BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018).	Rulemaking 18-10-007 (filed October 25, 2018)

REPLY COMMENTS OF LIBERTY UTILITIES (CALPECO ELECTRIC) LLC (U 933-E)

Daniel W. Marsh
Manager of Rates & Regulatory Affairs
Liberty Utilities (CalPeco Electric) LLC
9750 Washburn Road
Downey, CA 90241
Email: Dan.Marsh@libertyutilities.com

April 21, 2021

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Implement Electric Utility Wildfire Mitigation Plans Pursuant to Senate Bill 901 (2018).	Rulemaking 18-10-007 (filed October 25, 2018)

REPLY COMMENTS OF LIBERTY UTILITIES (CALPECO ELECTRIC) LLC (U 933-E)

Pursuant to Resolution WSD-011, issued November 30, 2020, Liberty Utilities (CalPeco Electric) LLC ("Liberty") respectfully submits these Reply Comments responding to party Comments on Liberty's 2021 Wildfire Mitigation Plan ("WMP") Update. These comments respond to the April 14, 2021 recommendations to the Wildfire Safety Division ("WSD") made by the Public Advocates Office at the California Public Utilities Commission ("Cal Advocates") and the Green Power Institute ("GPI").

I. REPLY TO CAL ADVOCATES' COMMENTS

In Opening Comments, Cal Advocates makes several general recommendations on technical issues for the WSD to consider and makes one recommendation specific to Liberty's 2021 WMP Update. Liberty addresses these recommendations below.

A. Liberty's de-energization wind speed thresholds are appropriate, and supplemental reports should not be required.

Cal Advocates recommends that the WSD require the small utilities to justify their de-energization wind speed thresholds through a supplemental report.[1] As outlined below, Liberty's de-energization wind

[1] Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Updates of the Small and Multijurisdictional Electric Utilities, pp. 6-7.

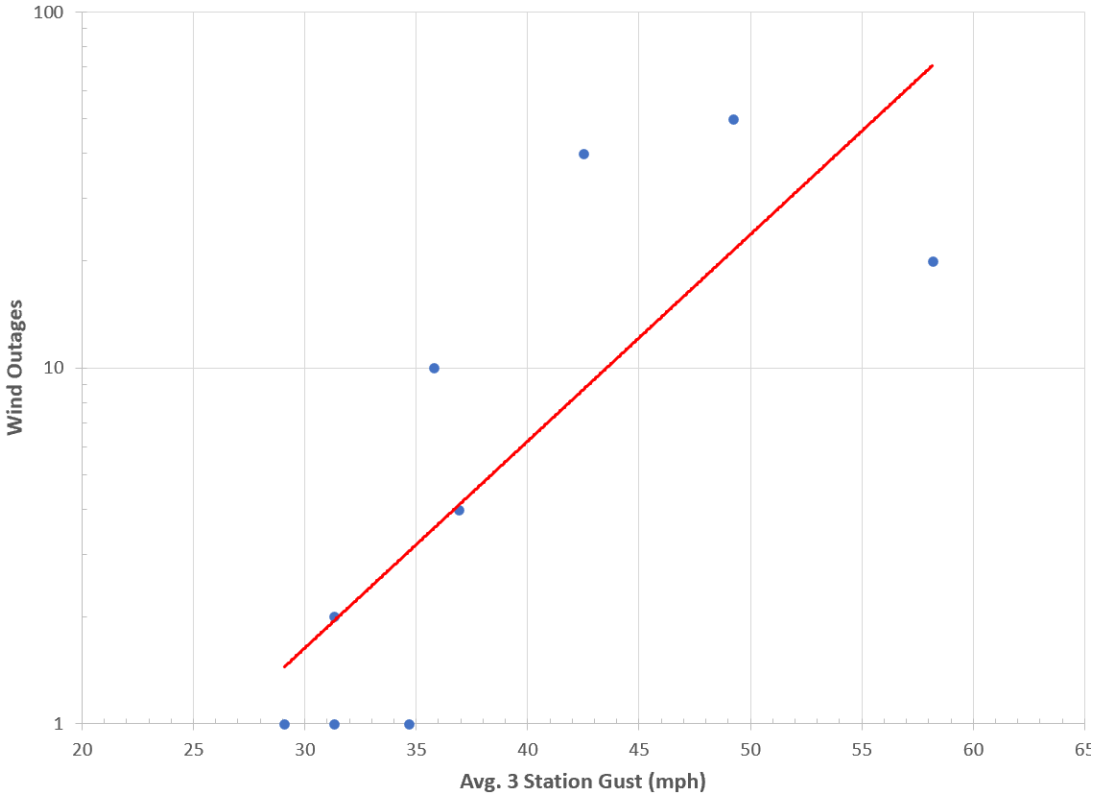
speed thresholds used in its Public Safety Power Shutoff ("PSPS") protocols are justified and no supplemental report should be required.

