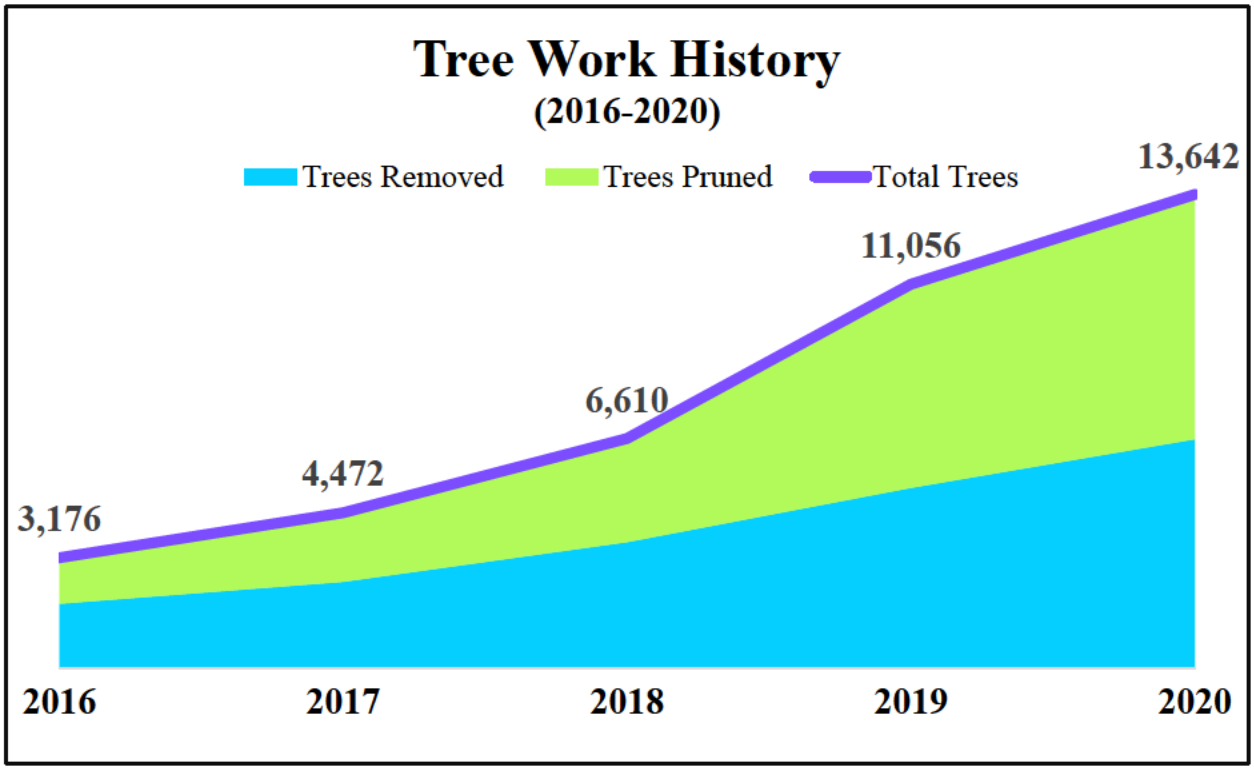
[35] *See* Figure 11 for the total number of trees pruned and removed between 2016-2020. This number includes trees pruned and removed after routine vegetation management inspections and after Liberty's tree mortality patrol inspections, a wildfire mitigation-focused program started at the end of 2017, which is described in more detail below.

[36] *See* D-20.08.030 at 52-54.

inspection records and work orders. Each tree also was assigned a status to track notifications, project progress, and tree work completion. The database retained records for trees that had been identified as hazard trees and removed.

With respect to the Specific Facilities, records show that a pine tree near the West Pole was pruned on March 17, 2017 to meet Liberty's internal 12-foot clearance requirements.

Figure 11: Number of Trees Pruned and Removed by Liberty (2016-2020)



2. Additional Vegetation Management Programs Focused on Wildfire Mitigation

In addition to its routine vegetation management program focused on regulatory compliance, Liberty recognized the need for additional vegetation management inspections and remediation work specifically aimed at reducing wildfire ignition risk. To that end, Liberty inspected the approximately 50 miles of overhead facilities within Tier 3 HFTDs in 2020. Starting in 2021, Liberty replaced these wildfire mitigation-focused vegetation inspections in high fire areas with more comprehensive and efficient annual systemwide LiDAR scans, described in more detail below in Part V.D.4.

Liberty implemented a program—the Tree Mortality Removal Project—to inspect for dead and dying trees throughout its system under its Catastrophic Event Memorandum Account ("CEMA"). Beginning in 2014-15, California saw an exponential increase in tree mortality rates due to persistent drought conditions and bark beetle infestations. Because Liberty's service area contains large swaths of densely-forested areas, including in priority counties identified by the State's Tree Mortality Task Force (El Dorado and Placer Counties), Liberty initiated a program at the end of 2017 to identify and remove dead and dying trees that could pose a fall-in risk or serve as fuel sources for wildfires. During these tree mortality patrols, inspectors conducted Level 1: Limited Visual Assessments per ANSI A300 (Part 9) Tree Risk Assessment from the ground, a vehicle, or by air, depending on terrain, type of infrastructure, and tree type. Inspectors assessed the side of the trees facing the electric facilities for obvious defects. If a condition was identified that could not be sufficiently evaluated based on a Level 1 assessment, a Level 2 assessment was conducted.

