

## **APPENDIX A**

### **Deficiencies and Conditions**

<b>BVES-R1</b>	<b>Defining the year.</b>
<b>Class</b>	C
<b>Deficiency</b>	For its Progress Metrics, BVES defines 2019 as June 2019-May 2020. While the WSD understands BVES's desire to present a full calendar year of data and progress, redefining the year makes it difficult to compare BVES's Progress Metrics with those of the other filers.
<b>Condition</b>	In its 2021 WMP update, BVES shall: <ul style="list-style-type: none"> <li>i) recalculate 2019 Progress Metrics to only include progress that occurred within calendar year 2019;</li> <li>ii) explain in a footnote why data is available for only a portion of the specified calendar year for any applicable Progress Metric; and</li> <li>iii) maintain the definition of "year" as a calendar year (i.e., January to December) throughout the 2021 WMP Update, subsequent WMPs, and all related filings, unless otherwise directed.</li> </ul>

<b>BVES-R2</b>	<b>Details on risk spend efficiency and future modelling plans.</b>
<b>Class</b>	B
<b>Deficiency</b>	<p>BVES states that its grid hardening projects are capital intensive and yield low RSE values but are prudent and critical to hardening its system, and that it is taking proactive measures to mitigate wildfire risks that have been widely adopted across California. While BVES provides RSE estimates for a significant number of initiatives and a high-level comparative analysis in Figures 5-6 and 5-7 of its WMP Refile, BVES appears to heavily rely on its subject matter experts' input to evaluate risk but does not explain the assumptions made and how wildfire RSE and PSPS RSE were calculated. Further, BVES states that it plans to develop a model to quantify ignition risk drivers and associated probabilities within the next 3 years but does not explain the steps it will take to develop this plan or how it intends to achieve this plan. BVES WMP Refile also lists each mitigation measure and a time period in which it will be completed in Supporting Table 5-1, but it did not provide a year-by-year timeline for reaching its 10-year goals.</p>
<b>Condition</b>	<p>In its 2021 WMP Update, BVES shall:</p> <ul style="list-style-type: none"> <li>i) provide an explanation for the RSE estimates in Figures 5-6 and 5-7 of the BVES WMP, including the assumptions made and how wildfire RSE and PSPS RSE were calculated;</li> <li>ii) provide a detailed explanation of how the Fire Safety Circuit Matrix works, how the subject matter experts evaluate risk reduction and define an equivalent annual cost for each mitigation activity, and what process the subject matter experts go through, including assumptions made in their evaluations;</li> <li>iii) provide an explanation of how BVES will reduce distribution circuits designated by the Fire Safety Circuit Matrix as high wildfire threat from eleven to five;</li> <li>iv) provide additional detail, timeline, and updates on impact of new technology and innovations on BVES's 3-year strategy;</li> <li>v) provide a detailed explanation of BVES's plans and progress in developing a model to quantify ignition risk drivers and associated probabilities, within the next 3 years; and</li> <li>vi) provide a year-by-year timeline for reaching these goals.</li> </ul>

<b>BVES-R3</b>	<b>Pilot program impacts on strategy.</b>
<b>Class</b>	B
<b>Deficiency</b>	BVES states that its grid hardening projects are capital intensive and yield low RSE values BVES mentions that it is following other utilities' pilot programs and research and development efforts but does not plan to pursue new technologies until they are ready for commercial deployment. However, BVES does not provide further detail of how new technologies and innovations will impact its strategy over the next 3 years.
<b>Condition</b>	In its 2021 WMP Update, BVES shall: <ul style="list-style-type: none"> <li>i) provide details on how it expects new technologies and pilot programs to impact its wildfire mitigation strategy over the next 3 year horizon.</li> </ul>

<b>BVES-R4</b>	<b>Emerging innovation installment programs.</b>
<b>Class</b>	C
<b>Deficiency</b>	BVES states that it “will consider the feasibility of implementing alternative technologies” and it is “closely following” several emerging innovations and technologies. BVES then lists several technologies that it is “closely following,” including Down Wire Detection Relay; however, BVES refers to Down Wire Detection Relay as an “installment program.” BVES also states in Table 22 that “BVES is monitoring Down Wire Detection Technology and once the technology is ready for field use, BVES will develop a Down Wire Detection Installment Program in future WMPs.” BVES’s discussion regarding this technology is unclear and difficult to follow.
<b>Condition</b>	In its 2021 WMP Update, BVES shall describe: <ul style="list-style-type: none"> <li>i) whether it currently has a Down Wire Detection Installment Program; <ul style="list-style-type: none"> <li>a) if it does, provide a timeline for development and implementation of this program.</li> <li>b) if it does not, clarify whether BVES intends to develop a Down Wire Detection Installment Program and, if so, provide a timeline for the development of this program.</li> </ul> </li> <li>ii) how it intends to measure the effectiveness of Down Wire Detection technology.</li> </ul>

<b>BVES-R5</b>	<b>Controls to ensure targets and goals are met.</b>
<b>Class</b>	B
<b>Deficiency</b>	BVES's 2020 WMP Refile did not specify the amount of work it would do for some of its 2019 targets, so it is not possible to assess whether it met its own internal goals. BVES also did not specify how it would ensure its internal goals and targets are met. Further, BVES conducted pilot programs to evaluate the wildfire risk of its structure design and decided to replace all sub-transmission lines (34.5 kV) and replace all bare 4 kV distribution conductor in "high-risk areas" with covered conductor. However, BVES did not specify how these "high-risk areas" are determined.
<b>Condition</b>	In its 2021 WMP Update, BVES shall: <ul style="list-style-type: none"> <li>i) explain the type of controls implemented to ensure that its internal goals and targets are met; and</li> <li>ii) explain how "high-risk areas" were determined.</li> </ul>

<b>BVES-R6</b>	<b>Vegetation management community outreach.</b>
<b>Class</b>	C
<b>Deficiency</b>	BVES provides no discussion of community outreach or public education in its vegetation management section. BVES says that efforts are incorporated into “other programs such as those in Table 29 and Table 30,” but those Tables are incomplete and indicate that several community engagement initiatives are included in section 5.3.9 of the WMP Refile (Emergency Planning and Preparedness), with which the WSD has found a deficiency (BVES-R11).
<b>Condition</b>	In its 2021 WMP Update, BVES shall: <ul style="list-style-type: none"> <li>i) supply the missing information on its community outreach and public education related to vegetation management, and</li> <li>ii) detail how community related vegetation management outreach and response is performed outside of emergency situations.</li> </ul>

<b>BVES-R7</b>	<b>Fuels management.</b>
<b>Class</b>	C
<b>Deficiency</b>	BVES provides little discussion on slash treatment or fuels reduction around facilities. BVES states that practices are incorporated into vegetation management practices with no details on how.
<b>Condition</b>	In its 2021 WMP Update, BVES shall: <ul style="list-style-type: none"> <li>i) provide detailed information on its fuels management and slash reduction practices, and</li> <li>ii) disclose whether it intends on developing a fuels management program and/or joint roadmap in cooperation with the Forest Service and other land management agencies.</li> </ul>

<b>BVES-R8</b>	<b>Tracking of tree status.</b>
<b>Class</b>	C
<b>Deficiency</b>	BVES does not discuss whether it has a tracking system for trees, other than one to ensure its contractor is completing required work.
<b>Condition</b>	In its 2021 WMP Update, BVES shall detail: <ul style="list-style-type: none"> <li>i) how it tracks its trees or groups of trees to ensure they are treated according to an appropriate schedule and appropriate specifications that ensure they do not pose a risk of wildfire, and</li> <li>ii) whether this tracking documents the condition of trees to ensure they are maintained in proper condition over time.</li> </ul>



BVES-R9	PSPS.
<b>Class</b>	B
<b>Deficiency</b>	<p>Although BVES has never experienced a PSPS event, its PSPS activity is governed, at least in part, by what SCE does, so BVES must have better plans in place to prepare for a potential PSPS event in its service territory. While BVES indicates efforts to plan for PSPS events, BVES’s WMP Refile lacks detail on its overall preparedness for a potential PSPS event. BVES’s WMP Refile lists organizations, partners, and Community Based Organization’s that it will collaborate with but does not provide a detailed explanation of what roles those organizations will play, what contracts or agreements are currently in place, actions it has taken, or resources available to those organizations to support BVES’s strategy to minimize public safety risk from PSPS events. While BVES provides a limited communication strategy for providing in-language material pursuant to the requirements of D.20-03-004 and material for AFN populations, it does not provide details of how it will mitigate the public safety impact of PSPS on first responders, health care facilities, operations of telecommunications infrastructure and water utilities/agencies, and other critical infrastructure.</p> <p>BVES also states that its service territory has sufficient local generation to supply critical services and infrastructure but does not provide further detail. Further, BVES’s WMP Refile notes that it does not deploy crew-accompanying ignition prevention and suppression resources and services as part of its operational practices; however, when emergencies occur, BVES communicates and collaborates with local emergency response teams, which include crew accompanying ignition prevention and suppression resources and services.</p> <p>However, BVES does not mention what suppression resources would be utilized by the Wildfire Infrastructure Protection team to mitigate wildfire impacts. BVES does not outline personnel work procedures and training requirements. BVES states that additional linepersons and engineers could supplement the ignition mitigation and suppression effort, but does not mention if standby resources (i.e., water trucks) would be available.</p>

	<p>During its Restoration Phase, BVES states that it will coordinate with SCE but does not provide a detailed description of what this coordination would entail. BVES also does not provide any discussion of notification of the State Warning Center in the initial PSPS or Restoration Phase of the plan.</p>
<p><b>Condition</b></p>	<p>In its 2021 WMP Update, BVES shall detail:</p> <ul style="list-style-type: none"> <li>i) its strategy to minimize public safety risk during high wildfire risk conditions (including the list and description of community resource centers and services provided during a de-energization event and a communication strategy) sufficient to address the needs of the population in those areas, including Limited English Proficiency and AFN populations. If BVES has already submitted compliance documents with regard to the in-language requirements of D.20-03-004 or other CPUC decision, it shall explain those materials,</li> <li>ii) details of Big Bear Valley Mountain Mutual Aid Association’s (MMAA) role in BVES’s strategy to minimize public safety risk during high wildfire conditions,</li> <li>iii) a plan for customer communications and mitigating the public safety impact of PSPS on first responders, health care facilities, operations of telecommunications infrastructure and water utilities/agencies,</li> <li>iv) its collaboration with Community Based Organizations, including what role each organization will play to minimize public safety risk during high wildfire conditions,</li> <li>v) an update on its development of a Community Resource Center for PSPS events,</li> <li>vi) a detailed explanation of its coordination with the CPUC, CalFire, Cal OES, communications providers, representatives of people/communities with access and functional needs, and other public safety partners to plan de-energization simulation exercises,</li> <li>vii) a detailed explanation of how its local energy generation will supply critical services and infrastructure,</li> <li>viii) what suppression resources would be utilized by the Wildfire Infrastructure Protection team to mitigate wildfire impacts, and</li> <li>ix) what stand-by resources would be available to BVES during a PSPS event.</li> </ul>

<b>BVES-R10</b>	<b>Data capabilities and planning for data governance, sharing, and repository.</b>
<b>Class</b>	B
<b>Deficiency</b>	BVES vaguely describes its plans to address GIS capabilities, data sharing, development a centralized data repository, and performance of a “gap analysis.” BVES states that it is “assessing its data collection, data management and data sharing policies,” and “will conduct a GIS capability assessment to assure it can manage data on an enterprise-wide basis.” However, BVES lacks a clear plan for implementing new data policies.
<b>Condition</b>	In its 2021 WMP Update, BVES shall: <ul style="list-style-type: none"> <li>i. provide a schema for its centralized data repository.</li> <li>ii. detail the quality assurance, quality control, and governance policies for its data enterprise systems.</li> <li>iii. provide updates on the status, findings, and resultant actions for: <ul style="list-style-type: none"> <li>a. the “gap analysis,”</li> <li>b. the GIS capability assessment,</li> <li>c. clearing the backlog of data management activities, and</li> <li>d. staff training in GIS.</li> </ul> </li> <li>iv. provide a timeline and a detailed explanation of BVES’s plans to develop and implement an action plan addressing data sharing, collection, and storage, including its plan to align data with WSD’s data standards. This timeline and explanation shall include all types of data, including GIS.</li> </ul>

<b>BVES-R11</b>	<b>Lack of wildfire issues addressed in emergency preparedness plan.</b>
<b>Class</b>	C
<b>Deficiency</b>	BVES must have an emergency plan in place in accordance to GO 166 and also for wildfire and PSPS events, as discussed in the section on Grid Operations and Protocols. Lack of ignition in the past does not mean the electrical corporation will not have wildfire events in the future, and the WSD is concerned that BVES is generally unprepared to meet this challenge. In A.13 of its 2020 WMP Refile, BVES noted that it will address all Class C deficiencies in its 2021 WMP Update.
<b>Condition</b>	In its 2021 WMP Update, BVES shall: <ul style="list-style-type: none"> <li>i) set forth its emergency planning and preparedness for wildfire, including customer support before, during and after a wildfire, support for low income customers, billing adjustments, deposit waivers, extended payment plan, suspension of disconnection and nonpayment fees, and repairs,</li> <li>ii) describe emergency communications before, during, and after a wildfire in English, Spanish, and other languages required by the Commission in D.20-03-004, and</li> <li>iii) address plans for coordination with first responders and other public safety organizations, plans to prepare for and restore service, including workforce mobilization and prepositioning of equipment and employees, and a showing that it has an adequate and trained workforce to promptly restore service after a major event.</li> </ul>

<b>BVES-R12</b>	<b>Collaboration.</b>
<b>Class</b>	C
<b>Deficiency</b>	BVES says that it “will collaboratively leverage information with partners,” but does not provide details as to what those efforts or outcomes will be.
<b>Condition</b>	In its 2021 WMP Update, BVES shall: <ul style="list-style-type: none"> <li>i) detail the nature and outcomes of its existing collaboration with each stakeholder and community partner,</li> <li>ii) describe plans and desired outcomes for collaborations not yet in place, and</li> <li>iii) how it incorporates feedback from collaborations into its wildfire mitigation efforts and initiatives.</li> </ul>

<b>BVES-R13</b>	<b>“As needed” community engagement insufficient.</b>
<b>Class</b>	C
<b>Deficiency</b>	It is not sufficient for BVES simply to state that it will engage with its community “as needed.” It must plan now in the event of wildfire or PSPS emergencies later.
<b>Condition</b>	In its 2021 WMP Update, BVES shall: <ul style="list-style-type: none"> <li>i) establish and describe its program regarding customer outreach and engagement, including community meetings with proper input from the community, such as surveys, with a process to change procedures and the WMP based off such input.</li> </ul>

**(End of Appendix A)**

## **APPENDIX B**

### **Detailed Figures & Charts**

## 0. Summary

All figures reference the latest submitted versions of 2020 WMPs as of December 4<sup>th</sup>, 2020. Data is pulled from Tables 1-31 of Utility WMPs unless stated otherwise.

