

APPENDIX A

Deficiencies and Conditions

PC-1	PacifiCorp's WMP does not report adequate planning for climate change.
Class	B
Deficiency	<p>Although it recognized climate change as a top macro trend of concern, PacifiCorp has not yet specifically engaged in planning for it. PacifiCorp stated in its WMP that when/if climate change impacted their service territory then an assessment would be conducted to determine a response.</p> <p>PacifiCorp did not mention if climate modeling would be a necessary step in this process. This is a reactive versus a proactive approach to wildfire mitigation planning.</p>
Condition	<p>In a first quarterly report, PacifiCorp shall:</p> <ul style="list-style-type: none"> i. describe how it incorporates climate change into risk models; and ii. outline in detail how it plans to use these risk models to deploy wildfire initiatives.

PC-2	PacifiCorp has not demonstrated effective weather station utilization.
Class	B
Deficiency	<p>PacifiCorp lacks sufficient weather station coverage in populated communities that border Tier 2 HFTD areas in its service territory. For example, PacifiCorp has no stations in Scott's Valley, Yreka or Hornbrook and does not plan on adding weather stations in these areas in the near-term. It is important to understand PacifiCorp's methodology for choosing where to put weather stations and its justification of why they are not in the identified communities. Weather stations in these areas could paint a picture of how weather systems are moving across PacifiCorp's whole territory.</p>
Condition	<p>In its first quarterly report, PacifiCorp shall:</p> <ul style="list-style-type: none"> i. explain in detail how it chooses to locate its weather stations and explain gaps or areas of lower weather station density, and ii. provide a cost/benefit analysis of the impact of having a higher density of weather stations across its territory.

PC-3	PacifiCorp did not explain how it would track effectiveness of its covered conductor initiative.
Class	B
Deficiency	Although PacifiCorp allocates the largest portion of its planned spending on covered conductor, PacifiCorp does not discuss a method for tracking the effectiveness of its planned covered conductor installations.
Condition	In a first quarterly report, PacifiCorp shall: present and explain a methodology for tracking and measuring the effectiveness of its covered conductor installations at reducing the frequency and probability of (1) outages for top 10 outage causes based on best available historical data, and (2) ignitions for all CPUC reportable ignitions.

PC-4	PacifiCorp's WMP lacks a QA/QC program for inspections.
Class	B
Deficiency	<p>PacifiCorp does not have a specific asset management and inspections program for wildfire risk mitigation that is focused on quality assurance/quality control of inspections.</p> <p>PacifiCorp's WMP lacks detailed budget projections for many of these elements of asset management, and figures that it does provide for inspections are generally steady-state, or in some cases less than what was expended in 2019. Such projections indicate a business-as-usual compliance-oriented approach to wildfire mitigations, not a heightened sense of urgency in the face of admittedly increasing wildfire risks.</p>
Condition	<p>In a first quarterly report, PacifiCorp shall:</p> <ul style="list-style-type: none"> i. provide details in specific asset management and inspection quality control, including providing planned spend information for these initiatives.

PC-5	PacifiCorp's WMP does not report sufficient information on the risk reduction outcomes of its automatic recloser program.
Class	C
Deficiency	PacifiCorp prioritizes its automatic recloser program. PacifiCorp claims that its automatic reclosers do not emit sparks or pose an ignition risk. PacifiCorp states that it adjusted settings for reclosers and conducted line testing to assess faults before reclosing and that it will continue to investigate if amended recloser settings and conducting line testing after lockout appropriately addresses faults.
Condition	In its 2021 annual update, PacifiCorp shall: <ul style="list-style-type: none"> i. describe whether recloser setting adjustments and the detection and alleviation of faults reduce ignition risk along PacifiCorp's grid; and ii. report on its assessments, including all supporting data and results.

PC-6	PacifiCorp does not have a specific data governance wildfire mitigation program.
Class	B
Deficiency	PacifiCorp has no centralized repository for data that maps to tracking key aspects of the WMP, nor does it engage in collaborative research on utility ignitions. The WMP offers no data on expenditures for these data governance activities. PacifiCorp is not showing ambition in the development of its data governance activities as a mitigation tool. Initiatives do not include new technologies, or risk-based prioritization.
Condition	In its first quarterly report, PacifiCorp shall: <ul style="list-style-type: none"> i. list and describe its data collection and governance policies, and ii. describe how it plans to track key aspects of WMP data.

PC-7	PacifiCorp's stakeholder cooperation and community engagement needs further detail
Class	C
Deficiency	PacifiCorp did not describe in detail having a specific means of receiving input from customers or outline a formal method of incorporating such input into its procedures and WMP moving forward. PacifiCorp provided minimal details on their cooperation with suppression agencies, and PacifiCorp does not have a specific program to coordinate cooperative efforts with federal agencies.
Condition	<p>In its 2021 WMP update, PacifiCorp shall:</p> <ul style="list-style-type: none"> i. describe its plan for receiving input from customers, such as surveys and any formal method of incorporating such input into its procedures; ii. provide updates relating to the WMP that derive from D.20-03-024, particularly relating to effectiveness of outreach and AFN coordination; iii. outline in detail how PacifiCorp cooperates with suppression agencies, including how it cooperates on training, incidents, and other activities; and iv. detail how it plans to coordinate cooperative efforts relevant to reducing wildfire risk with federal agencies.

(End of Appendix A)

APPENDIX B

Detailed Figures & Charts

0. Description of Data Sources

All figures reference the latest submitted versions of 2020 WMPs as of April 10th, 2020. Data is pulled from Tables 1-31 of Utility WMPs unless stated otherwise.

By utility, the WMPs referenced in this document are:

PG&E	Update to WMP submitted March 17 th , 2020
SCE	Revision 02 to WMP
SDG&E	Update to WMP submitted March 10 th , 2020
Liberty CalPeco	Update to WMP submitted February 28 th , 2020
PacifiCorp	Update to WMP submitted February 26 th , 2020
Bear Valley Electric Service	Update to WMP submitted February 26 th , 2020
Horizon West Transmission	Update to WMP submitted February 28 th , 2020
Trans Bay Cable	Update to WMP submitted February 28 th , 2020

All are available at cpuc.ca.gov/wildfiremitigationplans.

All the analysis and corresponding figures presented in this appendix rely upon data that is self-reported by the utilities. By utilizing and presenting this self-reported data in this appendix, the WSD is not independently validating that all data elements submitted by utilities are accurate. The WSD will continue to evaluate utility data, conduct data requests, and conduct additional compliance activities to ensure that data provided is accurate.

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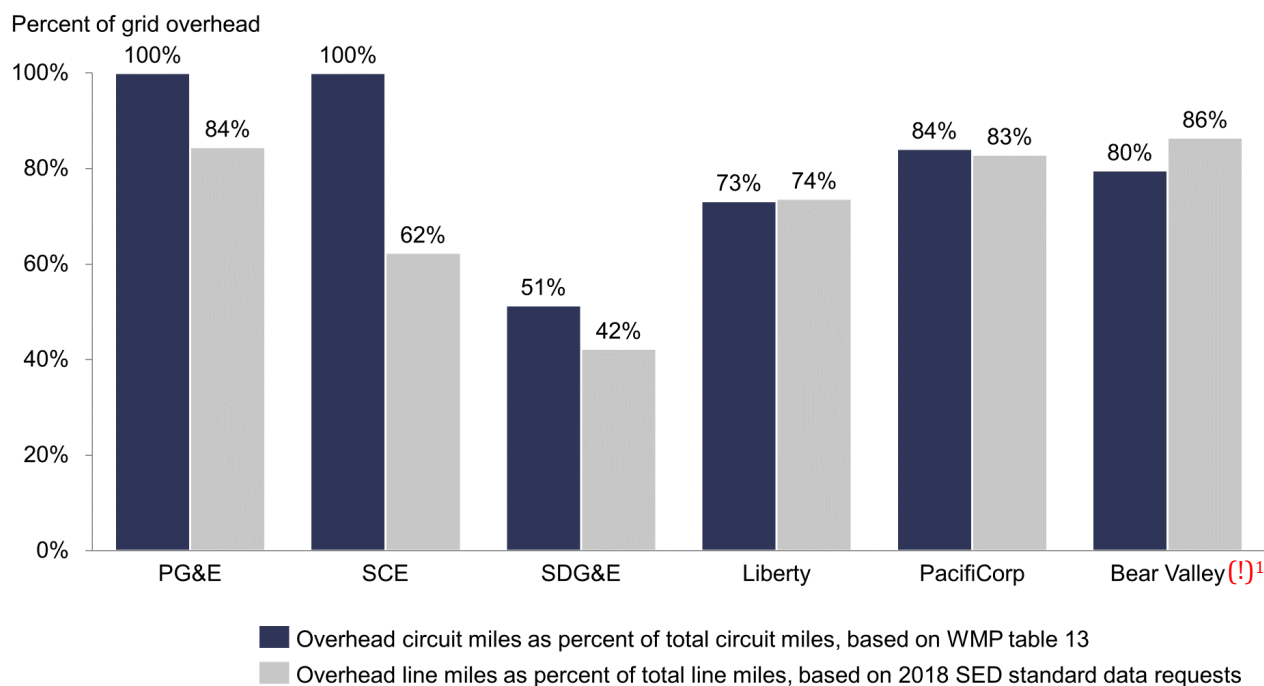
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1.1 Wildfire Risk Exposure

Figure 1.1a: Comparison of data sources for circuit typologies

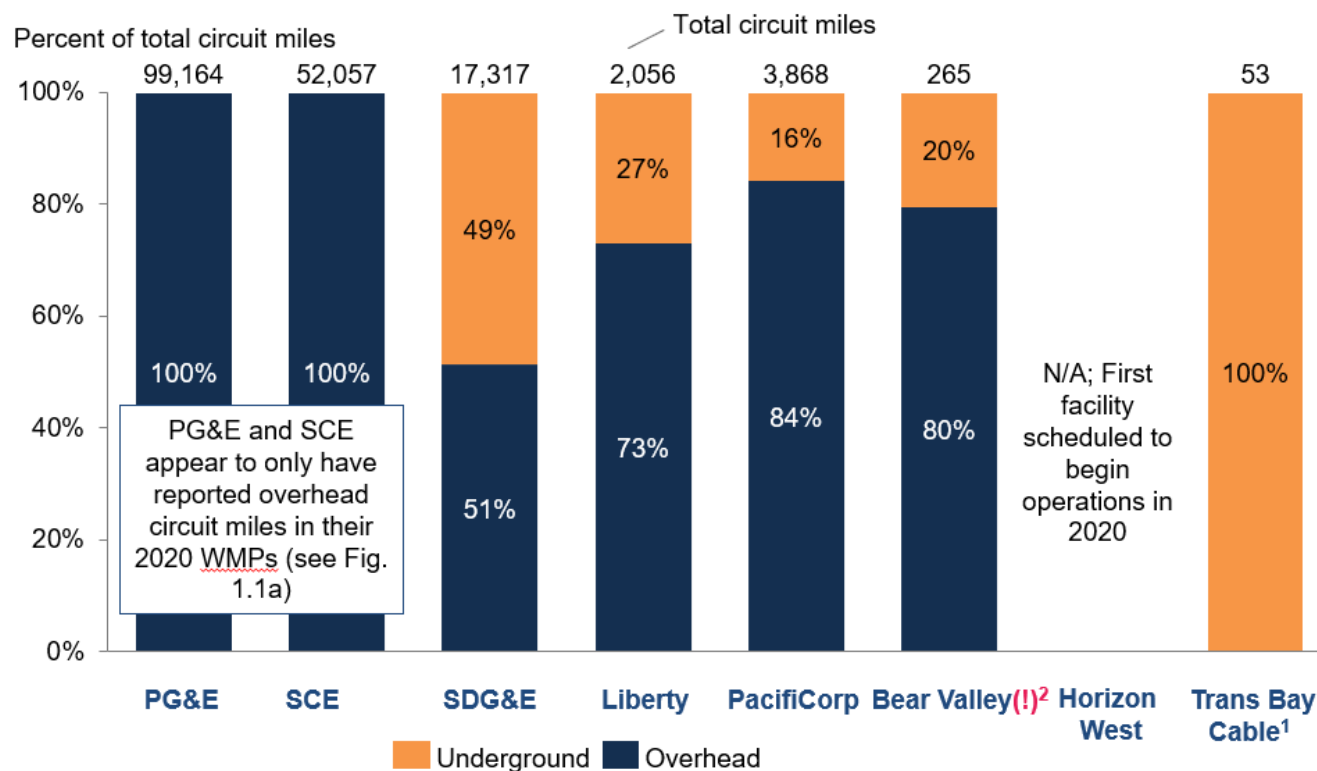


Note: In their 2020 WMPs, PG&E and SCE only reported circuit mileage data for overhead facilities. Based on the best available historical data on circuit mileage and grid topology in the Commission's possession, PG&E is reported to have 84% of its total line miles overhead, and SCE is reported to have 62% of its total line miles overhead. While the 2020 WMP Guidelines directed the utilities to report their grid topology breakdown by circuit miles, rather than line miles, the percentages overhead and underground are expected to be similar. The WSD will issue a data request to confirm accurate underground circuit mileage numbers.

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: SED standard data requests for annual grid data (reflect values as of December 2018), WMP Table 13

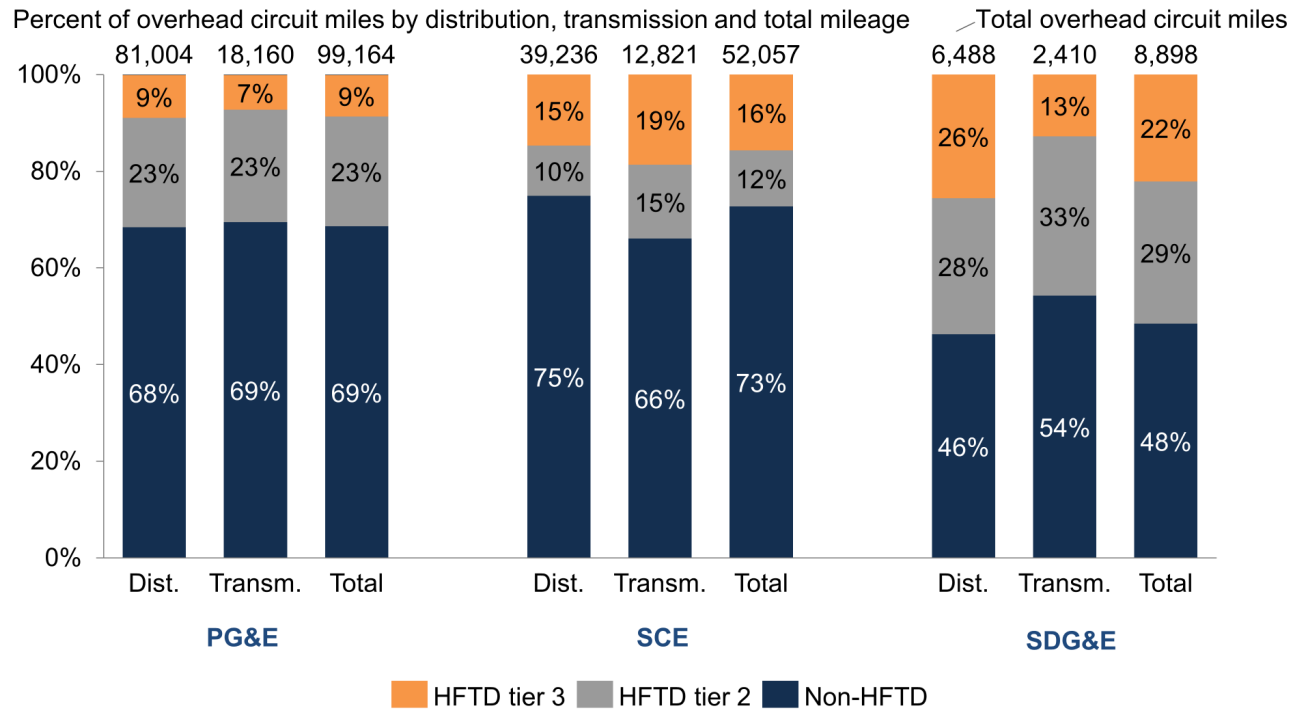
Figure 1.1b: Circuit topology breakdown by overhead and underground circuit miles



1. Trans Bay Cable did not report underground circuit miles in Table 13 of the WMP, but mentioned on page 8 of its WMP that it had 53 circuit miles of underground submarine cable, which is reflected in this chart.
2. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: WMP Table 13

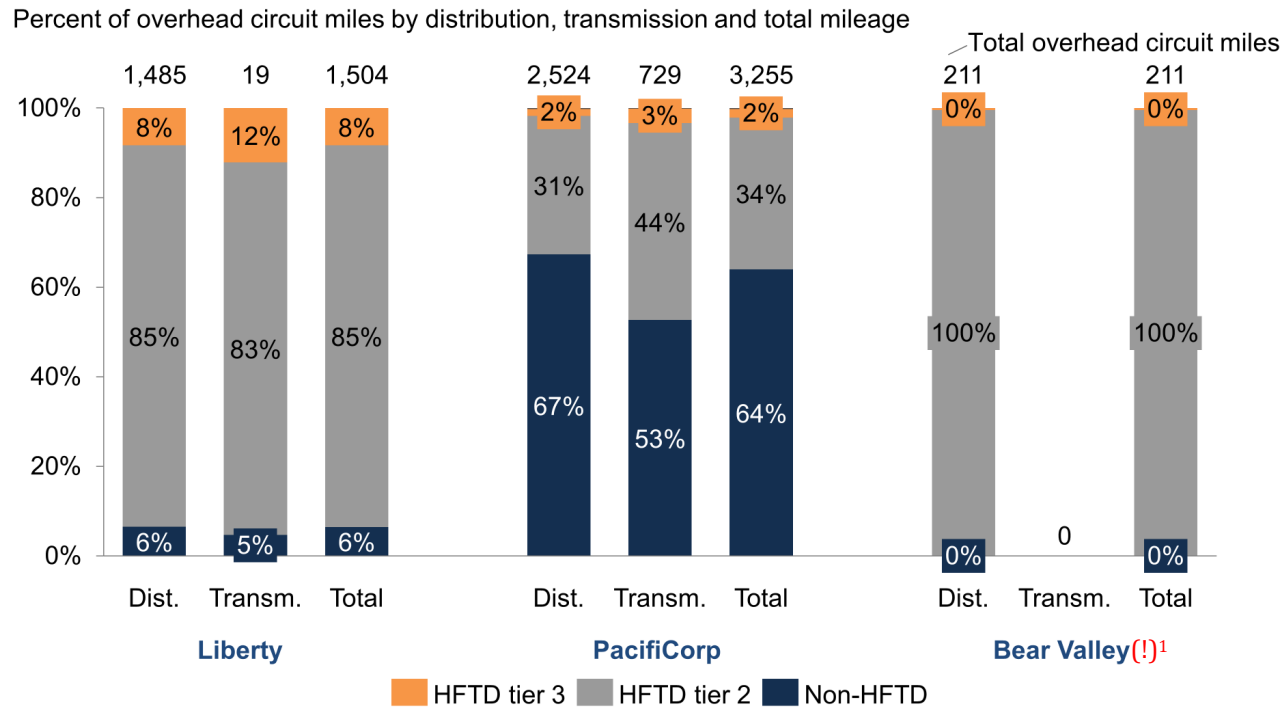
Figure 1.2a: Overhead circuit miles by HFTD Tier (Large Utilities)
Broken out by distribution (dist.) and transmission (transm.)



Note: Zone 1 not shown as subtotal.

Source: WMP Table 13

Figure 1.2b: Overhead circuit miles by HFTD Tier (Small Utilities)
Broken out by distribution (dist.) and transmission (transm.)

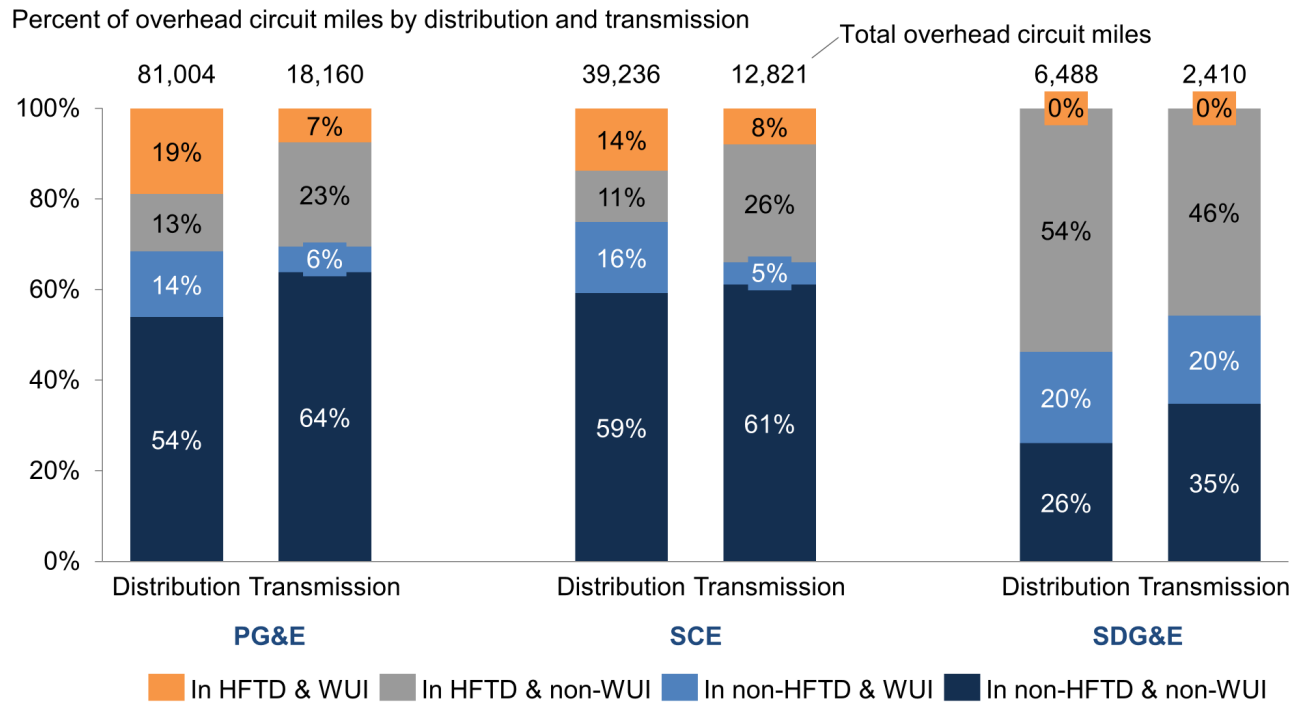


Note: Zone 1 not shown as subtotal.

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

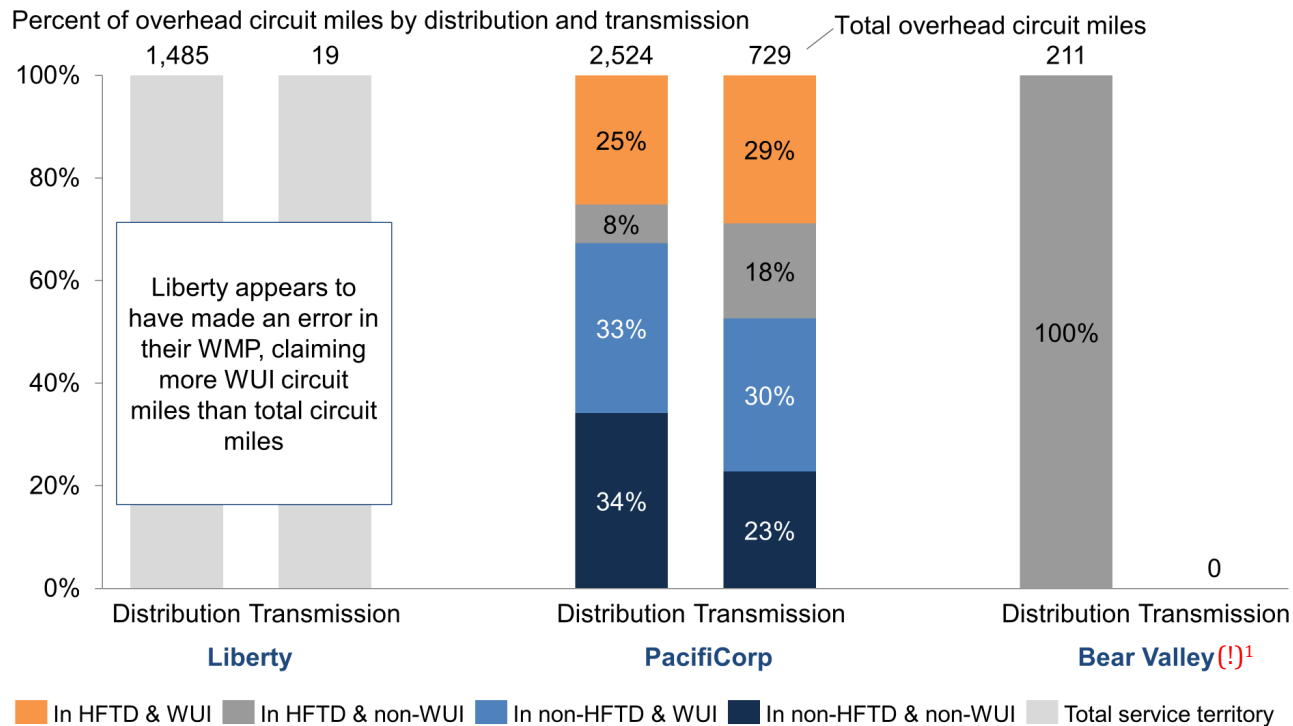
Source: WMP Table 13

Figure 1.3a: Breakdown of overhead transmission and distribution circuit miles by HFTD and WUI location (Large utilities)



Source: WMP Table 13

Figure 1.3b: Breakdown of overhead transmission and distribution circuit miles by HFTD and WUI location (Small utilities)

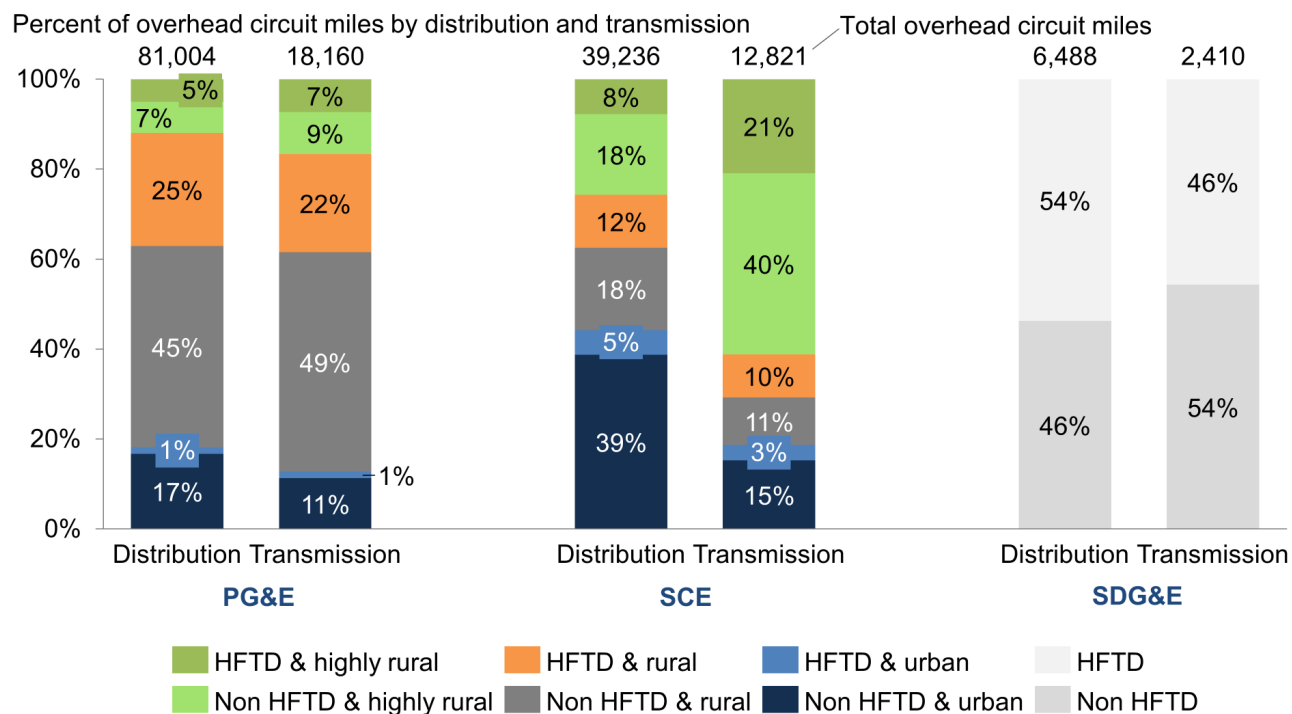


Note: Trans Bay Cable and Horizon West Transmission are not shown. Trans Bay Cable is almost entirely underground and submarine, and Horizon West Transmission did not yet have operational facilities at the time it submitted its 2020 WMP.