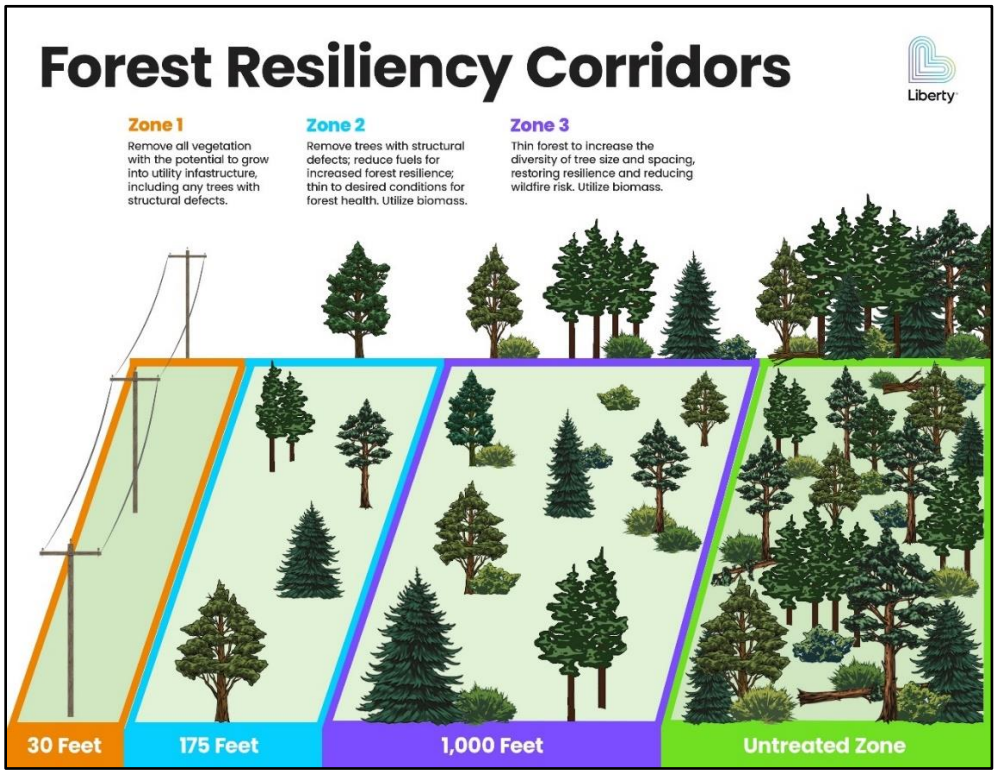
Liberty prioritized tree mortality patrols in parts of its service area where it was aware of high levels of tree mortality and generally planned for these patrols to take place around the middle of its routine vegetation inspection cycles to maximize their impact. Liberty patrolled approximately 164 line miles in 2019 and 331 line miles in 2020. As a result of these tree mortality patrols, Liberty removed 1,539 trees in 2019 and 2,038 trees in 2020. Recognizing an ongoing need for off-cycle tree mortality patrols, as of the 2022 GRC cycle, Liberty incorporated these patrols into its operation and management expenses and no longer tracks the program's costs in its CEMA.

Liberty cleared slash and debris from its vegetation management work. Vegetation left behind from mitigation work, if left untreated, could become a fuel source and present an infestation risk. Liberty's VMP required that any slash measuring less than four inches in diameter must be chipped if it was in a residential area accessible by roads and lopped and scattered in a non-continuous manner outside the utility's right-of-way in a rural or forested area not accessible by road. In 2020, Liberty completed several projects focused on fuel management and reduction of slash, including three community fuel reduction projects in Truckee and South Lake Tahoe and on parcels owned by the California Tahoe Conservancy, where recent vegetation management activities had taken place. Liberty also identified two substations—Squaw Valley and Meyers—for fuel management and slash reduction work. Liberty inspected vegetation

adjacent to the substations, removed hazard trees that had the potential to impact substation facilities, and cleared dead brush, branches, and debris and slash around the substation.

Liberty collaborated with partner organizations—including California State Parks, Lake Tahoe Basin Management Unit, Tahoe National Forest, California Tahoe Conservancy, and Tahoe Fire and Fuels Team—to conduct comprehensive multi-jurisdictional forest resiliency and fuel reduction treatments surrounding critical community infrastructure. The project was approved in October 2019 and granted a categorical exemption from documentation in an Environmental Assessment or Environmental Impact Statement. In 2020, Liberty began to implement its first Forest Resiliency Corridor project, consisting of 55 miles of Liberty power lines on ~7,600 acres of lands managed by the Lake Tahoe Basin Management Unit and the Tahoe National Forest. The project enacted three treatment zones around utility rights-of-way that go above and beyond maintaining compliance obligations (*see* Figure 12). This first resiliency corridor was implemented on the 625 60 kV Kings Beach-Tahoe City transmission line and resulted in the removal of hazardous trees and other vegetation.

Figure 12: Treatment Zones Around a Forest Resiliency Corridor



3. Emergent Vegetation Management Work

In addition to its compliance- and wildfire mitigation-based vegetation work, Liberty responded to vegetation management needs identified outside of its vegetation inspections. For example, Liberty linemen could notify the vegetation management department of necessary mitigation work that they identified during patrols or detailed inspections (referred to as "Tree Tags"). Customers and local agencies could also inform Liberty of emergent vegetation management needs. When the vegetation management team received such notifications, it inspected the site and conducted remediation work as appropriate. Likewise, Liberty had vegetation management crews that stood by for emergency work, such as immediate life, property, or public safety threats posed by extreme weather or accidents.

4. 2020 LiDAR Scan

In October 2020, Liberty conducted a LiDAR scan to evaluate vegetation clearances for approximately half of its service area, including all line miles in Tier 3 HFTDs. The data collected during the LiDAR scan provided a detailed analysis of vegetation conditions and potential encroachments, allowing for quicker and more efficient inspection and remediation work. The LiDAR results also allowed Liberty's vegetation inspectors to focus more attention to identifying hazard trees that pose a fall-in risk during their routine inspections. Although the regulatory clearance distance is four feet for distribution lines, Liberty used a 1.5x safety factor and generated work orders where LiDAR results showed vegetation encroachments within six feet of conductors. After the 2020 LiDAR scan, Liberty's vegetation inspection contractor validated scan results in the field and determined that the scan accurately recorded vegetation clearance distances. Starting in 2021, Liberty has conducted system-wide LiDAR scans for vegetation clearance on an annual basis.