By utility, the WMPs reference in this document are:

<b>PG&amp;E</b>	Update to WMP submitted March 17 <sup>th</sup> , 2020
<b>SCE</b>	Revision 02 to WMP
<b>SDG&amp;E</b>	Update to WMP submitted March 10 <sup>th</sup> , 2020
<b>Liberty CalPeco</b>	Update to WMP submitted February 28 <sup>th</sup> , 2020
<b>Bear Valley Electric Service</b>	2020 WMP Refile submitted September 18 <sup>th</sup> , 2020
<b>Horizon West Transmission</b>	Update to WMP submitted February 28 <sup>th</sup> , 2020
<b>Trans Bay Cable</b>	Update to WMP submitted February 28 <sup>th</sup> , 2020

All are available at [www.cpuc.ca.gov/wildfiremitigationplans](http://www.cpuc.ca.gov/wildfiremitigationplans)

All the analysis and corresponding figures presented in this appendix reply 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.

Figures in this appendix are not numbered sequentially. Figure numbers have been retained from the Detailed Figure & Charts appendices of the Resolutions addressing the other electrical corporations' 2020 WMPs.<sup>1</sup> Only figures pertaining to Bear Valley Electric Service and other Small and Multi-Jurisdictional Utilities have been included in this document, and retain the original figure numbers including updated data.

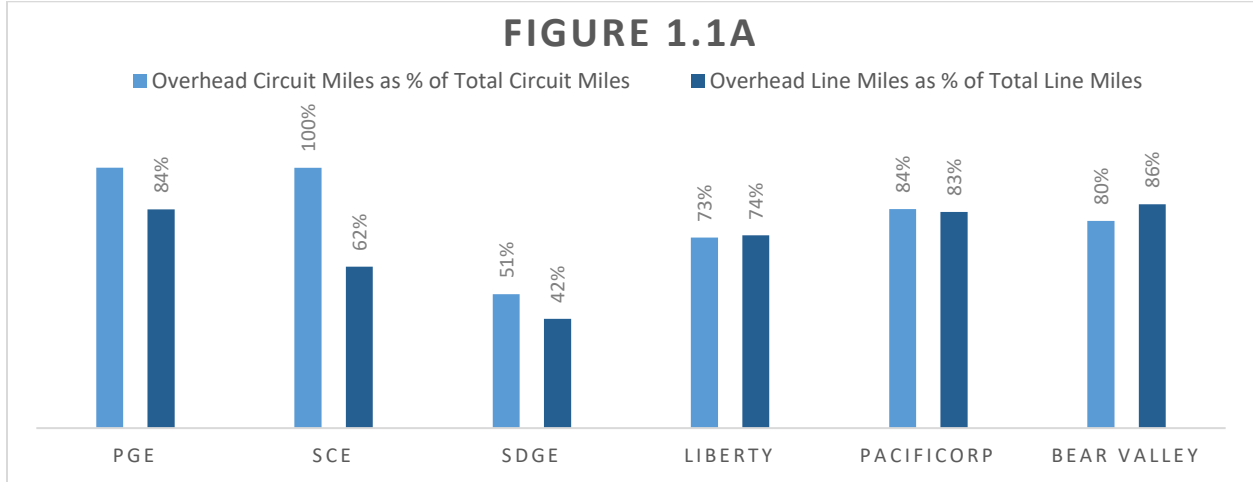
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<sup>1</sup> Resolutions WSD-002, -003, -004, -005, -007, -008, and -009.



## 1.1 Wildfire Risk Exposure

Figure 1.1a: Comparison of data sources for circuit typologies

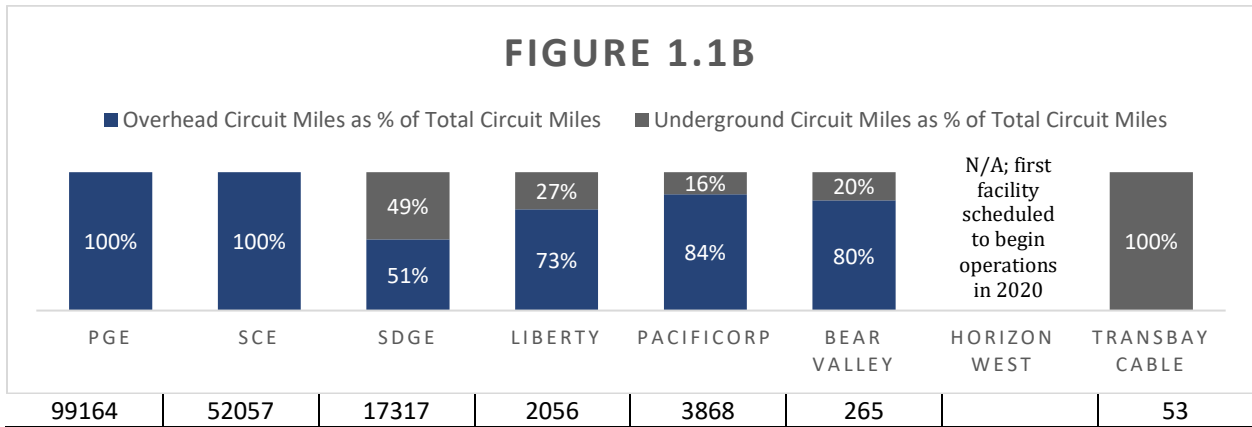


Note: In their 2020 WMPs, PG&E and SCE only reported circuit mileage data for overhead facilities. Based on the best available historical data on circuit mileage and grid topology in the Commission's possession, PG&E is reported to have 84% of its total line miles overhead, and SCE is reported to have 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.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

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



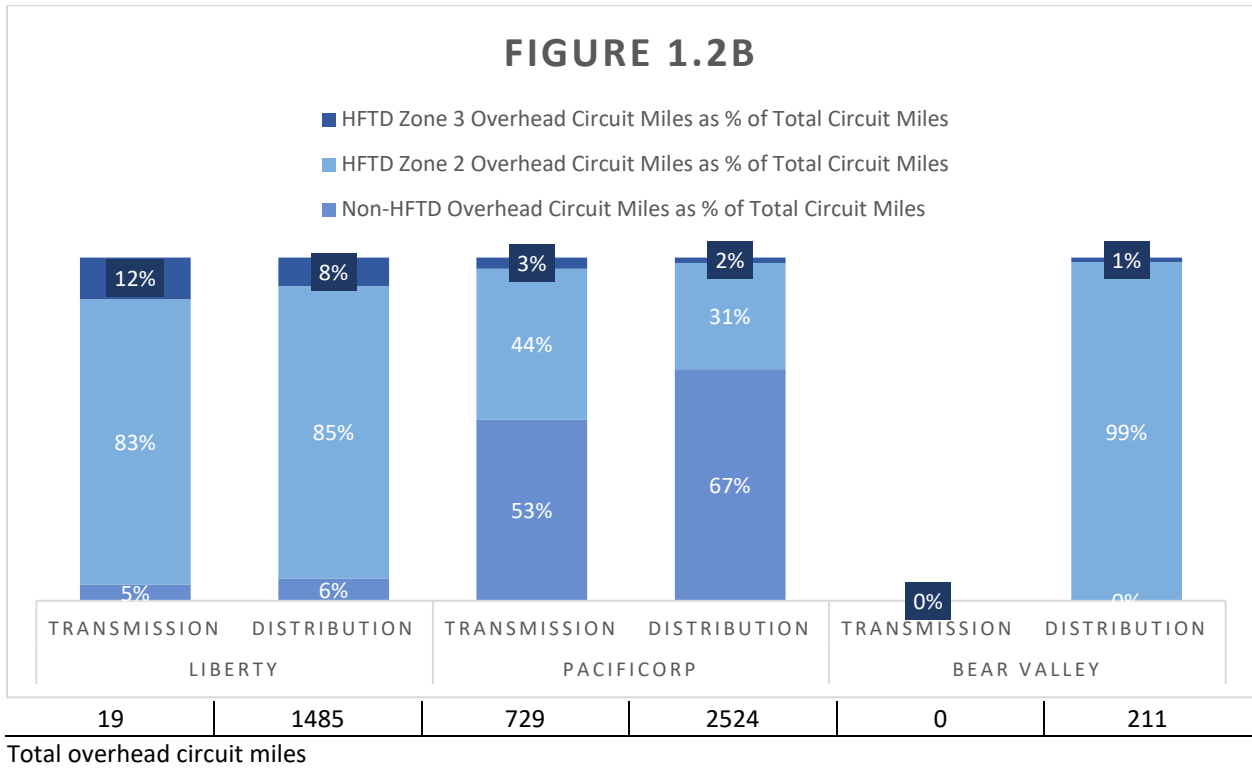
Total circuit miles

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.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: WMP Table 13