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: WMP Table 13

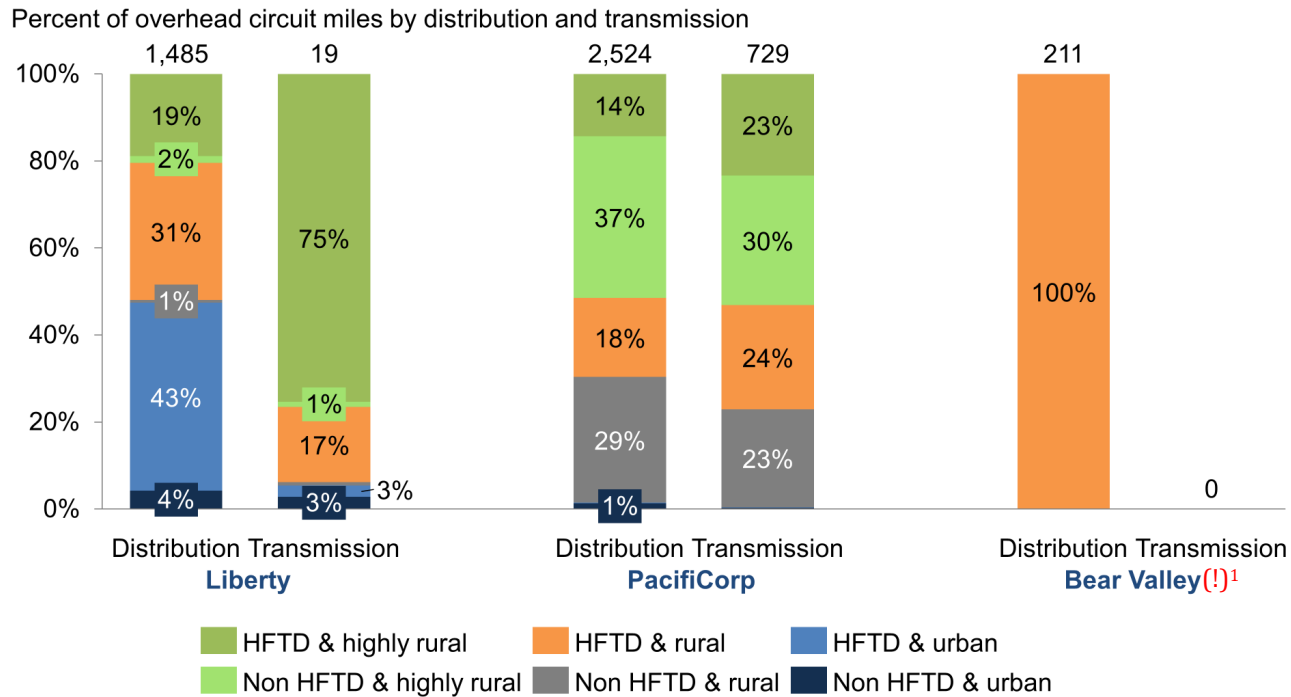
Figure 1.4a: Breakdown of overhead transmission and distribution circuit miles by HFTD and population density (Large utilities)



Note: SDG&E did not report breakdown of circuit mileage between areas of different population densities.

Source: WMP Table 13

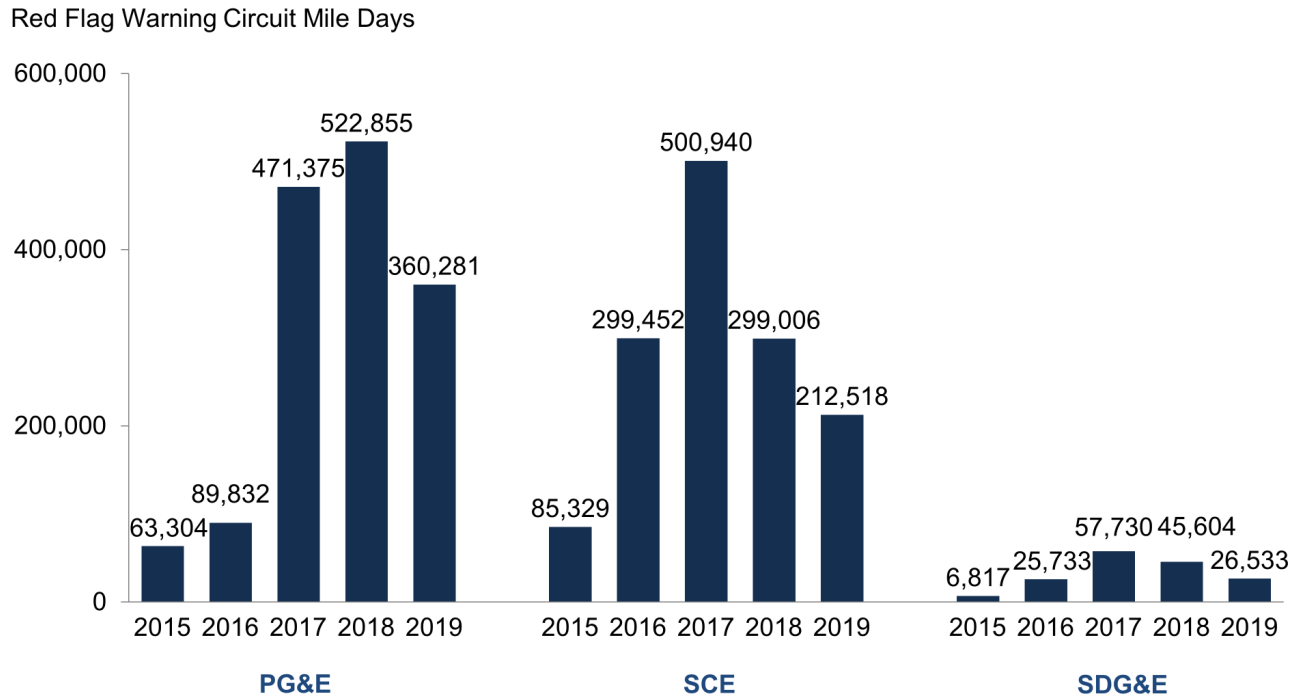
Figure 1.4b: Breakdown of overhead transmission and distribution circuit miles by HFTD and population density (Small utilities)



1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: WMP Table 13

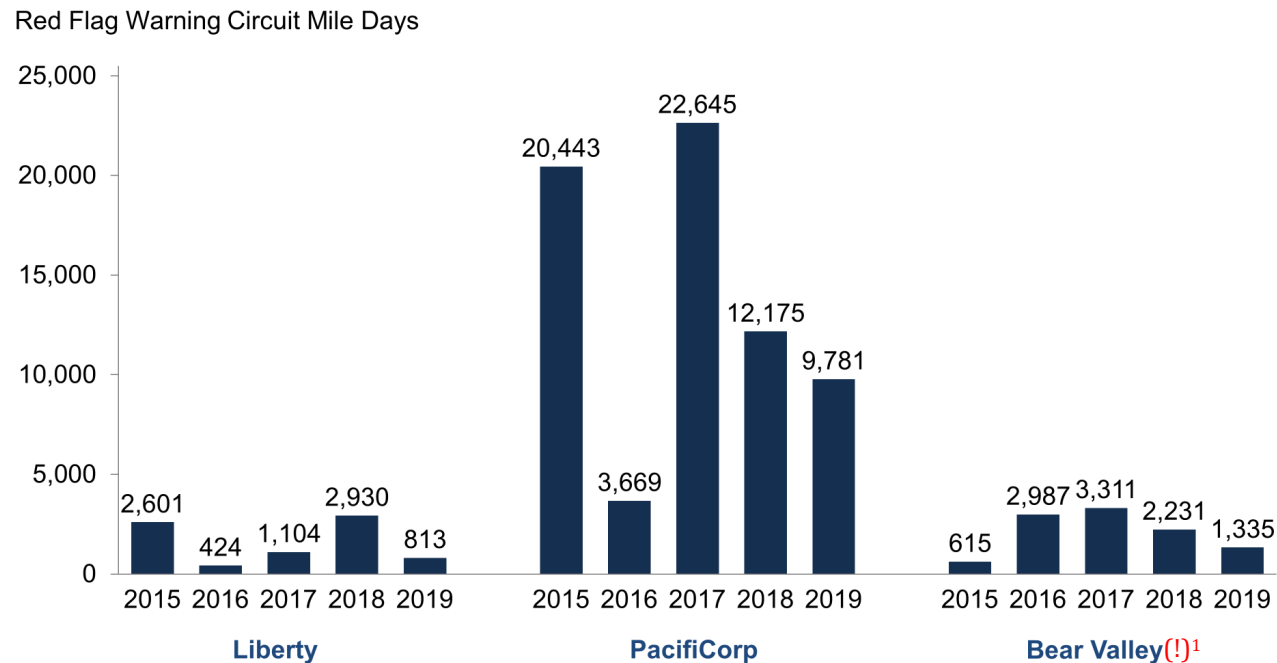
Figure 1.5a: Red flag warning circuit mile days per year by utility (Large utilities)



Note: A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year. It is defined on page 5 of the 2020 WMP Guidelines to be calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under said RFW. For example, if 100 circuit miles were under a RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW circuit mile days would be 110.

Source: WMP Table 10

Figure 1.5b: Red flag warning circuit mile days per year by utility (Small utilities)

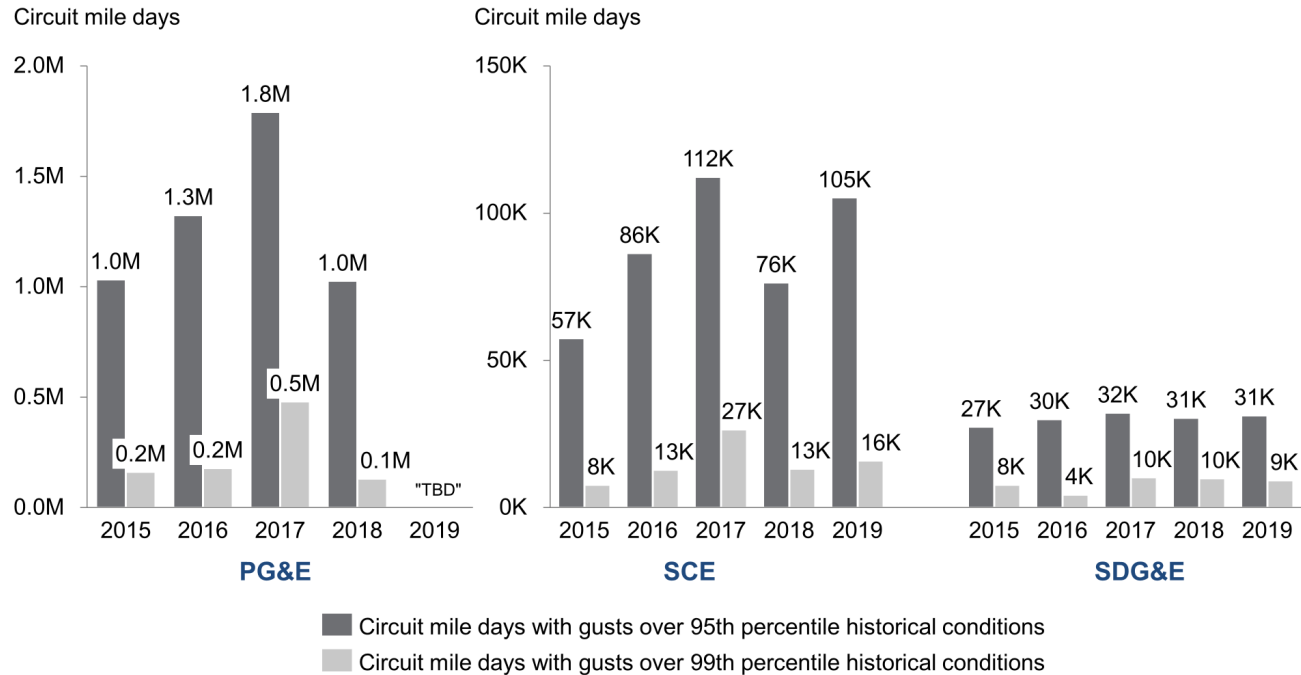


Note: A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year. It is defined on page 5 of the 2020 WMP Guidelines to be calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under said RFW. For example, if 100 circuit miles were under a RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW circuit mile days would be 110.

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: WMP Table 10

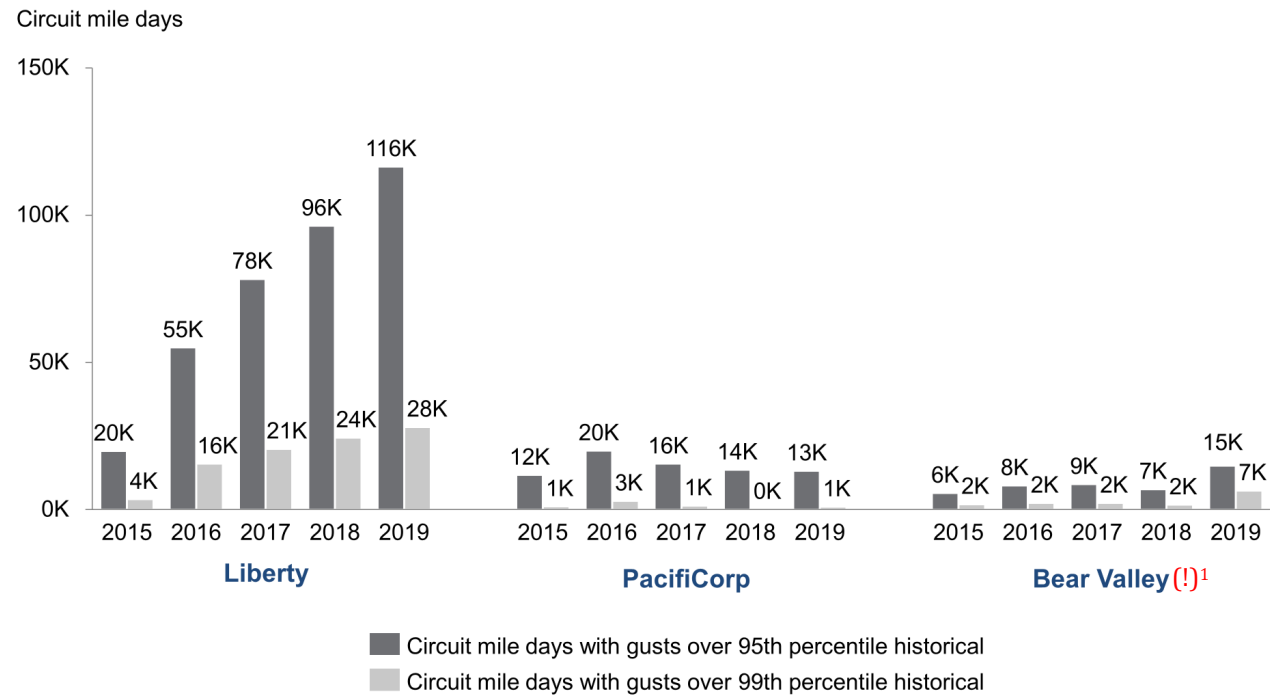
Figure 1.5c: 95th and 99th percentile wind conditions (Large utilities)



Note: Utilities were directed to report historical conditions as conditions over 10 prior years, 2005-2014. SCE appears to have instead reported historical conditions over the 5 prior years, 2009-2014, thus using a different baseline to calculate 95th and 99th percentile wind speeds. More information is needed to fully address potential inconsistencies between utilities. PG&E stated that 2019 data would not be available until late Q2 2020.

Source: WMP Table 10

Figure 1.5d: 95th and 99th percentile wind conditions (Small utilities)



Note: Historical conditions refer to conditions over 10 prior years, 2005-2014.

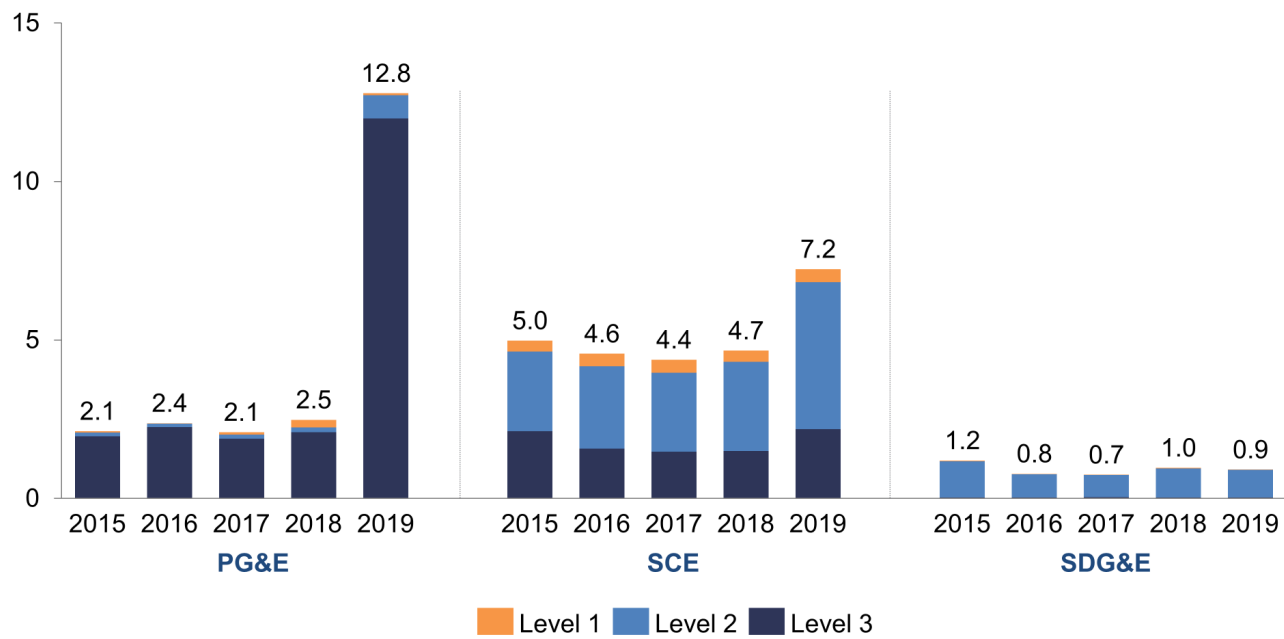
1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: WMP Table 10

1.2 Outcome Metrics

Figure 2.1a: Asset inspection findings normalized by total circuit mileage (Large utilities)

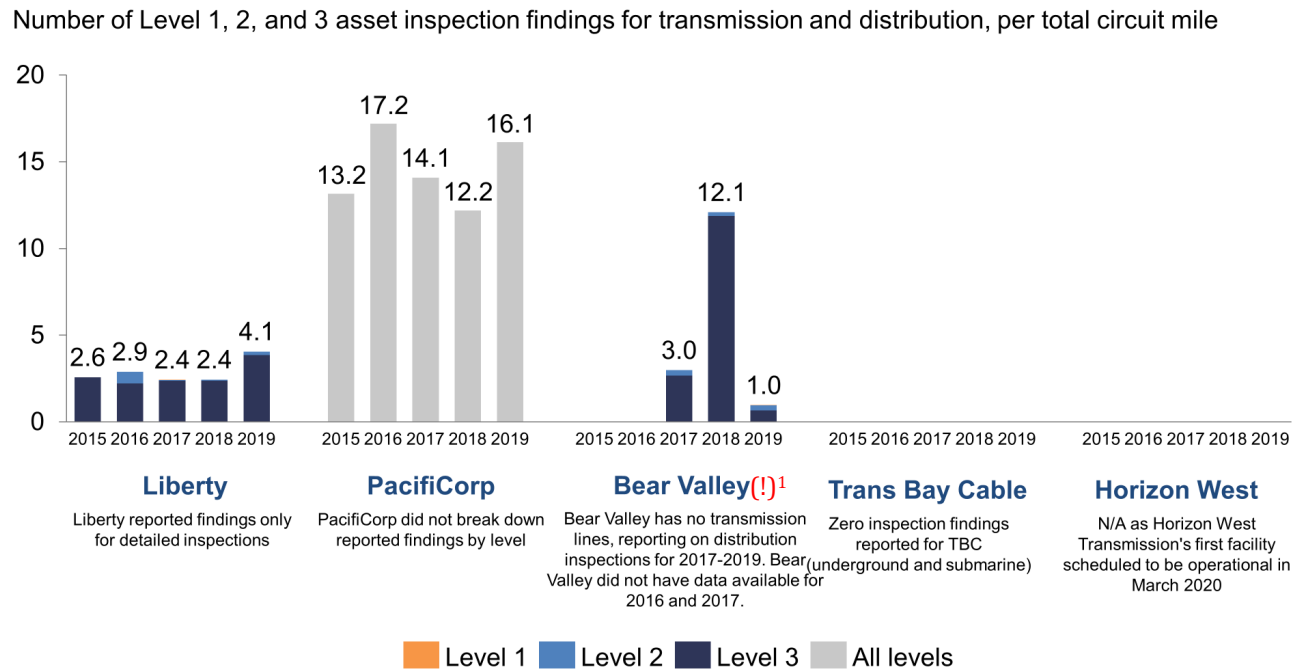
Number of Level 1, 2, and 3 asset inspection findings for transmission and distribution, per total circuit mile



Note: Utilities reported their inspection findings as normalized by total circuit miles in Table 1 of their WMPs.

Source: WMP Table 1

Figure 2.1b: Asset inspection findings normalized by total circuit mileage (Small utilities)

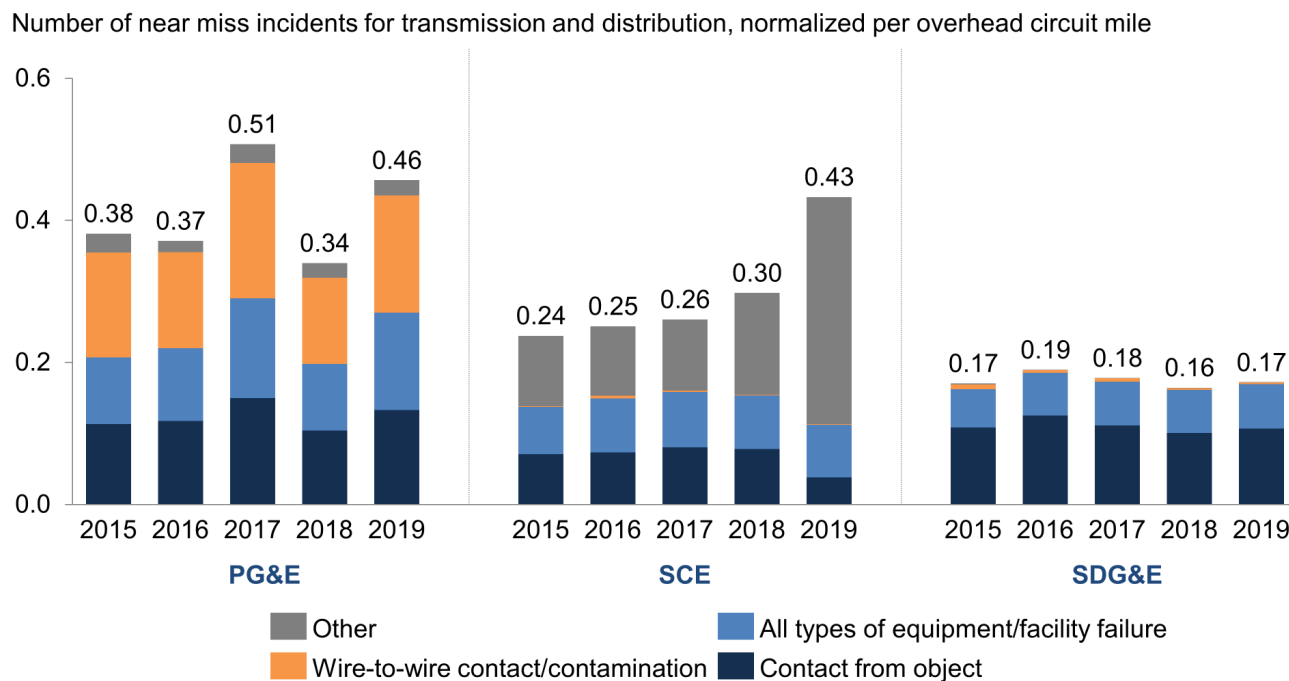


Note: Utilities reported their inspection findings as normalized by total circuit miles in Table 1 of their WMPs. In Table 1, Liberty reported inspection findings in miles between findings rather than in findings per circuit mile as the 2020 WMP Guidelines directed. To represent inspection findings in a way consistent with the reporting of other utilities, the WSD inverted the metric reported by Liberty to show inspection findings in findings per circuit mile in this chart. Bear Valley reported inspection findings normalized per overhead circuit mile rather than per total circuit mile as instructed. For consistency, the WSD re-normalized these findings per total circuit mile using data from Table 13.

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: WMP Table 1

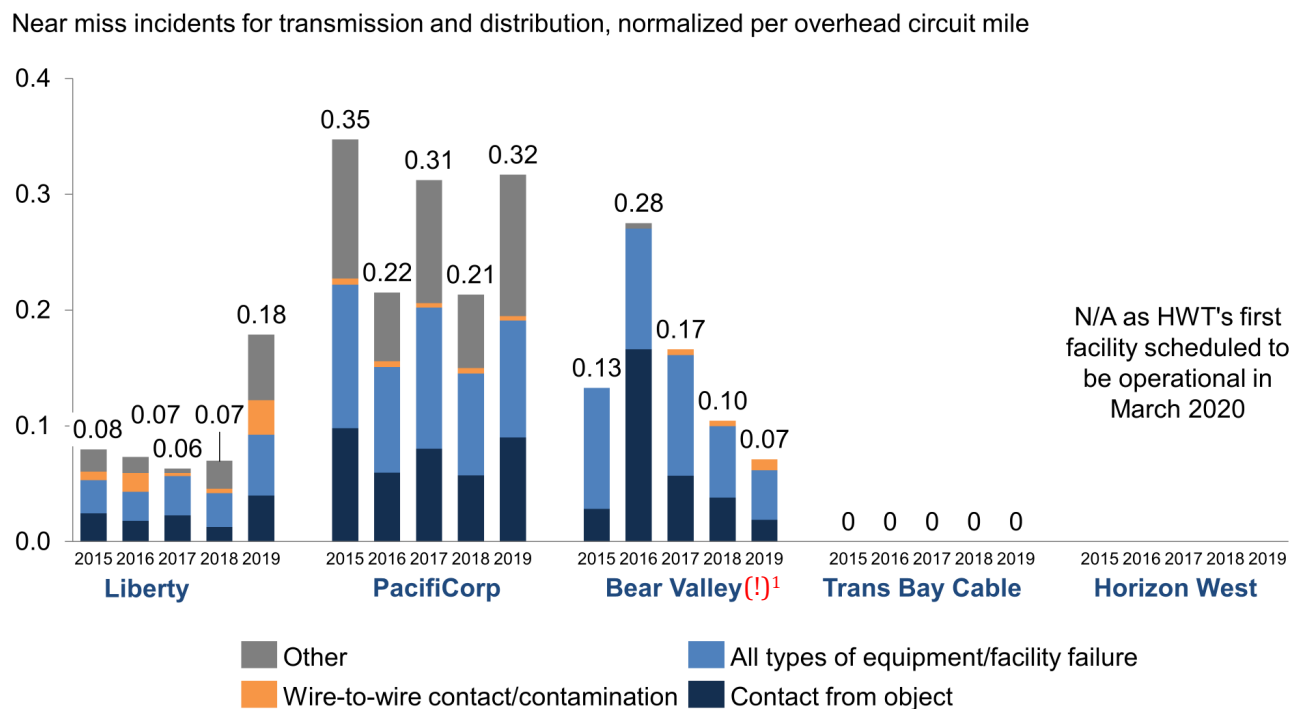
Figure 2.2a: Near miss incidents normalized by overhead circuit mileage (Large utilities)



Note: The measurement of each ‘near miss’ is not yet perfectly standardized across utilities. The WSD will work toward a more standardized approach for tracking and classifying near miss data for 2021 WMPs. A near miss was defined in the 2020 WMP Guidelines as “An event with significant probability of ignition, including wires down, contacts with objects, line slap, events with evidence of significant heat generation, and other events that cause sparking or have the potential to cause ignition.”

Source: Tables 11a and 11b from utility WMPs and data requests, normalized by data from Table 13 of utility WMPs; SDG&E equipment failure numbers adjusted to address inconsistencies in subtotal calculations provided by SDG&E.

Figure 2.2b: Near miss incidents normalized by overhead circuit mileage (Small utilities)



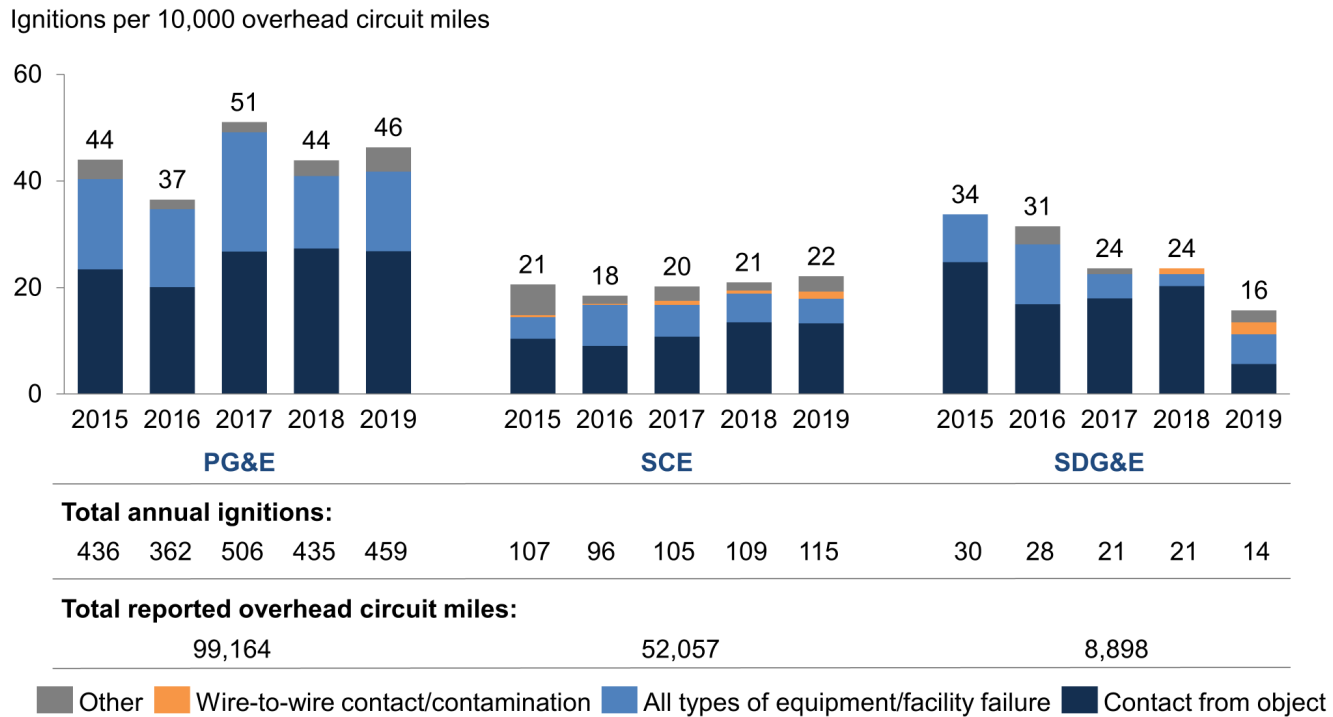
Note: The measurement of each 'near miss' is not yet perfectly standardized across utilities. The WSD will work toward a more standardized approach for tracking and classifying near miss data for 2021 WMPs. A near miss was defined in the 2020 WMP Guidelines as "An event with significant probability of ignition, including wires down, contacts with objects, line slap, events with evidence of significant heat generation, and other events that cause sparking or have the potential to cause ignition."