The October 2020 LiDAR scan covered the entire Topaz 1261 Circuit. The Subject Span was listed as "clear," meaning there was no vegetation within 12 feet of the conductors in this span.[37] Thus, the LiDAR scan showed that the Subject Span was compliant with the vegetation

[37] The LiDAR scan identified a total of four trees within 12 feet of the conductors for the adjacent spans on either side of the Subject Span; the closest tree had a specified distance to wire of 5.26 feet, which was still in excess of the 4-foot vegetation clearance requirement set forth in GO 95, Rule 35 and PRC section 4293. On February 17, 2021, Liberty trimmed two trees near the West Pole in response to LiDAR results.

clearance requirements set forth in GO 95, Rule 35 and PRC section 4293. The fire agency report affirmed that the Specific Facilities were maintained in compliance with PRC 4293.[38]

5. Pole Clearing

Liberty performed pole clearing around poles with certain types of electrical equipment that subjected them to the requirements of PRC section 4292.[39] Pole clearing was performed by qualified contractors. The scope of pole clearing included inspection and removal, within a ten-foot radius zone, of all flammable materials within eight feet of ground level, including grasses, brush vegetation, limbs and foliage of living trees, dead and desiccated vegetation, duff, litter, trash, and other debris. Fire resistant landscaping such as lawns or low growing herbaceous vegetation with irrigation, and paved surfaces were exempt from clearance requirements. Contractors conducting pole clearing were also required to report dead, diseased, or dying limbs or trees, and foliage from living trees above eight feet from ground level. Contractors also had to remove or dispose of vegetation waste materials and debris from pole clearing activities located within 100 feet of accessible roads. After completing pole clearing work, contractors were expected to place tags next to the pole number tag identifying the contractor name and year of work completed. Contractors were also expected to take before and after images of each pole.

Prior to the Mountain View Fire, the West Pole was last cleared on September 23, 2020. Figure 13 shows the before and after images of the West Pole, as documented by the contractor who completed the pole clearing work. There was no vegetation growth within a ten-foot radius of the East Pole. As shown in Figure 14, an aerial photograph taken one week after the fire show vegetation clearances around the poles, and the fire agency report affirmed the Specific Facilities were maintained in compliance with PRC 4292.[40]

---

[38] Appendix A to *Liberty-02C: Ignition*, at 17 ("Both power poles were in compliance with California Public Resource Code (PRC) Section 4292 and PRC Section 4993 [sic] requirements.").

[39] PRC 4292 and Cal. Code of Regulations Title 14 requires utilities to maintain, in mountainous, forest-covered, brush-covered, and grass-covered areas, a ten-foot radial clearance around poles and towers supporting certain electrical equipment, up to a height of eight feet.

[40] Appendix A to *Liberty-02C: Ignition*, at 17 ("Both power poles were in compliance with California Public Resource Code (PRC) Section 4292 and PRC Section 4993 [sic] requirements.").

Figure 13: Photographs of West Pole Before and After September 23, 2020 Pole Clearing

Figure 14: Photograph of Specific Facilities from November 24, 2020

6. Contractor Oversight

At the time of the Mountain View Fire, Liberty performed post-work verification and quality control audits on its contractors' vegetation management work on an annual basis. In 2020, Liberty's VMP required that a 15% random audit be performed on all contractor work. Liberty also communicated regularly with contractors to ensure that vegetation management work was being conducted in a timely and satisfactory manner. Liberty found that these random audits generally yielded good results. In 2020, Liberty performed quality control of vegetation management inspections on approximately 57 line miles. Since 2020, Liberty has developed the

Post Work Verification Procedure (VM-04), which established a formal quality assurance and quality control program based on more sophisticated sampling methodology, sample size by priority, process assessment, results evaluation, acceptable quality level and conformance level, and descriptions of post work verification.

VI.

Liberty Prudently Operated Its Electric System with a Focus on Monitoring and Mitigating Potential Ignition and Other Public Safety Risks

At the time of the Mountain View Fire, Liberty had procedures and processes designed to promote the safe operation of its electric system and to reduce the risk of ignition. Liberty's system operations center in New Hampshire monitored Liberty's system and coordinated with field personnel to address emergent conditions and other issues. Liberty developed and implemented situational awareness tools to better monitor its system for emergencies and respond to them. Liberty also had a Public Safety Power Shutoff (PSPS) protocol that balanced reducing the risk of ignition on extreme fire weather days with the public safety risks posed by power shutoffs. On the day of the fire, the protection devices on the Topaz 1261 Circuit functioned as intended, and Liberty field personnel responded promptly to issues identified by the System Operator. Liberty field personnel were on scene at the Mountain View Fire mere minutes after the fire's ignition, where they coordinated with firefighters on emergency response and to protect public safety.

A. Liberty's Control Center Continuously Monitored Liberty's Electric System and Coordinated with Local Field Personnel to Respond Promptly to System Issues

Liberty's service area is divided into two districts for electric operations, with the South Lake Tahoe District Operations serving parts of El Dorado, Mono, and Alpine Counties, and the North Lake Tahoe District Operations serving parts of Placer, Nevada, Sierra, and Plumas Counties. The two service areas are fed by different primary transmission sources and are independent control areas for distribution switching. Because of the unique independent configuration, the service areas operate as individual districts during emergencies.