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

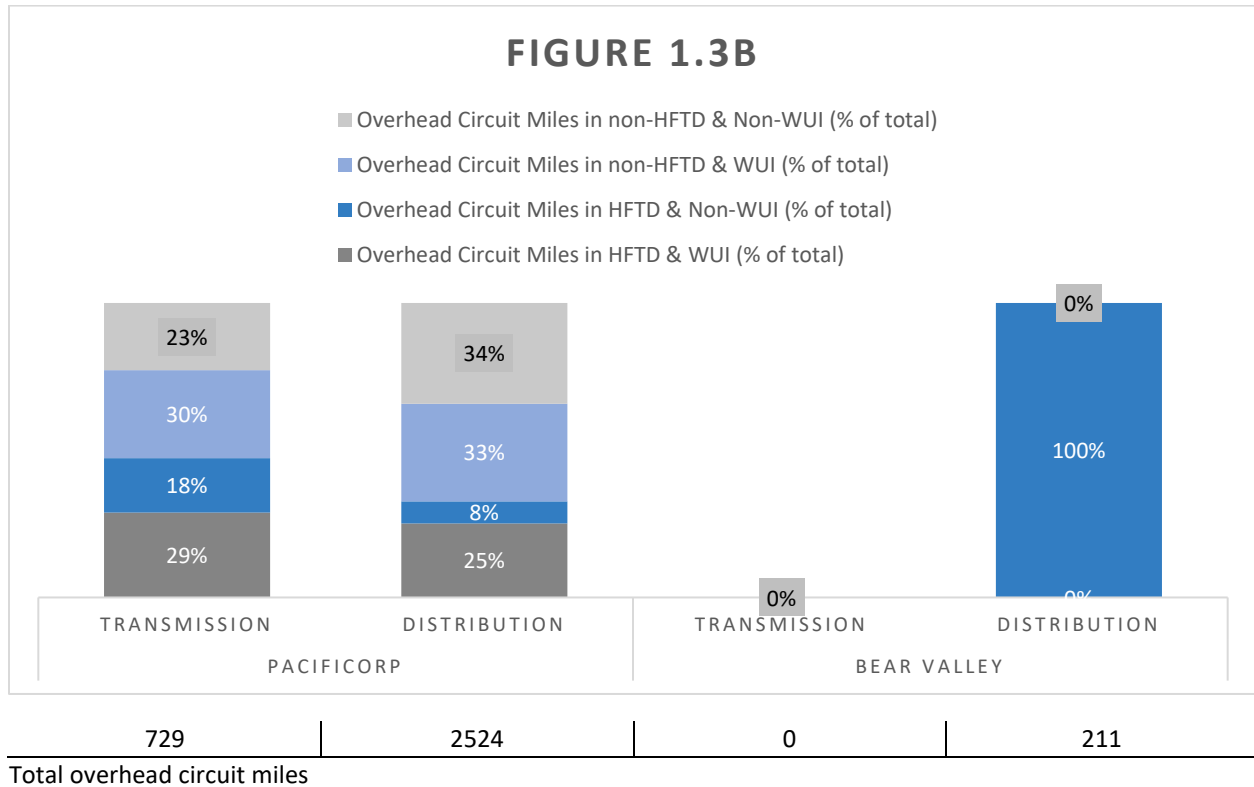


Note: Zone 1 not shown as subtotal

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: WMP Table 13

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



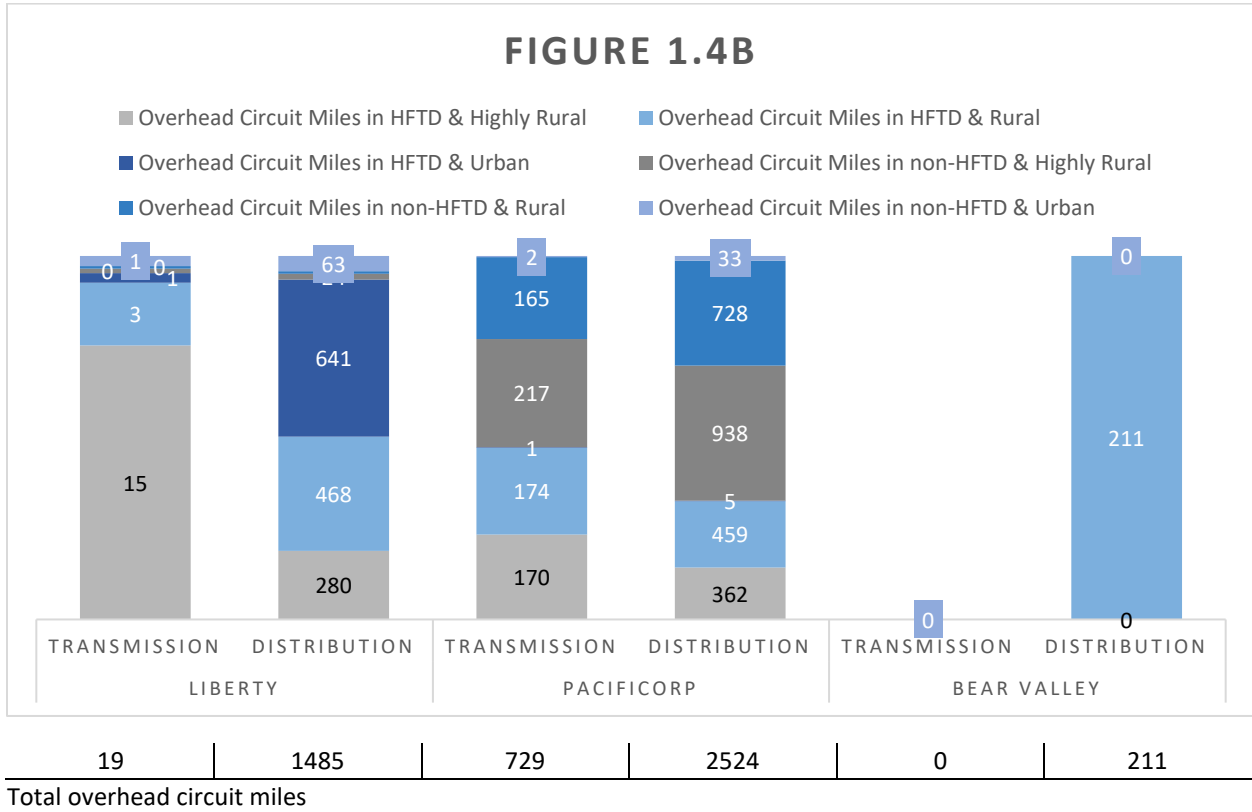
Note: Liberty appears to have made an error in their WMP, claiming more WUI circuit miles than total circuit miles. Thus, it is not shown here.

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.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: WMP Table 13

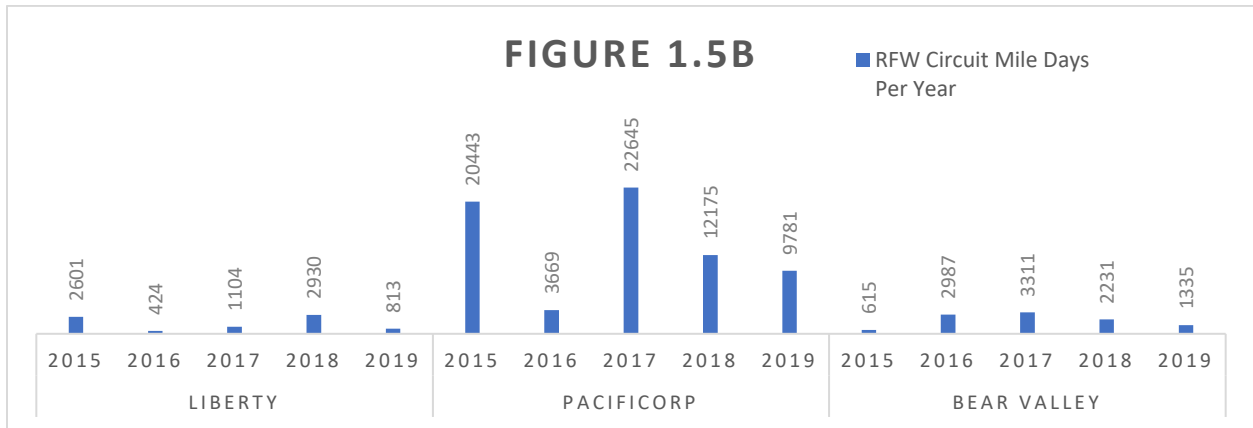
Figure 1.4b: Breakdown of overhead transmission and distribution circuit miles by HFTD and population density (Small utilities)



BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: WMP Table 13

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



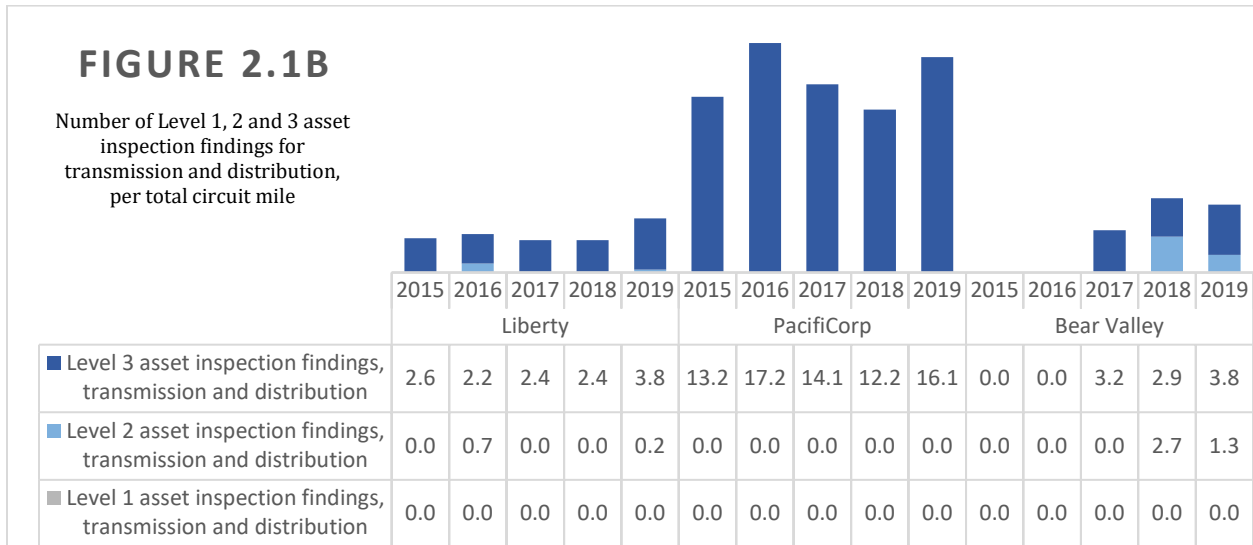
Note: A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture the duration and scope of the fire weather that year. It is defined on page 5 of the 2020 WMP Guidelines to be calculated as the number of circuit miles that were under a RFW multiplied by the number of days those miles were under 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.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: WMP Table 10

## 1.2 Outcome Metrics

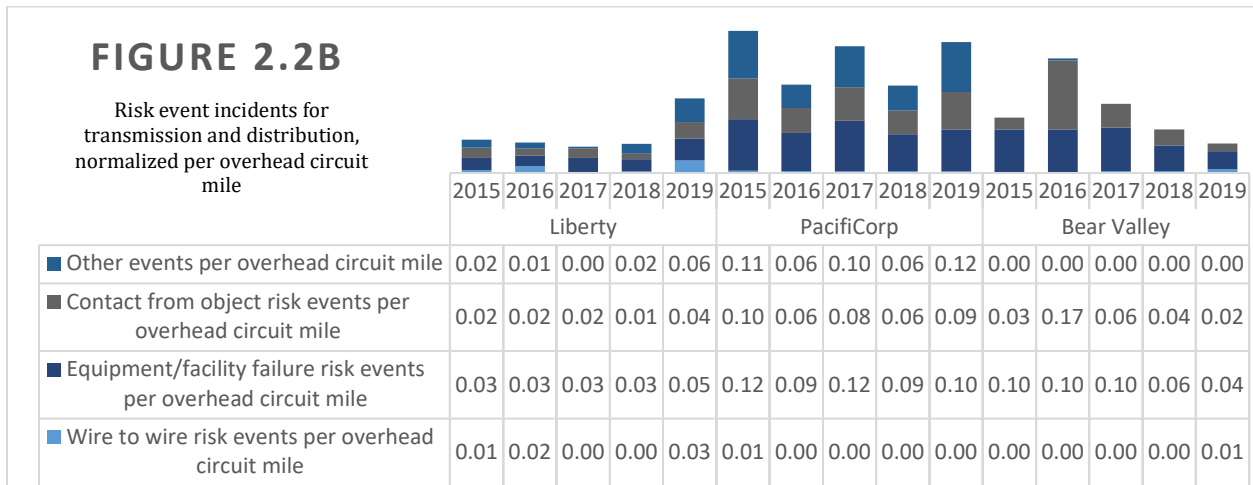
Figure 2.1b: Asset inspection findings normalized by total circuit mileage (Small utilities)



BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: WMP Table 1

Figure 2.2b: Risk event incidents normalized by overhead circuit mileage (Small utilities)



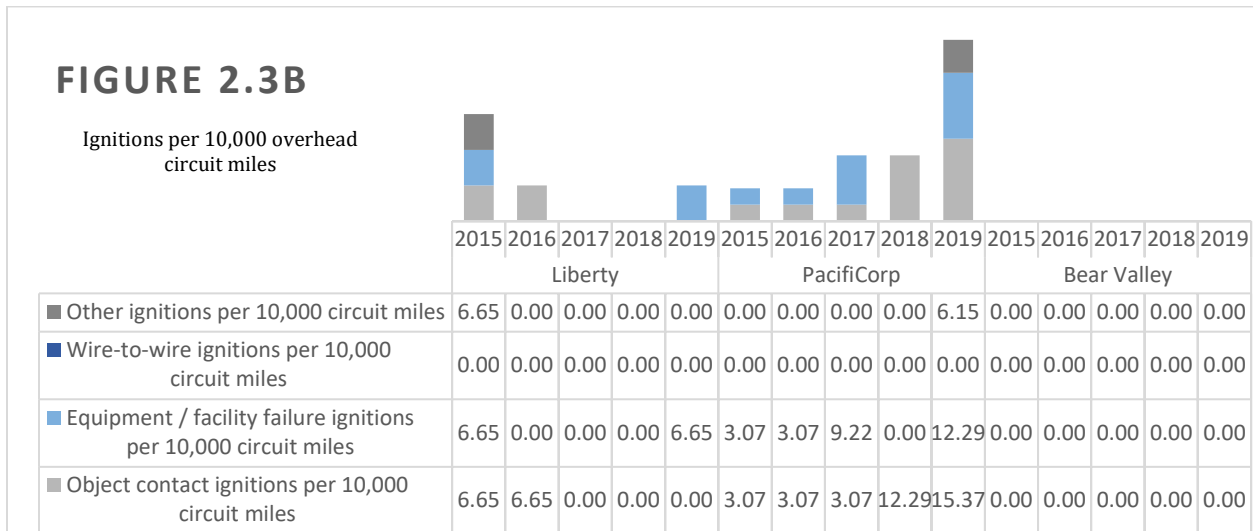
For PacifiCorp, the largest drivers of “Other” near misses were “Other” (50% on average over the 5 year period) and “Unknown” (42% on average over the 5 year period).