For PacifiCorp, the largest drivers of "Other" near misses were "Other" (50% on average over the 5 year period) and "Unknown" (42% on average over the 5 year period).

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

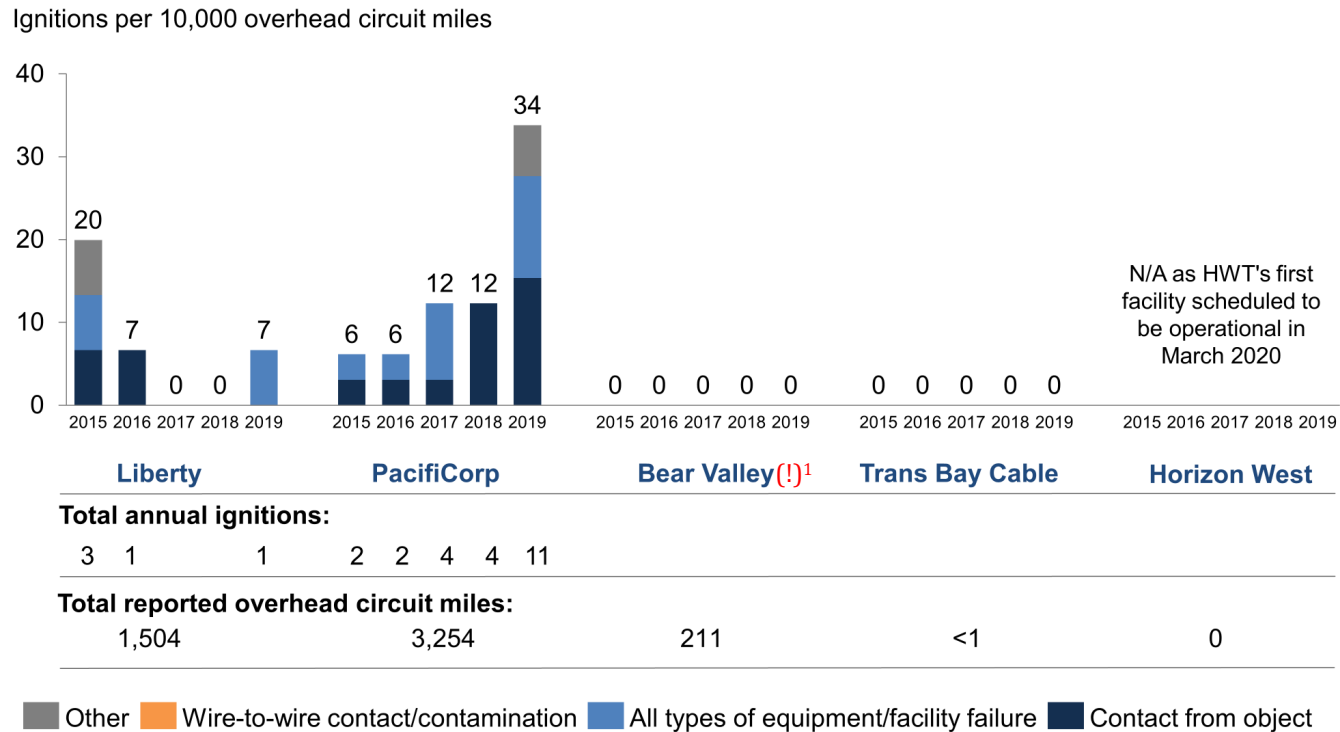
Source: Tables 11a and 11b from utility WMPs and data requests, normalized by data from Table 13 of utility WMPs; BVES numbers adjusted to address inconsistencies in subtotal calculations provided.

Figure 2.3a: Number of ignitions, normalized by overhead circuit mileage (Large utilities)



Source: Tables 11a and 11b from utility WMPs and data requests normalized by data from Table 13 of utility WMPs; SDG&E equipment failure numbers adjusted to address inconsistencies in subtotal calculations provided.

Figure 2.3b: Number of ignitions, normalized by overhead circuit mileage (Small utilities)

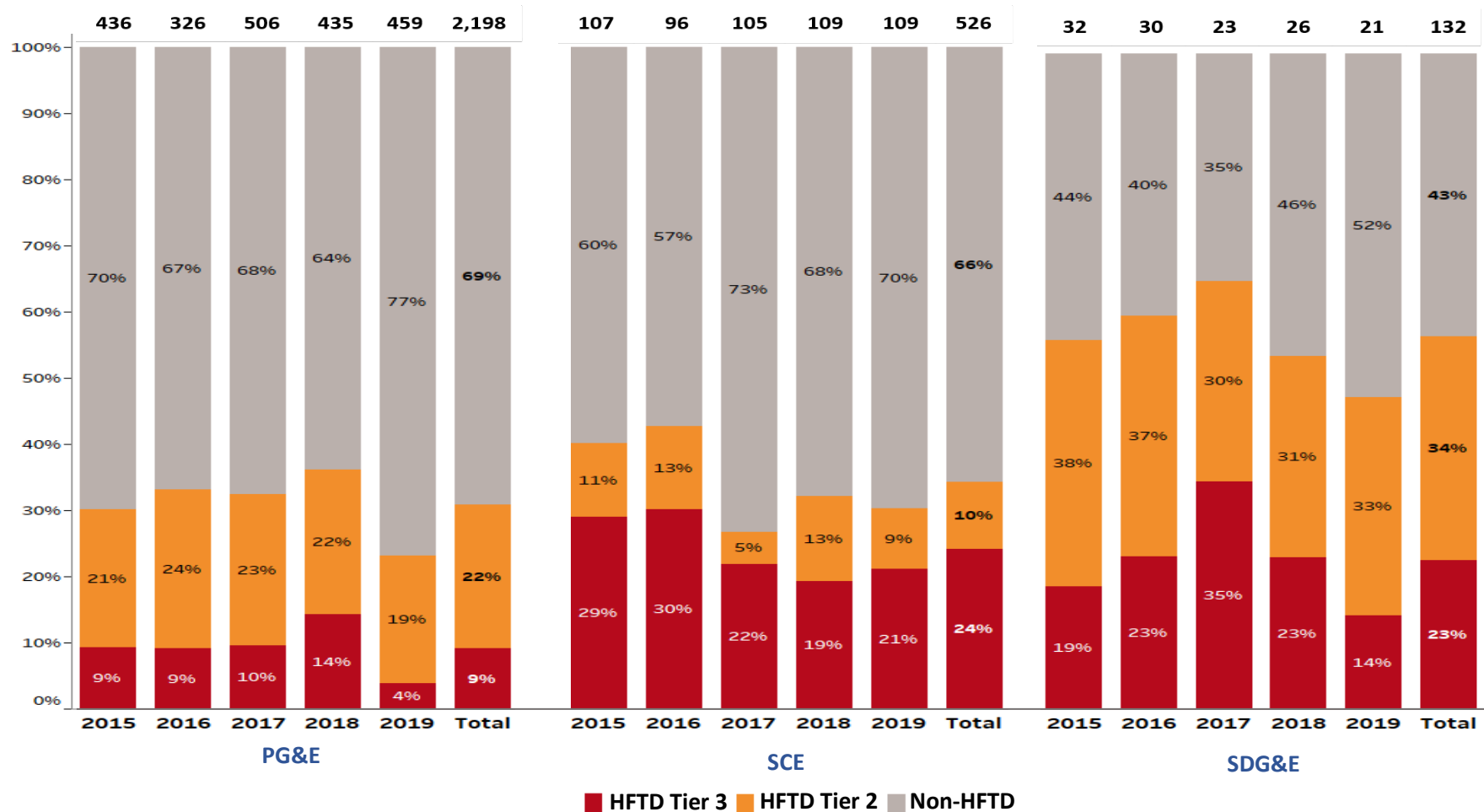


Note: Total number of ignitions only shown for utilities and years where ignitions were greater than zero.

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: Tables 11a and 11b from utility WMPs and data requests normalized by data from Table 13 of utility WMPs; PacifiCorp numbers adjusted to account for Tables 11c and 11d.

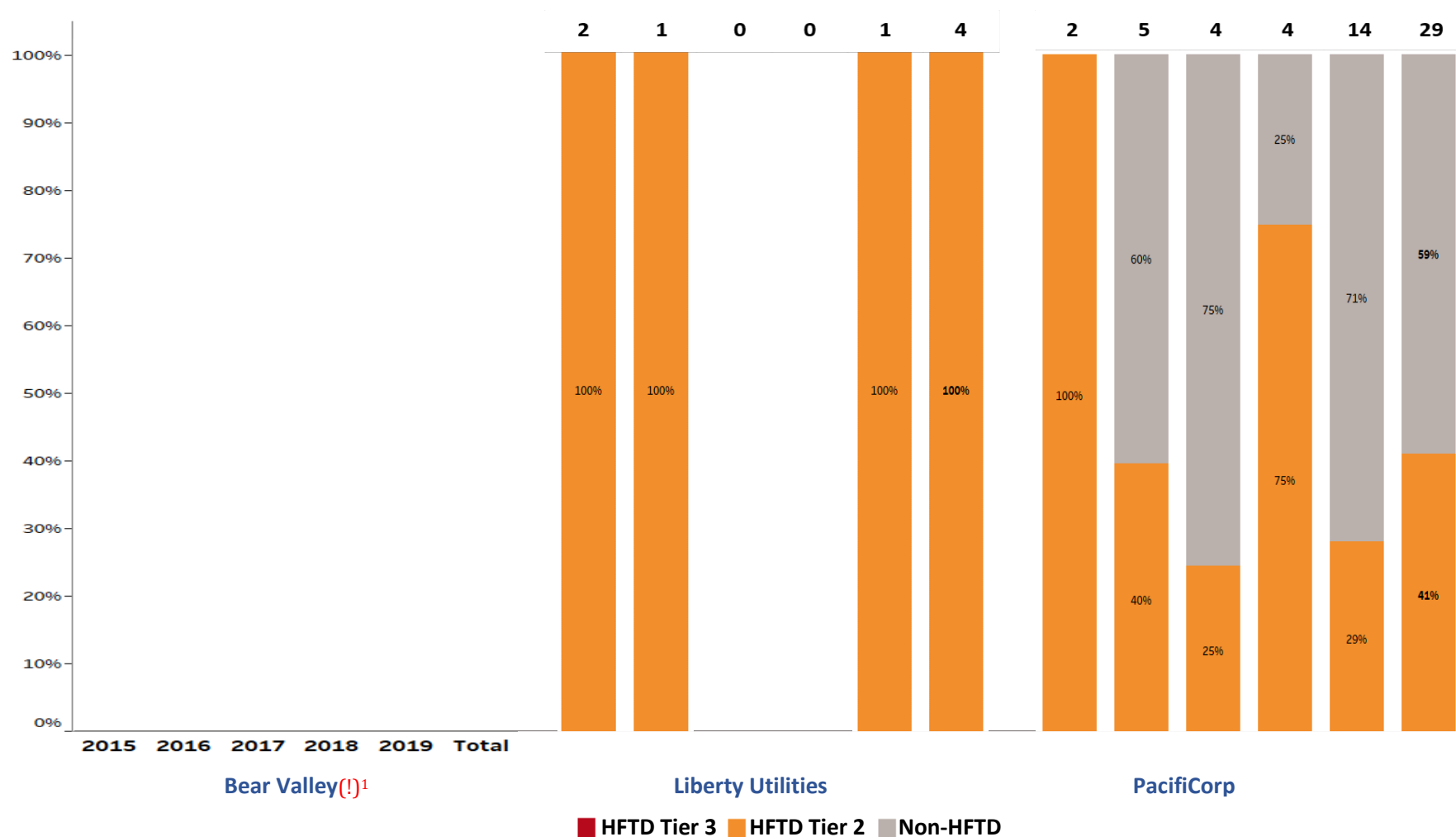
Figure 2.4a: Total ignitions by HFTD location (Large utilities)



Note: Ignitions in Zone 1 HFTD areas make up less than 1% of total ignitions.

Source: Table 2 from utility WMPs

Figure 2.4b: Total ignitions by HFTD location (Small utilities)



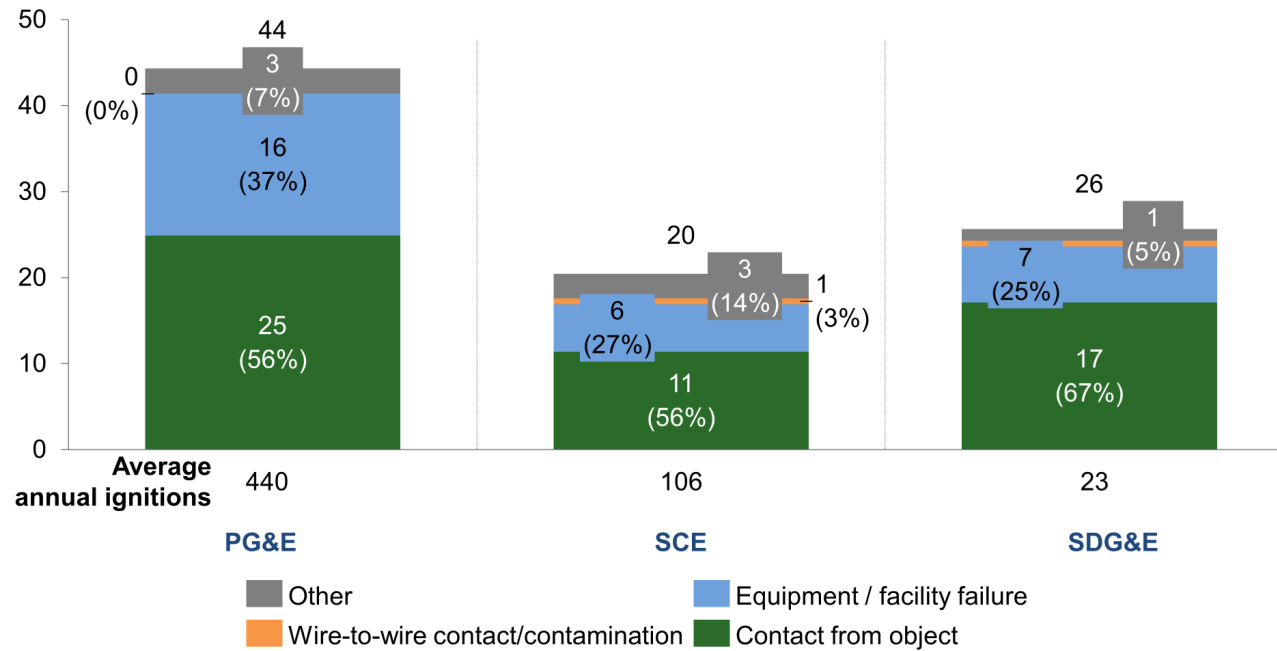
Note: Ignitions in Zone 1 HFTD areas make up less than 1% of total ignitions.

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: Table 2 from utility WMPs

Figure 2.5a: Ignitions by ignition probability driver type (Large utilities)

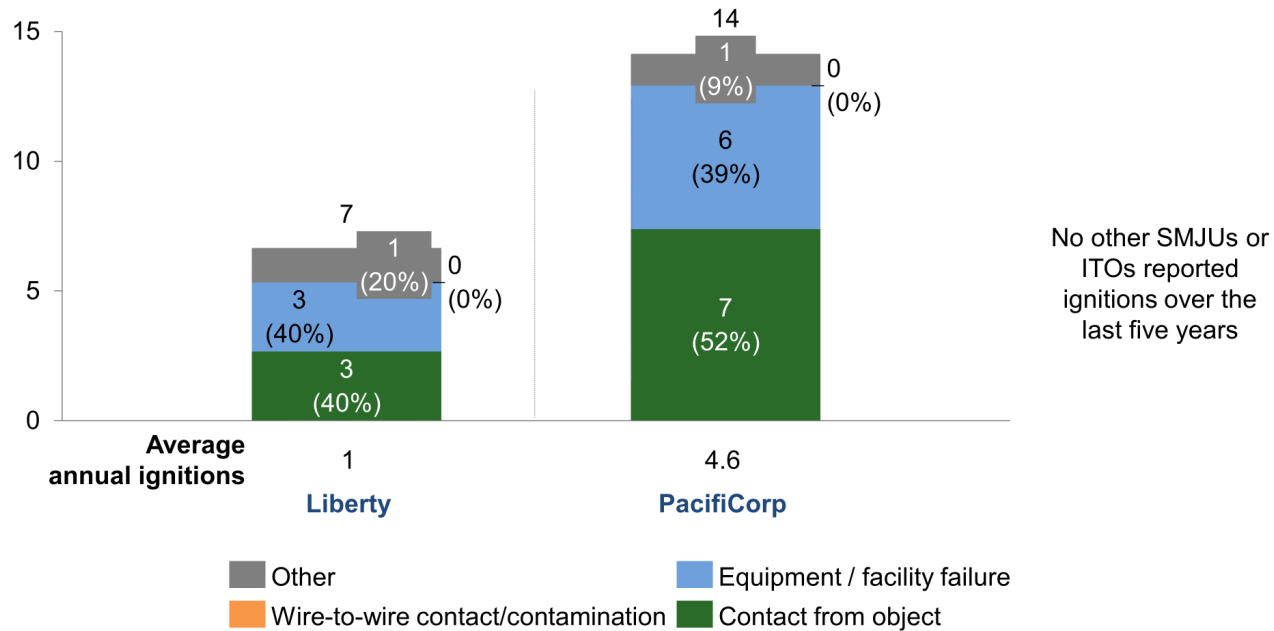
Average annual ignitions, transmission and distribution, 2015-2019, per 10,000 overhead circuit miles



Source: Tables 11a and 11b from utility WMPs and data requests normalized by data from Table 13 of utility WMPs; SDG&E equipment failure numbers adjusted to address inconsistencies in subtotal calculations provided.

Figure 2.5b: Ignitions by ignition probability driver type (Small utilities)

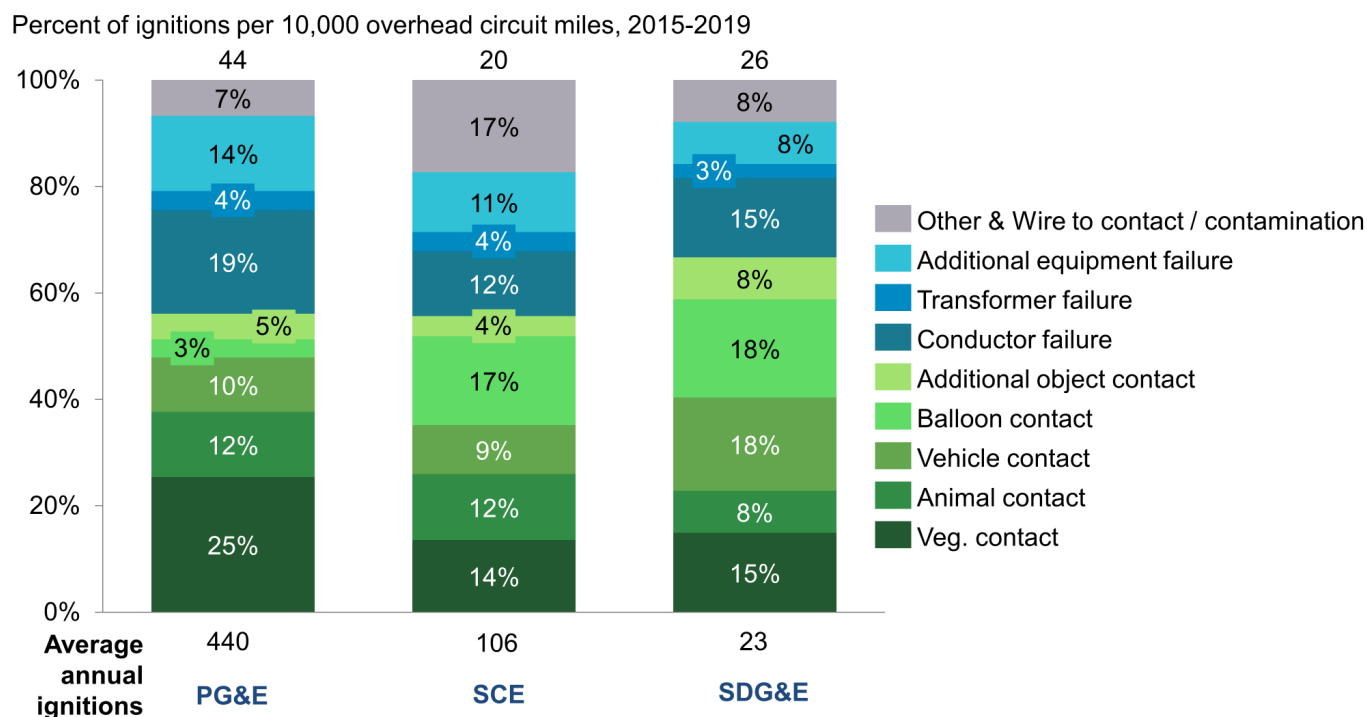
Average annual number of ignitions, transmission and distribution, 2015-2019, per 10,000 overhead circuit miles



Note: Since Liberty and PacifiCorp have less than 10,000 overhead circuit miles, their average number of total annual ignitions per 10,000 circuit miles is greater than their average number of total annual ignitions.

Source: Tables 11a and 11b from utility WMPs and data requests, normalized by data from Table 13 of utility WMPs; PacifiCorp numbers adjusted to account for Tables 11c and 11d.

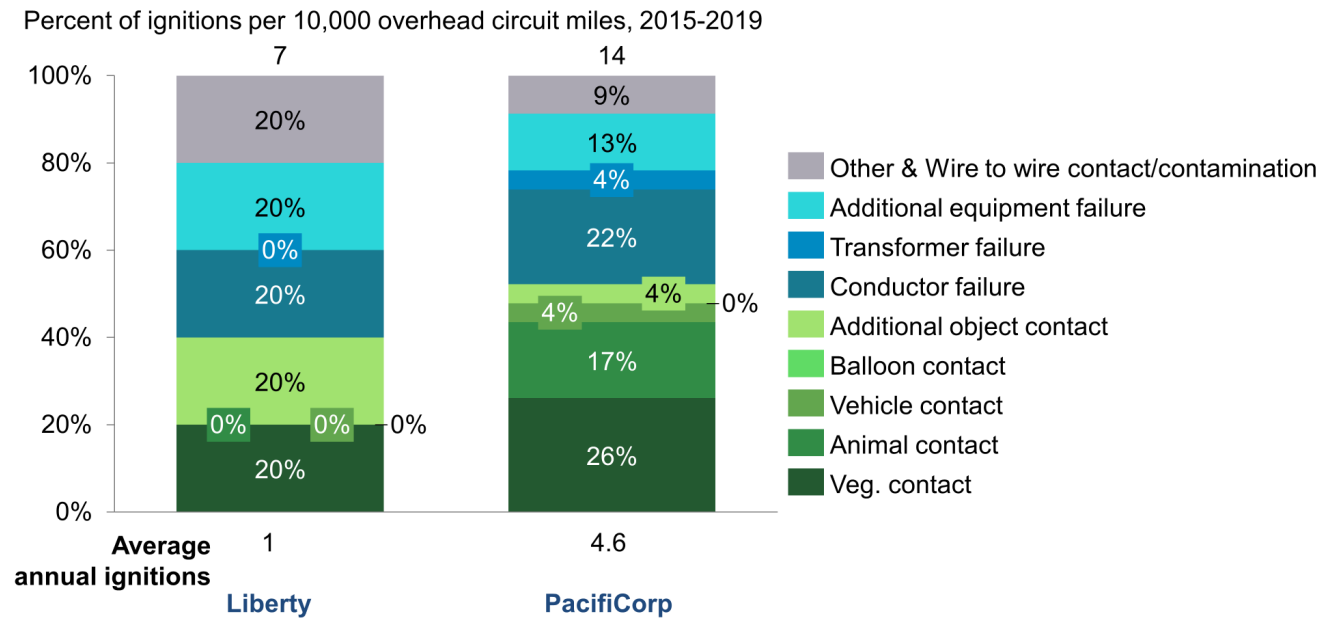
Figure 2.6a: Detail: Share of ignitions due to each ignition probability driver (Large utilities)



Note: Conductor failure includes conductor failure (as reported), splice, clamp and connector. Other includes wire to wire contact / contamination.

Source: Tables 11a and 11b from utility WMPs and data request normalized by data from Table 13 of utility WMPs; SDG&E equipment failure numbers adjusted to address inconsistencies in subtotal calculations provided. Since SDG&E has less than 10,000 overhead circuit miles, its average number of total annual ignitions per 10,000 circuit miles is greater than its average number of total annual ignitions.

Figure 2.6b: Detail: Share of ignitions due to each ignition probability driver (Small utilities)

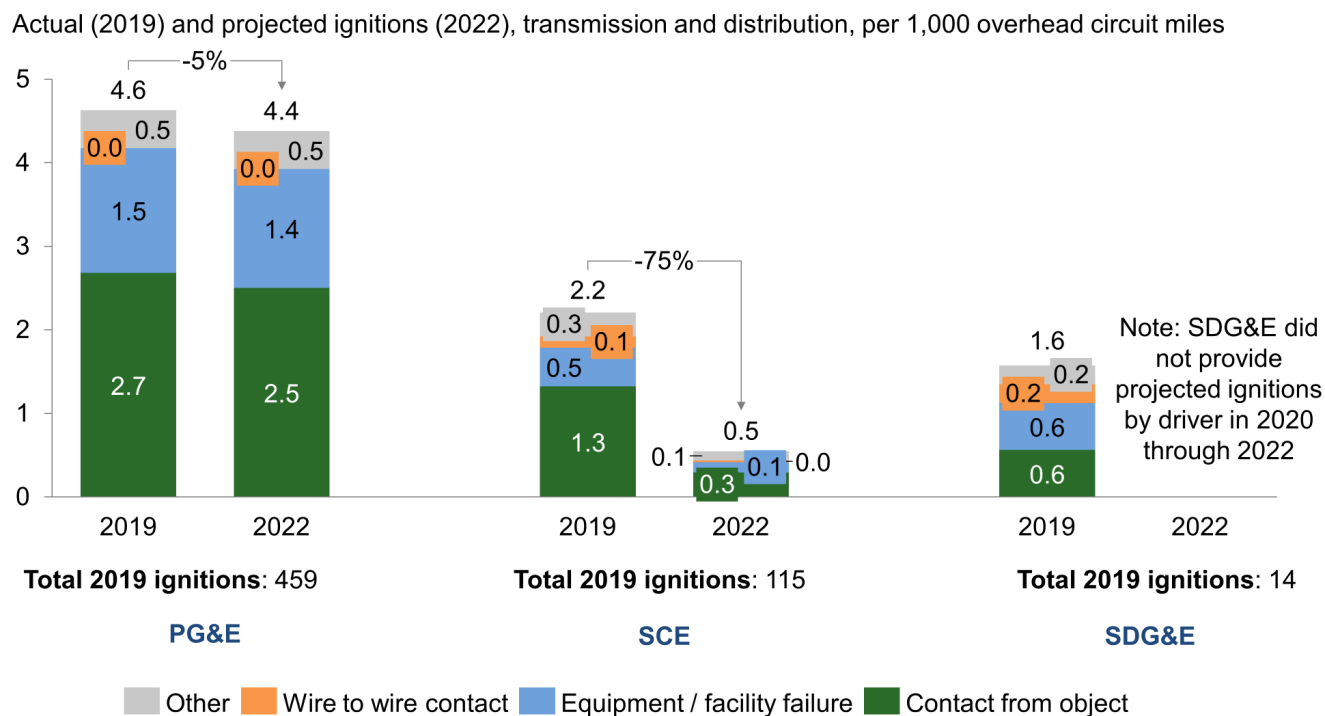


No other small utilities reported ignitions over the last five years

Note: Conductor failure includes conductor failure (as reported), splice, clamp and connector. Other includes wire-to-wire contact / contamination. Since Liberty and PacifiCorp have less than 10,000 overhead circuit miles, their average number of total annual ignitions per 10,000 circuit miles is greater than their average number of total annual ignitions.

Source: Tables 11a and 11b from utility WMPs and data requests, normalized by data from Table 13 of utility WMPs; PacifiCorp numbers adjusted to account for Tables 11c and 11d.

Figure 2.7a: Actual and projected ignitions for top ignition drivers, 2019 and 2022



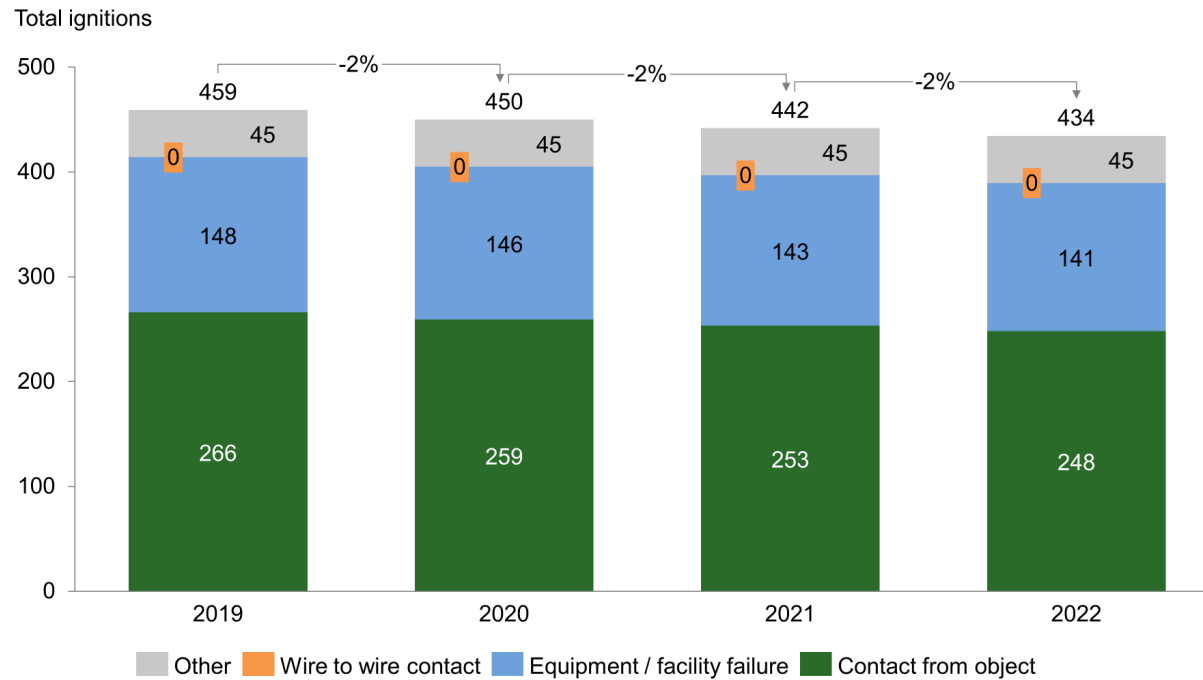
Note: Projections assume WMP implementation according to plan and weather patterns consistent with 5 year historical average. See the 2020 WMP Guidelines for further detail.