From the time Liberty acquired the utility from NV Energy until early 2019, Liberty's system was operated by NV Energy's system control center. In 2018, Liberty began the process of transitioning system control to Liberty Utilities' System Control Center in New Hampshire. This process involved disconnecting remote terminal units from the NV Energy system, connecting them to Liberty's system, and conducting testing to ensure their proper functioning. Liberty field personnel were trained on

Liberty Utilities' Clearance and Control procedures, outlined in its Electric Operating Procedure.[41] By February 2019, Liberty's system operations had fully transitioned from NV Energy to Liberty Utilities' System Control Center in New Hampshire.

Liberty's system operations group in New Hampshire coordinated remotely with Liberty's field personnel in California. There was always at least one System Operator on shift monitoring Liberty's grid operations. Liberty's System Operators undergo training on fundamental principles of electric operations and practice for various clearance and control scenarios. Training consists of both formal classroom training and on-the-job training, ranging from around six months of training for operators with more experience to two years of training for an entry-level operator. At the time of the Mountain View Fire, Liberty also had an emergency dispatch group (typically between two and five individuals) on site working alongside the System Operator, to assist with dispatch functions.[42] The System Operator and dispatch team actively communicated with field personnel to address any issues that arose. During emergencies, field operations personnel could also contact the System Operator to request that reclosing functionality be turned off or disabled. The System Operator maintained an operator log of events on Liberty's system, such as device operations and non-reclose requests.

Liberty's System Control Center in New Hampshire operated under Liberty Utilities' Electric Operating Procedure, including procedures governing Clearance and Control and Re-Energization of Circuits. Generally, switching devices on a line or in a substation were not to be operated without permission from the System Operator, except in an emergency condition that endangered life or property or other limited conditions. Similarly, if a switching device was opened for any reason, closing it required permission from the System Operator.

When an outage occurred on its electric system, Liberty field personnel patrolled and visually inspected the impacted line to identify potential safety issues and report and remediate any such issues prior to re-energization. The Electric Operating Procedure included the steps to be taken by a System Operator to ensure safe re-energization of a circuit following an outage. Depending on the circumstances surrounding the outage (*e.g.*, whether there was a non-reclose assurance at the time), the

---

[41] The Clearance and Control procedures governed the activities of Liberty in California as well as New Hampshire, where Liberty Utilities (Granite State Electric) Corp. operates an electric system.

[42] At the time of the fire, this dispatch group was responsible for Liberty's electric, water, and gas systems. Since then, Liberty has split the dispatch group by utility function. Now, there are usually one to three dispatchers on-site who are dedicated to addressing outages and other emergencies on Liberty's electric system.

System Operator would investigate the cause prior to re-energizing, such as by contacting field personnel nearby, looking for evidence of a fault, or conducting a Risk Assessment that would evaluate factors such as weather conditions, time of day and location, SCADA information, potential bird, animal, or public contact with facilities, and others. The System Operator could re-energize a circuit only after a Risk Assessment and any necessary line patrols, inspections, and remediation of safety hazards were completed.

On the day of the Mountain View Fire, a System Operator was actively monitoring Liberty's electric operations, and communicated directly with field personnel about scheduled work and outages on the Topaz 1261 Circuit that day, as discussed further in Section VI.D below.

B. Liberty Implemented Operational Tools to Mitigate Wildfire Risk While Protecting Public Safety

In the years preceding the Mountain View Fire, Liberty took significant measures to enhance situational awareness to better predict and prepare for conditions of elevated wildfire risk in its service area. To that end, Liberty engaged a third-party consultant with substantial fire science and risk modeling expertise to support Liberty's development of potential mitigation strategies, craft operational mitigation tools, and support Liberty's ongoing implementation of those tools. These tools and strategies significantly enhanced Liberty's ability to forecast hazardous conditions affecting its system and to mitigate wildfire ignition risk in Liberty's operations.