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

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



Total annual ignitions

Utility	2015	2016	2017	2018	2019
Liberty	3	1			1
PacifiCorp	2	2	4	4	11
Bear Valley	0	0	0	0	0

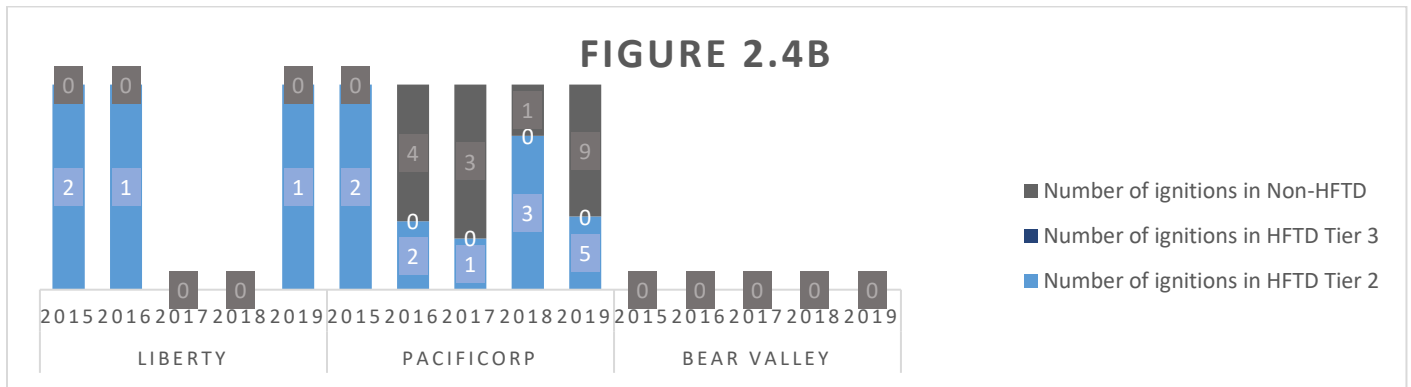
Total reported overhead circuit miles

Utility	Circuit miles
Liberty	1504
PacifiCorp	3254
Bear Valley	211

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

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

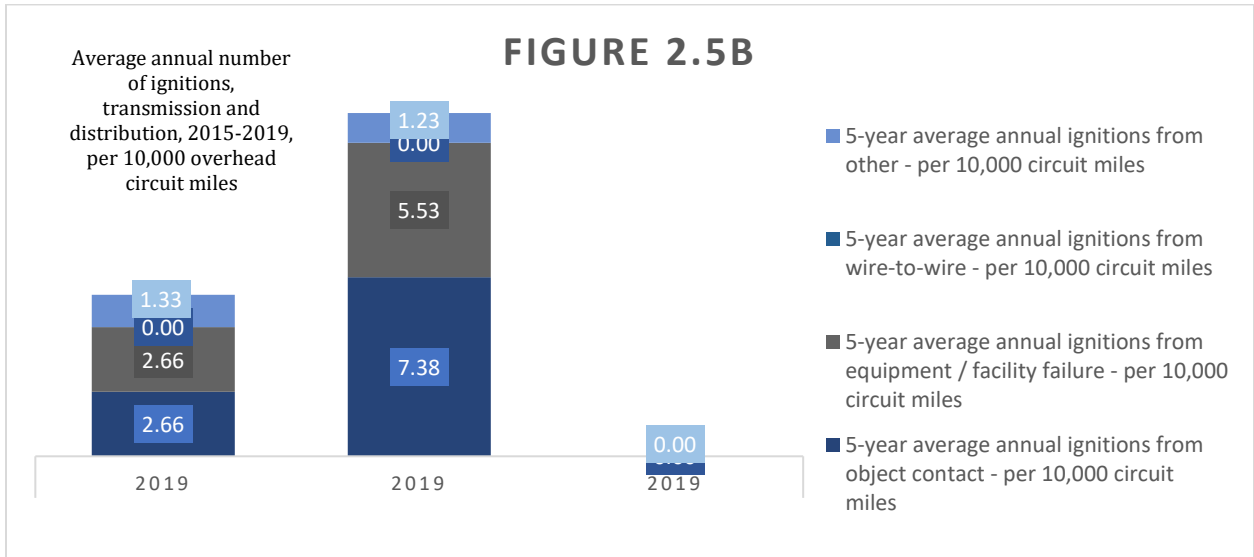


Note: Ignitions in Zone 1 HFTD areas make up less than 1% of total ignitions.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: Table 2 from utility WMPs

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

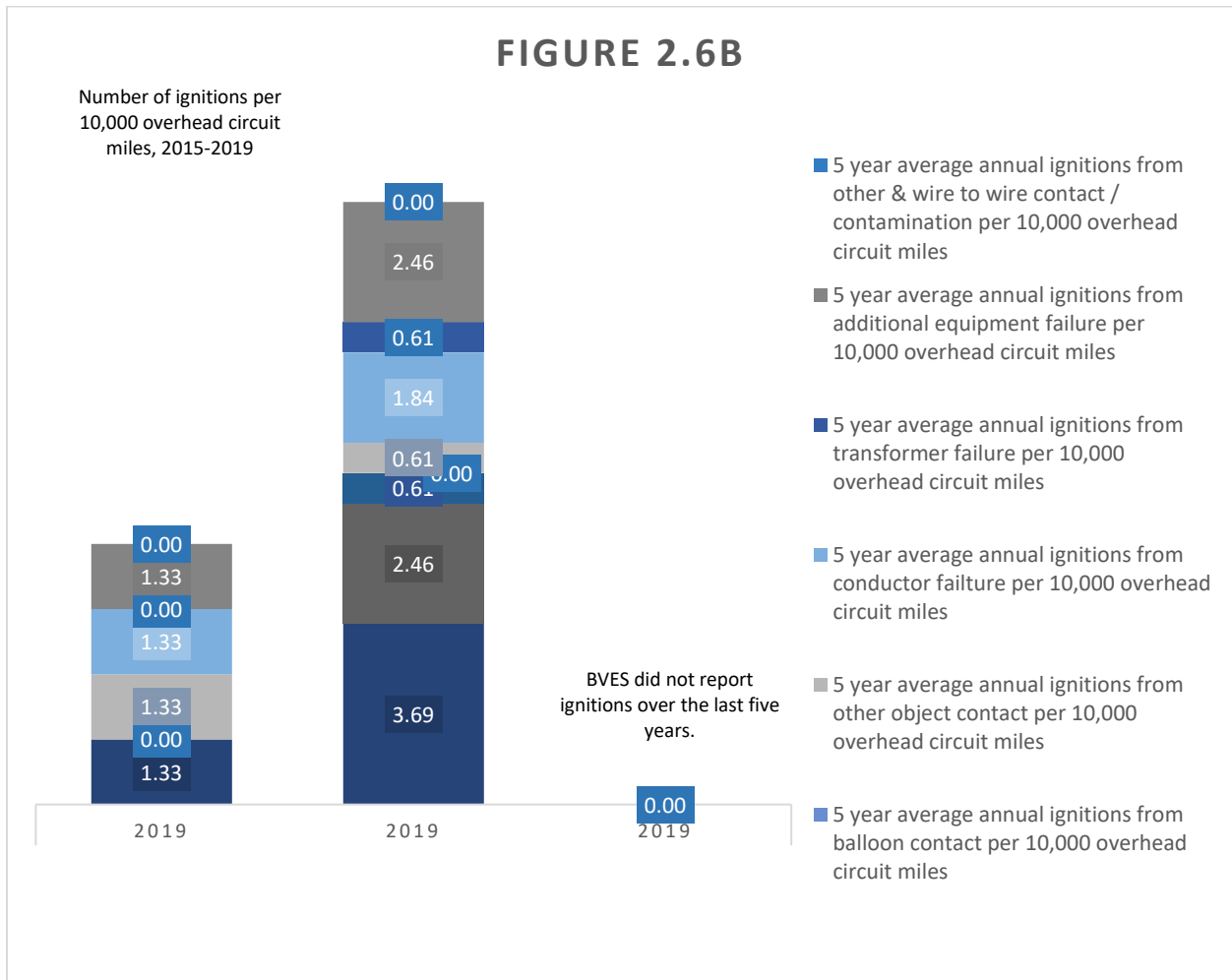


Note: Since Liberty and PacifiCorp have less than 10,000 overhead circuit miles, their average number of total annual ignitions per 10,000 circuit miles is greater than their average number of total annual ignitions.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

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

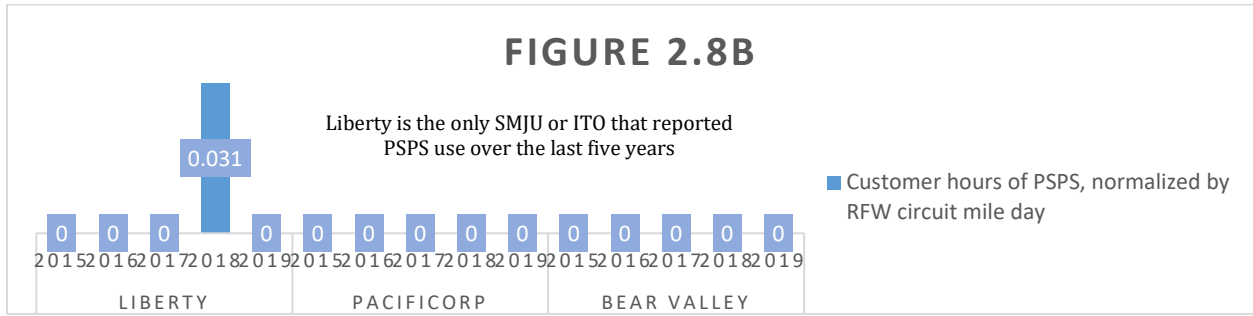


Note: Conductor failure includes conductor failure (as reported), splice, clamp and connector. Other includes wire-to-wire contact / contamination. Since Liberty and PacifiCorp have less than 10,000 overhead circuit miles, their average number of total annual ignitions per 10,000 circuit miles is greater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

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

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



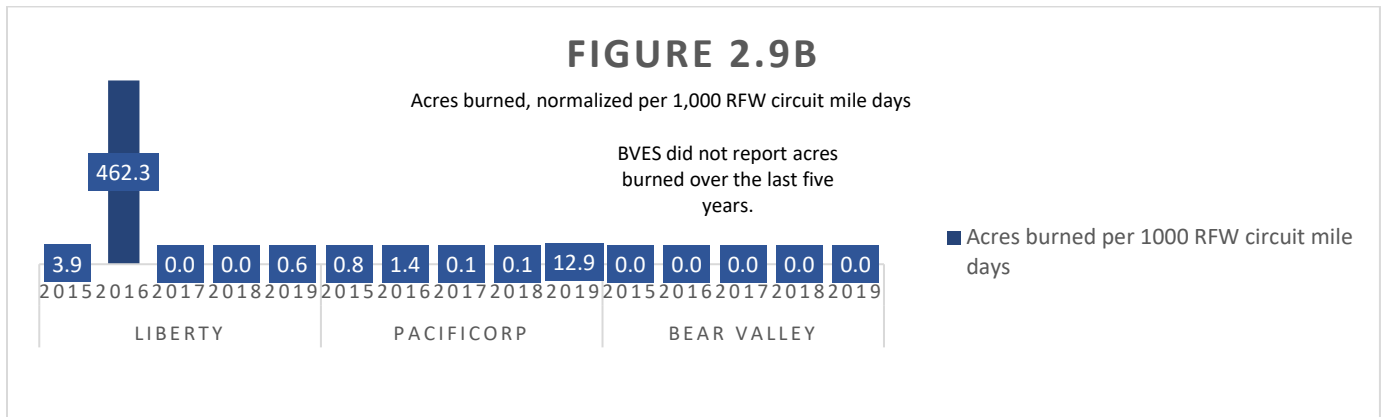
Note: Normalization using RFW circuit mile days helps take into account fire weather conditions based on a commonly used metric; more detail is necessary to address potential inconsistencies in how each utility calculates this figure. A “Red Flag Warning (RFW) Circuit Mile Day” is intended to capture 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.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: Table 12 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.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Source: Table 2 and Table 10 of utility WMPs.

### 1.3 Resource Allocation

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

**FIGURE 3.1B**

	Planned spend	Actual spend	Planned spend	Actual spend	Planned spend	Actual spend	Planned spend	Actual spend	Total planned spend for WMP cycle
	2019		2020		2021		2022		Total
■ Liberty	4.0 M	7.0 M	30.0 M	.0 M	32.0 M	.0 M	27.0 M	.0 M	89.0 M
■ PacifiCorp	1.0 M	13.0 M	26.0 M	.0 M	38.0 M	.0 M	37.0 M	.0 M	101.0 M
■ Bear Valley	12.4 M	13.0 M	15.1 M	.0 M	21.2 M	.0 M	14.6 M	.0 M	50.9 M
■ Horizon West	.0 M	.0 M	4.0 M	.0 M	4.0 M	.0 M	.0 M	.0 M	8.0 M
■ TransBay Cable	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M

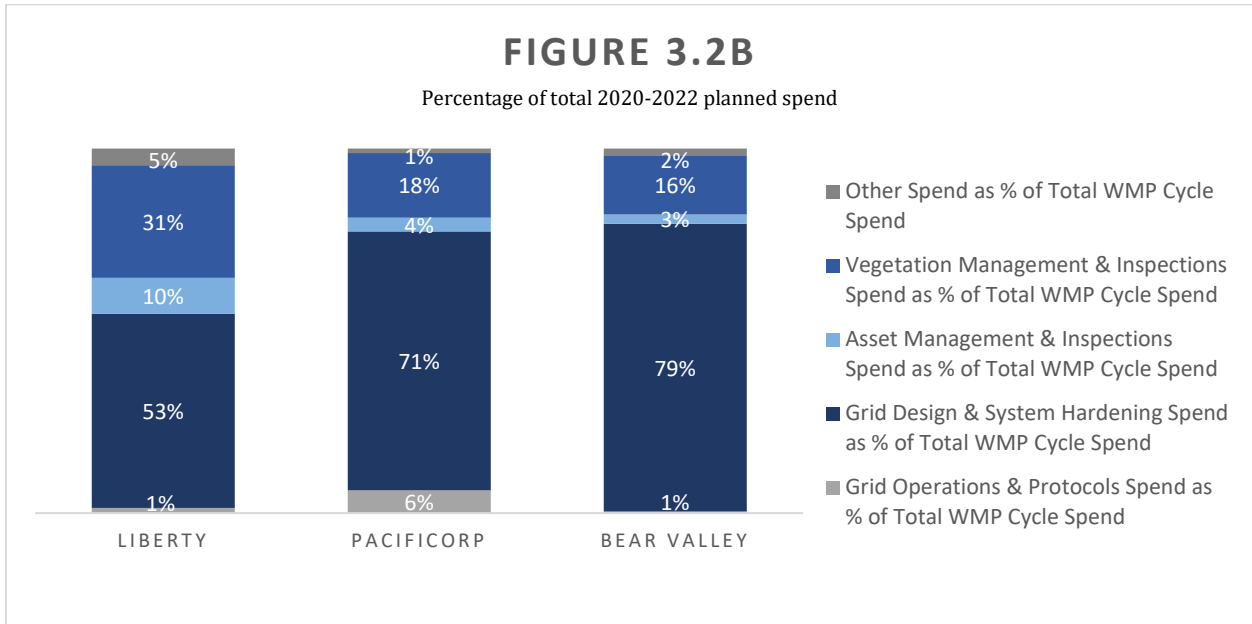
Totals for Liberty and PacifiCorp include calculation errors on the part of utilities in which the reported sum of the spend for 2020, 2021, and 2022 is not equal to the total reported 2020-2022 planned spend. This error has not been corrected by the WSD in this table.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

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



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.