Small utilities populated Table 31 either not at all or with all zeroes. Specifically: Horizon West Transmission left it blank as it did not yet have operational facilities when it submitted its 2020 WMP; Trans Bay Cable and Bear Valley Electric Service reported anticipating no ignitions (having seen no ignitions in the past 5 years); Liberty did not populate Table 31; PacifiCorp reported only a general reducing trend anticipated with no discrete data available.

Source: Tables 11a, 11b, 31a, and 31b from utility WMPs and data requests; SDG&E equipment failure numbers adjusted to address inconsistencies in subtotal calculations provided by SDG&E.

Figure 2.7b: PG&E Detail: Actual and projected ignitions for top ignition drivers, 2019 and 2022

Figure shows reported 2019 ignitions and projected future ignitions by driver category, for transmission and distribution

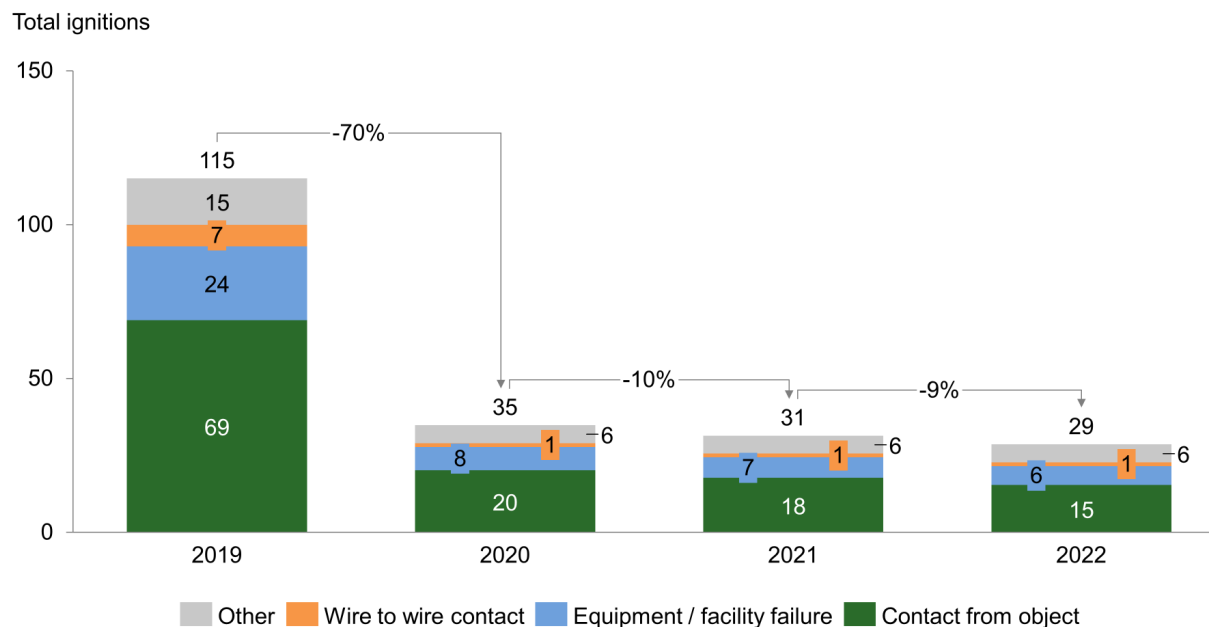


Note: Projections assume WMP implementation according to plan and weather patterns consistent with 5 year historical average. See the 2020 WMP Guidelines for more information on assumptions made.

Source: Tables 11a, 11b, 31a, and 31b from PG&E WMP and data requests

Figure 2.7c: SCE Detail: Actual and projected ignitions for top ignition drivers, 2019 and 2022

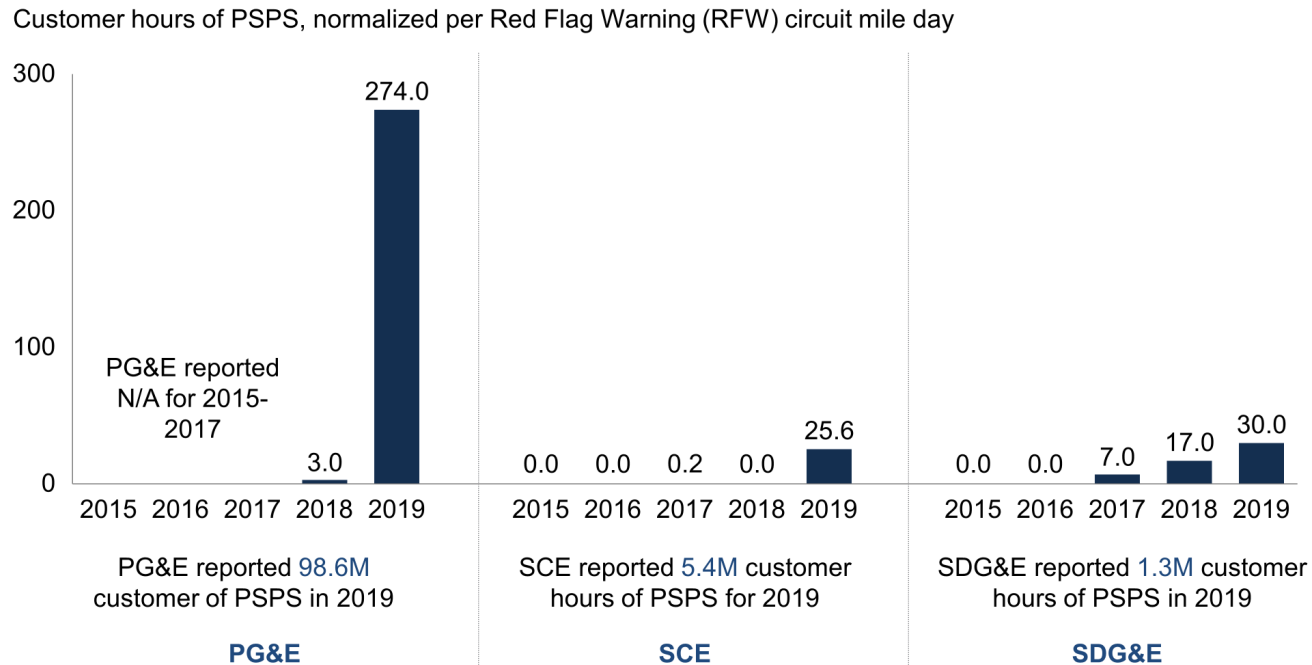
Figure shows reported 2019 ignitions and projected future ignitions by driver category, for transmission and distribution



Source: Tables 11a, 11b, 31a, and 31b from SCE WMP and data requests

Note: Projections assume WMP implementation according to plan and weather patterns consistent with 5 year historical average. See the 2020 WMP Guidelines for more information on assumptions made.

Figure 2.8a: Normalized PSPS duration in customer hours (Large utilities)

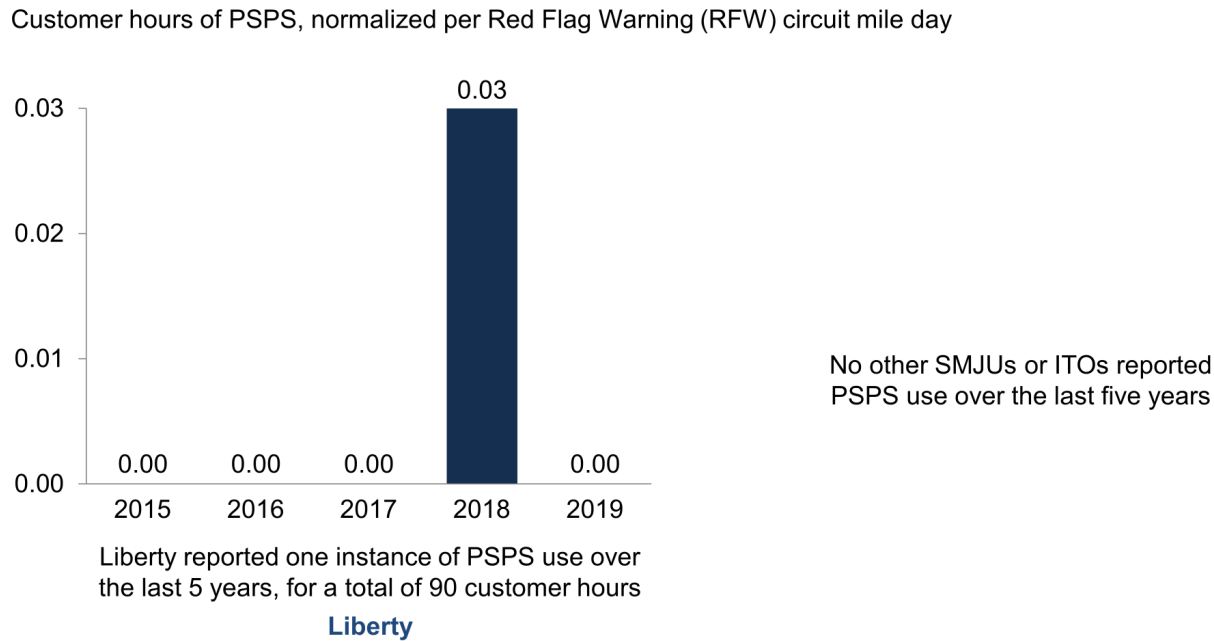


Note: Normalization using RFW circuit mile days helps take into account fire weather conditions based on a commonly used metric; more detail is necessary to address potential inconsistencies in how each utility calculates this figure. A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year and is calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under said RFW (per page 5 of the 2020 WMP Guidelines). For example, if 100 circuit miles were under a RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW circuit mile days would be 110.

Utilities' ability to implement PSPS (including accurate predictions and customer communication) is captured in the Utility Wildfire Mitigation Maturity Model's "PSPS operating model and consequence mitigation" capability.

Source: Table 12 of utility WMPs.

Figure 2.8b: Normalized PSPS duration in customer hours (Small utilities)

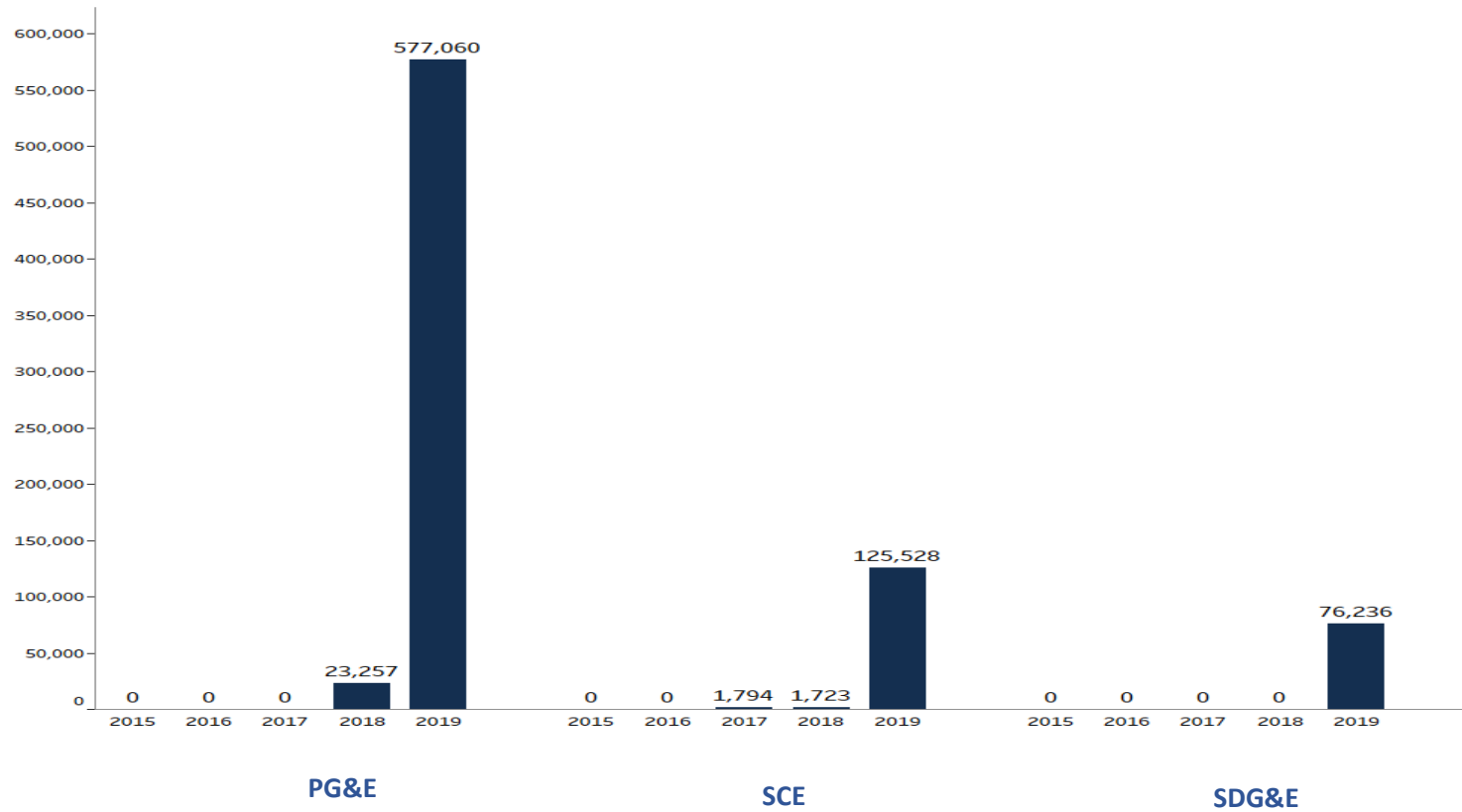


Note: Normalization using RFW circuit mile days helps take into account fire weather conditions based on a commonly used metric; more detail is necessary to address potential inconsistencies in how each utility calculates this figure. A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year and is calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under said RFW (per page 5 of the 2020 WMP Guidelines). For example, if 100 circuit miles were under a RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW circuit mile days would be 110.

Utilities' ability to implement PSPS (including accurate predictions and customer communication) is captured in the Utility Wildfire Mitigation Maturity Model's "PSPS operating model and consequence mitigation" capability.

Source: Table 12 of utility WMPs.

Figure 2.8c: PSPS impacts on critical infrastructure

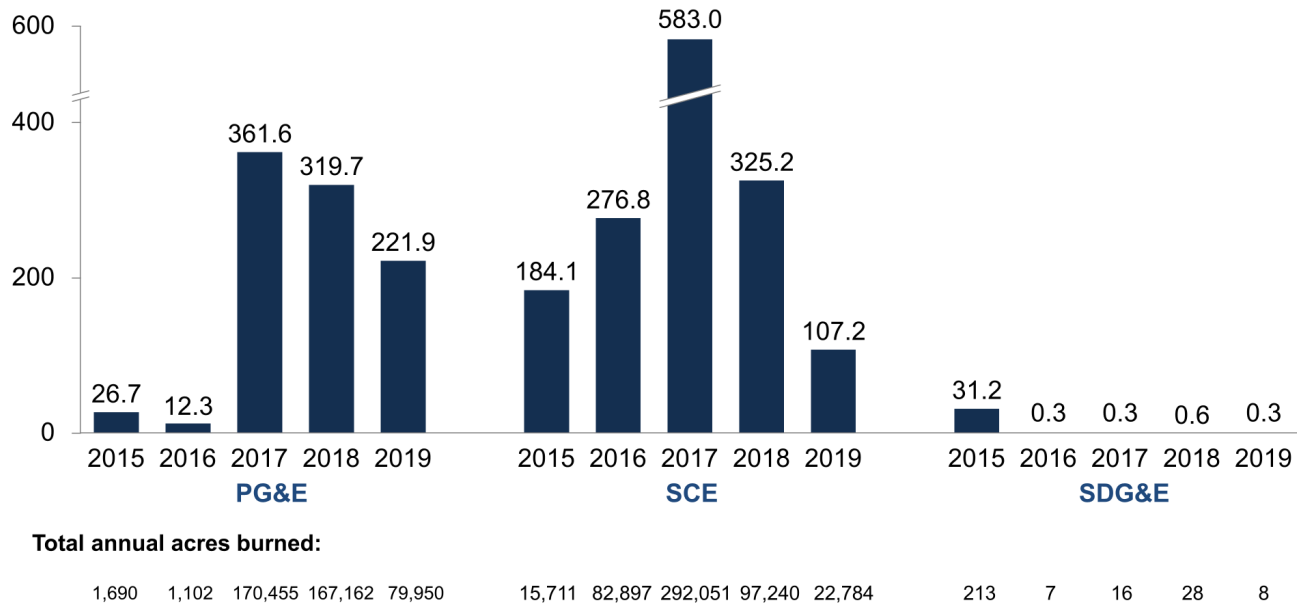


Note: Count is based on number of critical infrastructure locations impacted per hour multiplied by hours offline per year

Source: Table 2 of utility WMPs

Figure 2.9a: Normalized area burned by utility ignited wildfire (Large utilities)

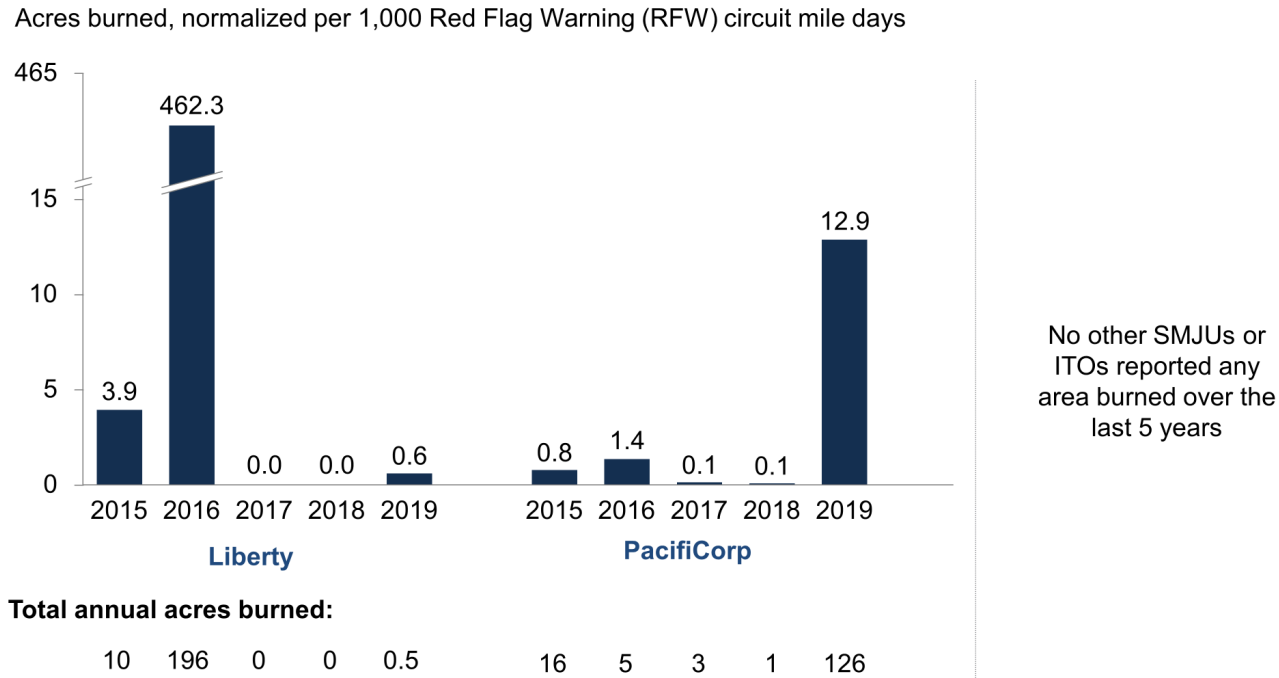
Acres burned, per 1,000 Red Flag Warning (RFW) circuit mile days



Note: Normalization using RFW circuit mile days helps take into account fire weather conditions based on a commonly used metric. A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year. It is defined on page 5 of the 2020 WMP Guidelines to be calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under said RFW. For example, if 100 circuit miles were under a RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW circuit mile days would be 110. To address inconsistencies in how utilities normalized this metric in Table 2 of their WMPs, this table shows number of acres burned as reported in Table 2 normalized by RFW Circuit Mile Days as reported in Table 10.

Source: Table 2 and Table 10 of utility WMPs.

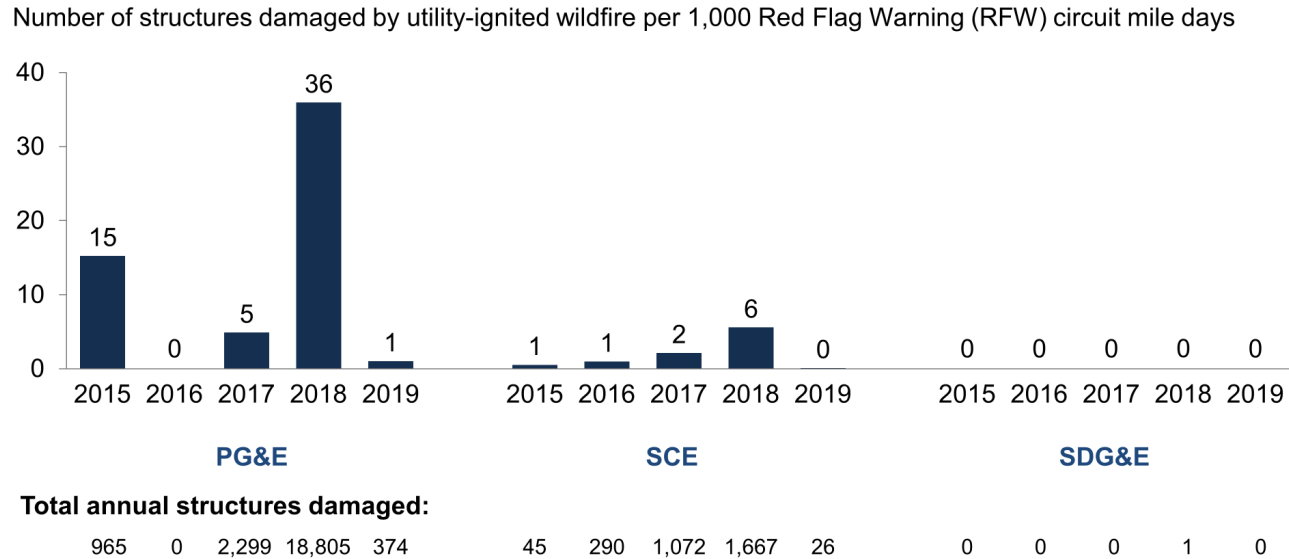
Figure 2.9b: Normalized area burned by utility ignited wildfire (Small utilities)



Note: Normalization using RFW circuit mile days helps take into account fire weather conditions based on a commonly used metric. A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year. It is defined on page 5 of the 2020 WMP Guidelines to be calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under said RFW. For example, if 100 circuit miles were under a RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW circuit mile days would be 110. To address inconsistencies in how utilities normalized this metric in Table 2 of their WMPs, this table shows number of acres burned as reported in Table 2 normalized by RFW Circuit Mile Days as reported in Table 10.

Source: Table 2 and Table 10 of utility WMPs.

Figure 2.10: Number of structures damaged by utility ignited wildfire



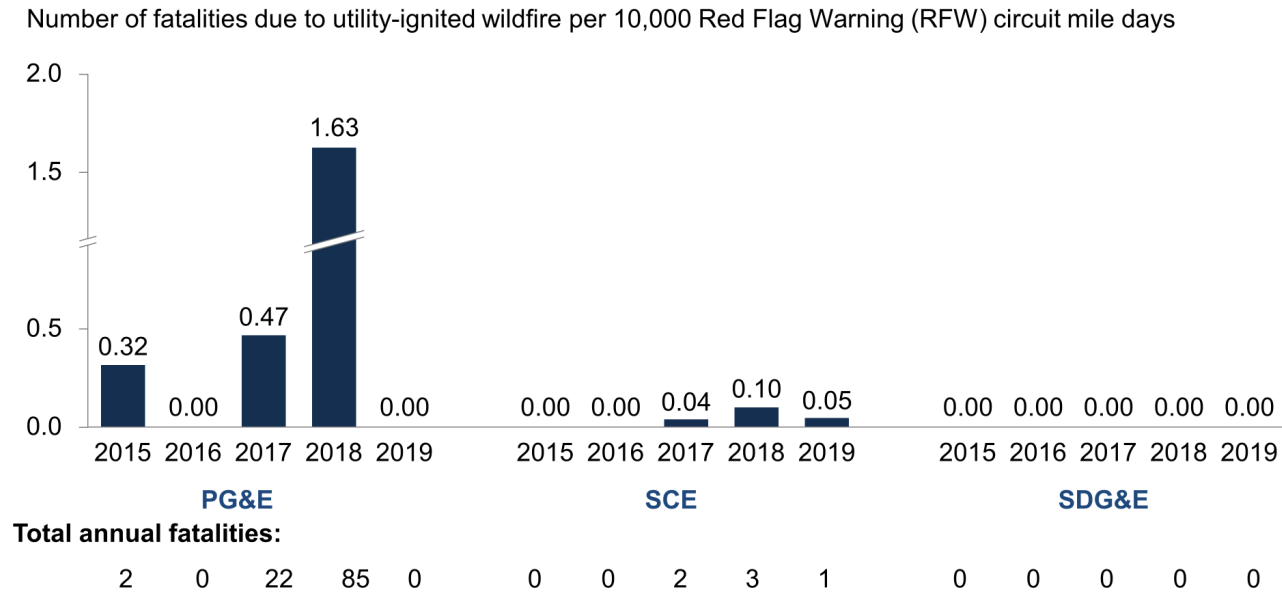
No SMJUs or ITOs reported number of structures damaged over the past 5 years

Note: Normalization using RFW circuit mile days helps take into account fire weather conditions based on a commonly used metric. A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year. It is defined on page 5 of the 2020 WMP Guidelines to be calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under said RFW. For example, if 100 circuit miles were under a RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW circuit mile days would be 110.

This figure is shown for IOUs only because the smaller utilities did not report structures damaged in a comparable way. PacifiCorp reported the value of assets destroyed, rather than number of structures damaged; Liberty reported no homes destroyed, only 18 utility poles; and no other SMJUs or ITOs reported any structures damaged.

Source: Table 2 of utility WMPs.

Figure 2.11: Fatalities due to utility ignited wildfire



No SMJUs or ITOs reported fatalities due to utility ignited wildfire over the past 5 years

Note: Normalization using RFW circuit mile days helps take into account fire weather conditions based on a commonly used metric. A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year. It is defined on page 5 of the 2020 WMP Guidelines to be calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under said RFW. For example, if 100 circuit miles were under a RFW for 1 day, and 10 of those miles were under RFW for an additional day, then the total RFW circuit mile days would be 110.

Source: Table 2 of utility WMPs.

1.3 Resource Allocation

Figure 3.1a: Overview of total plan spend across utilities (Large utilities)

		PG&E	SCE	SDG&E
Total spend	2019 planned spend	\$2,296M	\$671M	\$255M
	2019 actual spend	\$2,999M	\$1,557M	\$307M
	2020 planned spend	\$3,171M	\$1,606M	\$444M
	2021 planned spend	\$3,130M	\$1,404M	\$445M
	2022 planned spend	\$3,247M	\$1,501M	\$448M
	Total planned spend as for 2020, 2021 and 2022, as reported by utility	\$9,548M	\$4,511M	\$1,336M ¹
Normalized spend	Total planned spend for 2020, 2021 and 2022 per overhead HFTD circuit mile	\$307K	\$318K	\$291K

1. Totals for SDG&E include a calculation error on the part of SDG&E in which the sum of the reported spend for 2020, 2021, and 2022 is not equal to the reported total 2020-2022 planned spend. This error has not been corrected by the WSD in this table.

Note: "M" stands for millions, "K" stands for thousands.