Many of the mechanisms that may cause powerline fires (conductor clashing, downed lines, vegetation contact, equipment failure, etc.) may also cause electrical outages, even if fire ignition does not occur. Consequently, outage frequency can be used to understand how environmental conditions, such as wind speed, affect ignition source generation potential.

Correlation of outage occurrence data with measured wind gust speed shows that wind-caused outages are infrequent for wind gust speeds below 30 mph, but an inflection point exists at a gust speed of approximately 30 mph (13 m/s).[2] Above 30 mph, outage probability increases by approximately a factor of 10 for every 15 mph increase in wind gust speed.[3] This means that, at a wind speed of 45 mph (20 m/s), there is approximately a 10-time increase in outage frequency compared to 30 mph winds. This is shown graphically for transmission lines in Figure 1.[4]

[2] Mitchell, J.W., "Power Lines and Catastrophic Wildland Fire in Southern California," Fire and Materials 2009.
[3] Mitchell, J.W., "Power line failures and catastrophic wildfires under extreme weather conditions," Engineering Failure Analysis 35: 726–735 (2013).
[4] Mitchell, J.W., "Power Lines and Catastrophic Wildland Fire in Southern California," Fire and Materials 2009.

Figure 1. Increase of outages with gust wind speed



Gust speeds measured around the time of ignition of large loss suspected powerline fires are often 40 mph or higher. Consequently, wind gust thresholds in the range of 40-45 mph are still viewed as reasonable thresholds for proactive de-energization in high-risk (Tier 3) areas and will continue to be used in the new PSPS decision tree that Liberty is evaluating in 2021.

Additionally, Cal Advocates suggests that the small utilities provide the number of outages, ignitions, vegetation contacts, and damage incidents they have observed in different wind speed ranges. Cal Advocates recommends this data be required for wind speeds of 21 to 65 mph, in 5 mph increments, from 2016 through 2020.[5] The underlying data (*i.e.*, number of outages, ignitions, vegetation contacts) should be available for most, if not all, of the years requested. However, the granularity requested by Cal

[5] Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Updates of the Small and Multijurisdictional Electric Utilities, p. 7.

Advocates (in 5 mph increments from 21-65 mph) requires a significant amount of data analysis and may not be possible to complete in the proposed 90-day timeframe with quality assurance ("QA") and quality control ("QC") of the data. Therefore, while Liberty maintains that no supplemental report should be required, if additional data is required, Liberty should have more than 90 days to provide such data.

B. Liberty supports Cal Advocates recommendations to WSD to convene a working group to evaluate the benefits and costs of conducting more frequent detailed inspections of distribution assets in high fire-threat districts ("HFTDs"), to hold a workshop on light detection and ranging ("LiDAR") inspections, and to conduct a workshop on covered conductor program costs.

Cal Advocates recommends various collaborative efforts to explore the reasons for differing assessments or approaches among the Small and Multi-Jurisdictional Utilities ("SMJUs") regarding the frequency of detailed inspections of distribution assets in HFTDs, the use of LiDAR technology, and the costs of covered conductor programs.[6] Liberty supports these recommendations and looks forward to collaborating on lessons learned from other California utilities regarding these topics.

C. As discussed in Liberty's 2021 WMP Update (Section 7.3.4.14), Liberty plans to establish a QA/QC program for asset inspections and grid hardening projects in 2021.

Cal Advocates recommends that the WSD require Liberty to establish formal QA and QC programs for its asset inspections and grid hardening projects.[7] As indicated in its 2021 WMP Update, Liberty is aware of the need for these programs and plans to develop them in 2021. As stated in Section 7.3.4.14 of Liberty's 2021 WMP Update, Liberty plans to issue a Request for Proposals ("RFP") in 2021 to find a qualified, independent contractor to help establish standards in 2021 and perform QA/QC on inspection activities and grid hardening projects beginning in 2022. Liberty disagrees with Cal Advocates' statement that "Liberty's lack of QA/QC programs to verify the quality of its asset inspections or grid

[6] Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Updates of the Small and Multijurisdictional Electric Utilities, pp. 7-10.