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

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



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

**FIGURE 3.3B**

	Liberty	PacifiCorp	Bear Valley
■ Total Planned spend for Grid Design & System Hardening	47.54 M	68.49 M	40.12 M
■ Total Planned spend for Veg. Management & Inspections	27.57 M	17.10 M	8.24 M
■ Total Planned spend for Asset Management & Inspections	8.70 M	3.69 M	1.31 M
■ Total Planned spend for Grid Operations and Protocols	1.26 M	6.00 M	.25 M
■ Total Planned spend for Data Governance	1.45 M	.00 M	.14 M
■ Total Planned spend for Situational Awareness & Forecasting	1.81 M	1.04 M	.80 M
■ Total Planned spend for Emergency Planning & Preparedness	.72 M	.00 M	.00 M
■ Total Planned spend for Stakeholder Cooperation & Community Engagement	.08 M	.00 M	.00 M
■ Total Planned spend for Resource Allocation & Methodology	.00 M	.00 M	.00 M
■ Total Planned spend for Risk Assessment & Mapping	.00 M	.08 M	.00 M
■ Total planned spend for WMP cycle	89.13 M	96.40 M	50.87 M

Source: Tables 21-30 of utility WMPs

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

Figure 3.9: Bear Valley resource allocation detail for top 5 initiatives by planned spend

<b>FIGURE 3.9A</b>							
	2019 Plan (\$K)	2019 Actual (\$K)	2020 Plan (\$K)	2020 Actual (\$K)	2021 Plan (\$K)	2022 Plan (\$K)	WMP Cycle Plan Total (\$K)
■ Covered conductor installation	\$458.00	\$350.19	\$1,832.93	\$-	\$5,345.97	\$5,345.97	\$12,524.87
■ Detailed inspections of vegetation around distribution electric lines and equipment	\$1,000.00	\$902.45	\$2,600.00	\$-	\$2,600.00	\$2,600.00	\$7,800.00
■ Distribution pole replacement and reinforcement, including with composite poles	\$2,444.13	\$5,096.68	\$2,444.13	\$-	\$2,444.13	\$2,444.13	\$7,332.39
■ Other corrective action	\$-	\$-	\$156.24	\$-	\$5,443.76	\$-	\$5,600.00
■ Other/not listed - Hardening of overhead facilities along evacuation routes	\$-	\$-	\$200.00	\$-	\$1,710.00	\$1,710.00	\$3,620.00
■ Total spend for top 5 initiatives by planned spend	\$3,902.13	\$6,349.32	\$7,233.30	\$-	\$17,543.86	\$12,100.10	\$36,877.26

Source: Tables 21-30 of utility WMPs

BVES submitted a refile on 9/18/2020. Those updates are reflected here.

**(End of Appendix B)**

## **APPENDIX C**

### **Bear Valley Maturity Model Summary**

## **0. Bear Valley: 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](http://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. Bear Valley: Maturity Model Summary

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## 1.1 Bear Valley: Maturity Summary by Category

Maturity Model Category	<p align="center"><b>Summary of Maturity Assessment</b>            Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
<p align="center"><b>A. Risk assessment and mapping</b></p> <p>Median automated maturity levels:</p> <p align="center">2020: 1 2023: 1</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in two of five capabilities. Specifically, by capability:               <ul style="list-style-type: none"> <li>• <b>1. Climate Scenario Modeling:</b> Bear Valley’s survey responses do not indicate an increased maturity level in 2023. However, Bear Valley projects some growth within the capability: currently wildfire risk from weather is estimated broadly, but by 2023 Bear Valley plans to reliably categorize weather scenarios by level of risk.</li> <li>• <b>2. Ignition Risk Estimation:</b> Bear Valley’s survey responses do not indicate an increased maturity level in 2023. However, Bear Valley projects some growth within the capability: Currently, ignition risk is categorized into at least two risk categories (e.g., high, low), but by 2023, Bear Valley plans to quantitatively assess ignition risk.</li> <li>• <b>3. Estimation of Wildfire Consequences for Communities:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, ignition events are categorized as low or high risk. By 2023, Bear Valley plans to categorize estimates with five or more levels of risk to communities.</li> <li>• <b>4. Estimation of wildfire and PSPS risk-reduction impact:</b> Bear Valley’s survey responses do not indicate an increased maturity level in 2023. However, Bear Valley projects some growth within the capability: Currently, risk reduction is estimated on an interval scale (e.g., specific quantitative units) without a confidence interval, but by 2023 Bear Valley will make these estimations on an interval scale using a quantitative confidence interval.</li> <li>• <b>5. Risk maps and simulation algorithms:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, there is no defined process for updating risk mapping algorithms. By 2023, Bear Valley plans to update risk mapping algorithms based on detected deviations of risk model to ignitions and propagation.</li> </ul> </li> </ul>
<p align="center"><b>B. Situational awareness and forecasting</b></p> <p>Median automated maturity levels:</p> <p align="center">2020: 1 2023: 2</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in three of five capabilities. Specifically, by capability:               <ul style="list-style-type: none"> <li>• <b>6. Weather variables collected:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, a range of accurate weather variables is collected. By 2023, Bear Valley plans to also measure the physical impact of weather on the grid (e.g. sway in lines, sway in vegetation).</li> <li>• <b>7. Weather data resolution:</b> Bear Valley’s survey responses do not indicate an increased maturity level in 2023. However, Bear Valley projects some growth within the capability: currently, weather data is collected at least four times per hour, but by 2023 Bear Valley plans to collect this data at least six times per hour.</li> </ul> </li> </ul>

Maturity Model Category	<p align="center"><b>Summary of Maturity Assessment</b>            Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
	<ul style="list-style-type: none"> <li>• <b>8. Weather forecasting ability:</b> Bear Valley’s survey responses do not indicate an increased maturity level in 2023. However, Bear Valley projects some growth within the capability: currently weather forecasting is only sufficiently accurate to fulfill PSPS requirements, but by 2023 Bear Valley plans to combine accurate weather stations and external weather data to make accurate forecasts.</li> <li>• <b>9. External sources used in weather forecasting:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, a mostly manual process is used for error checking weather stations with external data. By 2023, Bear Valley plans to do this through a mostly automated process.</li> <li>• <b>10. Wildfire detection processes and capabilities:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, there is no consistent set of equipment for detecting ignitions along the grid. By 2023, Bear Valley plans to have well-defined equipment for detecting ignitions along the grid, including software in in installed cameras.</li> </ul>
<p><b>C. Grid design and system hardening</b></p> <p>Median automated maturity levels:</p> <p>2020: 2 2023: 3</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in five of five capabilities. Specifically, by capability:           <ul style="list-style-type: none"> <li>• <b>11. Approach to prioritizing initiatives across territory:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley prioritizes risk reduction initiatives using risk modeling and wildfire / PSPS risk simulation. By 2023, Bear Valley plans to additionally take delivery power uptime into account when prioritizing initiatives.</li> <li>• <b>12. Grid design for minimizing ignition risk:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, the grid design meets minimum G095 requirements and loading standards in HFTD areas. By 2023, Bear Valley plans to exceed design requirements and have the grid designed based on an accurate understanding of drivers of risk.</li> <li>• <b>13. Grid design for resiliency and minimizing PSPS:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, distribution architecture has (n-1) redundancy covering at least 70% of customers in HFTD. By 2023, Bear Valley plans to increase this number to at least 85%.</li> <li>• <b>14. Risk based hardening and cost efficiency:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley has an accurate understanding of the relative cost and effectiveness of initiatives. By 2023, Bear Valley plans to understand the relative cost and effectiveness of initiatives, tailored to the circumstances of different locations on its grid.</li> <li>• <b>15. Grid design and asset innovation:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, grid hardening initiatives are evaluated based on installation into the grid and measuring direct reduction in ignition events. By 2023, Bear Valley plans to also evaluate initiatives by measuring reduction impact on near-miss metrics.</li> </ul> </li> </ul>



Maturity Model Category	<p align="center"><b>Summary of Maturity Assessment</b>            Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
<p align="center"><b>D. Asset management and inspections</b></p> <p>Median automated maturity levels:</p> <p align="center">2020: 1 2023: 2</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in four of five capabilities. Specifically, by capability:               <ul style="list-style-type: none"> <li>• <b>16. Asset inventory and condition assessments:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently the asset inventory includes information on age, state of wear and expected lifecycle, including records of all inspections and repairs, of equipment. By 2023, Bear Valley plans for this inventory to also include up-to-date work plans on expected future repairs and replacements.</li> <li>• <b>17. Asset inspection cycle:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, inspections are based on annual or periodic schedules. By 2023, Bear Valley plans to schedule inspections based on risk, as determined by predictive modeling of equipment failure probability and risk-causing ignition.</li> <li>• <b>18. Asset inspection effectiveness:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently inspection procedures and checklists include all items required by statute and regulations. By 2023, Bear Valley plans to also include the lines and equipment typically responsible for ignitions and near misses.</li> <li>• <b>19. Asset maintenance and repair:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, service intervals are set based on the wildfire risk in relevant circuit. By 2023, Bear Valley plans to also set service intervals based on real-time monitoring from sensors.</li> <li>• <b>20. QA/QC for asset management:</b> Bear Valley’s survey responses do not indicate an increased maturity level in 2023. However, Bear Valley projects some growth within the capability. Currently QA/QC information is used to identify deficiencies in work and recommend trainings. By 2023 Bear Valley plans to use QA/QC information to identify deficiencies in work and trainings, grade individuals, and recommend trainings based on weaknesses.</li> </ul> </li> </ul>
<p align="center"><b>E. Vegetation management and inspections</b></p> <p>Median automated maturity levels:</p> <p align="center">2020: 1.5 2023: 3</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in five of six capabilities. Specifically, by capability:               <ul style="list-style-type: none"> <li>• <b>21. Vegetation inventory and condition assessments:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, vegetation inventory is updated within 1 week of collection. By 2023, Bear Valley plans to update inventory within 1 day of collection.</li> <li>• <b>22. Vegetation inspection cycle:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, inspections are scheduled based on maps of predominant vegetation species and environment. By 2023, Bear Valley plans to base inspections on predictive modeling of vegetation growth and growing conditions.</li> <li>• <b>23. Vegetation inspection effectiveness:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, inspection procedures and checklists include all items required by statute and regulations. By 2023, Bear Valley plans to also include vegetation types typically responsible for ignitions and near misses.</li> </ul> </li> </ul>

Maturity Model Category	<p align="center"><b>Summary of Maturity Assessment</b>            Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
	<ul style="list-style-type: none"> <li>• <b>24. Vegetation grow-in mitigation:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, ignition risk modelling is used to guide clearances around lines and equipment. By 2023, Bear Valley plans to also use propagation risk modeling.</li> <li>• <b>25. Vegetation fall-in mitigation:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley removes vegetation outside of its right of way. By 2023, Bear Valley plans to remove vegetation outside of its right of way and to inform relevant communities of this removal.</li> <li>• <b>26. QA/QC for vegetation management:</b> Bear Valley’s survey responses do not indicate an increased maturity level in 2023. However, Bear Valley projects some growth within the capability. Currently QA/QC information is used to identify deficiencies in work and recommend trainings. By 2023 Bear Valley plans to use QA/QC information to identify deficiencies in work and trainings, grade individuals, and recommend trainings based on weaknesses.</li> </ul>
<p><b>F. Grid operations and protocols</b></p> <p>Median automated maturity levels:</p> <p>2020: 1.5 2023: 4</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in six of six capabilities. Specifically, by capability:             <ul style="list-style-type: none"> <li>• <b>27. Protective equipment and device settings:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley increases sensitivity of risk reduction elements during high threat weather conditions and monitors near misses. By 2023, Bear Valley plans to increase the sensitivity of risk reduction elements during high threat weather conditions based on risk mapping.</li> <li>• <b>28. Incorporating ignition risk factors in grid control:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley does not use predictive modeling to estimate expected life or make equipment decisions. By 2023, Bear Valley plans to use predicative modeling to estimate expected life and make equipment decisions.</li> <li>• <b>29. PSPS op. model and consequence mitigation:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, PSPS events are communicated to &gt;99% of affected customers and &gt;99.9% of medical baseline customers prior to the event. By 2023, Bear Valley plans to increase these numbers to &gt;99.9% and 100% respectively.</li> <li>• <b>30. Protocols for PSPS initiation:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley only takes into account SME opinions when making PSPS decisions. By 2023, Bear Valley plans to also take into account a partially automated system that makes PSPS recommendations.</li> <li>• <b>31. Protocols for PSPS re-energization:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently there is a process for inspecting de-energized sections of the grid prior to re-energization. By 2023, Bear Valley plans to also include sensors and aerial tools in this process.</li> </ul> </li> </ul>