Source: Tables 21-30 from utility WMPs and data requests, normalized by data from Table 13 of utility WMPs

Figure 3.1b: Overview of total plan spend across utilities (Small utilities)

		Liberty	PacifiCorp	Bear Valley(!)²	Horizon West	Trans Bay Cable
Total spend	2019 planned spend	\$4M	\$1M	\$12M	\$0M	\$0M
	2019 actual spend	\$7M	\$13M	\$12M	\$0M	\$0M
	2020 planned spend	\$30M	\$26M	\$84M	\$4M	\$0M
	2021 planned spend	\$32M	\$38M	\$79M	\$4M	\$0M
	2022 planned spend	\$27M	\$37M	\$79M	\$0M	\$0M
	Total planned spend as for 2020, 2021 and 2022, as reported by utility	\$88K ¹	\$101M ¹	\$247M ¹	\$8M	\$0M
Normalized spend	Total planned spend for 2020, 2021 and 2022 per overhead HFTD circuit mile	\$63K	\$86K	\$1,168K	NA – no operational facilities as of WMP submission	\$0K

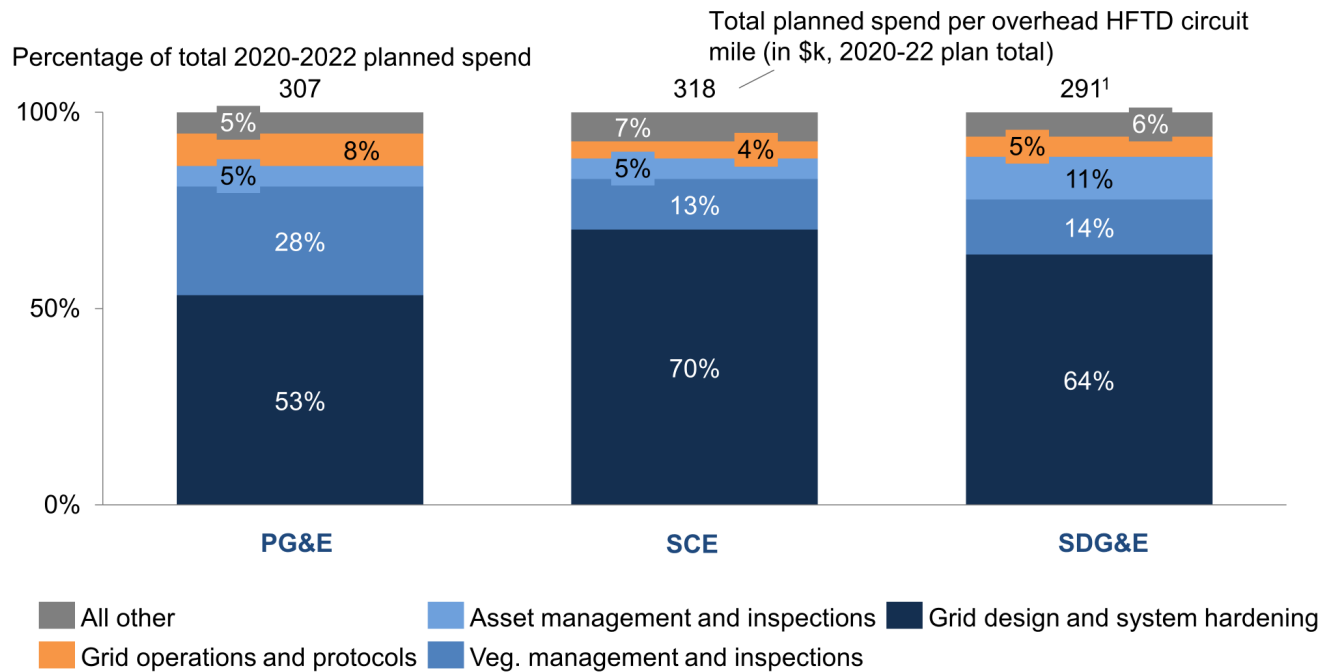
1. Totals for Liberty, PacifiCorp, and Bear Valley include calculation errors on the part of utilities in which the reported sum of the spend for 2020, 2021, and 2022 is not equal to the total reported 2020-2022 planned spend. This error has not been corrected by the WSD in this table.

2. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Note: “M” stands for millions, “K” stands for thousands.

Source: Tables 21-30 from utility WMPs and data requests, normalized by data from Table 13 of utility WMPs

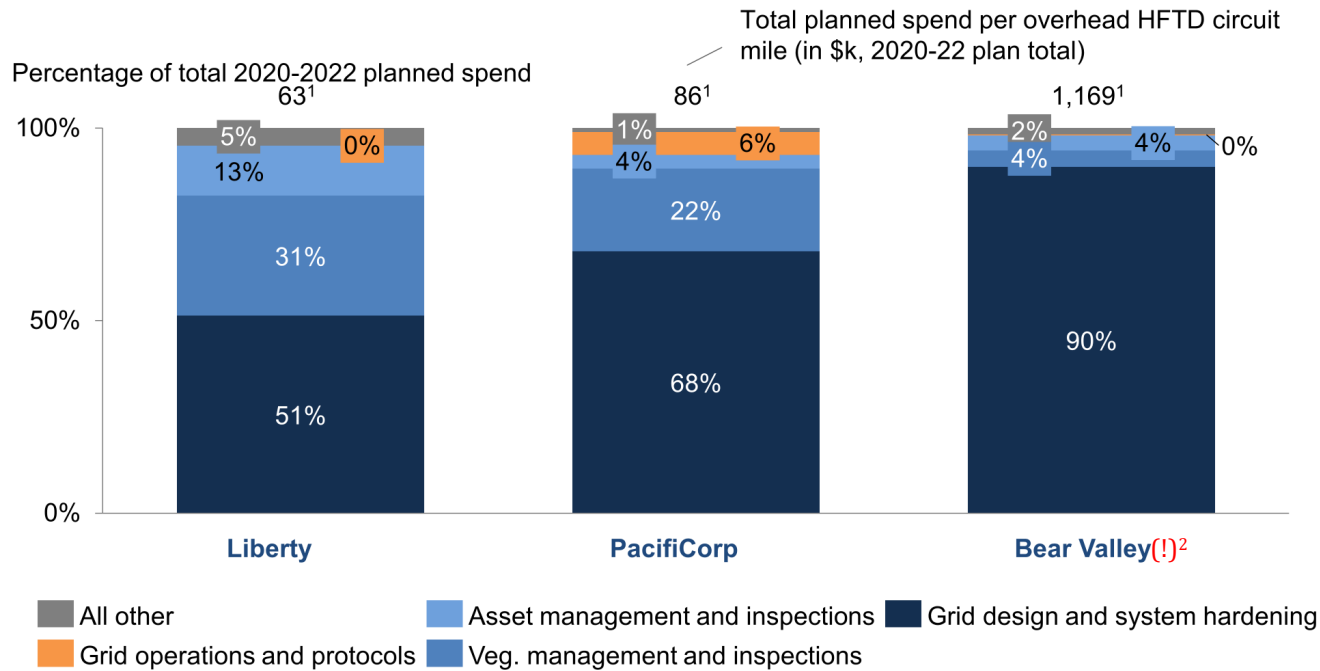
Figure 3.2a: Overview of total plan spend across utilities (Large utilities)



1. Totals for SDG&E include a calculation error on the part of SDG&E which has not been corrected by the WSD in this chart. Specifically, the sum of the reported spend for 2020, 2021, and 2022 is not equal to the reported total 2020-2022 spend as reported by SDG&E.

Source: Tables 21-30 from utility WMPs and data requests, normalized by data from Table 13 of utility WMPs

Figure 3.2b: Overview of total plan spend across utilities (Small utilities)



1. Totals for Liberty, PacifiCorp and Bear Valley include calculation errors on the part of those utilities which have not been corrected by the WSD in this chart. Specifically, the sum of the spend for 2020, 2021, and 2022 is not equal to the total 2020-2022 spend as reported by those utilities.

2. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Note: Spending for ITOs not shown here. Trans Bay Cable reports no planned spend. Horizon West Transmission (HWT) does not yet have operational facilities but reports up to \$8M in planned spending, shown in HWT detailed appendix.

Source: Tables 21-30 from utility WMPs and data requests, normalized by data from Table 13 of utility WMPs

Figure 3.3a: Breakdown of planned spend by category (Large utilities)

Total plan spend is shown for 2020-2022 plan period as calculated by utility

Category	PG&E		SCE		SDG&E	
	Total plan spend, \$M	% of total	Total plan spend, \$M	% of total	Total plan spend, \$M	% of total
Grid design / system hardening	5,102	53%	3,162	70%	853	64%
Vegetation mgt. and inspections	2,645	28%	583	13%	187	14%
Asset mgt. and inspections	499	5%	232	5%	146	11%
Grid operations and protocols	788	8%	198	4%	68 ¹	5%
Data governance	177	2%	39	1%	1	0%
Situational awareness and forecasting	140	2%	90	2%	24	2%
Emergency planning and preparedness	114	1%	72	2%	18	1%
Stakeholder cooperation & community engagement	84	1%	0	0%	0	0%
Resource allocation methodology	0	0%	133	3%	26	2%
Risk assessment and mapping	0	0%	0	0%	14	1%
Total plan, 2020-2022	9,548	100%	4,511	100%	1,336	100%

1. SDG&E has reported an incorrect total (reported 2020-2022 total plan spend is not equal to the sum of planned 2020, 2021, and 2022 spend). This error has not been corrected by the WSD in this table.

Source: Tables 21-30 of utility WMPs

Figure 3.3b: Breakdown of planned spend by category (Small utilities)

Total plan spend is shown for 2020-2022 plan period as calculated by utility

Category	Liberty		PacifiCorp		Bear Valley(!) ²	
	Total plan spend, \$M	% of total	Total plan spend, \$M	% of total	Total plan spend, \$M	% of total
Grid design / system hardening	45	51%	68	68%	222 ¹	90%
Vegetation mgt. and inspections	28	31%	22	22%	10	4%
Asset mgt. and inspections	11 ¹	13%	4 ¹	4%	10	4%
Grid operations and protocols	0	0%	6	6%	1	0%
Data governance	1	2%		0%	0	0%
Situational awareness and forecasting	2	2%	1	1%	4	2%
Emergency planning and preparedness	1	1%	0	0%	0	0%
Stakeholder cooperation & community engagement	0	0%	0	0%	0	0%
Resource allocation methodology	0	0%	0	0%	0	0%
Risk assessment and mapping	0	0%	0	0%	0	0%
Total plan, 2020-2022	88	100%	101	100%	247	100%

1. Totals for Liberty, PacifiCorp, and BVES include calculation errors on the part of utilities where reported 2020-2022 plan total spend is different from the sum of reported spend for 2020, 2021 and 2022. These errors have not been corrected by the WSD in this table.

2. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Source: Tables 21-30 of utility WMPs

Figure 3.4a: PG&E resource allocation detail for top 5 initiatives by planned spend

Total plan spend is shown for 2020-2022 plan period as calculated by utility

			Planned spend, \$M					Initiative spend as percent of total planned spend	
Initiative	Category	2019 plan	2019 actual	2020 plan	2021 plan	2022 plan	2020-2022 plan total		
1	17-1. Updates to grid topology to minimize risk of ignition in HFTDs - System Hardening, Distribution	Grid design and system hardening	229	287	367	566	698	1,631	17%
2	15. Remediation of at-risk species - Enhanced Vegetation Management	Vegetation management and inspections	295	424	449	463	477	1,388	15%
3	15. Transmission tower maintenance and replacement	Grid design and system hardening	444	750	297	305	312	914	10%
4	6. Distribution pole replacement and reinforcement, including with composite poles	Grid design and system hardening	255	109	212	218	223	654	7%
5	12-4. Other corrective action - Distribution	Grid design and system hardening	322	167	200	205	210	614	6%
Total spend for top 5 initiatives by planned spend			1,545	1,738	1,525	1,756	1,920	5,201	54%

Source: Tables 21-30 of utility WMP

Figure 3.4b: PG&E resource allocation detail for top 4 categories by planned spend

Total plan spend is shown for 2020-2022 plan period as calculated by utility

Category	Total Category Planned Spend	Category spend as percent of total planned spend	Top 3 initiatives by planned spend in category Initiative names as reported in WMP	Initiative spend as percent of total planned spend
Grid design and system hardening	\$5.1B	53%	17-1. System Hardening, Distribution	17%
			15. Transmission tower maintenance and replacement	10%
			6. Distribution pole replacement and reinforcement, including with composite poles	7%
Vegetation management and inspections	\$2.6B	28%	15. Remediation of at-risk species-Enhanced Veg Mgt.	15%
			2. Detailed inspections of vegetation-Distribution	6%
			9. Other discretionary inspection of veg. around distribution lines and equipment, beyond those required by regulations	3%
Asset management of inspections	\$499M	5%	1. Detailed inspections of distribution electric lines/equip.	3%
			2. Detailed inspections of transmission electric lines/equip.	2%
			15-1 Substation inspections - Transmission Substation	0%
Grid operations and protocols	\$788M	8%	5-1. PSPS events and mitigation of PSPS impacts-Distribution	4%
			5-3. PSPS events and mitigation of PSPS impacts - Additional PSPS Mitigation Initiatives, Distribution	2%
			2. Crew-accompanying ignition prevention and suppression resources and services	1%

Note: "M" stands for millions, "B" stands for billions.

Source: Tables 21-30 of utility WMP

Figure 3.5a: SCE resource allocation detail for top 5 initiatives by planned spend

Total plan spend is shown for 2020-2022 plan period as calculated by utility

			Planned spend, \$M					Initiative spend as percent of total planned spend
Initiative	Category	2019 plan	2019 actual	2020 plan	2021 plan	2022 plan	2020-2022 plan total	
1 3.1. Covered conductor installation: covered conductor (SH-1)	Grid design and system hardening	42	240	454	656	772	1,883	42%
2 12.1. Other corrective action: distribution remediation (SH-12.1)	Grid design and system hardening	192	395	328	125	85	538	12%
3 20. Vegetation management to achieve clearances around electric lines and equipment	Vegetation management and inspections	76	247	76	64	61	201	4%
4 6.1. Distribution pole replacement and reinforcement, including with composite poles: composite poles and crossarms (SH-3)	Grid design and system hardening	5	Reported as "NA" - part of 3.1	57	64	74	194	4%
5 16.1. Removal and remediation of trees with strike potential to electric lines and equipment: hazard tree (VM-1)	Vegetation management and inspections	57	15	54	59	72	186	4%
Total spend for top 5 initiatives by planned spend		372	897	969	969	1063	3002	67%

Source: Tables 21-30 of utility WMP

Figure 3.5b: SCE resource allocation detail for top 4 categories by planned spend
Total plan spend is shown for 2020-2022 plan period as calculated by utility

Category	Total Category Planned Spend	Category spend as percent of total planned spend	Top 3 initiatives by planned spend Initiative names in some cases abbreviated to fit in this table	Initiative spend as percent of total plan spend
Grid design and system hardening	\$3.1B	70%	3.1. Covered conductor installation: covered conductor 12.1. Other corrective action: Distribution remediation 6.1. Distribution pole replacement and reinforcement, including with composite poles: Composite poles and crossarms	42% 12% 4%
Vegetation management and inspections	\$583M	13%	20. Vegetation management to achieve clearances around electric lines and equipment 16.1. Removal and remediation of trees with strike potential to electric lines and equipment: Hazard tree 16.2. Removal and remediation of trees with strike potential to electric lines and equipment: DRI quarterly inspections and tree removals	4% 4% 2%
Asset management of inspections	\$232M	5%	9.2. Distribution aerial inspections 15. Substation inspections 10.2. Transmission aerial inspections	2% 1% 1%
Grid operations and protocols	\$198M	4%	5.8. PSPS events and mitigation of PSPS impacts: SGIP resiliency 5. PSPS events and mitigation of PSPS impacts 5.3. PSPS events and mitigation of PSPS impacts: income qualified critical care (IQCC) customer battery backup incentive program	3% 0% 0%

Source: Tables 21-30 of utility WMP

Figure 3.6a: SDG&E resource allocation detail for top 5 initiatives by planned spend
Total plan spend is shown for 2020-2022 plan period as calculated by utility

	Initiative	Category	Planned spend, \$M					2020-2022 plan total	Initiative spend as percent of total plan spend
			2019 plan	2019 actual	2020 plan	2021 plan	2022 plan		
1	Undergrounding of Electric Lines and/or Equipment	Grid design and system hardening	2	5	31	157	188	376	28%
2	Distribution Overhead Fire Hardening (OH)	Grid design and system hardening	75	121	87	12	7	106	8%
3	LTE Communication Network	Grid design and system hardening	11	7	32	32	42	105	8%
4	Tree Trimming	Vegetation management and inspections	Not provided ¹	34	28	28	28	83	6%
5	Drone Inspections (O&M) – Engr and construction	Asset management and inspections	Listed "NA"	Listed "NA"	27	24	20	71	5%
Total spend for top 5 initiatives by planned spend			88	166	204	253	284	741	55%

1. Incorporated into 2019 base costs.

Source: Tables 21-30 of utility WMP

Figure 3.6b: SDG&E resource allocation detail for top 4 categories by planned spend

Total plan spend is shown for 2020-2022 plan period as calculated by utility

Category	Total Category Planned Spend	Category spend as percent of total planned spend	Top 3 initiatives by planned spend Initiative names as reported in WMP	Initiative spend as percent of total planned spend
Grid design and system hardening	\$853M	64%	Undergrounding of Electric Lines and/or Equipment	28%
			Distribution Overhead Fire Hardening (OH)	8%
			LTE Communication Network	8%
Vegetation management and inspections	\$187M	14%	Tree Trimming	6%
			Enhanced Inspections Patrols and Trimming	5%
			Pole Brushing	1%
Asset management of inspections	\$146M	11%	Drone Inspections (O&M) *Engineering & Construction	5%
			Drone Inspections (O&M) *Flights & Assessments	4%
			Drone Inspections (capital)	1%
Grid operations and protocols	\$68M	5%	Aviation Firefighting Program (O&M)	2%
			Aviation Firefighting Program (Capital)	2%
			Communication Practices (O&M) ¹	1%

1. Totals for SDG&E include a calculation error on the part of SDG&E in which the sum of the reported spend for 2020, 2021, and 2022 is not equal to the reported total 2020-2022 planned spend. This error has not been corrected by the WSD in this table.

Note: "M" stands for millions

Source: Tables 21-30 of utility WMP

Figure 3.7: Liberty resource allocation detail for top 5 initiatives by planned spend

Total plan spend is shown for 2020-2022 plan period as calculated by utility

			Planned spend, \$M					Initiative spend as percent of total plan spend	
Initiative	Category	2019 plan	2019 actual	2020 plan	2021 plan	2022 plan	2020-2022 plan total		
1	Covered Conductor Installation	Grid design and system hardening	1	1	3	8	10	21	24%
2	Remediation of at-risk-species	Vegetation management and inspections	0	5	5	5	5	14	16%
3	13. Pole loading infrastructure hardening and replacement program based on pole loading assessment program	Grid design and system hardening	1	1	2	3	4	8	9%
4	Undergrounding electric lines and/or equipment	Grid design and system hardening	0	0	2	6	0	8	9%
5	Fuel management and reduction of "slash" from vegetation management activities	Vegetation management and inspections	0	0	2	3	3	7	8%
Total spend for top 5 initiatives by planned spend			2	6	13	24	21	58	66%

Note: "M" stands for millions.

Source: Tables 21-30 of utility WMP

Figure 3.8: PacifiCorp resource allocation detail for top 5 initiatives by planned spend

Total plan spend is shown for 2020-2022 plan period as calculated by utility

		Planned spend, \$M					2020-2022 plan total	Initiative spend as percent of total plan spend
Initiative	Category	2019 plan	2019 actual	2020 plan	2021 plan	2022 plan		
1 3b. Covered conductor installation - distribution	Grid design and system hardening	0	0	8	11	12	31	31%
2 6b. Transmission pole replacement and reinforcement, including with composite poles	Grid design and system hardening	0	0	4	4	4	12	12%
3 3. Covered conductor installation - transmission	Grid design and system hardening	0	0	0	6	6	12	12%
4 20. Vegetation management to achieve clearances around electric lines and equipment	Vegetation management and inspections	0	4	3	3	3	10	10%
5 6. Distribution pole replacement and reinforcement, including with composite poles	Grid design and system hardening	0	0	0	3	3	5	5%
Total spend for top 5 initiatives by planned spend		0	4	15	27	28	70	70%

Note: "M" stands for millions.

Source: Tables 21-30 of utility WMP

Figure 3.9: Bear Valley resource allocation detail for top 5 initiatives by planned spend(!)¹

Total plan spend is shown for 2020-2022 plan period as calculated by utility

			Planned spend, \$M					Initiative spend as percent of total plan spend	
Initiative	Category	2019 plan	2019 actual	2020 plan	2021 plan	2022 plan	2020-2022 plan total		
1	16. Undergrounding of electric lines and/or equipment (35 kV system)	Grid design and system hardening	0	0	39	39	39	118	27%
2	16. Undergrounding of electric lines and/or equipment (4 kV system)	Grid design and system hardening	0	0	13	13	13	40	9%
3	18. Other / not listed (Covering overhead conductor)	Grid design and system hardening	0	0	4	4	4	11	2%
4	2. Detailed inspections of vegetation around distribution electric lines and equipment	Vegetation management and inspections	3	3	3	3	3	10	2%
5	20. Other / not listed (energy storage facility)	Grid design and system hardening	0	0	0	5	5	9	2%
Total spend for top 5 initiatives by planned spend			3	3	59	64	64	187	43%

1. BVES submitted errata on 5/20/2020 that changed their WMP. Those updates are not reflected here (WSD analysis forthcoming).

Note: "M" stands for millions.

Source: Tables 21-30 of utility WMP

Figure 3.10: Horizon West Transmission allocation detail for all planned initiatives

Total plan spend is shown for 2020-2022 plan period as calculated by utility. Horizon West reported only four initiatives with allocated spend

Initiative	Upper range ¹ of planned spend, \$M						Initiative spend as percent of total plan spend
	2019 plan	2019 actual	2020 plan	2021 plan	2022 plan	2020-2022 plan total	
SVC Site Hardening	0.00	0.00	2.20	4.30	0.00	6.50	77%
Underground of 115 feet of overhead line	0.00	0.00	1.70	0.00	0.00	1.70	20%
Advanced weather monitoring, weather stations and OH line/pole cameras	0.00	0.00	0.15	0.00	0.00	0.15	2%
Inspections (Training, facility, vegetation, and fuel modification)	0.00	0.00	0.04	0.04	0.04	0.11	1%
Total 2020-2022 planned spend	0.00	0.00	4.09	4.34	0.04	8.46	100%

1. For some initiatives, Horizon West reported a range of possible future spend. The higher number in that reported range is displayed in this table.

Note: "M" stands for millions.

Source: Tables 21-30 of utility WMP

(End of Appendix B)

APPENDIX C

PacifiCorp Maturity Model Summary

0 PacifiCorp: Description of data sources

Data related to the Maturity Model is based on the latest submitted versions of 2020 Utility Wildfire Mitigation Maturity Survey (“Survey”) as of April 10th, 2020. Data for the Maturity Model is pulled from Survey responses unless stated otherwise.

All source data (the WMP and the Survey responses) are available at cpuc.ca.gov/wildfiremitigationplans

All the analysis and corresponding tables presented in this appendix rely upon data that is self-reported by the utilities. By utilizing and presenting this self-reported data in this appendix, the WSD is not independently validating that all data elements submitted by utilities are accurate. The WSD will continue to evaluate utility data, conduct data requests, and conduct additional compliance activities to ensure that data provided is accurate.

1 PacifiCorp: Maturity Model Summary

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1.1 PacifiCorp: Maturity Summary by Category

Maturity Model Category	<p align="center">Summary of Maturity Assessment</p> <p align="center">Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
<p align="center">A. Risk assessment and mapping</p> <p>Median automated maturity levels:</p> <p align="center">2020: 1 2023: 2</p>	<ul style="list-style-type: none"> PacifiCorp plans to increase its maturity level by 2023 in four of five capabilities. Specifically, by capability: <ul style="list-style-type: none"> 1. Climate Scenario Modeling: PacifiCorp's survey responses indicate an increased level in 2023. Currently, wildfire risk can be reliably determined with circuit-level granularity using a manual tool based on weather. By 2023, PacifiCorp plans to use a partially automated tool to categorize weather scenarios by level of risk with span-level granularity. 2. Ignition Risk Estimation: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp uses a partially automated tool to categorize risk of ignition into at least two categories (e.g., high, low). By 2023, PacifiCorp plans to use a mostly automated tool to quantitatively and accurately assess the risk of ignition based on a variety of factors. 3. Estimation of Wildfire Consequences for Communities: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: Currently, PacifiCorp uses a partially automated tool to estimate ignition risk at the regional level, but by 2023 PacifiCorp plans to use a mostly automated tool to estimate ignition risk at the span level. 4. Estimation of wildfire and PSPS risk-reduction impact: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, estimates of wildfire and PSPS risk-reduction impact have circuit-level granularity and are assessed with evidence and logical reasoning. By 2023, PacifiCorp plans to estimate wildfire and PSPS risk-reduction impact with span-level granularity and have independent experts assess those estimates. 5. Risk maps and simulation algorithms: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp does not have a defined process for updating risk mapping algorithms. By 2023, PacifiCorp plans to use a mostly automated process to decide when to update risk mapping algorithms.
<p align="center">B. Situational awareness and forecasting</p> <p>Median automated maturity levels:</p>	<ul style="list-style-type: none"> PacifiCorp plans to increase its maturity level by 2023 in two of five capabilities. Specifically, by capability: <ul style="list-style-type: none"> 6. Weather variables collected: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: Currently, measurements are validated manually, but by 2023 PacifiCorp plans to validate measurements automatically. 7. Weather data resolution: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp does not accurately reflect local weather conditions across the grid. By 2023 PacifiCorp plans to reliably measure weather conditions in HFTD areas.

Maturity Model Category	<p align="center">Summary of Maturity Assessment</p> <p align="center">Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
<p>2020: 0 2023: 1</p>	<ul style="list-style-type: none"> • 8. Weather forecasting ability: PacifiCorp's survey responses project no growth in this capability. PacifiCorp has a partially automated process that leverages a number of internal and external data to forecast weather regionally. • 9. External sources used in weather forecasting: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: currently weather data is used to inform decision making, but by 2023 PacifiCorp plans to use weather data to create a combined weather map that will then be used to make decisions. • 10. Wildfire detection processes and capabilities: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp has a well-defined procedure for detecting ignitions but does not have a consistent set of equipment for detecting ignitions along the grid. By 2023, PacifiCorp plans to have a consistent set of equipment for detecting ignitions.
<p>C. Grid design and system hardening</p> <p>Median automated maturity levels:</p> <p>2020: 1 2023: 1</p>	<ul style="list-style-type: none"> • PacifiCorp plans to increase its maturity level by 2023 in zero of five capabilities. Specifically, by capability: • 11. Approach to prioritizing initiatives across territory: PacifiCorp's survey responses project no growth in this capability. PacifiCorp's prioritizes risk reduction initiatives at the span level based on local geography. • 12. Grid design for minimizing ignition risk: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: Currently, some efforts are made to incorporate the latest asset management strategies and new technologies in HFTD areas but by 2023 PacifiCorp plans to make these efforts across the entire service area. • 13. Grid design for resiliency and minimizing PSPS: PacifiCorp's survey responses project no growth in this capability. PacifiCorp's transmission and distribution architecture have (n-1) redundancy. • 14. Risk based hardening and cost efficiency: PacifiCorp's survey responses project no growth in this capability. PacifiCorp has an accurate understanding of the relative cost and effectiveness of different initiatives. • 15. Grid design and asset innovation: PacifiCorp's survey responses project no growth in this capability. PacifiCorp evaluates new grid hardening initiatives based on installation into grid and direct reduction in ignition events.
<p>D. Asset management and inspections</p>	<ul style="list-style-type: none"> • PacifiCorp plans to increase its maturity level by 2023 in zero of five capabilities. Specifically, by capability: • 16. Asset inventory and condition assessments: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: Currently there is no service territory-wide inventory of electric line and equipment but by 2023 PacifiCorp plans to have one.

Maturity Model Category	<p align="center">Summary of Maturity Assessment</p> <p align="center">Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
<p>Median automated maturity levels:</p> <p>2020: 1</p> <p>2023: 1</p>	<ul style="list-style-type: none"> • 17. Asset inspection cycle: PacifiCorp's survey responses project no growth in this capability. Asset inspections are consistent with minimum regulatory requirements. • 18. Asset inspection effectiveness: PacifiCorp's survey responses project no growth in this capability. Inspection procedures and checklists include all items required by statute and regulations. • 19. Asset maintenance and repair: PacifiCorp's survey responses project no growth in this capability. Electrical lines and equipment are maintained as required by regulation, with additional maintenance done in the areas of grid with highest wildfire risk. • 20. QA/QC for asset management: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: currently, contractor activity is managed and confirmed by an audit process but by 2023 PacifiCorp plans to use a semiautomated process to audit work.
<p>E. Vegetation management and inspections</p> <p>Median automated maturity levels:</p> <p>2020: 0.5</p> <p>2023: 0.5</p>	<ul style="list-style-type: none"> • PacifiCorp plans to increase its maturity level by 2023 in one of six capabilities. Specifically, by capability: <ul style="list-style-type: none"> • 21. Vegetation inventory and condition assessments: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: Currently, there is no vegetation inventory sufficient to determine vegetation clearances, but by 2023 PacifiCorp plans to have one. • 22. Vegetation inspection cycle: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, vegetation inspections are scheduled based on annual / periodic schedules based on annually updated static maps. By 2023, PacifiCorp plans to schedule inspections based on up-to-date static maps of vegetation and environment. • 23. Vegetation inspection effectiveness: PacifiCorp's survey responses project no growth in this capability. PacifiCorp's vegetation inspection procedures and checklists include all items required by statute and regulations. • 24. Vegetation grow-in mitigation: PacifiCorp's survey responses project no growth in this capability. PacifiCorp meets minimum statutory and regulatory clearances around all lines and equipment. • 25. Vegetation fall-in mitigation: PacifiCorp's survey responses project no growth in this capability. PacifiCorp removes vegetation outside of its right of way. • 26. QA/QC for vegetation management: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: currently, workforce management software tools are not used to manage / confirm subcontractor work but by 2023 PacifiCorp plans to use these software tools.

Maturity Model Category	<p align="center">Summary of Maturity Assessment</p> <p align="center">Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
<p>F. Grid operations and protocols</p> <p>Median automated maturity levels:</p> <p>2020: 2</p> <p>2023: 2</p>	<ul style="list-style-type: none"> • PacifiCorp plans to increase its maturity level by 2023 in zero of six capabilities. Specifically, by capability: <ul style="list-style-type: none"> • 27. Protective equipment and device settings: PacifiCorp's survey responses project no growth in this capability. PacifiCorp increases sensitivity of risk reduction elements during high threat weather conditions. • 28. Incorporating ignition risk factors in grid control: PacifiCorp's survey responses project no growth in this capability. PacifiCorp has a clearly explained process for determining whether to operate the grid beyond current or voltage designs. • 29. PSPS op. model and consequence mitigation: PacifiCorp's survey responses project no growth in this capability. PSPS event generally forecasted accurately with fewer than 25% of predictions being false positives. • 30. Protocols for PSPS initiation: PacifiCorp's survey responses project no growth in this capability. PacifiCorp has explicit policies and explanation for the thresholds above which PSPS is activated as a measure of last resort. • 31. Protocols for PSPS re-energization: PacifiCorp's survey responses project no growth in this capability. There is an existing process for accurately inspecting de-energized sections of the grid prior to re-energization. • 32. Ignition prevention and suppression: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: currently, PacifiCorp does not provide training to workers outside the utility but by 2023 it plans to do so.
<p>G. Data Governance</p> <p>Median automated maturity levels:</p> <p>2020: 1</p> <p>2023: 1.5</p>	<ul style="list-style-type: none"> • PacifiCorp plans to increase its maturity level by 2023 in one of four capabilities. Specifically, by capability: <ul style="list-style-type: none"> • 33. Data collection and curation: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp uses advanced analytics on its central database to make short-term operational and investment decisions. By 2023, PacifiCorp plans to use advanced analytics to make short-term and long-term operational and investment decisions. • 34. Data transparency and analytics: PacifiCorp's survey responses project no growth in this capability. PacifiCorp does not have a single document cataloguing all fire-related data, algorithms, analyses, and data processes. • 35. Near-miss tracking: PacifiCorp's survey responses project no growth in this capability. PacifiCorp does not track near miss data for all near misses with wildfire ignition potential. • 36. Data sharing with research community: PacifiCorp's survey responses project no growth in this capability. PacifiCorp makes data disclosures beyond what is required.