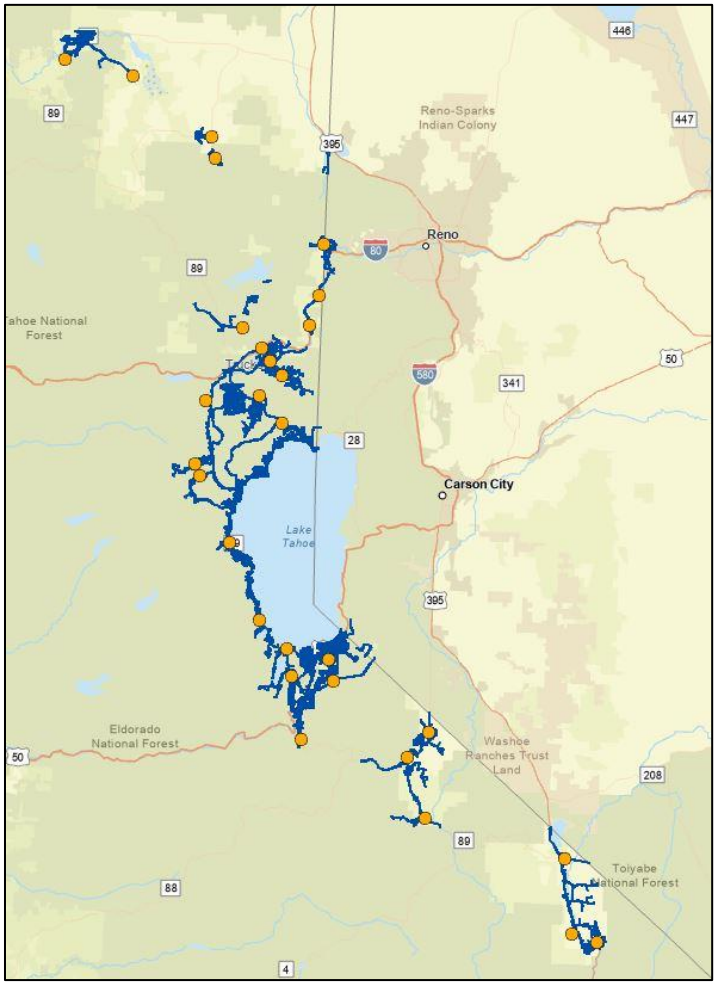
1. Enhanced Situational Awareness Tools

In 2020, with the assistance of the third-party fire science and risk modeling consultant, Liberty developed and implemented a Fire Potential Index ("FPI"), a modeling tool that reflected forecasts of fire risk calculated by the U.S. Forest Service Wildland Fire Assessment System ("WFAS") using two National Fire Danger Rating System ("NFDRS") indices—Energy Release Component ("ERC") and Burning Index ("BI"). Liberty's FPI tool provided a seven-day forecast for 11 different geographic zones across Liberty's service area, ranking fire risk conditions on a five-category scale: Low, Moderate, High, Very High, and Extreme. As set forth in its Fire Prevention Plan, Liberty used its FPI tool to guide decisions regarding operations and field work. FPI forecasts were updated daily on Liberty's fire weather dashboard and communicated to Liberty's field personnel on a daily basis. In the days preceding the Mountain View Fire, the forecast FPI for the Topaz zone ranged from "Low" to "Moderate" for November

17, 2020, indicating there was no elevated fire threat anticipated. In the updated forecast issued at 6:00 a.m. on November 17, the fire risk was identified as "Low."

To support its wildfire risk modeling and forecasting efforts and to provide high quality observational data, Liberty began installing weather stations to monitor and record ambient conditions across Liberty's service area affecting its system, including wind, humidity, fuel moisture, precipitation and other relevant information. Liberty installed a total of 29 weather stations in 2019 and 2020 prior to the Mountain View Fire. Enhanced collection of weather data helped Liberty plan for operations in anticipation of and during extreme weather events, validate its PSPS predictive tool, and provided valuable information to inform de-energization decisions in the event of a PSPS activation (see *infra* Part VI.B.2). At the time of the fire, three weather stations were active on the Topaz 1261 Circuit. Figure 15 depicts the locations of all weather stations that Liberty had installed by the end of 2020.

Figure 15: Map of All Liberty Weather Stations at the Time of the Mountain View Fire



In 2020, Liberty also utilized the ALERTahoe wildfire camera network. The network employed cameras with pan-tilt-zoom capabilities in high fire risk areas throughout Liberty's service area. These cameras provided opportunities for early detection of ignitions and visibility of the conditions on Liberty's system.

2. <u>Public Safety Power Shutoff (PSPS) Protocol</u>

At the time of the Mountain View Fire, Liberty had a PSPS protocol in place as a wildfire mitigation measure of last resort. Liberty's PSPS protocol appropriately balanced the need to reduce the risk of ignition during the most extreme and dangerous fire weather conditions against the risks to customers and the public posed by power shutoffs. This protocol was developed and refined over time, with the assistance of Liberty's fire science and risk modeling consultant.

Following the destructive 2017 wildfire season, the Commission issued Resolution ESRB-8, acknowledging that proactive de-energization "could save lives, protect property, and prevent fires."[43] Resolution ESRB-8 extended the PSPS-related requirements previously imposed on SDG&E to all investor-owned utilities and prescribed additional requirements to enhance PSPS policies and procedures. Senate Bill 901 ("SB 901") was subsequently enacted in September 2018, significantly expanding the statutory requirements for utilities to submit WMPs, including a requirement to include PSPS protocols that would govern de-energization decisions and also mitigate public safety impacts of proactive power shutoffs.

Liberty's 2019 WMP established a basic PSPS protocol that triggered proactive de-energizations based on local meteorological conditions and other risk factors such as fuel moisture and firefighting capabilities. This early version of Liberty's PSPS protocol required the utility to dispatch crews to monitor field conditions when wind speeds reached 50 mph for greater than three seconds and allowed de-energization if wind speeds exceeded that threshold and a line posed a hazard.[44] Liberty undertook an effort to substantially refine and further develop its PSPS protocol for 2020.

Liberty engaged a fire science and risk modeling consultant in 2019 to support developing a more sophisticated PSPS protocol comprising a set of criteria and guidelines for de-energization. This consultant was also supporting other utilities with similar work. Liberty's refined PSPS protocol was implemented and approved by OEIS as part of its 2020 WMP.[45] The PSPS protocol used a predictive tool to capture three fire weather components: (a) Energy Release Component ("ERC");[46] (b) wind gusts;[47] and (c) Fosberg Fire Weather Index

---

[43] Resolution ESRB-8 (July 16, 2018) at 9.

[44] Liberty first initiated a small-scale proactive power shutoff event on November 21, 2018, when it de-energized three lines in South Lake Tahoe for approximately three hours, impacting 30 households. Liberty did not have a formal PSPS protocol at the time, but proactively initiated a power shutoff based on weather conditions.

[45] *See* Resolution WSD-007 (Jun. 19, 2020).