Maturity Model Category	<p style="text-align: center;"><b>Summary of Maturity Assessment</b>            Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
	<ul style="list-style-type: none"> <li>• <b>32. Ignition prevention and suppression:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, ignition prevention and suppression policies only include employees. By 2023, Bear Valley plans to also include contractors and subcontractors in these policies.</li> </ul>
<p style="text-align: center;"><b>G. Data Governance</b></p> <p>Median automated maturity levels:</p> <p style="text-align: center;">2020: 0.5 2023: 2.5</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in four of four capabilities. Specifically, by capability:               <ul style="list-style-type: none"> <li>• <b>33. Data collection and curation:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley does not have a centralized database of situational, operational, and risk data. By 2023, Bear Valley plans to have one of these databases.</li> <li>• <b>34. Data transparency and analytics:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley does not have a single document cataloging all fire-related data and algorithms, analyses, and data processes. By 2023, Bear Valley plans to have all this information kept in one document.</li> <li>• <b>35. Near-miss tracking:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley is not able to simulate wildfire potential given an ignition based on event characteristics. By 2023, Bear Valley plans to simulate wildfire potential given an ignition based on event characteristics.</li> <li>• <b>36. Data sharing with research community:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley discloses only data as required. By 2023, Bear Valley plans to make data disclosures beyond what is required.</li> </ul> </li> </ul>
<p style="text-align: center;"><b>H. Resource allocation methodology</b></p> <p>Median automated maturity levels:</p> <p style="text-align: center;">2020: 1 2023: 2</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in six of six capabilities. Specifically, by capability:               <ul style="list-style-type: none"> <li>• <b>37. Scenario analysis across different risk levels:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley provides projections for each scenario with region-level granularity. By 2023, Bear Valley plans to provide projections for each scenario with circuit-level granularity.</li> <li>• <b>38. Presentation of relative risk spend efficiency (RSE) for portfolio of initiatives:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley includes the expected overall reduction in risk in explanations of investments. By 2023, Bear Valley plans to also include estimates of impact on reliability factors in explanations of investments as well.</li> <li>• <b>39. Process for determining risk spend efficiency of vegetation management initiatives:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley understands the cost and effectiveness of producing an RSE estimate of vegetation management initiatives. By 2023, Bear Valley plans to also understand the cost sensitivities of producing an RSE estimate.</li> <li>• <b>40. Process for determining risk spend efficiency of system hardening initiatives:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley understands the cost and</li> </ul> </li> </ul>

Maturity Model Category	<p align="center"><b>Summary of Maturity Assessment</b>            Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
	<p>effectiveness of producing an RSE estimate of grid hardening initiatives. By 2023, Bear Valley plans to also understand the cost sensitivities of producing an RSE estimate.</p> <ul style="list-style-type: none"> <li>• <b>41. Portfolio-wide initiative allocation methodology:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley verifies RSE estimates with only historical or experimental pilot data. By 2023, Bear Valley plans to also use independent experts to verify its RSE estimates.</li> <li>• <b>42. Portfolio-wide innovation in new wildfire initiatives:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, reviews of innovative initiatives are not audited by independent parties. By 2023 Bear Valley plans to have these reviews audited by independent parties.</li> </ul>
<p><b>I. Emergency planning and preparedness</b></p> <p>Median automated maturity levels:</p> <p>2020: 4 2023: 4</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in one of five capabilities. Specifically, by capability:           <ul style="list-style-type: none"> <li>• <b>43. Wildfire plan integrated with overall disaster/emergency plan:</b> Bear Valley’s survey responses project no growth in this capability. Bear Valley’s wildfire plan is an integrated component of overall disaster and emergency plans</li> <li>• <b>44. Plan to restore service after wildfire related outages:</b> Bear Valley’s survey responses project no growth in this capability. Bear Valley has detailed and actionable procedures in place to restore service after a wildfire related outage.</li> <li>• <b>45. Emergency community engagement during and after wildfire:</b> Bear Valley’s survey responses project no growth in this capability. Bear Valley provides clear and substantially complete communications of available information relevant to affected customers.</li> <li>• <b>46. Protocols in place to learn from wildfire events:</b> Bear Valley’s survey responses project no growth in this capability. There is a protocol in place to record the outcome of emergency events and integrate learnings into existing process.</li> <li>• <b>47. Processes for continuous improvement after wildfire and PSPS:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley engages in public listening sessions and debriefs with partners. By 2023, Bear Valley plans to also have debriefs with other groups.</li> </ul> </li> </ul>
<p><b>J. Stakeholder cooperation and community engagement</b></p> <p>Median automated maturity levels:</p>	<ul style="list-style-type: none"> <li>• Bear Valley plans to increase its maturity level by 2023 in one of five capabilities. Specifically, by capability:           <ul style="list-style-type: none"> <li>• <b>48. Cooperation and best practice sharing with other utilities:</b> Bear Valley’s survey responses project no growth in this capability. Bear Valley works to identify and implement best practices from utilities around the globe.</li> <li>• <b>49. Engagement with communities on utility wildfire mitigation initiatives:</b> Bear Valley’s survey responses project no growth in this capability. Bear Valley has a clear and actionable plan to develop / maintain a collaborative relationship with local communities.</li> </ul> </li> </ul>

Maturity Model Category	<p style="text-align: center;"><b>Summary of Maturity Assessment</b>            Focused on areas where utility plans to grow over the 2020-2022 WMP period</p>
<p>2020: 4 2023: 4</p>	<ul style="list-style-type: none"> <li>• <b>50. Engagement with LEP<sup>1</sup> and AFN<sup>2</sup> populations:</b> Bear Valley’s survey responses project no growth in this capability. Bear Valley does not have a plan to partner with LEP and AFN communities.</li> <li>• <b>51. Collaboration with emergency response agencies:</b> Bear Valley’s survey responses project no growth in this capability. Bear Valley cooperates with emergency response agencies.</li> <li>• <b>52. Collaboration on wildfire mitigation plan with stakeholders:</b> Bear Valley’s survey responses indicate an increased maturity level in 2023. Currently, Bear Valley shares fuel management plans with other stakeholders and coordinates fuel management activities to focus on areas that will have the biggest impact in reducing wildfire risk. By 2023, Bear Valley plans to undertake this effort proactively.</li> </ul> <p>1. Limited English Proficiency 2. Access and Functional Needs</p>

## 1.2 Bear Valley: 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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Wildfire risk can be reliably determined based on weather and its impacts	<b>a. Weather scenarios are planned to be reliably categorized by level of risk</b>
3		b. Scenarios are assessed by independent experts	<b>b. Scenarios are planned to be assessed by independent experts, and supported by historical data of incidents and near misses</b>
2		c. Climate scenario modeling is done with regional granularity	c. Climate scenario modeling is planned to be done with regional granularity
1		d. Climate scenario modeling tool is partially (<=50%) automated	<b>d. Climate scenario modeling tool is planned to be mostly (&gt;=50%) automated</b>
0		e. Climate scenario tool also accounts for weather and how weather effects failure modes and propagation	<b>e. Climate scenario tool is also planned to account for weather, how weather effects failure modes and propagation, and existing hardware</b>
		f. Future risk estimates take into account generally higher risk across the entire service territory due to changing climate	<b>f. Basic temperature modeling is planned to be used to estimate effects of a changing climate on future weather and risk, taking into account difference in geography and vegetation</b>
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
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>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, and localized weather patterns</b>
3		b. Ignition risk estimation tool is partially (<=50%) automated	<b>b. Ignition risk estimation tool is planned to be mostly (&gt;=50%) automated</b>
2		c. Ignition risk estimation tool has regional granularity	c. Ignition risk estimation tool is planned to have regional granularity
1		d. Ignition risk estimation is confirmed by historical data	<b>d. Ignition risk estimation is planned to be confirmed by historical data and through real-time learning</b>
0		e. Ignition risk estimation uses >80% or no quantified confidence interval	<b>e. Ignition risk estimation is planned to use &gt;90% confidence interval</b>
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Ignition events are categorized as low or high risk to communities	<b>a. Ignition events are planned to be categorized with five or more levels of risk to communities</b>
3		b. Consequence of ignition risk is estimated as a function of at least potential fatalities, and one or both of structures burned, or area burned	<b>b. Consequence of ignition risk is planned to be estimated as a function of at least potential fatalities, structures burned, area burned, monetary damages, impact on air quality, and impact on GHG reduction goals</b>
2		c. Ignition risk impact analysis is not available for all seasons	<b>c. Ignition risk impact analysis is planned to be available for all seasons</b>
		d. Ignition risk estimation process is not automated	<b>d. Ignition risk estimation process is planned to be partially (&lt;=50%) automated</b>
		e. Ignition risk estimation process is done with regional granularity	e. Ignition risk estimation process is planned to be done with regional granularity
1		f. Outputs of consequence estimation are independently assessed by experts	<b>f. Outputs of consequence estimation is planned to be independently assessed by experts and confirmed by historical data</b>
		g. Estimation of wildfire consequences uses level and conditions of vegetation and weather, including the vegetation specifics immediately surrounding the ignition site	<b>g. Estimation of wildfire consequences plans to use level and conditions of vegetation and weather, including the vegetation specifics immediately surrounding the ignition site and up-to-date moisture content, local weather patterns</b>
0		<b>Criteria missing to reach a maturity level of 1 or more:</b>	<b>Criteria missing to reach a maturity level of 1 or more:</b>
		<ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>



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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Approach reliably estimates risk reduction potential of initiatives on an interval scale (e.g., specific quantitative units)	<b>a. Approach is planned to reliably estimate risk reduction potential of initiatives on an interval scale (e.g., specific quantitative units) with a quantitative confidence interval</b>
3		b. Estimation of wildfire and PSPS reduction impact is not automated	<b>b. Estimation of wildfire and PSPS reduction impact is planned to be partially (&lt;=50%) automated</b>
2		c. Estimation of wildfire and PSPS reduction impact has regional granularity	c. Estimation of wildfire and PSPS reduction impact is planned to have regional granularity
1		d. Ignition risk reduction assessment tool estimates are assessed with evidence and logical reasoning	<b>d. Ignition risk reduction assessment tool estimates are planned to be assessed by independent experts</b>
0		e. Estimation of wildfire and PSPS reduction impact accounts for existing hardware type and condition, including operating history; level and condition of vegetation; weather; and combination of initiatives already deployed	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
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. There is no defined process for updating risk mapping algorithms	<b>a. Risk mapping algorithms are planned to be updated based on detected deviations of risk model to ignitions and propagation</b>
3		b. Decision to update algorithms based on deviations is not automated	<b>b. Decision to update algorithms based on deviations is planned to be partially (&lt;=50%) automated</b>
2		c. Deviations from risk model to ignitions and propagations are calculated manually	<b>c. Deviations from risk model to ignitions and propagations are planned to be calculated with a semi-automated process</b>
1		d. Decisions to update algorithms are independently evaluated by experts	<b>d. Decisions to update algorithms are planned to be independently evaluated by experts and historical data</b>
0		e. Current/historic ignition and propagation data is used to decide whether to update algorithms	<b>e. Current/historic ignition and propagation data, as well as near-miss data, is planned to be used to decide whether to update algorithms</b>
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Risk mapping algorithms are updated at least bi-annually</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

**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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. A range of accurate weather variables (e.g., humidity, precipitation, surface and atmospheric wind conditions) that impact probability of ignition and propagation from utility assets are collected	<b>a. A range of accurate weather variables (e.g., humidity, precipitation, surface and atmospheric wind conditions) that impact probability of ignition and propagation from utility assets are planned to be collected; additional data to measure physical impact of weather on grid (e.g., sway in lines, sway in vegetation) is also planned to be collected</b>
3		b. Measurements are validated through manual field calibration	<b>b. Measurements are planned to be validated through automatic field calibration measurements</b>
2		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
1		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
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4	<p>a. Weather data collected has sufficient granularity to reliably measure weather conditions in HFTD areas, and along the entire grid and in all areas needed to predict weather on the grid</p> <p>b. Weather data collected at least four times per hour</p> <p>c. Weather data resolution with regional granularity</p> <p>e. Measurement of weather conditions is partially (&lt;=50%) automated</p>	<p>a. <b>Weather data collected is planned to have sufficient granularity to reliably measure weather conditions in HFTD areas, and along the entire grid and in all areas needed to predict weather on the grid. Bear Valley also plans to include wind estimations at various atmospheric altitudes relevant to ignition risk</b></p> <p>b. <b>Weather data is planned to be collected at least six times per hour</b></p> <p>c. Weather data resolution is planned to be done with regional granularity</p> <p>d. Measurement of weather conditions is planned to be mostly (&gt;=50%) automated</p>	
3			
2			
1			
0			
		<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>Weather data is gathered with sufficient granularity to reliably measure weather conditions</li> </ul>	<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility has independent weather forecasting ability sufficiently accurate to fulfill PSPS requirements	<b>a. Utility plans to have the ability to use a combination of accurate weather stations and external weather data to make accurate forecasts</b>
3		b. Accurate forecasts prepared at least two weeks in advance	<b>b. Accurate forecasts are planned to be prepared at least three weeks in advance</b>
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	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 mostly (>=50%) automated
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Weather forecasting ability sufficiently accurate to fulfill PSPS requirements at circuit level</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Weather forecasting ability sufficiently accurate to fulfill PSPS requirements at circuit level</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			a. Utility plans to use a combination of accurate weather stations and external weather data, and elects to use the data set, as a whole or in composite, that is most accurate
	3		a. Utility uses a combination of accurate weather stations and external weather data, and elects to use the data set, as a whole or in composite, that is most accurate
		2	b. <b>Utility plans to use a mostly automated processes for error checking weather stations with external data sources</b>
			c. <b>Weather data is planned to be used to create a single visual and configurable live map that can be used to make decisions</b>
		1	
		0	
		<b>Criteria missing to reach a maturity level of 1 or more:</b>	<b>Criteria missing to reach a maturity level of 1 or more:</b>
		<ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
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>b. Well-defined equipment for detecting ignitions along grid is planned to be used, including remote detection equipment including cameras</b>
2		c. Procedure exists for notifying suppression forces and key stakeholders when ignitions are detected	<b>c. Procedure is planned to automatically, accurately, and in real time notify suppression forces and key stakeholders</b>
1		d. Ignition detection software is not currently deployed	<b>d. Ignition detection software in cameras that operate automatically is planned to be used as part of ignition detection procedures.</b>
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Remote detection equipment, including cameras, is used to help detect ignitions</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