Maturity Model Category	<p style="text-align: center;">Summary of Maturity Assessment</p> <p style="text-align: center;">Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
<p style="text-align: center;">H. Resource allocation methodology</p> <p>Median automated maturity levels:</p> <p style="text-align: center;">2020: 1 2023: 1</p>	<ul style="list-style-type: none"> • PacifiCorp plans to increase its maturity level by 2023 in one of six capabilities. Specifically, by capability: <ul style="list-style-type: none"> • 37. Scenario analysis across different risk levels: PacifiCorp's survey responses project no growth in this capability. PacifiCorp does scenario analysis across high-risk and low-risk scenarios. • 38. Presentation of relative risk spend efficiency (RSE) for portfolio of initiatives: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp has qualitative rankings of its initiatives by RSE. By 2023, PacifiCorp plans to do rankings and to provide an explanation of its investment in each initiative. • 39. Process for determining risk spend efficiency of vegetation management initiatives: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: Currently, PacifiCorp is not able to evaluate risk reduction synergies from combination of various initiatives but by 2023 it plans to be able to do so. • 40. Process for determining risk spend efficiency of system hardening initiatives: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: currently, PacifiCorp has an accurate relative understanding of cost and effectiveness needed to produce a reliable RSE of system hardening initiatives but by 2023 it plans to have an accurate quantitative understanding of cost and effectiveness. • 41. Portfolio-wide initiative allocation methodology: PacifiCorp's survey responses project no growth in this capability. PacifiCorp considers estimates of RSE when allocating capital. • 42. Portfolio-wide innovation in new wildfire initiatives: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: currently, PacifiCorp has no program in place to develop and evaluate the RSE of new initiatives, but by 2023 it plans to use total cost of ownership in development and evaluation on initiatives.
<p style="text-align: center;">I. Emergency planning and preparedness</p> <p>Median automated maturity levels:</p> <p style="text-align: center;">2020: 2 2023: 4</p>	<ul style="list-style-type: none"> • PacifiCorp plans to increase its maturity level by 2023 in two of five capabilities. Specifically, by capability: <ul style="list-style-type: none"> • 43. Wildfire plan integrated with overall disaster/emergency plan: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp's wildfire plan is an integrated component of overall disaster and emergency plans but does not integrate it with the preparedness plans of other relevant stakeholders. By 2023, PacifiCorp plans to have its wildfire plan integrated with those of relevant stakeholders. • 44. Plan to restore service after wildfire related outages: PacifiCorp's survey responses indicate an increased maturity level in 2023. PacifiCorp does not have an inventory of high RSE resources available for repairs. By 2023, PacifiCorp plans to have one. • 45. Emergency community engagement during and after wildfire: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability:

Maturity Model Category	<p style="text-align: center;">Summary of Maturity Assessment</p> <p style="text-align: center;">Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
	<p>currently, PacifiCorp engages with other emergency management agencies in an ad hoc manner but by 2023 PacifiCorp plans to have a detailed and actionable protocol for engaging with emergency management organizations.</p> <ul style="list-style-type: none"> • 46. Protocols in place to learn from wildfire events: PacifiCorp's survey responses project no growth in this capability. PacifiCorp has a protocol in place to record and learn from emergency events. • 47. Processes for continuous improvement after wildfire and PSPS: PacifiCorp's survey responses do not indicate an increased maturity level in 2023. However, PacifiCorp projects some growth within the capability: currently, PacifiCorp does not have a clear plan for implementing and monitoring lessons learned from stakeholders, but by 2023 PacifiCorp plans to have a clear plan for implementation of lessons.
<p style="text-align: center;">J. Stakeholder cooperation and community engagement</p> <p>Median automated maturity levels:</p> <p style="text-align: center;">2020: 2 2023: 2</p>	<ul style="list-style-type: none"> • PacifiCorp plans to increase its maturity level by 2023 in two of five capabilities. Specifically, by capability: <ul style="list-style-type: none"> • 48. Cooperation and best practice sharing with other utilities: PacifiCorp's survey responses project no growth in this capability. PacifiCorp actively identifies and implements best practices from other California utilities. • 49. Engagement with communities on utility wildfire mitigation initiatives: PacifiCorp's survey responses project no growth in this capability. PacifiCorp has a clear and actionable plan to develop and maintain a collaborative relationship with local communities. • 50. Engagement with LEP¹ and AFN² populations: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp does not have a specific annually-updated action plan to mitigate wildfire/PSPS risk to these communities. By 2023, PacifiCorp plans to have a specific action plan for LEP and AFN communities. • 51. Collaboration with emergency response agencies: PacifiCorp's survey responses indicate an increased maturity level in 2023. Currently, PacifiCorp does not sufficiently cooperate with suppression agencies. By 2023, PacifiCorp plans to cooperate with suppression agencies by notifying them of ignitions. • 52. Collaboration on wildfire mitigation plan with stakeholders: PacifiCorp's survey responses project no growth in this capability. PacifiCorp conducts fuel management along rights of way. <p>1. Limited English Proficiency 2. Access and Functional Needs</p>

1.2 PacifiCorp: Maturity Detail by Capability

1.2.1 A. Risk assessment and mapping

1.2.1.1 Capability 1: Climate scenario modeling

Capability 1: Climate scenario modeling				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Wildfire risk can be reliably determined based on weather and its impacts	a. Weather scenarios are planned to be reliably categorized by level of risk
3			b. Scenarios are assessed by independent experts, and supported by historical data of incidents and near misses	b. Scenarios are planned to be assessed by independent experts, and supported by historical data of incidents and near misses
2			c. Climate scenario modeling is done with circuit-level granularity	c. Climate scenario modeling is planned to be done with span-level granularity
1			d. Climate scenario modeling tool is not automated	d. Climate scenario modeling tool is planned to be partially (<=50%) automated
			e. Climate scenario tool also accounts for weather how weather effects failure modes and propagation	e. Climate scenario tool is also planned to account for how weather effects failure modes and propagation and existing hardware
0			f. Future climate change is not accounted for in estimating future weather and resulting risk	f. Futures risk estimates are planned to take into account generally higher risk across the entire service territory due to climate change
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.1.2 Capability 2: Ignition risk estimation

Capability 2: Ignition risk estimation				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Tools and processes can reliably categorize the risk of ignition across the grid into at least two categories based on characteristics and condition of lines, equipment, surrounding vegetation, and localized weather patterns b. Ignition risk estimation tool is partially (<=50%) automated c. Ignition risk estimation tool has regional granularity d. Ignition risk estimation is confirmed by historical data and through real-time learning e. Ignition risk estimation uses >90% or no quantified confidence interval	a. Tools and processes are planned to be able to quantitatively and accurately assess the risk of ignition across the grid based on characteristics and condition of lines, equipment, surrounding vegetation, localized weather patterns, and flying debris probability, with probability based on specific failure modes and top contributors to those failure modes b. Ignition risk estimation tool is planned to be mostly (>=50%) automated c. Ignition risk estimation tool is planned to have regional granularity d. Ignition risk estimation is planned to be confirmed by historical data and through real-time learning e. Ignition risk estimation is planned to use >90% confidence interval
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.1.3 Capability 3: Estimation of wildfire consequences for communities

Capability 3: Estimation of wildfire consequences for communities				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Ignition events are categorized as low or high risk to communities	a. Ignition events are planned to be categorized as low or high risk to communities
3			b. Consequence of ignition risk is estimated as a function of at least one of the following: potential fatalities, structures burned, or areas burned	b. Consequence of ignition risk is planned to be estimated as a function of at least one of the following: potential fatalities, structures burned, or areas burned
2			c. Ignition risk impact analysis is not available for all seasons	c. Ignition risk impact analysis is planned to be available for all seasons
1			d. Ignition risk estimation process is partially ($\leq 50\%$) automated	d. Ignition risk estimation process is planned to be mostly ($\geq 50\%$) automated
0			e. Ignition risk estimation process is done with regional granularity	e. Ignition risk estimation process is planned to be done with span-level granularity
			f. Outputs of consequence estimation are independently assessed by experts and confirmed by historical data	f. Outputs of consequence estimation is planned to be independently assessed by experts and confirmed based on real time learning, for example, using machine learning
			g. Estimation of wildfire consequences uses level and conditions of vegetation and weather	g. Estimation of wildfire consequences plans to use level and conditions of vegetation and weather, including the vegetation specifics immediately surrounding the ignition site
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.1.4 Capability 4. Estimation of wildfire and PSPS reduction impact

Capability 4. Estimation of wildfire and PSPS reduction impact				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Approach reliably estimates risk reduction potential of initiatives on ordinal scale (e.g., 1-5)	a. Approach is planned to reliably estimate risk reduction potential of initiatives on an ordinal scale (e.g., 1-5)
3			b. Estimation of wildfire and PSPS reduction impact is partially (<=50%) automated	b. Estimation of wildfire and PSPS reduction impact is planned to be partially (<=50%) automated
	2		c. Estimation of wildfire and PSPS reduction impact has circuit-level granularity	c. Estimation of wildfire and PSPS reduction impact is planned to have span-level granularity
	1		d. Ignition risk reduction assessment tool estimates are assessed with evidence and logical reasoning	d. Ignition risk reduction assessment tool estimates are planned to be assessed by independent experts
			e. Estimation of wildfire and PSPS reduction impact accounts for existing hardware type and condition, including operating history	e. Estimation of wildfire and PSPS reduction impact plans to account for existing hardware type and condition, including operating history; level and condition of vegetation; weather; and combination of initiatives already deployed
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.1.5 Capability 5. Risk maps and simulation algorithms

Capability 5. Risk maps and simulation algorithms				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. There is no defined process for updating risk mapping algorithms	a. Risk mapping algorithms are planned to be updated based on detected deviations of risk model to ignitions and propagation
3			b. Decision to update algorithms based on deviations is not automated	b. Decision to update algorithms based on deviations is planned to be mostly (>=50%) automated
2			c. Deviations from risk model to ignitions and propagations are calculated manually	c. Deviations from risk model to ignitions and propagations are planned to be calculated manually
1			d. Decisions to update algorithms are independently evaluated by experts and historical data	d. Decisions to update algorithms are planned to be independently evaluated by experts and historical data
0			e. Current/historic ignition and propagation data, as well as near-miss data is used to decide whether to update algorithms	e. Current/historic ignition and propagation data, as well as near-miss data, is planned to be used to decide whether to update algorithms
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Risk mapping algorithms are updated at least bi-annually 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.2 B. Situational awareness and forecasting

1.2.2.1 Capability 6: Weather variables collected

Capability 6: Weather variables collected				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. A range of accurate weather variables (e.g., humidity, precipitation, surface and atmospheric wind conditions) that impact the probability of ignition and propagation from utility assets are collected	a. A range of accurate weather variables (e.g., humidity, precipitation, surface and atmospheric wind conditions) that impact the probability of ignition and propagation from utility assets are planned to be collected
3				
2			b. Measurements are validated through manual field calibration	b. Measurements are planned to be validated through automatic field calibration measurements
1			c. Elements that cannot be reliably measured in real time (e.g., fuel moisture content) are being predicted	c. Elements that cannot be reliably measured in real time (e.g., fuel moisture content) are planned to be predicted
0			d. More than one data source used for each weather metric collected	d. More than one data source is planned to be used for each weather metric collected
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.2.2 Capability 7: Weather data resolution

Capability 7: Weather data resolution				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Weather data collected does not accurately reflect local weather conditions across grid infrastructure b. Weather data collected at least six times per hour c. Weather data resolution with regional granularity e. Measurement of weather conditions is fully automated	a. Weather data is planned to have granularity sufficient to reliably measure weather conditions in HFTD areas b. Weather data is planned to be collected at least six times per hour c. Weather data resolution is planned to be done with circuit-level granularity d. Measurement of weather conditions is planned to be fully automated
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Weather data is gathered with sufficient granularity to reliably measure weather conditions 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.2.3 Capability 8: Weather forecasting ability

Capability 8: Weather forecasting ability				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has the ability to use a combination of accurate weather stations and external weather data to make accurate forecasts	a. Utility plans to have the ability to use a combination of accurate weather stations and external weather data to make accurate forecasts
3			b. Accurate forecasts prepared less than two weeks in advance	b. Accurate forecasts are planned to be prepared less than two weeks in advance
2			c. Weather forecasts have regional granularity	c. Weather forecasts are planned to have regional granularity
1			d. Forecast results are error checked against historical weather patterns and subsequently error checked against measured weather data	d. Forecast results are planned to be error checked against historical weather patterns and subsequently error checked against measured weather data
0			e. Forecast process is partially (<=50%) automated	e. Forecast process is planned to be partially (<=50%) automated
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Weather forecasting ability sufficiently accurate to fulfill PSPS requirements at circuit level 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Weather forecasting ability sufficiently accurate to fulfill PSPS requirements at circuit level

1.2.2.4 Capability 9: External sources used in weather forecasting

Capability 9: External sources used in weather forecasting				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility uses a combination of accurate weather stations and external weather data b. Utility uses a mostly manual process for error checking weather stations with external data sources c. Weather data is used to help make decisions	a. Utility plans to use a combination of accurate weather stations and external weather data b. Utility plans to use a mostly manual process for error checking weather stations with external data sources c. Weather data is planned to be used to create a combined weather map that can be used to help make decisions
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.2.5 Capability 10: Wildfire detection processes and capabilities

Capability 10: Wildfire detection processes and capabilities				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Well-defined procedures for detecting ignitions along the grid exist	a. Well-defined procedures for detecting ignitions along the grid are planned to exist
3			b. No consistent set of equipment for detecting ignitions along grid	b. Well-defined equipment for detecting ignitions along grid is planned to be used
2			c. Procedure exists for notifying suppression forces and key stakeholders when ignitions are detected	c. Procedure is planned to exist for notifying suppression forces and key stakeholders when ignitions are detected
1			d. Ignition detection software is not currently deployed	d. Ignition detection software is not planned to be deployed
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Remote detection equipment, including cameras, is used to help detect ignitions 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.3 C. Grid design and system hardening

1.2.3.1 Capability 11: Approach to prioritizing initiatives across territory

Capability 11: Approach to prioritizing initiatives across territory				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Plan prioritizes risk reduction initiatives at the span level based on local geography and conditions within only HFTD areas	a. PacifiCorp plans to prioritize risk reduction initiatives at the span level based on local geography and conditions within only HFTD areas
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.3.2 Capability 12: Grid design for minimizing ignition risk

Capability 12: Grid design for minimizing ignition risk				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Grid design meets minimum G095 requirements and loading standards in HFTD areas	a. Grid topology is planned to meet minimum G095 requirements and loading standards in HFTD areas
3			b. Utility does not provide micro grids or islanding where traditional grid infrastructure is impracticable and wildfire risk is high	b. Utility does not plan to provide micro grids or islanding where traditional grid infrastructure is impracticable and wildfire risk is high
2			c. Routing of new portions of the grid takes wildfire risk into account	c. Routing of new portions of the grid plans to take wildfire risk into account
1			d. Some efforts made in HFTD areas to incorporate the latest asset management strategies and new technologies into grid topology	d. Efforts planned to be made across the entire service area to incorporate the latest asset management strategies and new technologies into grid topology
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.3.3 Capability 13: Grid design for resiliency and minimizing PSPS

Capability 13: Grid design for resiliency and minimizing PSPS				
Automated maturity levels based on Maturity Rubric		Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>		
Legend		Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020	
2020	2023	Both	Bold responses have planned growth between 2020 and 2023	
4			a. Utility’s transmission architecture has (n-1) redundancy for all circuits subject to PSPS	a. Utility’s transmission architecture is planned to have (n-1) redundancy for all circuits subject to PSPS
3			b. Utility’s distribution architecture has (n-1) redundancy covering at least 50% of customers in HFTD	b. Utility’s distribution architecture is planned to have (n-1) redundancy covering at least 50% of customers in HFTD
2			c. Utility’s distribution architecture is sectionalized to have switches in HFTD areas to individually isolate circuits, such that no more than 2000 customers sit within one switch	c. Utility’s distribution architecture is planned to be sectionalized to have switches in HFTD areas to individually isolate circuits, such that no more than 2000 customers sit within one switch
1			d. Utility uses egress points as an input for grid topology design	d. Utility plans to use egress points as an input for grid topology design
0				
		Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	

1.2.3.4 Capability 14: Risk-based grid hardening and cost efficiency

Capability 14: Risk-based grid hardening and cost efficiency				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has an accurate understanding of the relative cost and effectiveness of different initiatives	a. Utility is planned to have an accurate understanding of the relative cost and effectiveness of different initiatives
3			b. Estimates can be prepared with regional granularity	b. Estimates can be prepared with regional granularity
2			c. Estimates are updated less frequently than annually	c. Estimates are planned to be updated less frequently than annually
1			d. Utility has most grid hardening initiatives included within its evaluation	d. Utility is planned to have most grid hardening initiatives included within its evaluation
0			e. Utility can evaluate risk reduction synergies from combinations of various initiatives	e. Utility plans to be able to evaluate risk reduction synergies from combinations of various initiatives
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.3.5 Capability 15: Grid design and asset innovation

Capability 15: Grid design and asset innovation				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. New grid hardening initiatives evaluated based on installation into grid and measuring direct reduction in ignition events b. Results of pilot and commercial deployments, including project performance, project cost, geography, climate, vegetation, etc. are shared with a limited set of partners c. Performance of new initiatives is not independently audited	a. New grid hardening initiatives planned to be evaluated based on installation into grid and measuring direct reduction in ignition events b. Results of pilot and commercial deployments, including project performance, project cost, geography, climate, vegetation, etc. are planned to be shared with a limited set of partners c. Performance of new initiatives is not planned to be independently audited
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.4 D. Asset management and inspections

1.2.4.1 Capability 16: Asset inventory and condition assessments

Capability 16: Asset inventory and condition assessments				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. There is no service territory-wide inventory of electric lines and equipment including their state of wear or disrepair	a. There is planned to be an accurate inventory of equipment that may contribute to wildfire risk, including age, state of wear, and expected lifecycle
3			b. Condition assessment is updated annually	b. Condition assessment is planned to be updated annually
2			c. A system and approach are in place to reliably detect incipient malfunctions likely to cause ignition in HFTD areas	c. Sensorized, continuous monitoring equipment is planned to be in place to determine the state of equipment and reliably detect incipient malfunctions likely to cause ignition
1			d. Inventory is kept with span-level granularity	d. Inventory is planned to be kept with span-level granularity
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Inventory database is updated within 90 days of equipment inventory or conditions being collected Inventory includes age, state of wear, and expected lifecycle 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Inventory database is updated within 90 days of equipment inventory or conditions being collected

1.2.4.2 Capability 17: Asset inspection cycle

Capability 17: Asset inspection cycle				
Automated maturity levels based on Maturity Rubric			Responses to survey questions	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Patrol inspections are consistent with minimum regulatory requirements	a. Patrol inspections are planned to be consistent with minimum regulatory requirements
			b. Patrol inspections are based on up-to-date static maps of equipment types and environment	b. Patrol inspections are planned to be based on up-to-date static maps of equipment types and environment
3			c. At least annually updated or verified static maps of equipment and environment are the inputs for scheduling patrol inspections	c. At least annually updated or verified static maps of equipment and environment are planned to be the inputs for scheduling patrol inspections
			d. Detailed inspections are consistent with minimum regulatory requirements	d. Detailed inspections are planned to be consistent with minimum regulatory requirements
2			e. Detailed inspections are based on up-to-date static maps of equipment types and environment	e. Detailed inspections are planned to be based on up-to-date static maps of equipment types and environment
			f. At least annually updated or verified static maps of equipment and environment are the inputs for scheduling patrol inspections	f. At least annually updated or verified static maps of equipment and environment are planned to be the inputs for scheduling patrol inspections
1			g. Other inspections are above minimum regulatory requirements, with more frequent inspections for highest risk equipment	g. Other inspections are planned to be above minimum regulatory requirements, with more frequent inspections for highest risk equipment
			h. Other inspections are based on up-to-date static maps of equipment types and environment	h. Other inspections are planned to be based on up-to-date static maps of equipment types and environment
0			i. At least annually updated or verified static maps of equipment and environment are inputs for scheduling patrol inspections	i. At least annually updated or verified static maps of equipment and environment are planned to be inputs for scheduling patrol inspections

Capability 17: Asset inspection cycle		
	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.4.3 Capability 18: Asset inspection effectiveness

Capability 18: Asset inspection effectiveness				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Patrol, detailed, enhanced, and other inspection procedures and checklists include all items required by statute and regulations b. Procedures and inspection checklists determined based on predictive modeling that considers vegetation and equipment type, age, and condition c. Checklists, training, and procedures are customized across a region	a. Patrol, detailed, enhanced, and other inspection procedures and checklists are planned to include all items required by statute and regulations b. Procedures and inspection checklists determined are planned to be based on predictive modeling that considers vegetation and equipment type, age, and condition c. Checklists, training, and procedures are planned to be customized across a region
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.4.4 Capability 19: Asset maintenance and repair

Capability 19: Asset maintenance and repair				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Electrical lines and equipment maintained as required by regulation, and additional maintenance is done in areas of grid at highest wildfire risk based on detailed risk mapping b. Service intervals are set based on wildfire risk in relevant circuit c. Maintenance and repair procedures take wildfire risk, performance history, and past operating conditions into account	a. Electrical lines and equipment are planned to be maintained as required by regulation, and additional maintenance is planned to be done in areas of grid at highest wildfire risk is planned to be based on detailed risk mapping b. Service intervals are planned to be set based on wildfire risk in relevant circuit c. Maintenance and repair procedures are planned to take wildfire risk, performance history, and past operating conditions into account
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.4.5 Capability 20: QA/QC for asset management

Capability 20: QA/QC for asset management				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Contractor activity is audited through an established and functioning audit process to manage and confirm work completed by subcontractors	a. Contractor activity is planned to be audited through an established and functioning audit process to manage and confirm work completed by subcontractors, where contractor activity is subject to semi-automated audits using technologies capable of sampling the contractor’s work (e.g., LiDAR scans, photographic evidence)
3			b. Contractors follow the same processes and standards as utility’s own employees	b. Contractors are planned to follow the same processes and standards as utility’s own employees
2			c. QA/QC information is regularly used to identify deficiencies in quality of work performance and inspections performance	c. QA/QC information is planned to be regularly used to identify deficiencies in quality of work performance and inspections performance
1			d. QA/QC information is used to identify systemic deficiencies in quality of work and inspections	d. QA/QC information is planned to be used to identify systemic deficiencies in quality of work and inspections, and recommend training based on weaknesses
0			e. Workforce management software tools are not used to manage and confirm work completed by subcontractors	e. Workforce management software tools are planned to be used to manage and confirm work completed by subcontractors
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.5 E. Vegetation Management and inspections

1.2.5.1 Capability 21: Vegetation inventory for condition assessments

Capability 21: Vegetation inventory for condition assessments				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. There is no vegetation inventory sufficient to determine vegetation clearances across the grid at the time of the last inspection b. Inventory is never updated c. Inspections are not independently verified by third party experts d. Inventory has regional granularity	a. There is planned to be a centralized inventory of vegetation clearances based on most recent inspection b. Inventory is planned to be updated annually c. Inspections are not planned to be independently verified by third party experts d. Inventory is planned to have span based granularity
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Inventory database is centralized and accurate Inventory database is updated within 90 days of vegetation inventory or conditions being collected 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Inventory database is updated within 90 days of vegetation inventory or conditions being collected

1.2.5.2 Capability 22: Vegetation inspection cycle

Capability 22: Vegetation inspection cycle				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. All types of vegetation inspections are above minimum regulatory requirements, with more frequent inspections for highest risk areas b. Vegetation inspections are scheduled based on annual or periodic schedules c. At last annually updated static maps of vegetation and environment are the inputs for scheduling vegetation inspections	a. All types of vegetation inspections are planned to be above minimum regulatory requirements, with more frequent inspections for highest risk areas b. Vegetation inspections are planned to be scheduled based on static maps of predominant vegetation species and environment c. Up to date, static maps of vegetation and environment, as well as data on annual growing conditions, are planned to be the input for scheduling vegetation inspections
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.5.3 Capability 23: Vegetation inspection effectiveness

Capability 23: Vegetation inspection effectiveness				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Patrol, detailed, enhanced, and other inspection procedures and checklists include all items required by statute and regulations	a. Patrol, detailed, enhanced, and other inspection procedures and checklists are planned to include all items required by statute and regulations
3				
2			b. Procedures and checklists are based on predictive modeling based on vegetation and equipment type, age, and condition	b. Procedures and checklists are planned to be based on predictive modeling based on vegetation and equipment type, age, and condition
1			c. Checklists, training, and procedures are customized across a region	c. Checklists, training, and procedures are planned to be customized across a region
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.5.4 Capability 24: Vegetation grow-in mitigation

Capability 24: Vegetation grow-in mitigation				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility meets minimum statutory and regulatory clearances around all lines and equipment	a. Utility plans to meet minimum statutory and regulatory clearances around all lines and equipment
			b. Utility meets or exceeds minimum statutory or regulatory clearances during all seasons	b. Utility plans to meet or exceed minimum statutory or regulatory clearances during all seasons
3			c. Ignition risk modeling is used to guide clearances around lines and equipment	c. Ignition risk modeling is planned to be used to guide clearances around lines and equipment
			d. Species growth rates and species limb failure rates are used to guide clearance around lines and equipment	d. Species growth rates and species limb failure rates are planned to be used to guide clearance around lines and equipment
2			e. Community organizations are engaged in setting local clearances and protocols	e. Community organizations are planned to be engaged in setting local clearances and protocols
			f. Utility removes vegetation waste along its right of way across the entire grid	f. Utility plans to remove vegetation waste along its right of way across the entire grid
1			g. Utility removes vegetation waste along the right of way more than 1 week after cutting	g. Utility plans to remove vegetation waste along the right of way more than 1 week after cutting
			h. Utility works with local landowners to provide a cost effective use for cutting vegetation	h. Utility plans to work with local landowners to provide a cost effective use for cutting vegetation
0			i. Utility works with partners to identify new cost effective uses for vegetation, taking into consideration environmental impacts and emissions of vegetation waste	i. Utility plans to work with partners to identify new cost effective uses for vegetation, taking into consideration environmental impacts and emissions of vegetation waste
			Criteria missing to reach a maturity level of 1 or more: • Utility removes vegetation waste within 1 week of cutting	Criteria missing to reach a maturity level of 1 or more: • Utility removes vegetation waste within 1 week of cutting

1.2.5.5 Capability 25: Vegetation fall-in mitigation

Capability 25: Vegetation fall-in mitigation				
Automated maturity levels based on Maturity Rubric			Responses to survey questions	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility systematically removes vegetation outside of right of way	a. Utility plans to systematically remove vegetation outside of right of way
3			b. Potential vegetation that may pose a threat is identified based on the height of trees with potential to make contact with electric lines and equipment	b. Potential vegetation that may pose a threat is planned to be identified based on the height of trees with potential to make contact with electric lines and equipment
2			c. Vegetation is removed with cooperation from the community	c. Vegetation is planned to be removed with cooperation from the community
1			d. Utility removes vegetation waste outside its right of way across the entire grid	d. Utility plans to remove vegetation waste outside its right of way across the entire grid
0			e. Utility removes vegetation outside its right of way more than 1 week after cutting	e. Utility plans to remove vegetation outside its right of way more than 1 week after cutting
			f. Utility works with local landowners to provide a cost effective use for cutting vegetation	f. Utility plans to work with local landowners to provide a cost effective use for cutting vegetation
			g. Utility works with partners to identify new cost effective uses for vegetation, taking into consideration environmental impacts and emissions of vegetation waste	g. Utility plans to work with partners to identify new cost effective uses for vegetation, taking into consideration environmental impacts and emissions of vegetation waste
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Utility removes vegetation within 1 week of cutting vegetation 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Utility removes vegetation within 1 week of cutting vegetation

1.2.5.6 Capability 26: QA/QC for vegetation management

Capability 26: QA/QC for vegetation management				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Contractor and employee activity audited through an established and functioning audit process to manage and confirm work completed by subcontractors	a. Contractor and employee activity are planned to be audited through an established and functioning audit process that manages and confirms work completed by subcontractors
3			b. Contractors follow the same processes and standards as utility’s own employees	b. Contractors are planned to follow the same processes and standards as utility’s own employees
2			c. QA/QC information is regularly used to identify deficiencies in quality of work performance and inspections performance	c. QA/QC information is planned to be used regularly to identify deficiencies in quality of work performance and inspections performance
1			d. QA/QC information is used to identify systemic deficiencies in quality of work and inspections	d. QA/QC information is planned to be used to identify systemic deficiencies in quality of work and inspections
0			e. Workforce management software tools are not used to manage and confirm work completed by subcontractors	e. Workforce management software tools are planned to be used to manage and confirm work completed by subcontractors
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.6 F. Grid operations and protocols

1.2.6.1 Capability 27: Protective equipment and device settings

Capability 27: Protective equipment and device settings				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility increases sensitivity of risk reduction elements during high threat weather conditions b. A partially automated process is planned to adjust sensitivity of grid elements and evaluate effectiveness c. There is a predetermined protocol driven by fire conditions for adjusting sensitivity of grid elements	a. Utility plans to increase sensitivity of risk reduction elements during high threat weather conditions b. A partially automated process is planned to adjust sensitivity of grid elements and evaluates effectiveness c. PacifiCorp plans to have a predetermined protocol driven by fire conditions for adjusting sensitivity of grid elements
3				
2				
1				
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.6.2 Capability 28: Incorporating ignition risk factors in grid control