[7] Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Updates of the Small and Multijurisdictional Electric Utilities, pp. 16-19.

hardening projects could imply larger problems such as a lack of commitment to consistently high-quality work."[8] Liberty is committed to consistently high-quality work and notes that a qualified inspector is on site for all contracted grid hardening projects.

II. REPLY TO GPI'S COMMENTS

In its opening comments, GPI makes several general recommendations for all SMJUs and several recommendations specific to Liberty's 2021 WMP Update. Liberty addresses these recommendations below.

A. Liberty supports collaboration between the SMJUs and large IOUs on risk modeling and utilizing risk driver datasets.

GPI recommends that SMJUs develop pathways to supplement their limited risk driver datasets and to leverage data and results from the large IOUs in their risk-based analyses.[9] Liberty agrees that the SMJUs and large IOUs should collaborate and utilize the large IOUs' more robust datasets to help inform risk modeling where feasible and appropriate.

B. Liberty's risk models will be vetted through Liberty's upcoming 2022 General Rate Case ("GRC"), and Liberty will continue to provide the results of its wildfire risk models in its WMP and annual updates.

GPI recommends that all SMJU wildfire risk models should be vetted and the results provided in the WMP and annual updates.[10] Liberty agrees that wildfire risk models should be vetted with the results provided in the annual WMP filings. Liberty's risk models will be provided and subject to review by the CPUC and other parties in Liberty's upcoming 2022 GRC. In non-GRC years, Liberty will continue to build and improve on its wildfire risk models, which will be available for party evaluation.

---

[8] Comments of the Public Advocates Office on the 2021 Wildfire Mitigation Plan Updates of the Small and Multijurisdictional Electric Utilities, p. 17.

[9] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, p. 7.

[10] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, p. 7.

C. Liberty supports collaborative efforts between the SMJUs and large IOUs to leverage aggregated covered conductor data and better understand the benefits of covered conductor to wildfire and PSPS risk.

GPI recommends collaborative efforts between the SMJUs and large IOUs to leverage aggregated covered conductor data and better understand the benefits of covered conductor to wildfire and PSPS risk.[11] Liberty supports these collaborative efforts between the SMJUs and large IOUs.

D. Liberty responds to GPI's recommendation to describe its vegetation management residue end-use pathways.

GPI recommends that utilities provide information regarding vegetation management ("VM") residue disposal via WMP narrative and reporting requirements.[12] As GPI points out, Liberty provided the tons of biomass it has removed via its fuel reduction activities in its 2021 WMP Update (*i.e.*, fuel management and reduction of "slash" from vegetation management activities). VM residue currently goes to a combination of landfills, biomass facilities, or is left in place and made available for community firewood programs. Of the 376.4 tons of biomass Liberty has removed, 43.6 tons went to a local refuse station, and the remaining 332.8 tons were transported to a biomass facility. Liberty has not previously estimated amounts of biomass processed and left for firewood collection programs, but Liberty is able to estimate those amounts and report them in the future. For future residue end-use pathways, Liberty hopes to expand the use of biomass for utilization in biomass facilities, sawmills, and other alternatives to refuse stations, and will work closely with contractors to provide direction and assistance with regard to VM residue end-use pathways.

[11] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, p. 22.
[12] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, pp. 27-28.

E. Liberty already provided Tables 1- 12 in Excel format as part of its March 5, 2021 Quarterly Report submission to WSD and subsequently posted the data to its website. Liberty will continue to provide this data in Excel format in future quarterly reports and annual updates.

GPI requests that Liberty provide Tables 1-12 in Excel format.[13] Liberty already submitted its Quarter 4 2020 Quarterly Report in Excel format to WSD on March 5, 2021 in accordance with Resolution WSD-011, which included Tables 1-12 of the WSD non-spatial data template for the WMP Quarterly Report (20200105 Update Attachment 2.3 to WSD-011). Liberty included Tables 1-12 as Attachment A to Liberty's 2021 WMP Update in PDF format using the same WSD template. Additionally, Liberty posted Tables 1-12 in Excel format on Liberty's website on April 1, 2021 as part of Liberty's response to a Cal Advocates data request. Liberty will continue to submit quarterly reports in accordance with Resolution WSD-011, including Tables 1-12 of the WSD non-spatial data template for the WMP Quarterly Report in Excel format.