**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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Plan prioritizes risk reduction initiatives at the span level based on (i) risk modeling driven by local geography and climate/weather conditions, fuel loads and moisture content and topography and (ii) detailed wildfire and PSPS risk simulation across individual circuits	<b>a. Bear Valley plans to prioritize risk reduction initiatives at the span level based on (i) risk modeling driven by local geography and climate/weather conditions, fuel loads and moisture content and topography and (ii) risk estimates across individual circuits, including estimates of actual consequence, and (iii) taking delivery power uptime into account (e.g, reliability, PSPS)</b>
3			
2			
1			
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>



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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Grid design meets minimum G095 requirements and loading standards in HFTD areas	<b>a. Grid topology is planned to exceed design requirements, and is planned to be designed based on an accurate understanding of drivers of risk</b>
3		b. Utility does not provide micro grids or islanding where traditional grid infrastructure is impracticable and wildfire risk is high	<b>b. Utility plans to provide micro grids or islanding where traditional grid infrastructure is impracticable and wildfire risk is high</b>
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	<b>d. Efforts planned to be made across the entire service area to incorporate the latest asset management strategies and new technologies into grid topology</b>
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
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 70% of customers in HFTD	<b>b. Utility’s distribution architecture is planned to have (n-1) redundancy covering at least 85% of customers in HFTD</b>
		c. Utility’s distribution architecture is sectionalized to have switches in HFTD areas to individually isolate circuits, such that no more than 1000 customers sit within one switch	<b>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 200 customers sit within one switch</b>
		d. Utility uses egress points as an input for grid topology design	<b>d. Utility plans to have egress points available and mapped for each customer, with potential traffic mapped based on traffic simulation and taken into consideration for grid topology design</b>
		<b>Criteria missing to reach a maturity level of 1 or more:</b>	<b>Criteria missing to reach a maturity level of 1 or more:</b>
		<ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			<b>a. Utility is planned to have an accurate understanding of the relative cost and effectiveness of different initiatives, tailored to the circumstances of different location on its grid</b>
	3		<b>b. Estimates can be prepared with span-based granularity</b>
		2	c. Estimates are planned to be updated annually or more frequently
		1	<b>d. Utility is planned to have all grid hardening initiatives included within its evaluation and supported by independent testing</b>
		0	e. Utility plans to be able to evaluate risk reduction synergies from combinations of various initiatives
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. New grid hardening initiatives evaluated based on installation into grid and measuring direct reduction in ignition events	<b>a. New grid hardening initiatives planned to be evaluated based on installation into grid and measurement of direct reduction in ignition events, and measurement of reduction impact on near-miss metrics</b>
3		b. Results of pilot and commercial deployments, including project performance, project cost, geography, climate, vegetation, etc. are shared with a limited set of partners	<b>b. Results of pilot and commercial deployments, including project performance, project cost, geography, climate, vegetation, etc. are planned to be shared extensively with industry, academia, and other utilities</b>
2		c. Performance of new initiatives is not independently audited	<b>c. Performance of new initiatives is planned to be independently audited</b>
1			
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

**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	<b>Bold responses have planned growth between 2020 and 2023</b>	
4		a. There is an accurate inventory of equipment that may contribute to wildfire risk, including age, state of wear, and expected lifecycle, including records of all inspections and repairs	<b>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, including records of all inspections and repairs and up-to-date work plans on expected future repairs and replacements</b>
3		b. Condition assessment is updated annually	<b>b. Condition assessment is planned to be updated quarterly</b>
2		c. A system and approach are in place to reliably detect incipient malfunctions likely to cause ignition in HFTD areas	<b>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</b>
1		d. Inventory is kept with asset-level granularity	d. Inventory is planned to be kept with asset-level granularity
0		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Inventory database is updated within 90 days of equipment inventory or conditions being collected</li> <li>Inventory includes age, state of wear, and expected lifecycle</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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 <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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			a. Patrol inspections are planned to be above minimum regulatory requirements, with more frequent inspections for highest risk equipment
	3		<b>b. Patrol inspections are planned to be based on risk, as determined by predictive modeling of equipment failure probability and risk causing ignition</b>
			<b>c. Predictive modeling of equipment failure probability and risk is planned to be the inputs for scheduling patrol inspections</b>
			<b>d. Detailed inspections are planned to be above minimum regulatory requirements, with more frequent inspections for highest risk equipment.</b>
2			<b>e. Detailed inspections are planned to be based on risk, as determined by predictive modeling of equipment failure probability and risk causing ignition</b>
			<b>f. Predictive modeling of equipment failure probability and risk is planned to be the inputs for scheduling patrol inspections</b>
1			g. Other inspections are planned to be above minimum regulatory requirements, with more frequent inspections for highest risk equipment
			h. Other inspections are planned to be above minimum regulatory requirements, with more frequent inspections for highest risk equipment
0			<b>h. Other inspections are planned to be based on risk, as determined by predictive modeling of equipment failure probability and risk causing ignition</b>

**Capability 17: Asset inspection cycle**

		<p><b>i. Predictive modeling of equipment failure probability and risk is planned to be inputs for scheduling patrol inspections</b></p>
	<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>• N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>• N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Patrol, detailed, enhanced, and other inspection procedures and checklists include all items required by statute and regulations	<b>a. Patrol, detailed, enhanced, and other inspection procedures and checklists are planned to include all items required by statute and regulations, and to include all items required by statute and regulations, and to include lines and equipment typically responsible for ignitions and near misses</b>
3		b. Procedure and inspection checklists determined based on statute and regulatory guidelines only	<b>b. Procedure and inspection checklists determined are planned to be based on predictive modeling that considers vegetation and equipment type, age, and condition</b>
2		c. Checklists, training, and procedures are customized across the service territory	<b>c. Checklists, training, and procedures are planned to be customized at the circuit level</b>
1			
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>



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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Electrical lines and equipment maintained as required by regulation, and additional maintenance done in areas of grid at highest wildfire risk based on detailed risk mapping	a. Electrical lines and equipment are planned to be maintained as required by regulation, and additional maintenance done in areas of grid at highest wildfire risk is planned to be based on detailed risk mapping
3		b. Service intervals are set based on wildfire risk in relevant circuit	<b>b. Service intervals are planned to be set based on wildfire risk in relevant circuit, as well as real-time monitoring from sensors</b>
2		c. Maintenance and repair procedures take wildfire risk, performance history, and past operating conditions into account	c. Maintenance and repair procedures are planned to take wildfire risk, performance history, and past operating conditions into account
1			
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			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 are planned to follow the same processes and standards as utility’s own employees
2			c. QA/QC information is planned to be regularly used to identify deficiencies in quality of work performance and inspections performance
1			<b>d. QA/QC information is planned to be used to identify systemic deficiencies in quality of work and inspections, grade individuals, and recommend training based on weaknesses</b>
0			e. Workforce management software tools are planned to be used to manage and confirm work completed by subcontractors
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

## 1.2.5 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			Planned state for 2023 "Three years from now" as of February 2020
2020	2023	Both	<b>Bold responses have planned growth between 2020 and 2023</b>
4			a. There is a centralized inventory of vegetation clearances based on most recent inspections
3			a. There is planned to be a centralized inventory of vegetation clearances based on most recent inspection
			<b>b. Inventory is planned to be updated within 1 day of collection</b>
2			b. Inventory is updated within 1 week of collection
			c. Inspections are planned to be independently verified by third party experts
1			c. Inspections are independently verified by third party experts
			<b>d. Inventory is planned to have asset-based granularity</b>
0			d. Inventory has asset-based granularity
			d. Inventory is planned to have asset-based granularity
			<b>Criteria missing to reach a maturity level of 1 or more:</b>
			• N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric
			<b>Criteria missing to reach a maturity level of 1 or more:</b>
			• N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4	3	a. All types of vegetation inspections are above minimum regulatory requirements, with more frequent inspections for highest risk areas	a. All types of vegetation inspections are planned to be above minimum regulatory requirements, with more frequent inspections for highest risk areas
2		b. Vegetation inspections are scheduled based on up-to-date static maps of predominant vegetation species and environment	<b>b. Vegetation inspections are planned to be scheduled based on risk, as determined by predictive modeling of vegetation growth and growing conditions</b>
1		c. Up-to-date, static maps of vegetation and environment, as well as data on annual growing conditions are the inputs for scheduling vegetation inspections	<b>c. Predictive modeling of vegetation growth is planned to be the input for scheduling vegetation inspections</b>
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Patrol, detailed, enhanced, and other inspection procedures and checklists include all items required by statute and regulations	<b>a. Patrol, detailed, enhanced, and other inspection procedures and checklists are planned to include all items required by statute and regulations, and include vegetation types typically responsible for ignitions and near misses</b>
3		b. Procedures and checklists are based on statute and regulatory guidelines only	<b>b. Procedures and checklists are planned to be based on predictive modeling based on vegetation and equipment type, age, and condition, and validated by experts</b>
2		c. Checklists, training, and procedures are customized across a region	<b>c. Checklists, training, and procedures are planned to be customized at the circuit level</b>
1			
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility exceeds minimum statutory and regulatory clearance around all lines and equipment b. Utility meets or exceeds minimum statutory or regulatory clearances during all seasons	a. Utility plans to exceed minimum statutory and regulatory clearances around all lines and equipment 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 d. Species growth rates and species limb failure rates, cross referenced with local climatological conditions, are used to guide clearance around lines and equipment	<b>c. Ignition and propagation risk modeling is planned to be used to guide clearances around lines and equipment</b> d. Species growth rates and species limb failure rates, cross referenced with local climatological conditions, 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
1		f. Utility removes vegetation waste along its right of way across the entire grid g. Utility removes vegetation waste along the right of way on the same day as cutting	f. Utility plans to remove vegetation waste along its right of way across the entire grid g. Utility plans to remove vegetation waste along the right of way on the same day as cutting
0		h. Utility works with local landowners to provide a cost effective use for cutting vegetation i. Utility works with partners to identify new cost effective uses for vegetation, taking into consideration environmental impacts and emissions of vegetation waste	h. Utility plans to work with local landowners to provide a cost effective use for cutting vegetation 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

**Capability 24: Vegetation grow-in mitigation**

**Criteria missing to reach a maturity level of 1 or more:**

- 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:**

- N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

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 <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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility systematically removes vegetation outside of right of way	<b>a. Utility plans to systematically remove vegetation outside of right of way, and to inform relevant communities of removal</b>
	3	b. Potential vegetation that may pose a threat identified based on the height of trees with potential to make contact with electric lines and equipment	<b>b. Potential vegetation that may pose a threat identified is planned to be based on the probability and consequences of impact on electric lines and equipment as determined by risk modeling</b>
		c. Vegetation is removed with cooperation from the community	c. Vegetation is planned to be removed with cooperation from the community
2		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
		e. Utility removes vegetation outside its right of way on the same day as cutting	e. Utility plans to remove vegetation outside its right of way on the same day as 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
1		j. 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
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Utility removes vegetation within 1 week of cutting vegetation</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Utility removes vegetation within 1 week of cutting vegetation</li> </ul>



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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			
	3		
		2	
		1	
		0	
		<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

**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	<b>Bold responses have planned growth between 2020 and 2023</b>	
4		a. Utility increases sensitivity of risk reduction elements during high threat weather conditions and monitors near misses	<b>a. Utility plans to increase sensitivity of risk reduction elements during high threat weather conditions based on risk mapping and monitors near misses</b>
3		b. A fully automated process is planned to adjust sensitivity of grid elements and evaluate effectiveness	b. A fully automated process is planned to adjust sensitivity of grid elements and evaluates effectiveness
2		c. There is a predetermined protocol driven by fire conditions for adjusting sensitivity of grid elements	c. Bear Valley plans to have a predetermined protocol driven by fire conditions for adjusting sensitivity of grid elements
1			
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
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 does not use predictive modeling to estimate the expected life and make equipment maintenance, rebuild, or replacement decisions	<b>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</b>
1		d. Utility never operates the grid above rated voltage and current load	d. Utility plans to never operate the grid above rated voltage and current load
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			
3			
2			
1			
0			
		<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			a. Utility plans to have explicit policies and explanation for the thresholds above which PSPS is activated, but also plans to maintain grid in sufficiently low risk condition to not require any PSPS activity, though it may de-energize specific circuits upon detection of damaged condition of electrical lines and equipment, or contact with foreign objects
3			<b>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</b>
2			c. Utility plans to de-energize circuits 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 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 that energy supply to customers will not be disrupted
0			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 in sufficiently low risk condition that PSPS events will not be required, and the only circuits which may require de-energization have sufficient redundancy that energy supply to customers will not be disrupted