Capability 28: Incorporating ignition risk factors in grid control				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has a clearly explained process for determining whether to operate the grid beyond current or voltage designs	a. Utility plans to have a clearly explained process for determining whether to operate the grid beyond current or voltage designs
3			b. Utility has systems in place to automatically track operation history including current, loads, and voltage throughout the grid at circuit level	b. Utility plans to have systems in place to automatically track operation history including current, loads, and voltage throughout the grid at circuit level
2			c. Utility uses predictive modeling to estimate the expected life and make equipment maintenance, rebuild, or replacement decisions based on grid operating history; modeling not evaluated by external experts	c. Utility plans to use predictive modeling to estimate the expected life and make equipment maintenance, rebuild, or replacement decisions based on grid operating history; modeling not evaluated by external experts
1				d. Utility plans to never operate the grid above rated voltage and current load
0			d. Utility never operates the grid above rated voltage and current load	
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.6.3 Capability 29: PSPS op. model and consequence mitigation

Capability 29: PSPS op. model and consequence mitigation				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. PSPS event generally forecasted accurately with fewer than 25% of predictions being false positives	a. PSPS event planned to be generally forecasted accurately with fewer than 25% of predictions being false positives
3			b. PSPS events are communicated to >99% of affected customers and >99.9% of medical baseline customers in advance of PSPS action	b. PSPS events are planned to be communicated to >99% of affected customers and >99.9% of medical baseline customers in advance of PSPS action
2			c. Less than 1% of customers complain during PSPS events	c. Less than 1% of customers are planned to complain during PSPS events
1			d. Website does not go down during PSPS events	d. Website is planned to not go down during PSPS events
			e. Average downtime per customer is less than 0.1 hours	e. Average downtime per customer is planned to be less than 0.1 hours
0			f. Specific resources are not provided to all affected customers to alleviate the impact of the power shutoff (e.g., providing backup generators, supplies, batteries, etc.)	f. Specific resources are not planned to be provided to all affected customers to alleviate the impact of the power shutoff (e.g., providing backup generators, supplies, batteries, etc.)
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.6.4 Capability 30: Protocols for PSPS initiation

Capability 30: Protocols for PSPS initiation				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has explicit policies and explanation for the thresholds above which PSPS is activated as a measure of last resort	a. Utility plans to have explicit policies and explanation for the thresholds above which PSPS is activated as a measure of last resort
3			b. Utility takes into account a partially automated system which recommends circuits for which PSPS should be activated and is validated by SMEs when making PSPS decisions	b. Utility plans to take into account a partially automated system which recommends circuits for which PSPS should be activated and is validated by SMEs when making PSPS decisions
2			c. Utility de-energizes circuits upon detection of damaged conditions of electric equipment, when circuit presents a safety risk to suppression or other personnel, and when equipment has come into contact with foreign objects posing ignition risk	c. Utility plans to de-energize circuits upon detection of damaged conditions of electric equipment, when circuit presents a safety risk to suppression or other personnel, and when equipment has come into contact with foreign objects posing ignition risk
1			d. Given condition of the grid, utility expects less than 5% probability of any large scale PSPS events affecting more than 10,000 people to occur in the coming year; grid is in sufficiently low risk condition that PSPS events will not be required, and the only circuits which may require de-energization have sufficient redundancy such that energy supply to customers will not be disrupted	d. Given condition of the grid, utility plans to expect less than 5% probability of any large scale PSPS events affecting more than 10,000 people to occur in the coming year; grid is planned to be in sufficiently low risk condition that PSPS events will not be required, and the only circuits which may require de-energization have sufficient redundancy such that energy supply to customers will not be disrupted
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.6.5 Capability 31: Protocols for PSPS re-energization

Capability 31: Protocols for PSPS re-energization				
Automated maturity levels based on Maturity Rubric			Responses to survey questions	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. There is an existing process for accurately inspecting de-energized sections of the grid prior to re-energization	a. There is planned to be an existing process for accurately inspecting de-energized sections of the grid prior to re-energization
3			b. There is a partially automated (<=50%) process for inspecting de-energized sections of the grid prior to re-energization	b. There is planned to be a partially automated (<=50%) process for inspecting de-energized sections of the grid prior to re-energization
2			c. Average time it takes to re-energize grid from a PSPS once weather has subsided to below de-energization threshold is within 18 hours	c. Average time it takes to re-energize grid from a PSPS once weather has subsided to below de-energization threshold is planned to be within 18 hours
1			d. Utility has some probability estimates for ignitions after PSPS events across the grid	d. Utility plans to have some probability estimates for ignitions after PSPS events across the grid
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.6.6 Capability 32: Ignition prevention and suppression

Capability 32: Ignition prevention and suppression				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has explicit policies about the role of crews, including contractors and subcontractors, at the site of ignition	a. Utility plans to have explicit policies about the role of crews, including contractors and subcontractors, at the site of ignition
3			b. Training and communications tools are provided to immediately report ignitions caused by workers or in immediate vicinity of workers; in addition, suppression tools and training to suppress small ignitions caused by workers or in immediate vicinity of workers are provided	b. Training and communications tools are planned to be provided to immediately report ignitions caused by workers or in immediate vicinity of workers; in addition, suppression tools and training to suppress small ignitions caused by workers or in immediate vicinity of workers are planned to be provided
2			c. No Cal/OSHA reported injuries or fatalities occurred in the last year in events where workers have encountered an ignition	c. No Cal/OSHA reported injuries or fatalities are planned to occur in events where workers have encountered an ignition
1			d. Utility does not provide training to other workers at other utilities and outside the utility industry on best practices to minimize, report, and suppress ignition	d. Utility plans to provide training to other workers at other utilities and outside the utility industry on best practices to minimize, report, and suppress ignition
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.7 G. Data Governance

1.2.7.1 Capability 33: Data collection and curation

Capability 33: Data collection and curation				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has a centralized database of situational, operational, and risk data	a. Utility plans to have a centralized database of situational, operational, and risk data
	3		b. Utility is able to use advanced analytics on its centralized database of situational, operational, and risk data to make short-term operational and investment decisions	b. Utility plans to be able to use advanced analytics on its centralized database of situational, operational, and risk data to make short-term and long-term operational and investment decisions
		2	c. Utility collects data from all sensed portions of electric lines, equipment, weather stations, etc.	c. Utility plans to collect data from all sensed portions of electric lines, equipment, weather stations, etc.
			d. Utility’s database of situational, operational, and risk data is able to ingest and share data using real-time API protocols with a wide variety of stakeholders	d. Utility’s database of situational, operational, and risk data is planned to be able to ingest and share data using real-time API protocols with a wide variety of stakeholders
1			e. Utility identifies highest priority additional data sources to improve decision making	e. Utility plans to identify highest priority additional data sources to improve decision making, and plans to incorporate these sources into its centralized database of situational, operational and risk data
	0		f. Utility does not share best practices for database management and use with other utilities in California and beyond	f. Utility plans to share best practices for database management and use with other utilities in California and beyond
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.7.2 Capability 34: Data transparency and analytics

Capability 34: Data transparency and analytics				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. There is not a single document cataloguing all fire-related data and algorithms, analyses, and data processes	a. There is not planned to be a single document cataloguing all fire-related data and algorithms, analyses, and data processes
3			b. There is not an explanation of the sources, cleaning processes, and assumptions made in the single document catalog	b. There is not planned to be an explanation of the sources, cleaning processes, and assumptions made in the single document catalog
2			c. All analyses, algorithms, and data processing are documented	c. All analyses, algorithms, and data processing are planned to be documented
1			d. There is not a system capable of sharing across at least three levels of permissions	d. PacifiCorp does not plan to have a system capable of sharing across at least three levels of permissions
0			e. Most relevant wildfire related data algorithms disclosed publicly in WMP upon request	e. Most relevant wildfire related data algorithms are planned to be disclosed publicly in WMP upon request
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> All wildfire-related data and algorithms used by utility are catalogued in a single document, including an explanation of the sources, and assumptions made 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> All wildfire-related data and algorithms used by utility are catalogued in a single document, including an explanation of the sources, and assumptions made

1.2.7.3 Capability 35: Near-miss tracking

Capability 35: Near-miss tracking				
Automated maturity levels based on Maturity Rubric			Responses to survey questions	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility does not track near miss data for all near misses with wildfire ignition potential	a. Utility does not plan to track near miss data for all near misses with wildfire ignition potential
3			b. Utility is not able to simulate wildfire potential given an ignition based on event characteristics, fuel loads, and moisture based on near miss data captured	b. Utility does not plan to be able to simulate wildfire potential given an ignition based on event characteristics, fuel loads, and moisture based on near miss data captured
2			c. Utility does not capture data related to the specific mode of failure when capturing near-miss data	c. Utility does not plan to capture data related to the specific mode of failure when capturing near-miss data
1			d. Utility is not able to predict the probability of a near miss in causing an ignition based on a set of event characteristics	d. Utility does not plan to be able to predict the probability of a near miss in causing an ignition based on a set of event characteristics
0			e. Utility does not use data from near misses to change grid operation protocols in real time	e. Utility does not plan to use data from near misses to change grid operation protocols in real time
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Tracking of near miss data for all near misses with wildfire ignition potential and associated event characteristics, including capturing data related to the specific mode of failure 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Tracking of near miss data for all near misses with wildfire ignition potential and associated event characteristics, including capturing data related to the specific mode of failure

1.2.7.4 Capability 36: Data sharing with research community

Capability 36: Data sharing with research community				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility makes required data disclosures, and shares data beyond what is required	a. Utility plans to make required data disclosures, and to share data beyond what is required
3			b. Utility funds and participates in both independent and collaborative research	b. Utility plans to fund and participate in both independent and collaborative research
2			c. Utility research addresses utility ignited wildfires and risk reduction initiatives	c. Utility research plans to address utility ignited wildfires and risk reduction initiatives
1			d. Utility promotes best practices based on latest independent scientific and operational research	d. Utility plans to promote best practices based on latest independent scientific and operational research
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.8 H. Resource allocation methodology

1.2.8.1 Capability 37: Scenario analysis across different risk levels

Capability 37: Scenario analysis across different risk levels				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility provides an accurate high-risk reduction and low-risk reduction scenario, and the projected cost and total risk reduction potential	a. Utility plans to provide an accurate high-risk reduction and low-risk reduction scenario, and the projected cost and total risk reduction potential
3			b. Utility provides projections for each scenario with region-level granularity	b. Utility plans to provide projections for each scenario with region-level granularity
2			c. Utility includes a long term (e.g., 6-10 year) risk estimate taking into account macro factors (climate change, etc.) as well as planned risk reduction initiatives in its scenarios	c. Utility plans to include a long term (e.g., 6-10 year) risk estimate taking into account macro factors (climate change, etc.) as well as planned risk reduction initiatives in its scenarios
1			d. Utility provides an estimate of impact on reliability factors in its scenarios	d. Utility plans to provide an estimate of impact on reliability factors in its scenarios
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.8.2 Capability 38: Presentation of relative risk spend efficiency for portfolio of initiatives

Capability 38: Presentation of relative risk spend efficiency for portfolio of initiatives				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility presents accurate qualitative rankings for its initiatives by risk spend efficiency	a. Utility plans to present accurate qualitative rankings for its initiatives by risk spend efficiency
3			b. All commercial initiatives are captured in the ranking of risk spend efficiency	b. All commercial initiatives are planned to be captured in the ranking of risk spend efficiency
2			c. Utility includes figures for present value cost and project risk reduction impact of each initiative, clearly documenting all assumptions (e.g., useful life, discount rate, etc.)	c. Utility plans to include figures for present value cost and project risk reduction impact of each initiative, clearly documenting all assumptions (e.g., useful life, discount rate, etc.)
1			d. Utility does not provide an explanation of its investment in each particular initiative	d. Utility plans to provide an explanation of its investment in each particular initiative, including the expected overall reduction in risk
0			e. Utility provides risk efficiency figures with region-level granularity	e. Utility plans to provide risk efficiency figures with region-level granularity
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Utility provides explanation of its investment in each initiative 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.8.3 Capability 39: Process for determining risk spend efficiency of vegetation management initiatives

Capability 39: Process for determining risk spend efficiency of vegetation management initiatives				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has accurate relative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate of vegetation management initiatives	a. Utility plans to have accurate relative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate of vegetation management initiatives
3			b. Risk spend efficiency estimates of vegetation management initiatives can be prepared with region-level granularity	b. Risk spend efficiency estimates of vegetation management initiatives planned to be prepared with region-level granularity
2			c. Risk spend efficiency estimates of vegetation management initiatives are updated less frequently than annually	c. Risk spend efficiency estimates of vegetation management initiatives are planned to be updated less frequently than annually
1			d. Some vegetation management initiatives are included within its evaluation	d. Some vegetation management initiatives are planned to be included within its evaluation
0			e. Utility cannot evaluate risk reduction synergies from combination of various initiatives	e. Utility plans to evaluate risk reduction synergies from combination of various initiatives
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.8.4 Capability 40: Process for determining risk spend efficiency of system hardening initiatives

Capability 40: Process for determining risk spend efficiency of system hardening initiatives				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has accurate relative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate of system hardening initiatives	a. Utility plans to have an accurate quantitative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate of system hardening initiatives
3			b. Risk spend efficiency of system hardening initiatives can be prepared with region-based granularity	b. Risk spend efficiency of system hardening initiatives can be prepared with region-based granularity
2			c. Estimates of system hardening initiatives are updated less frequently than annually	c. Estimates of system hardening initiatives are updated less frequently than annually
1			d. Some commercially available grid hardening initiatives are included in the utility risk spend efficiency analysis	d. Some commercially available grid hardening initiatives are planned to be included in the utility risk spend efficiency analysis
0			e. Utility cannot evaluate risk reduction effects from the combination of various initiatives	a. Utility plans to evaluate risk reduction effects from the combination of various initiatives
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.8.5 Capability 41: Portfolio-wide initiative allocation methodology

Capability 41: Portfolio-wide initiative allocation methodology				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility considers estimates of RSE when allocating capital	a. Utility plans to consider estimates of RSE when allocating capital
3			b. Utility takes into account specific information by initiative, including state of equipment and location where initiative will be implemented	b. Utility plans to take into account specific information by initiative, including state of equipment and location where initiative will be implemented
2			c. Utility verifies RSE estimates with historical or experimental pilot data	c. Utility plans to verify RSE estimates with historical or experimental pilot data
1			d. Utility considers impact on safety, reliability, and other priorities when making spending decisions	d. Utility plans to consider impact on safety, reliability, and other priorities when making spending decisions
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Utility allocates spend within each category of wildfire risk reduction by accurate risk spend efficiency estimates 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Utility allocates spend within each category of wildfire risk reduction by accurate risk spend efficiency estimates

1.2.8.6 Capability 42: Portfolio-wide innovation in new wildfire initiatives

Capability 42: Portfolio-wide innovation in new wildfire initiatives				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility uses pilots and measures direct reduction in ignition events to develop and evaluate the efficacy of new wildfire initiatives	a. Utility plans to use pilots and measures direct reduction in ignition events to develop and evaluate the efficacy of new wildfire initiatives
3			b. Utility has no program in place to develop and evaluate the RSE of new wildfire initiatives	b. Utility plans to use total cost of ownership to develop and evaluate the risk spend efficiency of new wildfire initiatives
2			c. Utility measures efficacy of new wildfire initiatives with circuit-level granularity	c. Utility plans to measure efficacy of new wildfire initiatives with circuit-level granularity
1			d. Reviews of innovative initiatives are audited by independent parties	d. Reviews of innovative initiatives are planned to be audited by independent parties
0			e. Utility shares the findings of its evaluation of innovative initiatives with other utilities, academia, and the general public	e. Utility shares the findings of its evaluation of innovative initiatives with other utilities, academia, and the general public
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.9 I. Emergency planning and preparedness

1.2.9.1 Capability 43: Wildfire plan integrated with overall disaster / emergency plan

Capability 43: Wildfire plan integrated with overall disaster / emergency plan				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Wildfire plan is an integrated component of overall disaster and emergency plans	a. Wildfire plan is planned to be an integrated component of overall disaster and emergency plans
3			b. Utility runs drills to audit the viability and execution of its wildfire plans	b. Utility plans to run drills to audit the viability and execution of its wildfire plans
2			c. Impact of confounding events or multiple simultaneous disasters is considered in the planning process	c. Impact of confounding events or multiple simultaneous disasters is planned to be considered in the planning process
1			d. Plan is not integrated with disaster and emergency preparedness plans of other relevant stakeholders (e.g., CAL FIRE, Fire Safe Councils, etc.)	d. Wildfire plan is planned to be integrated with disaster and emergency preparedness plans of other relevant stakeholders (e.g., CAL FIRE, Fire Safe Councils, etc.)
0			e. Utility takes a leading role in planning, coordinating, and integrating plans across stakeholders	e. Utility plans to take a leading role in planning, coordinating, and integrating plans across stakeholders
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.9.2 Capability 44: Plan to restore service after wildfire related outage

Capability 44: Plan to restore service after wildfire related outage				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Detailed and actionable procedures are in place to restore service after a wildfire related outage	a. Detailed and actionable procedures are planned to be in place to restore service after a wildfire related outage
3			b. Employee and subcontractor crews are trained in and aware of plans	b. Employee and subcontractor crews are planned to be trained in and aware of plans
2			c. Procedures to restore service after a wildfire-related outage are customized with circuit-level granularity	c. Procedures to restore service after a wildfire-related outage are planned to be customized with circuit-level granularity
1			d. Customized procedure to restore service is based on topography, vegetation, and community needs	d. Customized procedure to restore service is planned to be based on topography, vegetation, and community needs
0			e. There is not an inventory of high risk spend efficiency resources available for repairs	e. There is planned to be an inventory of high risk spend efficiency resources available for repairs
			f. Wildfire plan is an integrated component of overall disaster and emergency plans	f. Wildfire plan is planned to be an integrated component of overall disaster and emergency plans
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.9.3 Capability 45: Emergency community engagement during and after wildfire

Capability 45: Emergency community engagement during and after wildfire				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility provides clear and substantially complete communication of available information relevant to affected customers, as well as referrals to other emergency management resources	a. Utility plans to provide clear and substantially complete communication of available information relevant to affected customers, as well as referrals to other emergency management resources
3			b. >99.9% of customers receive complete details of available information	b. >99.9% of customers are planned to receive complete details of available information
2			c. >99.9% of affected medical baseline customers receive complete details of available information	c. >99.9% of affected medical baseline customers are planned to receive complete details of available information
1			d. Utility does assist where helpful with communication of information related to power outages to customers through availability of relevant evacuation information and links on website / at a toll-free telephone number, and assisting disaster response professionals as requested	d. Utility plans to assist where helpful with communication of information related to power outages to customers through availability of relevant evacuation information and links on website / at a toll-free telephone number, and assisting disaster response professionals as requested
0			e. Utility engages with other emergency management agencies in an ad hoc manner	e. Utility plans to have detailed and actionable established protocols for engaging with emergency management organizations
			f. Utility communicates and coordinates resources to communities during emergencies (e.g., shelters, supplies, transportation, etc.)	f. Utility plans to communicate and coordinate resources to communities during emergencies (e.g., shelters, supplies, transportation, etc.)

Capability 45: Emergency community engagement during and after wildfire		
	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.9.4 Capability 46: Protocols in place to learn from wildfire events

Capability 46: Protocols in place to learn from wildfire events				
Automated maturity levels based on Maturity Rubric		Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>		
Legend		Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020	
2020	2023	Both	Bold responses have planned growth between 2020 and 2023	
4			a. There is a protocol in place to record the outcome of emergency events and to clearly and actionably document learnings and potential process improvements	a. PacifiCorp plans to have a protocol in place to record the outcome of emergency events and to clearly and actionably document learnings and potential process improvements
3			b. There is a defined process and staff responsible for incorporating learnings into emergency plan	b. PacifiCorp plans to have a defined process and staff responsible for incorporating learnings into emergency plan
2			c. PacifiCorp uses “dry runs” to test plans updated based on learnings and improvements to confirm its effectiveness	c. PacifiCorp plans to have “dry runs” to test plans updated based on learnings and improvements to confirm its effectiveness
1			d. There is a defined process to solicit input from a variety of other stakeholders and incorporate learnings from other stakeholders into the emergency plan	d. PacifiCorp plans to have a defined process to solicit input from a variety of other stakeholders and incorporate learnings from other stakeholders into the emergency plan
0				
		Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	

1.2.9.5 Capability 47: Processes for continuous improvement after wildfire and PSPS

Capability 47: Processes for continuous improvement after wildfire and PSPS				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility conducts an evaluation or debrief process after a wildfire	a. Utility plans to conduct an evaluation or debrief process after a wildfire
			b. Utility conducts either a customer survey or utilizes partners to disseminate requests for stakeholder engagement	b. Utility plans to conduct either a customer survey or utilize partners to disseminate requests for stakeholder engagement
3			c. Utility engages in public listening sessions, debriefs with partners, and others	c. Utility plans to engage in public listening sessions, debriefs with partners, and others
			d. Utility shares findings with partners about what can be improved	d. Utility plans to share findings with partners about what can be improved
2			e. Feedback and recommendations on potential improvements are made public	e. Feedback and recommendations on potential improvements are planned to be made public
			f. Utility conducts proactive outreach to local agencies and organizations to solicit additional feedback on what can be improved	f. Utility plans to conduct proactive outreach to local agencies and organizations to solicit additional feedback on what can be improved
1			g. Utility does not have a clear plan for post-event listening and incorporating lessons learned from all stakeholders	g. Utility plans to have a clear plan for post-event listening and incorporating lessons learned from all stakeholders
			h. Utility does not track the implementation of recommendations and report upon their impact	h. Utility plans to track the implementation of recommendations and report upon their impact
0			i. Utility has a process to conduct reviews after wildfires in other territories of other utilities and states to identify and address areas of improvement	i. Utility plans to have a process to conduct reviews after wildfires in other territories of other utilities and states to identify and address areas of improvement
			Criteria missing to reach a maturity level of 1 or more:	Criteria missing to reach a maturity level of 1 or more:

Capability 47: Processes for continuous improvement after wildfire and PSPS		
	<ul style="list-style-type: none"> Utility conducts a customer survey and utilizes partners to disseminate 	<ul style="list-style-type: none"> Utility conducts a customer survey and utilizes partners to disseminate

1.2.10 J. Stakeholder cooperation and community engagement

1.2.10.1 Capability 48: Cooperation and best practice sharing with other utilities

Capability 48: Cooperation and best practice sharing with other utilities				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility actively works to identify best practices from other California utilities through a clearly defined operational process	a. Utility plans to actively work to identify best practices from other California utilities through a clearly defined operational process
3			b. Utility successfully adopts and implements best practices identified from other utilities	b. Utility plans to successfully adopt and implement best practices identified from other utilities
2			c. Utility seeks to share best practices and lessons learned in a consistent format	c. Utility plans to seek to share best practices and lessons learned in a consistent format
1			d. Utility shares best practices and lessons via a consistent and predictable set of venues / media	d. Utility plans to share best practices and lessons via a consistent and predictable set of venues / media
0			e. Utility participates in annual benchmarking exercises with other utilities to find other areas for improvement	e. Utility plans to participate in annual benchmarking exercises with other utilities to find other areas for improvement
			f. Utility has implemented a defined process for testing lessons learned from other utilities to ensure local applicability	f. Utility plans to implement a defined process for testing lessons learned from other utilities to ensure local applicability
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.10.2 Capability 49: Engagement with communities on utility wildfire mitigation initiatives

Capability 49: Engagement with communities on utility wildfire mitigation initiatives				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility has a clear and actionable plan to develop or maintain a collaborative relationship with local communities	a. Utility plans to have a clear and actionable plan to develop or maintain a collaborative relationship with local communities
3			b. There are not communities in HFTD areas where meaningful resistance is expected in response to efforts to mitigate fire risk (e.g., vegetation clearance)	b. PacifiCorp does not plan to have communities in HFTD areas where meaningful resistance is expected in response to efforts to mitigate fire risk (e.g., vegetation clearance)
2			c. Less than 5% of landowners are non-compliant with utility initiatives (e.g., vegetation management)	c. PacifiCorp plans to have less than 5% of landowners non-compliant with utility initiatives (e.g., vegetation management)
1			d. Less than 5% of landowners complain about utility initiatives (e.g., vegetation management)	d. PacifiCorp plans to have less than 5% of landowners complain about utility initiatives (e.g., vegetation management)
			e. Utility has a demonstratively cooperative relationship with communities containing >90% of the population in HFTD areas (e.g., by being recognized by other agencies as having a cooperative relationship with those communities in HFTD areas)	e. Utility plans to have a demonstratively cooperative relationship with communities containing >90% of the population in HFTD areas (e.g., by being recognized by other agencies as having a cooperative relationship with those communities in HFTD areas)
0			f. Utility has records of landowners throughout communities containing >90% of the population in HFTD areas reaching out to notify of risks, dangers, or issues in the past year	f. Utility plans to have records of landowners throughout communities containing >90% of the population in HFTD areas reaching out to notify of risks, dangers, or issues in the past year
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.10.3 Capability 50: Engagement with LEP and AFN populations

Capability 50: Engagement with LEP and AFN populations				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility provides a plan to partner with organizations representing Limited English Proficiency (LEP) and Access & Functional Needs (AFN) communities	a. Utility plans to provide a plan to partner with organizations representing Limited English Proficiency (LEP) and Access & Functional Needs (AFN) communities
3			b. Utility can outline how partnerships with LEP and AFN communities create pathways for implementing suggested activities to address the needs of these communities	b. Utility plans to be able to outline how partnerships with LEP and AFN communities create pathways for implementing suggested activities to address the needs of these communities
2			c. Utility can point to clear examples of how relationships with LEP and AFN communities have driven the utility's ability to interact with and prepare these communities for wildfire mitigation activities	c. Utility plans to be able to point to clear examples of how relationships with LEP and AFN communities have driven the utility's ability to interact with and prepare these communities for wildfire mitigation activities
1			d. Utility does not have a specific annually-updated action plan to further reduce wildfires and PSPS risk to LEP & AFN communities	d. Utility plans to have a specific annually-updated action plan to further reduce wildfires and PSPS risk to LEP & AFN communities
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.2.10.4 Capability 51: Collaboration with emergency response agencies

Capability 51: Collaboration with emergency response agencies				
Automated maturity levels based on Maturity Rubric		Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>		
Legend		Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020	
2020	2023	Both	Bold responses have planned growth between 2020 and 2023	
4			a. Utility plans to cooperate with suppression agencies by notifying them of ignitions	
3			b. Utility plans to cooperate with suppression agencies throughout all areas under utility control	
2			c. Utility does not plan to be able to accurately predict or communicate the forecasted fire propagation path using available analytics resources and weather data	
1			d. Utility does not plan to be able to communicate fire paths to the community as requested	
0			e. Utility plans to work to assist suppression crews logistically where possible	
		Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> Utility cooperates with suppression agencies by calling in ignitions detected along length of grid 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	

1.2.10.5 Capability 52: Collaboration on wildfire mitigation planning with stakeholders

Capability 52: Collaboration on wildfire mitigation planning with stakeholders				
Automated maturity levels based on Maturity Rubric			Responses to survey questions <i>Each letter indicates a survey question, with the relevant response shown below.</i>	
Legend			Current state As of February 2020	Planned state for 2023 “Three years from now” as of February 2020
2020	2023	Both		Bold responses have planned growth between 2020 and 2023
4			a. Utility conducts fuel management along rights of way	a. Utility is plans to conduct fuel management along rights of way
3			b. Utility shares fuel management plans with other stakeholders, and works with other stakeholders conducting fuel management concurrently	b. Utility plans to share fuel management plans with other stakeholders, and works with other stakeholders conducting fuel management concurrently
2			c. Utility cultivates a native vegetative ecosystem across territory that is consistent with lower fire risk	c. Utility plans to cultivate a native vegetative ecosystem across territory that is consistent with lower fire risk
1			d. Utility does not fund local groups (e.g., fire safe councils) to support fuel management	d. Utility does not plan to fund local groups (e.g., fire safe councils) to support fuel management
0				
			Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric 	Criteria missing to reach a maturity level of 1 or more: <ul style="list-style-type: none"> N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

1.3 PacifiCorp: Numerical Maturity Summary

Please reference the Guidance Resolution for the Maturity Rubric and for necessary context to interpret the levels shown below. **All levels are based solely on the Maturity Rubric and on PacifiCorp's responses to the Utility Wildfire Mitigation Maturity Survey ("Survey").**

"2020" refers to February 2020, and "2023" refers to February 2023. See the Survey for more detail.