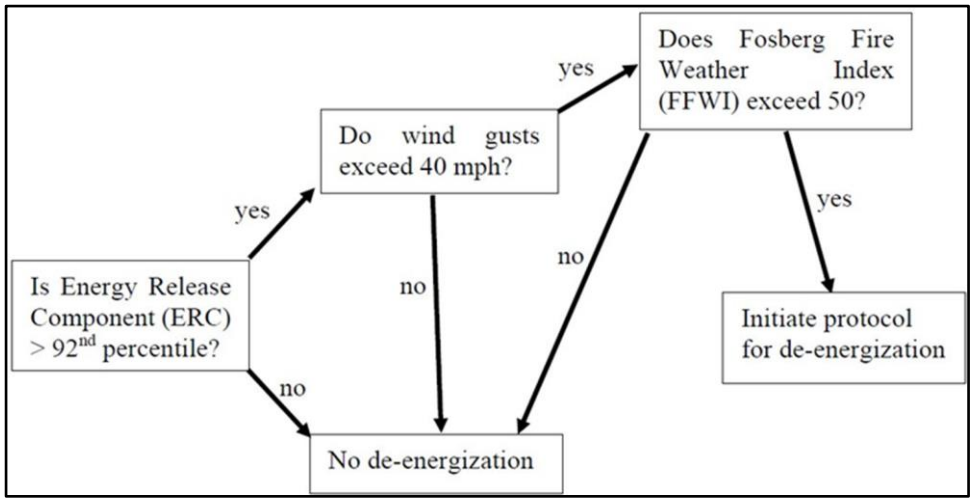
[46] The ERC component primarily measured fuel moisture content and fuel load on a percentile basis relative to seasonal trends. Fire occurrence and size are strongly correlated with ERC. An ERC reading in the 92nd percentile or higher means that the risk of a wildfire spreading out of control is substantial.

[47] The wind gust component measures peak expected wind speeds. The higher the wind gust, the higher the likelihood that a hazard such as animal or debris contact or conductor contact may occur.

("FFWI").[48] Together, these three components were intended to capture the risk of wildfire ignition and spread based on forecasted medium- and long-term environmental conditions and weather conditions. The PSPS protocol also specified that when Liberty declared and implemented a PSPS event, it would conduct proactive patrols on affected circuits to inspect for hazards and provide advanced notice of potential shutoffs to public safety partners and customers to protect public safety.

PSPS was a wildfire mitigation tool of last resort. Based on historical weather observations and archived forecast data, Liberty established de-energization thresholds that sought to balance the benefits of proactively shutting off power to reduce ignition risk during extreme fire weather conditions with the potential public safety risks inherent in any power outage, especially one occurring during fire weather. To that end, for the vast majority of Liberty's PSPS zones, Liberty used the following de-energization thresholds for the three criteria in the protocol—ERC percentile, wind gusts, and FFWI:

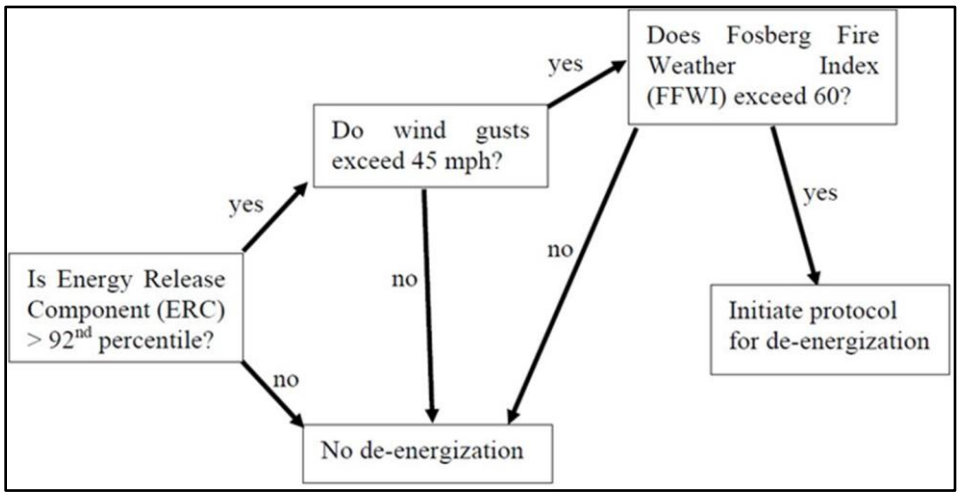
Figure 16: De-Energization Decision Tree for Most of Liberty's PSPS Zones



[48] FFWI is a commonly-used measure of fire risk that takes into account short-term variations in temperature, relative humidity, and wind speed. It does not take into account fuel type, topography, or fuel moisture. The FFWI scale ranges from 0 to 100, with a reading above 50-60 considered high risk. This component complemented the ERC's seasonal considerations by measuring short-term weather conditions conducive to rapidly-spreading fires.

Because the Topaz and Muller 1296 R3 PSPS zones were windier than other PSPS zones under normal weather conditions, Liberty's protocol established slightly higher thresholds for wind gusts and FFWI:

Figure 17: De-Energization Decision Tree for Topaz and Muller 1296 R3 PSPS Zones



In 2019 and 2020, Liberty continued to refine its PSPS protocol, including based on lessons learned from a September 2019 "near miss" event during which it had been preparing to activate a PSPS ahead of predicted dangerous weather conditions that did not come to pass, as well as various tabletop training exercises. On November 2, 2019, Liberty hosted a tabletop exercise with public safety partners to test communication protocols. On June 25, 2020, Liberty held a comprehensive simulated PSPS exercise to test its PSPS protocol and procedures for de-energization, re-energization, incident command, communications, and operational response. This exercise involved 45 internal participants, the Commission, Cal OES, Cal Fire, local fire districts, public safety partners, and critical infrastructure providers, who provided input on successes and areas for improvement. These exercises demonstrated Liberty's ongoing effort to improve its PSPS protocol in partnership with stakeholders and to ensure that Liberty personnel were well-prepared to execute its PSPS protocol.

Liberty also undertook several initiatives to educate customers and the general public about PSPS; it distributed accessible educational brochures, published a web page, and delivered

bill inserts about Liberty's PSPS protocol and notification procedures. These initiatives informed Liberty's customers of how Liberty would make decisions regarding power shutoffs so customers could prepare themselves when they receive shutoff notifications during fire weather conditions.