F. Liberty treated each risk-driver as equal, given data limitations.

GPI recommends that Liberty collect additional information regarding it risk model testing methods and outcomes. Further, GPI recommends that Liberty should clarify if and how it performed Machine Learning ("ML") model testing and the results of the model test, including the occurrence of false negatives.[14] Liberty attempted to utilize the methodology that SCE used in its risk modeling process and as described in GPI's comments, but the results indicated that the data was too limited. Specifically, there were occurrences of ignitions (evidence of smoldering, sparking, arcing, burning, simmering, melting, incineration, etc.) from risk drivers in the test set for which the training set did not have a history. The data limitations in Liberty's training set, such that the test data section had predictors not fully able to be captured from the training data section due to limited observations, prevented Liberty from running

[13] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, p. 3.
[14] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, p. 8.

an accurate machine learning neural network model. Thus, Liberty treated each risk-driver as equal (weighted/influence).

G. Liberty specifically responds to GPI's recommendations regarding Asset Management and Inspections.

GPI recommends that Liberty should explain the change in Level 1 findings from detailed inspections and justify the decision to not perform HFTD patrol inspections.[15] Liberty responds to each of GPI's requests for further information below:

- Regarding the increase in HFTD distribution system Level 1 findings in 2020, Liberty inspected its entire system in 2020 rather than the usual 20% of its system, which accounts for the primary increase in Level 1 findings. In addition, Liberty adjusted inspection criteria to target aging pole assets to mitigate potential ignition events.
- Regarding general patrol inspections in HFTDs, Liberty's Table 1 submission included an error that Liberty will correct going forward. Liberty visually patrols its entire system (approximately 2,030 miles) on an annual basis except for HFTD Tier 3 assets, which are inspected every six months. These patrols are conducted on foot, by vehicle, and by helicopter.
- Regarding inspections conducted in HFTDs in advance of wildfire season, Liberty performs visual patrols of all overhead lines and assets during the months of April and May. Any issues found during these patrols are typically corrected before the start of fire season.
- Regarding GPI's request to provide data to show that inspection gaps due to three or five-year cycles do not lead to substantial increased circuit wildfire risk during interim

[15] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, p. 16.

inspection years, for asset inspections, Liberty does not have data for or perform analysis of wildfire risk during interim inspection years. The inspection cycles for assets are mandated by the CPUC in G.O. 165, which are three years for underground devices and five years for overhead assets. Liberty's asset inspection programs comply with both of these timeframes.

- Regarding GPI's request to provide data to demonstrate the efficacy of using annual LiDAR vegetation inspections to identify vegetation infractions as an interim inspection and complement to three-year detailed vegetation inspection cycles, Liberty provides the following information:
    - When compared to ground-based patrols, the LiDAR pilot project conducted by Liberty in 2020 identified a 132% increase in locations of interest to be inspected for potential vegetation infractions for the same geographic area. Locations identified by LiDAR were not found to be false positives; however, there are several trees that are clearance-exempt trees as defined in G.O. 95, Rule 35 and California Code of Regulations, Title 14, Section 1257. Liberty is updating its dataset to identify clearance-exempt trees for future monitoring and to provide an updated number of potential vegetation infractions. In addition to the increase in inspection locations, LiDAR is much more efficient in inspecting the rough terrain found throughout the Liberty service area. Through the use of LiDAR, Liberty was able to inspect almost half of its overhead distribution and transmission lines (approximately 330 miles) in two days and started receiving actionable data within weeks. For comparison, the ground-based vegetation inspections of Liberty's Tier 3 HFTD (approximately 50 miles) took approximately two months. The level of

accuracy and efficiency provided by LiDAR could not be achieved via a ground-based patrol without a very large increase in utility arborists to perform those inspections, which may be unattainable due to the limited availability of contract resources throughout the vegetation management industry.

The use of LiDAR to specifically target vegetation infractions will allow Liberty to maintain minimum vegetation-to-conductor clearance distances. Inspection protocols for detailed inspections of vegetation performed by Liberty are comprehensive. In addition to inspecting for clearances between vegetation and conductors, arborists are trained to inspect any problematic vegetation including dead, dying, or otherwise structurally compromised trees or parts of trees (both within and outside of the right-of-way) that have the potential to impact utility assets. These inspections take much longer, and obtaining permission for this work may take several months; therefore, Liberty established a three-year inspection and maintenance cycle when combining hazard tree removal and pruning of trees to maintain regulatory compliance into a single work product. Separating the compliance-focused inspections, through the use of LiDAR, into a distinct inspection program will allow Liberty to increase its inspection frequency to identify vegetation infractions for its entire system on an annual basis. This will also complement its cycle-based detailed vegetation inspections by allowing arborists to focus primarily on dead, dying, diseased, or otherwise defective trees and decreasing the need to inspect for vegetation-to-conductor clearances.