Legend	2020 Maturity Level										2023 Maturity Level										Maturity Level for 2020 and 2023									
Category	Capability I					Capability II					Capability III					Capability IV					Capability V					Capability VI				
A. Risk assessment and mapping	1. Climate scenario modeling					2. Ignition risk estimation					3. Estimation of wildfire consequences for communities					4. Estimation of wildfire and PSPS reduction impact					5. Risk maps and simulation algorithms					N/A				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4					
B. Situational awareness and forecasting	6. Weather variables collected					7. Weather data resolution					8. Weather forecasting ability					9. External sources used in weather forecasting					10. Wildfire detection processes and capabilities					N/A				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4					
C. Grid design and system hardening	11. Approach to prioritizing initiatives across territory					12. Grid design for minimizing ignition risk					13. Grid design for resiliency and minimizing PSPS					14. Risk-based grid hardening and cost efficiency					15. Grid design and asset innovation					N/A				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4					
D. Asset management and inspections	16. Asset inventory and condition assessments					17. Asset inspection cycle					18. Asset inspection effectiveness					19. Asset maintenance and repair					20. QA/QC for asset management					N/A				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4					
E. Vegetation management and inspections	21. Vegetation inventory for condition assessment					22. Vegetation inspection cycle					23. Vegetation inspection effectiveness					24. Vegetation grow-in mitigation					25. Vegetation fall-in mitigation					26. QA/QC for vegetation management				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
F. Grid operations and protocols	27. Protective equipment and device settings					28. Incorporating ignition risk factors in grid control					29. PSPS op. model and consequence mitigation					30. Protocols for PSPS initiation					31. Protocols for PSPS re-energization					32. Ignition prevention and suppression				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
G. Data governance	33. Data collection and curation					34. Data transparency and analytics					35. Near-miss tracking					36. Data sharing with research community					N/A					N/A				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4										
H. Resource allocation methodology	37. Scenario analysis across different risk levels					38. Presentation of relative risk spend efficiency for portfolio of initiatives					39. Process for determining risk spend efficiency of vegetation management initiatives					40. Process for determining risk spend efficiency of system hardening initiatives					41. Portfolio-wide allocation methodology					42. Portfolio-wide innovation in new wildfire initiatives				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
I. Emergency planning and preparedness	43. Wildfire plan integrated with overall disaster / emergency plan					44. Plan to restore service after wildfire related outage					45. Emergency community engagement during and after wildfire					46. Protocols in place to learn from wildfire events					47. Process for continuous improvement after wildfire and PSPS					N/A				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4					
J. Stakeholder cooperation and community engagement	48. Cooperation and best practice sharing with other utilities					49. Engagement with communities on utility wildfire mitigation initiatives					50. Engagement with LEP and AFN populations					51. Collaboration with emergency response agencies					52. Collaboration on wildfire mitigation planning with stakeholders					N/A				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4					

(End of Appendix C)

APPENDIX D

Definitions of Mitigation Initiatives from Section 5 of WMP Guidelines

5.3.11 Definitions of initiatives by category

Category	Initiative	Definition
A. Risk mapping and simulation	A summarized risk map that shows the overall ignition probability and estimated wildfire consequence along the electric lines and equipment	Development and use of tools and processes to develop and update risk map and simulations and to estimate risk reduction potential of initiatives for a given portion of the grid (or more granularly, e.g., circuit, span, or asset). May include verification efforts, independent assessment by experts, and updates.
	Climate-driven risk map and modelling based on various relevant weather scenarios	Development and use of tools and processes to estimate incremental risk of foreseeable climate scenarios, such as drought, across a given portion of the grid (or more granularly, e.g., circuit, span, or asset). May include verification efforts, independent assessment by experts, and updates.
	Ignition probability mapping showing the probability of ignition along the electric lines and equipment	Development and use of tools and processes to assess the risk of ignition across regions of the grid (or more granularly, e.g., circuits, spans, or assets).
	Initiative mapping and estimation of wildfire and PSPS risk-reduction impact	Development of a tool to estimate the risk reduction efficacy (for both wildfire and PSPS risk) and risk-spend efficiency of various initiatives.
	Match drop simulations showing the potential wildfire consequence of ignitions that occur along the electric lines and equipment	Development and use of tools and processes to assess the impact of potential ignition and risk to communities (e.g., in terms of potential fatalities, structures burned, monetary damages, area burned, impact on air quality and greenhouse gas, or GHG, reduction goals, etc.).
B. Situational awareness and forecasting	Advanced weather monitoring and weather stations	Purchase, installation, maintenance, and operation of weather stations. Collection, recording, and analysis of weather data from weather stations and from external sources.
	Continuous monitoring sensors	Installation, maintenance, and monitoring of sensors and sensorized equipment used to monitor the condition of electric lines and equipment.
	Fault indicators for detecting faults on electric lines and equipment	Installation and maintenance of fault indicators.
	Forecast of a fire risk index, fire potential index, or similar	Index that uses a combination of weather parameters (such as wind speed, humidity, and temperature), vegetation and/or fuel conditions, and other factors to judge current fire risk and to create a forecast indicative of fire risk. A sufficiently granular index shall inform operational decision-making.
	Personnel monitoring areas of electric lines and equipment in elevated fire risk conditions	Personnel position within utility service territory to monitor system conditions and weather on site. Field observations shall inform operational decisions.
	Weather forecasting and estimating impacts on electric lines and equipment	Development methodology for forecast of weather conditions relevant to utility operations, forecasting weather conditions and conducting analysis to incorporate into utility decision-making, learning and updates to reduce false positives and false negatives of forecast PSPS conditions.

Category	Initiative	Definition
C. Grid design and system hardening	Capacitor maintenance and replacement program	Remediation, adjustments, or installations of new equipment to improve or replace existing capacitor equipment.
	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Remediation, adjustments, or installations of new equipment to improve or replace existing fast switching circuit breaker equipment to improve the ability to protect electrical circuits from damage caused by overload of electricity or short circuit.
	Covered conductor installation	Installation of covered or insulated conductors to replace standard bare or unprotected conductors (defined in accordance with GO 95 as supply conductors, including but not limited to lead wires, not enclosed in a grounded metal pole or not covered by: a “suitable protective covering” (in accordance with Rule 22.8), grounded metal conduit, or grounded metal sheath or shield). In accordance with GO 95, conductor is defined as a material suitable for: (1) carrying electric current, usually in the form of a wire, cable or bus bar, or (2) transmitting light in the case of fiber optics; insulated conductors as those which are surrounded by an insulating material (in accordance with Rule 21.6), the dielectric strength of which is sufficient to withstand the maximum difference of potential at normal operating voltages of the circuit without breakdown or puncture; and suitable protective covering as a covering of wood or other non-conductive material having the electrical insulating efficiency (12kV/in. dry) and impact strength (20ft.-lbs) of 1.5 inches of redwood or other material meeting the requirements of Rule 22.8-A, 22.8-B, 22.8-C or 22.8-D.
	Covered conductor maintenance	Remediation and adjustments to installed covered or insulated conductors. In accordance with GO 95, conductor is defined as a material suitable for: (1) carrying electric current, usually in the form of a wire, cable or bus bar, or (2) transmitting light in the case of fiber optics; insulated conductors as those which are surrounded by an insulating material (in accordance with Rule 21.6), the dielectric strength of which is sufficient to withstand the maximum difference of potential at normal operating voltages of the circuit without breakdown or puncture; and suitable protective covering as a covering of wood or other non-conductive material having the electrical insulating efficiency (12kV/in. dry) and impact strength (20ft.-lbs) of 1.5 inches of redwood or other material meeting the requirements of Rule 22.8-A, 22.8-B, 22.8-C or 22.8-D.
	Crossarm maintenance, repair, and replacement	Remediation, adjustments, or installations of new equipment to improve or replace existing crossarms, defined as horizontal support attached to poles or structures generally at right angles to the conductor supported in accordance with GO 95.
	Distribution pole replacement and reinforcement, including with composite poles	Remediation, adjustments, or installations of new equipment to improve or replace existing distribution poles (i.e., those supporting lines under 65kV), including with equipment such as composite poles manufactured with materials reduce ignition probability by increasing pole lifespan and resilience against failure from object contact and other events.
	Expulsion fuse replacement	Installations of new and CAL FIRE-approved power fuses to replace existing expulsion fuse equipment.

Category	Initiative	Definition
	Grid topology improvements to mitigate or reduce PSPS events	Plan to support and actions taken to mitigate or reduce PSPS events in terms of geographic scope and number of customers affected, such as installation and operation of electrical equipment to sectionalize or island portions of the grid, microgrids, or local generation.
	Installation of system automation equipment	Installation of electric equipment that increases the ability of the utility to automate system operation and monitoring, including equipment that can be adjusted remotely such as automatic reclosers (switching devices designed to detect and interrupt momentary faults that can reclose automatically and detect if a fault remains, remaining open if so).
	Maintenance, repair, and replacement of connectors, including hotline clamps	Remediation, adjustments, or installations of new equipment to improve or replace existing connector equipment, such as hotline clamps.
	Mitigation of impact on customers and other residents affected during PSPS event	Actions taken to improve access to electricity for customers and other residents during PSPS events, such as installation and operation of local generation equipment (at the community, household, or other level).
	Other corrective action	Other maintenance, repair, or replacement of utility equipment and structures so that they function properly and safely, including remediation activities (such as insulator washing) of other electric equipment deficiencies that may increase ignition probability due to potential equipment failure or other drivers.
	Pole loading infrastructure hardening and replacement program based on pole loading assessment program	Actions taken to remediate, adjust, or install replacement equipment for poles that the utility has identified as failing to meet safety factor requirements in accordance with GO 95 or additional utility standards in the utility's pole loading assessment program.
	Transformers maintenance and replacement	Remediation, adjustments, or installations of new equipment to improve or replace existing transformer equipment.
	Transmission tower maintenance and replacement	Remediation, adjustments, or installations of new equipment to improve or replace existing transmission towers (e.g., structures such as lattice steel towers or tubular steel poles that support lines at or above 65kV).
	Undergrounding of electric lines and/or equipment	Actions taken to convert overhead electric lines and/or equipment to underground electric lines and/or equipment (i.e., located underground and in accordance with GO 128).
	Updates to grid topology to minimize risk of ignition in HFTDs	Changes in the plan, installation, construction, removal, and/or undergrounding to minimize the risk of ignition due to the design, location, or configuration of utility electric equipment in HFTDs.

Category	Initiative	Definition
D. Asset management and inspections	Detailed inspections of distribution electric lines and equipment	In accordance with GO 165, careful visual inspections of overhead electric distribution lines and equipment 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.
	Detailed inspections of transmission electric lines and equipment	Careful visual inspections of overhead electric transmission lines and equipment 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.
	Improvement of inspections	Identifying and addressing deficiencies in inspections protocols and implementation by improving training and the evaluation of inspectors.
	Infrared inspections of distribution electric lines and equipment	Inspections of overhead electric distribution lines, equipment, and right-of-way using infrared (heat-sensing) technology and cameras that can identify "hot spots", or conditions that indicate deterioration or potential equipment failures, of electrical equipment.
	Infrared inspections of transmission electric lines and equipment	Inspections of overhead electric transmission lines, equipment, and right-of-way using infrared (heat-sensing) technology and cameras that can identify "hot spots", or conditions that indicate deterioration or potential equipment failures, of electrical equipment.
	Intrusive pole inspections	In accordance with GO 165, intrusive inspections involve movement of soil, taking samples for analysis, and/or using more sophisticated diagnostic tools beyond visual inspections or instrument reading.
	LiDAR inspections of distribution electric lines and equipment	Inspections of overhead electric transmission lines, equipment, and right-of-way using LiDAR (Light Detection and Ranging, a remote sensing method that uses light in the form of a pulsed laser to measure variable distances).
	LiDAR inspections of transmission electric lines and equipment	Inspections of overhead electric distribution lines, equipment, and right-of-way using LiDAR (Light Detection and Ranging, a remote sensing method that uses light in the form of a pulsed laser to measure variable distances).
	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Inspections of overhead electric transmission lines, equipment, and right-of-way that exceed or otherwise go beyond those mandated by rules and regulations, including GO 165, in terms of frequency, inspection checklist requirements or detail, analysis of and response to problems identified, or other aspects of inspection or records kept.
	Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations	Inspections of overhead electric distribution lines, equipment, and right-of-way that exceed or otherwise go beyond those mandated by rules and regulations, including GO 165, in terms of frequency, inspection checklist requirements or detail, analysis of and response to problems identified, or other aspects of inspection or records kept.,
	Patrol inspections of distribution electric lines and equipment	In accordance with GO 165, simple visual inspections of overhead electric distribution lines and equipment that is designed to identify obvious structural problems and hazards. Patrol inspections may be carried out in the course of other company business.

Category	Initiative	Definition
	Patrol inspections of transmission electric lines and equipment	Simple visual inspections of overhead electric transmission lines and equipment that is designed to identify obvious structural problems and hazards. Patrol inspections may be carried out in the course of other company business.
	Pole loading assessment program to determine safety factor	Calculations to determine whether a pole meets pole loading safety factor requirements of GO 95, including planning and information collection needed to support said calculations. Calculations shall consider many factors including the size, location, and type of pole; types of attachments; length of conductors attached; and number and design of supporting guys, per D.15-11-021.
	Quality assurance / quality control of inspections	Establishment and function of audit process to manage and confirm work completed by employees or subcontractors, including packaging QA/QC information for input to decision-making and related integrated workforce management processes.
	Substation inspections	In accordance with GO 175, inspection of substations performed by qualified persons and according to the frequency established by the utility, including record-keeping.
E. Vegetation management and inspection	Additional efforts to manage community and environmental impacts	Plan and execution of strategy to mitigate negative impacts from utility vegetation management to local communities and the environment, such as coordination with communities to plan and execute vegetation management work or promotion of fire-resistant planting practices
	Detailed inspections of vegetation around distribution electric lines and equipment	Careful visual inspections of vegetation around the right-of-way, where individual trees are carefully examined, visually, and the condition of each rated and recorded.
	Detailed inspections of vegetation around transmission electric lines and equipment	Careful visual inspections of vegetation around the right-of-way, where individual trees are carefully examined, visually, and the condition of each rated and recorded.
	Emergency response vegetation management due to red flag warning or other urgent conditions	Plan and execution of vegetation management activities, such as trimming or removal, executed based upon and in advance of forecast weather conditions that indicate high fire threat in terms of ignition probability and wildfire consequence.
	Fuel management and reduction of “slash” from vegetation management activities	Plan and execution of fuel management activities that reduce the availability of fuel in proximity to potential sources of ignition, including both reduction or adjustment of live fuel (in terms of species or otherwise) and of dead fuel, including "slash" from vegetation management activities that produce vegetation material such as branch trimmings and felled trees.
	Improvement of inspections	Identifying and addressing deficiencies in inspections protocols and implementation by improving training and the evaluation of inspectors.
	LiDAR inspections of vegetation around distribution electric lines and equipment	Inspections of right-of-way using LiDAR (Light Detection and Ranging, a remote sensing method that uses light in the form of a pulsed laser to measure variable distances).
	LiDAR inspections of vegetation around transmission electric lines and equipment	Inspections of right-of-way using LiDAR (Light Detection and Ranging, a remote sensing method that uses light in the form of a pulsed laser to measure variable distances).

Category	Initiative	Definition
	Other discretionary inspections of vegetation around distribution electric lines and equipment	Inspections of rights-of-way and adjacent vegetation that may be hazardous, which exceeds or otherwise go beyond those mandated by rules and regulations, in terms of frequency, inspection checklist requirements or detail, analysis of and response to problems identified, or other aspects of inspection or records kept.
	Other discretionary inspections of vegetation around transmission electric lines and equipment	Inspections of rights-of-way and adjacent vegetation that may be hazardous, which exceeds or otherwise go beyond those mandated by rules and regulations, in terms of frequency, inspection checklist requirements or detail, analysis of and response to problems identified, or other aspects of inspection or records kept.
	Patrol inspections of vegetation around distribution electric lines and equipment	Visual inspections of vegetation along rights-of-way that is designed to identify obvious hazards. Patrol inspections may be carried out in the course of other company business.
	Patrol inspections of vegetation around transmission electric lines and equipment	Visual inspections of vegetation along rights-of-way that is designed to identify obvious hazards. Patrol inspections may be carried out in the course of other company business.
	Quality assurance / quality control of vegetation inspections	Establishment and function of audit process to manage and confirm work completed by employees or subcontractors, including packaging QA/QC information for input to decision-making and related integrated workforce management processes.
	Recruiting and training of vegetation management personnel	Programs to ensure that the utility is able to identify and hire qualified vegetation management personnel and to ensure that both full-time employees and contractors tasked with vegetation management responsibilities are adequately trained to perform vegetation management work, according to the utility's wildfire mitigation plan, in addition to rules and regulations for safety.
	Remediation of at-risk species	Actions taken to reduce the ignition probability and wildfire consequence attributable to at-risk vegetation species, such as trimming, removal, and replacement.
	Removal and remediation of trees with strike potential to electric lines and equipment	Actions taken to remove or otherwise remediate trees that could potentially strike electrical equipment, if adverse events such as failure at the ground-level of the tree or branch breakout within the canopy of the tree, occur.
	Substation inspection	Inspection of vegetation surrounding substations, performed by qualified persons and according to the frequency established by the utility, including record-keeping.
	Substation vegetation management	Based on location and risk to substation equipment only, actions taken to reduce the ignition probability and wildfire consequence attributable to contact from vegetation to substation equipment.
	Vegetation inventory system	Inputs, operation, and support for centralized inventory of vegetation clearances updated based upon inspection results, including (1) inventory of species, (2) forecasting of growth, (3) forecasting of when growth threatens minimum right-of-way clearances ("grow-in" risk) or creates fall-in/fly-in risk.
	Vegetation management to achieve clearances around electric lines and equipment	Actions taken to ensure that vegetation does not encroach upon the minimum clearances set forth in Table 1 of GO 95, measured between line conductors and vegetation, such as trimming adjacent or overhanging tree limbs.

Category	Initiative	Definition
F. Grid operations and protocols	Automatic recloser operations	Designing and executing protocols to deactivate automatic reclosers based on local conditions for ignition probability and wildfire consequence.
	Crew-accompanying ignition prevention and suppression resources and services	Those firefighting staff and equipment (such as fire suppression engines and trailers, firefighting hose, valves, and water) that are deployed with construction crews and other electric workers to provide site-specific fire prevention and ignition mitigation during on-site work
	Personnel work procedures and training in conditions of elevated fire risk	Work activity guidelines that designate what type of work can be performed during operating conditions of different levels of wildfire risk. Training for personnel on these guidelines and the procedures they prescribe, from normal operating procedures to increased mitigation measures to constraints on work performed.
	Protocols for PSPS re-energization	Designing and executing procedures that accelerate the restoration of electric service in areas that were de-energized, while maintaining safety and reliability standards.
	PSPS events and mitigation of PSPS impacts	Designing, executing, and improving upon protocols to conduct PSPS events, including development of advanced methodologies to determine when to use PSPS, and to mitigate the impact of PSPS events on affected customers and local residents.
	Stationed and on-call ignition prevention and suppression resources and services	Firefighting staff and equipment (such as fire suppression engines and trailers, firefighting hose, valves, firefighting foam, chemical extinguishing agent, and water) stationed at utility facilities and/or standing by to respond to calls for fire suppression assistance.
G. Data governance	Centralized repository for data	Designing, maintaining, hosting, and upgrading a platform that supports storage, processing, and utilization of all utility proprietary data and data compiled by the utility from other sources.
	Collaborative research on utility ignition and/or wildfire	Developing and executing research work on utility ignition and/or wildfire topics in collaboration with other non-utility partners, such as academic institutions and research groups, to include data-sharing and funding as applicable.
	Documentation and disclosure of wildfire-related data and algorithms	Design and execution of processes to document and disclose wildfire-related data and algorithms to accord with rules and regulations, including use of scenarios for forecasting and stress testing.
	Tracking and analysis of near miss data	Tools and procedures to monitor, record, and conduct analysis of data on near miss events.
H. Resource allocation methodology	Allocation methodology development and application	Development of prioritization methodology for human and financial resources, including application of said methodology to utility decision-making.
	Risk reduction scenario development and analysis	Development of modelling capabilities for different risk reduction scenarios based on wildfire mitigation initiative implementation; analysis and application to utility decision-making.
	Risk spend efficiency analysis	Tools, procedures, and expertise to support analysis of wildfire mitigation initiative risk-spend efficiency, in terms of MAVF and/ or MARS methodologies.

Category	Initiative	Definition
I. Emergency planning and preparedness	Adequate and trained workforce for service restoration	Actions taken to identify, hire, retain, and train qualified workforce to conduct service restoration in response to emergencies, including short-term contracting strategy and implementation.
	Community outreach, public awareness, and communications efforts	Actions to identify and contact key community stakeholders; increase public awareness of emergency planning and preparedness information; and design, translate, distribute, and evaluate effectiveness of communications taken before, during, and after a wildfire, including Access and Functional Needs populations and Limited English Proficiency populations in particular.
	Customer support in emergencies	Resources dedicated to customer support during emergencies, such as website pages and other digital resources, dedicated phone lines, etc.
	Disaster and emergency preparedness plan	Development of plan to deploy resources according to prioritization methodology for disaster and emergency preparedness of utility and within utility service territory (such as considerations for critical facilities and infrastructure), including strategy for collaboration with Public Safety Partners and communities.
	Preparedness and planning for service restoration	Development of plans to prepare the utility to restore service after emergencies, such as developing employee and staff trainings, and to conduct inspections and remediation necessary to re-energize lines and restore service to customers.
	Protocols in place to learn from wildfire events	Tools and procedures to monitor effectiveness of strategy and actions taken to prepare for emergencies and of strategy and actions taken during and after emergencies, including based on an accounting of the outcomes of wildfire events.
J. Stakeholder cooperation and community engagement	Community engagement	Strategy and actions taken to identify and contact key community stakeholders; increase public awareness and support of utility wildfire mitigation activity; and design, translate, distribute, and evaluate effectiveness of related communications. Includes specific strategies and actions taken to address concerns and serve needs of Access and Functional Needs populations and Limited English Proficiency populations in particular.
	Cooperation and best practice sharing with agencies outside CA	Strategy and actions taken to engage with agencies outside of California to exchange best practices both for utility wildfire mitigation and for stakeholder cooperation to mitigate and respond to wildfires.
	Cooperation with suppression agencies	Coordination with CAL FIRE, federal fire authorities, county fire authorities, and local fire authorities to support planning and operations, including support of aerial and ground firefighting in real-time, including information-sharing, dispatch of resources, and dedicated staff.
	Forest service and fuel reduction cooperation and joint roadmap	Strategy and actions taken to engage with local, state, and federal entities responsible for or participating in forest management and fuel reduction activities; and design utility cooperation strategy and joint stakeholder roadmap (plan for coordinating stakeholder efforts for forest management and fuel reduction activities).

(End of Appendix D)

APPENDIX E

Public Utilities Code Section 8386

8386.

(a) Each electrical corporation shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfire posed by those electrical lines and equipment.

(b) Each electrical corporation shall annually prepare and submit a wildfire mitigation plan to the Wildfire Safety Division for review and approval. In calendar year 2020, and thereafter, the plan shall cover at least a three-year period. The division shall establish a schedule for the submission of subsequent comprehensive wildfire mitigation plans, which may allow for the staggering of compliance periods for each electrical corporation. In its discretion, the division may allow the annual submissions to be updates to the last approved comprehensive wildfire mitigation plan; provided, that each electrical corporation shall submit a comprehensive wildfire mitigation plan at least once every three years.

(c) The wildfire mitigation plan shall include all of the following:

(1) An accounting of the responsibilities of persons responsible for executing the plan.

(2) The objectives of the plan.

(3) A description of the preventive strategies and programs to be adopted by the electrical corporation to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.

(4) A description of the metrics the electrical corporation plans to use to evaluate the plan's performance and the assumptions that underlie the use of those metrics.

(5) A discussion of how the application of previously identified metrics to previous plan performances has informed the plan.

(6) Protocols for disabling reclosers and deenergizing portions of the electrical distribution system that consider the associated impacts on public safety. As part of these protocols, each electrical corporation shall include protocols related to mitigating the public safety impacts of disabling reclosers and deenergizing portions of the electrical distribution system that consider the impacts on all of the following:

(A) Critical first responders.

(B) Health and communication infrastructure.

(C) Customers who receive medical baseline allowances pursuant to subdivision (c) of Section 739. The electrical corporation may deploy backup electrical resources or provide financial assistance for backup electrical resources to a customer receiving a medical baseline allowance for a customer who meets all of the following requirements:

(i) The customer relies on life-support equipment that operates on electricity to sustain life.

(ii) The customer demonstrates financial need, including through enrollment in the California Alternate Rates for Energy program created pursuant to Section 739.1.

(iii) The customer is not eligible for backup electrical resources provided through medical services, medical insurance, or community resources.

(D) Subparagraph (C) shall not be construed as preventing an electrical corporation from deploying backup electrical resources or providing financial assistance for backup electrical resources under any other authority.

- (7) Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines, including procedures for those customers receiving a medical baseline allowance as described in paragraph (6). The procedures shall direct notification to all public safety offices, critical first responders, health care facilities, and operators of telecommunications infrastructure with premises within the footprint of potential deenergization for a given event.
- (8) Plans for vegetation management.
- (9) Plans for inspections of the electrical corporation's electrical infrastructure.
- (10) Protocols for the deenergization of the electrical corporation's transmission infrastructure, for instances when the deenergization may impact customers who, or entities that, are dependent upon the infrastructure.
- (11) A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the electrical corporation's service territory, including all relevant wildfire risk and risk mitigation information that is part of the Safety Model Assessment Proceeding and the Risk Assessment Mitigation Phase filings. The list shall include, but not be limited to, both of the following:
- (A) Risks and risk drivers associated with design, construction, operations, and maintenance of the electrical corporation's equipment and facilities.
 - (B) Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the electrical corporation's service territory.
- (12) A description of how the plan accounts for the wildfire risk identified in the electrical corporation's Risk Assessment Mitigation Phase filing.
- (13) A description of the actions the electrical corporation will take to ensure its system will achieve the highest level of safety, reliability, and resiliency, and to ensure that its system is prepared for a major event, including hardening and modernizing its infrastructure with improved engineering, system design, standards, equipment, and facilities, such as undergrounding, insulation of distribution wires, and pole replacement.
- (14) A description of where and how the electrical corporation considered undergrounding electrical distribution lines within those areas of its service territory identified to have the highest wildfire risk in a commission fire threat map.
- (15) A showing that the electrical corporation has an adequately sized and trained workforce to promptly restore service after a major event, taking into account employees of other utilities pursuant to mutual aid agreements and employees of entities that have entered into contracts with the electrical corporation.
- (16) Identification of any geographic area in the electrical corporation's service territory that is a higher wildfire threat than is currently identified in a commission fire threat map, and where the commission should consider expanding the high fire threat district based on new information or changes in the environment.
- (17) A methodology for identifying and presenting enterprisewide safety risk and wildfire-related risk that is consistent with the methodology used by other electrical corporations unless the commission determines otherwise.
- (18) A description of how the plan is consistent with the electrical corporation's disaster and emergency preparedness plan prepared pursuant to Section 768.6, including both of the following:
- (A) Plans to prepare for, and to restore service after, a wildfire, including workforce mobilization and prepositioning equipment and employees.

(B) Plans for community outreach and public awareness before, during, and after a wildfire, including language notification in English, Spanish, and the top three primary languages used in the state other than English or Spanish, as determined by the commission based on the United States Census data.

(19) A statement of how the electrical corporation will restore service after a wildfire.

(20) Protocols for compliance with requirements adopted by the commission regarding activities to support customers during and after a wildfire, outage reporting, support for low-income customers, billing adjustments, deposit waivers, extended payment plans, suspension of disconnection and nonpayment fees, repair processing and timing, access to electrical corporation representatives, and emergency communications.

(21) A description of the processes and procedures the electrical corporation will use to do all of the following:

(A) Monitor and audit the implementation of the plan.

(B) Identify any deficiencies in the plan or the plan's implementation and correct those deficiencies.

(C) Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, carried out under the plan and other applicable statutes and commission rules.

(22) Any other information that the Wildfire Safety Division may require.

(d) The Wildfire Safety Division shall post all wildfire mitigation plans and annual updates on the commission's internet website for no less than two months before the division's decision regarding approval of the plan. The division shall accept comments on each plan from the public, other local and state agencies, and interested parties, and verify that the plan complies with all applicable rules, regulations, and standards, as appropriate.

(Amended by Stats. 2019, Ch. 410, Sec. 2.3. (SB 560) Effective January 1, 2020.)

(End of Appendix E)

APPENDIX F

Glossary of Terms

Glossary of Terms

Term	Definition
AB	Assembly Bill
AFN	Access and Functional Needs
ALJ	Administrative Law Judge
BVES	Bear Valley Electric Service
CAISO	California Independent System Operator
Cal Advocates	Public Advocate's Office
CAL FIRE	California Department of Forestry and Fire Protection
CEJA	California Environmental Justice Alliance
CNRA	California Natural Resources Agency
D.	Decision
DFA	Distribution Fault Attribution
EBMUD	East Bay Municipal Utility District
EFD	Early Fault Detection
EPIC	Electric Program Investment Charge
EPUC	Energy Producers and Users Coalition
EVM	Enhanced Vegetation Management
FERC	Federal Energy Regulatory Commission
FGDC	Federal Geographic Data Committee
FIRIS	Fire Integrated Real Time Intelligence System
FMEA	Failure Modes and Effects Analysis
FPI	Fire Potential Index
GIS	Geographic Information Systems
GO	General Order
GPI	Green Power Institute
GRC	General Rate Case
HFRA	High Fire Risk Area
HFTD	High Fire Threat District
Horizon West	Horizon West Transmission
HWT	Horizon West Transmission
I.	Investigation
ICS	Incident Command System

Term	Definition
ICS	Incident Command Structure
IOU	Investor Owned Utility
ISA	International Society of Arboriculture
ITO	Independent Transmission Operator
IVM	Integrated Vegetation Management Plan
IVR	Interactive Voice Response
JIS	Joint Information System
kV	Kilovolt
Liberty	Liberty Utilities / CalPeco Electric
LiDAR	Light Detection and Ranging
LTE	Long-Term Evolution
Maturity Model	Utility Wildfire Mitigation Maturity Model
MAVF	Multi-Attribute Value Function
MGRA	Mussey Grade Road Alliance
MMAA	Mountain Mutual Aid Association
NERC	North American Electric Reliability Corporation
NFDRS	National Fire Danger Rating System
OCFA	Orange County Fire Authority
OEIS	Office of Energy Infrastructure Safety
OP	Ordering Paragraph
OPW	Outage Producing Winds
PG&E	Pacific Gas and Electric Company
PLP	Pole Loading Assessment Program
PMO (PacifiCorp)	Project Management Office
PMO (SCE)	Public Safety Program Management Office
PMU	Phasor Measurement Unit
POC	Protect Our Communities Foundation
PRC	Public Resources Code
PSPS	Public Safety Power Shutoff
QA	Quality Assurance
QC	Quality Control
R.	Rulemaking

Glossary of Terms

Term	Definition
RAMP	Risk Assessment and Management Phase
RAR	Remote Automatic Reclosers
RBDM	Risk-Based Decision Making
RCP	Remedial Compliance Plan
RCRC	Rural Counties of California Representatives
REFCL	Rapid Earth Fault Current Limiter
RFW	Red Flag Warning
RSE	Risk Spend Efficiency
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison Company
SDG&E	San Diego Gas & Electric Company
S-MAP	Safety Model Assessment Proceeding
SMJU	Small and Multijurisdictional Utility
SUI	Wildland-Urban Interface
SWATI	Santa Ana Wildfire Threat Index
TAT	Tree Assessment Tool
TBC	Trans Bay Cable
TURN	The Utility Reform Network
USFS	United States Forest Service
WMP	Wildfire Mitigation Plan
WRRM	Wildfire Risk Reduction Model
WSAB	Wildfire Safety Advisory Board
WSD	Wildfire Safety Division
WSIP	Wildfire Safety Inspection Program

(End of Appendix F)