On November 17, 2020, forecast weather and fire risk modeling did not meet Liberty's approved PSPS criteria for the Topaz 1261 Circuit prior to ignition of the Mountain View Fire.[49] Indeed, in the days leading up to November 17, 2020, the FPI forecasts for the Topaz zone for that day ranged from "Low" to "Moderate." The NWS issued a high wind warning for the area but did not issue a Red Flag Warning.[50] In the NWS's weather briefings in the days leading up to the fire, including on the day of the fire, the NWS noted that there were no heightened fire risk concerns because of favorable moisture content in the area. In fact, the region just had a significant snowfall on November 8, 2020.

3. Recloser Operations

In the years preceding 2020, Liberty installed continuous monitoring sensors and SCADA controls for reclosers. SCADA-capable reclosers allow Liberty to determine fault conditions and outage locations more quickly and decrease its response times. As discussed in Part VI.A, Liberty's system operations fully transitioned from NV Energy to Liberty Utilities' System Control Center by February 2019. In 2020, Liberty's System Control Center in New Hampshire monitored available SCADA data from reclosers in real time. If abnormal activity on a line was detected, an alarm would inform the System Operator of the abnormality. The System Operator would typically be required to acknowledge the alarm. If an alarm did not indicate that a device was open (*e.g.*, an "over current" alarm not accompanied by a trip), the System Operator would evaluate the situation and determine whether a patrol was necessary. Typically, in those instances, the System Operator would coordinate a response by field personnel only if a customer reported an outage. If an alarm indicated that a device was open, the System Operator

---

[49] The forecast for 6:00 a.m. on November 17, 2020 calculated (a) an ERC of 60.5%; (b) 6-hour average wind gust of approximately 45 miles per hour; and (c) FFWI of 40. As the day went on, forecasts remained below threshold. At noon, the forecast calculated (a) an ERC of 48.9%; (b) wind gusts of 40-45 miles per hour; and (c) FFWI of approximately 30.

[50] Liberty understands that the last Red Flag Warning for the 2020 season was November 6, before the Tahoe region saw its first significant snowfall around November 8.

would call Liberty field personnel to perform a patrol of the relevant facilities. The System Operator also recorded alarms in an operator log.

During fire season, Liberty put its automatic reclosers in "non-reclose mode" or "fire mode," depending on the recloser's capabilities, meaning that the reclosers would not automatically attempt to reclose if they operated to de-energize a section of a circuit. Only after Liberty personnel patrolled and determined that the line was safe to re-energize would the System Operator authorize reclosing. This protective mode added a layer of security to detect potential ignition risks at times of elevated fire risk. "Non-reclose mode" and "fire mode" settings were active on Liberty's automatic reclosers throughout the historic 2020 fire season, which was the largest wildfire season in recorded California history at the time, burning approximately 4.2 million acres (more than 4 percent) of the State. In 2020, at least one recloser or group of reclosers was in "non-reclose mode" or "fire mode" on Liberty's system for a total of approximately 210 days, nearly two-thirds of the calendar year. The R1 and R2 Reclosers on the Topaz 1261 Circuit were in "non-reclose mode" and "fire mode," respectively, from May 29, 2020, until November 10, 2020, a continuous span of 165 days.[51]

These and other reclosers were taken out of fire mode in early November 2020 after the Tahoe region received its first snowfall, which traditionally marked the end of the fire season in the area. NWS data showed that its station at Minden, Nevada, approximately 35 miles northwest of Walker, reported 12 inches of snow on November 8, 2020. As illustrated in Figure 18, photographs taken on November 10, 2020, of two Liberty weather stations on the Topaz 1261 Circuit located within 10 air miles of the Mountain View Fire origin area showed snow cover on the ground just one week prior to the fire. This winter precipitation increased the overall moisture content in the area, which led fire science experts and weather forecasters to believe the fire season had concluded.

[51] Following the fire, the R1 and R2 Reclosers were put back in "non-reclose mode" and "fire mode," until January 28, 2021.

Figure 18: November 10, 2020 Photographs Showing Two Weather Stations on the Topaz 1261 Circuit[52]

LIB-06 Weather Station

LIB-05 Weather Station

Around this time, weather forecasts were tracking additional potential winter storms through mid-November. In the days leading up to the Mountain View Fire, NWS briefings highlighted the potential for strong winds but placed the fire risk as low, given the more favorable moisture content. Just four days before the fire, the local NWS office indicated it would be moving to "off season" fire weather forecasting. In light of this shift in weather and fire risk, and in consultation with its third-party fire science and risk modeling expert, Liberty deactivated fire mode / non-reclose mode on its automatic reclosers, including on the Topaz 1261 Circuit. This decision was made in anticipation of additional winter storms being tracked

[52] These photographs were taken on November 10, 2020, when the Commission's Wildfire Safety Division (now OEIS) inspected these and other weather stations. The LIB-06 weather station is located approximately 2.5 miles northwest of the origin area, and the LIB-05 weather station is located approximately 9 miles northwest of the origin area.

by weather forecasts.[53] Winter storms conditions could potentially result in longer customer outages and public safety concerns if reclosers remained in non-reclose or fire mode. Liberty also was aware that NV Energy, which operated the electric system in territory adjacent to Liberty's, had made a similar determination to take its reclosers out of "fire mode" around November 9.

Liberty's two reclosers on the Topaz 1261 Circuit functioned as expected in response to conditions on the circuit on November 17, 2020. That morning, reconductoring work as part of Liberty's Topaz Line Rebuild Project was ongoing. In connection with this work, the 1261 R2 Recloser was placed in "hotline tag" mode for worker safety. The 1261 R2 Recloser recorded a phase-to-phase fault around 9:48 a.m. and operated, de-energizing that portion of the circuit and causing an outage. Following a patrol of the affected line, at 10:41 a.m. the 1261 R2 Recloser was closed, re-energizing the line and restoring power to the affected customers. In coordination with field personnel supervising the reconductoring work, the hotline tag mode was disabled and the 1261 R2 Recloser was returned to normal mode. Shortly after 11:55 a.m., the 1261 R2 Recloser detected a phase-to-phase fault followed by a series of phase-to-ground faults. The 1261 R2 Recloser operated and reclosed consistent with its settings and ultimately locked out, de-energizing the Topaz 1261 Circuit downstream from the 1261 R2 Recloser. Liberty's operational response to the outages and the Mountain View Fire is discussed in more detail below, in Part VI.D.