H. Liberty justifiably did not perform a substantial amount of fuse replacements in low wildfire risk areas.

GPI recommends that Liberty provide an explanation for why it performed substantial amounts of fuse replacements in lower wildfire risk areas.[16] Liberty did not perform a substantial amount of fuse replacements in low wildfire risk areas. Out of the 1,100 fuses replaced as part of Liberty's fuse replacement program, only 166 took place in Reax-rated "low" areas. The vast majority of fuse replacements took place in high or very high areas. The Reax risk maps were not yet developed at the time that the fuse replacement program was being planned, and, in the absence of better risk guidance, Liberty selected circuits that originated in HFTD Tier 3 areas. Some of these circuits spread into lower rated risk areas. Once a draft of the Reax risk maps was available, Liberty began to prioritize fuse replacements based on the Reax risk maps.

I. Liberty does not have the analysis that GPI requests to determine if Liberty's green jacket insulator program will be predominantly a wildfire risk reduction versus being a reliability application.

GPI recommends that Liberty explain how many wildfire risk events it anticipates the green jacket insulator program will eliminate. [17] The green jacket program will both reduce the risk of ignition by animal and debris contact and increase system reliability. Liberty has not conducted an analysis of whether the benefit will be predominantly a wildfire risk reduction or a reliability improvement.

J. Liberty provides information regarding its VM program to achieve required clearances.

GPI states that Liberty's VM program to achieve clearance is vague and recommends that Liberty explain its vegetation clearance work in detail, including how long it takes to remedy vegetation clearance infractions from the time they are identified, how it defines an infraction (*e.g.*, less than four feet, or grater radial clearance from distribution lines), whether it prioritizes work in HFTD zones, and if HFTD work is

[16] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, pp. 19-20.
[17] Comments of the Green Power Institute on the 2021 Wildfire Mitigation Plans of the SMJUs, p. 20.

prioritized to occur prior to fire season (*i.e.*, by June 1 and September 1). Liberty provides its responses below:

- Liberty has drafted a Vegetation Threat Procedure (VM-05) outlining the prioritization, timing, and maintenance clearances to be achieved at the time of work and has begun to implement the new procedure. Minimum maintenance clearance distances ("MCDs") are based on line voltage and recommendations set forth in Appendix E of G.O. 95, Rule 35. Liberty does not prioritize vegetation work based on region because nearly all (over 90%) of its service territory is located in the HFTD. Work is prioritized based on observed conditions and vegetation threat criteria:
    - Priority 1 Conditions
        - Any observed tree, or parts thereof, that is expected to imminently fail and contact electric facilities
        - Any observed vegetation condition where it appears that contact has occurred with electric facilities
        - Any observed Priority 1 conditions are cleared to the MCD within 24 hours
    - Priority 2 Conditions
        - Any observed tree, or parts thereof, that is not a Priority 1 condition and is currently stable but is expected to fail and contact electric facilities
        - Any observed tree, or parts thereof, that is not a Priority 1 condition but is within the Regulation Clearance Distance
        - Any observed Priority 2 conditions are cleared to the MCD within 30 days
    - Priority 3 Conditions
        - Any observed tree, or parts thereof, that is not a Priority 1 or Priority 2 condition but requires work prior to the next inspection to maintain the Regulation Clearance Distance
        - Priority 3 conditions are added to the tree inventory for scheduling of future work
        - Any observed Priority 3 conditions are cleared to MCD prior to next inspection

- Priority 4 Conditions
  - Any observed tree, or parts thereof, that is not considered a Priority 1, Priority 2, or Priority 3 condition, is currently stable, is in decline, but is not expected to fail and contact electric facilities
  - Priority 4 conditions are added to the tree inventory for future monitoring

III. CONCLUSION

Liberty appreciates this opportunity to respond to party Comments and looks forward to working with the Commission and other stakeholders to mitigate the risk of wildfires in California.

Respectfully submitted,

/s/ Dan Marsh

Daniel W. Marsh
Manager of Rates & Regulatory Affairs
Liberty Utilities (CalPeco Electric) LLC
9750 Washburn Road
Downey, CA 90241
Email: Dan.Marsh@libertyutilities.com

April 21, 2021