C. Liberty Strengthened Its Emergency Preparedness and Response Measures

In accordance with GO 166, Liberty had an Emergency Management Plan ("EMP") in 2020 that contained policies and procedures to enhance Liberty's ability to respond to and recover from emergencies of all levels, including natural disasters. These policies and procedures ensured that Liberty personnel were well prepared during emergencies to protect employee and public safety, coordinate with public safety partners, and maintain and restore service. The EMP prescribed procedures for activation of internal response teams and external communications, depending on the severity of an emergency event and the scale of its impact in Liberty's service area. During less serious emergencies (level 4-5), an individual department or Regional Command Center was responsible for

[53] As described in *Liberty-04: External Factors*, rain (and snow at higher elevations) began to fall in the Walker area within hours of the fire's ignition and temperatures dipped to the mid-30s by the morning of November 18.

addressing the emergency, with support from Emergency Management Team members where necessary. With the onset of more serious emergencies (level 1-3), the Incident Command System and an Emergency Management Team were activated to coordinate and direct response and mitigation efforts. During such emergencies, the Emergency Management Team was staffed with Liberty employees tasked with different functional roles (*e.g.*, Incident Commander, Public Information Officer, Safety & Security Officer, Government Liaison, etc.). These more serious emergencies were declared when a disaster or other event may affect several areas of Liberty's electric system and/or where an outage may last longer than 24 hours. Within an hour of the Mountain View Fire, an Incident Command System was activated, with a full Incident Management Team of 10 Liberty employees, to coordinate Liberty's response to the rapidly-evolving emergency.

In 2020, Liberty further enhanced its emergency preparedness and response initiatives to promote public safety. In particular, Liberty added specialized personnel, hiring an Emergency Management Manager to oversee the EMP, emergency response activities, and public safety partnership engagements, and a Fire Protection Specialist to oversee fire prevention initiatives, serve as Liberty's liaison for first responders and public safety partners, and coordinate fire protection-related training for employees and contractors. Liberty also formed a team of internal analysts and consultants to establish and refine its risk modeling capabilities.

Liberty's employees participated in EMP training annually. This training included instructions on the roles and responsibilities of different functional areas during emergencies. Each year, every Emergency Management Team member was required to participate in at least one tabletop exercise or lessons learned post-mortem regarding an actual event or major outage. Given its service area frequently experienced harsh winter weather, Liberty's Emergency Management Team also periodically hosted winter storm exercises—including one on November 10, 2020—to simulate storm-related outages and practice Liberty's coordinated response. These efforts improved Liberty's ability to anticipate and respond to emergencies and facilitated close coordination with Liberty's public agency partners. Throughout 2020, Liberty also hosted 29 meetings with public safety partners, held nine regional PSPS workshops, three PSPS tabletop exercises, and seven regional virtual town halls to inform the communities that it serves about its wildfire safety work.

D. Liberty Responded Promptly to Outages on the 1261 Topaz Circuit and to the Mountain View Fire on November 17, 2020

Liberty had two troubleshooters and two inspectors with primary responsibility for maintaining equipment and responding to field issues in the South Shore District. As discussed above, Liberty was performing reconductoring work on the Topaz 1261 Circuit on November 17, 2020. In light of this and other work that day on the circuit, Liberty field personnel and contractors were nearby and able to respond quickly to outages on the circuit that morning and to the scene of the Mountain View Fire.

Liberty field personnel responded to a small outage at approximately 8:35 a.m. on November 17, 2020, and found a cutout open on a branch line off Wunderlich Way, though were unable to determine the cause of the outage. Following an operation of the 1261 R2 Recloser at 9:48 a.m. and subsequent outage, Liberty's System Operator informed Liberty field personnel who were in the area for the reconductoring work. Liberty field personnel promptly patrolled the section of the Topaz 1261 Circuit located downstream of the 1261 R2 Recloser, including the Subject Span.[54] As a precaution, field personnel removed slack from a stretch of the Topaz 1261 Circuit that was in hot arms where the reconductoring work was being performed, Liberty field personnel notified the System Operator that the 1261 R2 Recloser could be closed and the line was re-energized.

Shortly after 11:55 a.m., Liberty's System Control informed an experienced electrical inspector about the phase-to-ground fault and lockout of the 1261 R2 Recloser. The inspector and a contractor crew identified the fire and immediately investigated, patrolling the spans downstream of the Recloser and quickly locating the fire near the Mountain View Barbeque. The fire was first reported to 911 shortly before noon. Liberty personnel arrived on scene within eight minutes of the first 911 call and within eleven minutes of the outage on the line once the 1261 R2 Recloser operated and locked out. At the request of firefighters, Liberty personnel and contractors quickly responded to the conductor lying on the ground, cutting each end of the separated conductor near the East and West Poles to facilitate first responder access to the scene. Liberty personnel then secured the portion of the conductor hanging down from the insulator to ensure public safety. Liberty field personnel continued to coordinate and offer support to the emergency personnel responding to the Mountain View Fire.

[54] A Liberty troubleshooter had upgraded a meter at the Mountain View Barbeque adjacent to the East Pole on the morning of November 17, 2020, and likewise observed no issues with the Subject Span or Specific Facilities at that time.

In response to the fire, Liberty field personnel opened certain devices and requested the opening of other devices to support public safety. Liberty initiated an emergency power shutoff for the Topaz 1261 Circuit and communicated actively with customers and public safety partners regarding the status of the fire and the power shutoff.