**Capability 30: Protocols for PSPS initiation**

**Criteria missing to reach a maturity level of 1 or more:**

- 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:**

- 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 <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
4	a. There is an existing process for accurately inspecting de-energized sections of the grid prior to re-energization	<b>a. There is planned to be an existing process for accurately inspecting de-energized sections of the grid prior to re-energization, augmented with sensors and aerial tools</b>
3	b. There is a partially automated (<=50%) process for inspecting de-energized sections of the grid prior to re-energization	<b>b. There is planned to be a mostly automated (&gt;=50%) process for inspecting de-energized sections of the grid prior to re-energization</b>
2	c. Average time it takes to re-energize grid from a PSPS once weather has subsided to below your de-energization threshold is less than 8 hours	c. Average time it takes to re-energize grid from a PSPS once weather has subsided to below your de-energization threshold is planned to be less than 8 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		
	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			<p><b>a. Utility plans to have explicit policies about the role of crews, including contractors and subcontractors, at the site of ignition</b></p> <p>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; communication tools function without cell reception and training by suppression professionals is provided</p> <p>c. No Cal/OSHA reported injuries or fatalities are planned to occur in events where workers have encountered an ignition</p> <p><b>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</b></p>
3			
2			
1			
0			
		<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>



## 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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility does not have a centralized database of situational, operational, and risk data	<b>a. Utility plans to have a centralized database of situational, operational, and risk data</b>
3		b. Utility is not able to use advanced analytics on its centralized database of situational, operational, and risk data to make operational and investment decisions	<b>b. Utility plans to be able to use advanced analytics on its centralized database of situational, operational, and risk data to make short-term operational and investment decisions</b>
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 not able to ingest and share data using real-time API protocols with a wide variety of stakeholders	<b>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</b>
1		e. Utility identifies highest priority additional data sources to improve decision making	<b>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</b>
0		f. Utility does not share best practices for database management and use with other utilities in California and beyond	<b>f. Utility plans to share best practices for database management and use with other utilities in California and beyond through a specified process</b>
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Utility has a centralized repository of accurate situational, operational, and risk data</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. There is not a single document cataloguing all fire-related data and algorithms, analyses, and data processes	<b>a. There is planned to be a single document cataloguing all fire-related data and algorithms, analyses, and data processes</b>
3		b. There is not an explanation of the sources, cleaning processes, and assumptions made in the single document catalog	<b>b. There is planned to be an explanation of the sources, cleaning processes, and assumptions made in the single document catalog</b>
2		c. Not all analyses, algorithms, and data processing are documented	<b>c. All analyses, algorithms, and data processing are planned to be documented and explained</b>
1		d. There is not a system capable of sharing across at least three levels of permissions	<b>d. Bear Valley plans to have a system capable of sharing across at least two levels of permissions, including utility-regulator permissions and first responder permissions</b>
0		e. Most relevant wildfire related data algorithms is disclosed to regulators and other relevant stakeholders upon request	<b>e. Most relevant wildfire related data algorithms is planned to be disclosed publicly in WMP upon request</b>
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>All wildfire-related data and algorithms used by utility are catalogued in a single document,</li> <li>including an explanation of the sources, and assumptions made</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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 <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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility tracks near miss data for all near misses with wildfire ignition potential	a. Utility plans 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>b. Utility plans to be able to simulate wildfire potential given an ignition based on event characteristics, fuel loads, and moisture based on near miss data captured</b>
2		c. Utility captures data related to the specific mode of failure when capturing near-miss data	c. Utility plans 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	<b>d. Utility plans to be able to predict the probability of a near miss in causing an ignition based on a set of event characteristics</b>
0		e. Utility uses data from near misses to change grid operation protocols in real time	e. Utility plans to use data from near misses to change grid operation protocols in real time
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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		<b>Bold responses have planned growth between 2020 and 2023</b>
4	a. Utility makes required data disclosures, but does not share data beyond what is required	<b>a. Utility plans to make required data disclosures, and to share data beyond what is required</b>
3	b. Utility participates in collaborative research	b. Utility plans to participate in 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		
	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

**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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility provides an accurate high-risk reduction and low-risk reduction scenario, in addition to their proposed 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, in addition to their proposed scenario, and the projected cost and total risk reduction potential
3		b. Utility provides projections for each scenario with region-level granularity	<b>b. Utility plans to provide projections for each scenario with circuit-level granularity</b>
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			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility presents accurate qualitative rankings for its initiatives by risk spend efficiency (RSE)	a. Utility plans to present accurate qualitative rankings for its initiatives by risk spend efficiency
3		b. All commercial and emerging initiatives are captured in the ranking of risk spend efficiency	b. All commercial and emerging 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 provides an explanation of their investment in each particular initiative, including the expected overall reduction in risk	<b>d. Utility plans to provide an explanation of their investment in each particular initiative, including the expected overall reduction in risk and estimates of impact on reliability factors</b>
0		e. Utility provides risk efficiency figures with region-level granularity	<b>e. Utility plans to provide risk efficiency figures with circuit-level granularity</b>
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility has accurate quantitative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate of vegetation management initiatives	<b>a. Utility plans to have accurate quantitative understanding of cost, including sensitivities, and effectiveness to produce a reliable risk spend efficiency estimate of vegetation management initiatives</b>
3		b. Risk spend efficiency estimates of vegetation management initiatives can be prepared with region-level granularity	<b>b. Risk spend efficiency estimates of vegetation management initiatives planned to be prepared with circuit-level granularity</b>
2		c. Risk spend efficiency estimates of vegetation management initiatives are updated annually or more frequently	c. Risk spend efficiency estimates of vegetation management initiatives are planned to be updated annually or more frequently
1		d. All vegetation management initiatives are included within its evaluation	<b>d. All vegetation management initiatives are planned to be included within its evaluation and supported by independent testing</b>
0		e. Utility evaluates risk reduction synergies from combination of various initiatives	e. Utility plans to evaluate risk reduction synergies from combination of various initiatives
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility has accurate quantitative understanding of cost and effectiveness to produce a reliable risk spend efficiency estimate of system hardening initiatives	<b>a. Utility plans to have an accurate quantitative understanding of cost, including sensitivities, and effectiveness to produce a reliable risk spend efficiency estimate of system hardening initiatives</b>
3		b. Risk spend efficiency of system hardening initiatives can be prepared with region-based granularity	<b>b. Risk spend efficiency of system hardening initiatives can be prepared with circuit-based granularity</b>
2		c. Estimates of system hardening initiatives are updated annually or more frequently	c. Estimates of system hardening initiatives are updated annually or more frequently
1		d. All commercially available grid hardening initiatives are included in the utility risk spend efficiency analysis	<b>d. All commercially available grid hardening initiatives are planned to be included in the utility risk spend efficiency analysis, as well as those initiatives that are lab tested</b>
0		e. Utility evaluates risk reduction effects from the combination of various initiatives	e. Utility plans to evaluate risk reduction effects from the combination of various initiatives
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>



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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility uses accurate RSE estimates for all initiatives to determine capital allocation across portfolio (e.g., prioritizing between vegetation management and grid hardening)	a. Utility plans to use accurate RSE estimates for all initiatives to determine capital allocation across portfolio (e.g., prioritizing between vegetation management and grid hardening)
3		b. Utility takes into account specific information by initiative, including state of equipment and location where initiative will be implemented	<b>b. Utility plans to take into account specific information by initiative at the asset level, including state of specific assets and location where initiative will be implemented</b>
2		c. Utility verifies RSE estimates with historical or experimental pilot data	<b>c. Utility plans to verify RSE estimates with historical or experimental pilot data, and confirmed by independent experts or other utilities in CA</b>
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			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Utility allocates spend within each category of wildfire risk reduction by accurate risk spend efficiency estimates</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Utility allocates spend within each category of wildfire risk reduction by accurate risk spend efficiency estimates</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			a. Utility plans to use pilots, followed by in-field testing, and measure direct reduction in ignition events and near-misses to develop and evaluate the efficacy of new wildfire initiatives
	3		b. Utility plans to use total cost of ownership to develop and evaluate the risk spend efficiency of new wildfire initiatives
		2	<b>c. Utility plans to measure efficacy of new wildfire initiatives with circuit-level granularity</b>
			<b>d. Reviews of innovative initiatives are planned to be audited by independent parties</b>
1			e. Utility shares the findings of its evaluation of innovative initiatives with other utilities, academia, and the general public
	0		
		<b>Criteria missing to reach a maturity level of 1 or more:</b>	<b>Criteria missing to reach a maturity level of 1 or more:</b>
		<ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

**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		<b>Responses to survey questions</b> <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	<b>Bold responses have planned growth between 2020 and 2023</b>
4	a. Wildfire plan is an integrated component of overall disaster and emergency plans b. Utility runs drills to audit the viability and execution of its wildfire plans c. Impact of confounding events or multiple simultaneous disasters is considered in the planning process d. Plan is integrated with disaster and emergency preparedness plans of other relevant stakeholders (e.g., CAL FIRE, Fire Safe Councils, etc.) e. Utility takes a leading role in planning, coordinating, and integrating plans across stakeholders		a. Wildfire plan is planned to be an integrated component of overall disaster and emergency plans b. Utility plans to run drills to audit the viability and execution of its wildfire plans c. Impact of confounding events or multiple simultaneous disasters is planned to be considered in the planning process 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.) e. Utility plans to take a leading role in planning, coordinating, and integrating plans across stakeholders
3			
2			
1			
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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		<b>Responses to survey questions</b> <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	<b>Bold responses have planned growth between 2020 and 2023</b>
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 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
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
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 assists where helpful with communication of information related to power outages to customers through availability of relevant evacuation information and links on website / toll-free telephone number, and assists 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/toll-free telephone number, and to assist disaster response professionals as requested
0		e. Utility has detailed and actionable established protocols for engaging with emergency management organizations	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.)
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
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. Bear Valley 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. Bear Valley plans to have a defined process and staff responsible for incorporating learnings into emergency plan
2		c. Bear Valley uses “dry runs” to test plans updated based on learnings and improvements to confirm its effectiveness	c. Bear Valley 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. Bear Valley 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			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility conducts an evaluation or debrief process after a wildfire b. Utility conducts a customer survey and utilizes partners to disseminate requests for stakeholder engagement	a. Utility plans to conduct an evaluation or debrief process after a wildfire b. Utility plans to conduct a customer survey and utilize partners to disseminate requests for stakeholder engagement
3		c. Utility engages in public listening sessions, and debriefs with partners d. Utility shares findings with partners about what can be improved	<b>c. Utility plans to engage in public listening sessions, debriefs with partners, and others</b> d. Utility plans to share findings with partners about what can be improved
2		e. Feedback and recommendations on potential improvements are made public f. Utility conducts proactive outreach to local agencies and organizations to solicit additional feedback on what can be improved	e. Feedback and recommendations on potential improvements are planned to be made public f. Utility plans to conduct proactive outreach to local agencies and organizations to solicit additional feedback on what can be improved
1		g. Utility has a clear plan for post-event listening and incorporating lessons learned from all stakeholders h. Utility tracks the implementation of recommendations and report upon their impact	g. Utility plans to have a clear plan for post-event listening and incorporating lessons learned from all stakeholders 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
		<b>Criteria missing to reach a maturity level of 1 or more:</b> • N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric	<b>Criteria missing to reach a maturity level of 1 or more:</b> • N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric

**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		<b>Responses to survey questions</b> <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	<b>Bold responses have planned growth between 2020 and 2023</b>	
4		a. Utility actively works to identify best practices from other global utilities through a clearly defined operational process	a. Utility plans to actively work to identify best practices from other global 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
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>



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	<b>Bold responses have planned growth between 2020 and 2023</b>
4			
3			
2			
1			
0			
		<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<p><b>Criteria missing to reach a maturity level of 1 or more:</b></p> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility does not provide a plan to partner with organizations representing Limited English Proficiency (LEP) and Access & Functional Needs (AFN) communities	a. Utility does not plan to provide a plan to partner with organizations representing Limited English Proficiency (LEP) and Access & Functional Needs (AFN) communities
3		b. Utility cannot outline how partnerships with LEP and AFN communities create pathways for implementing suggested activities to address the needs of these communities	b. Utility does not plan 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 cannot 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 does not plan 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 does not plan to have a specific annually-updated action plan to further reduce wildfires and PSPS risk to LEP & AFN communities
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Utility has a plan for partnering with organization representing LEP and AFN communities</li> <li>Utility is able to provide information about the nature of these partnerships</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>Utility has a plan for partnering with organization representing LEP and AFN communities</li> <li>Utility is able to provide information about the nature of these partnerships</li> </ul>

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		<b>Responses to survey questions</b> <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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility cooperates with suppression agencies by working cooperatively with them to detect ignitions, in addition to notifying them of ignitions as needed	a. Utility plans to cooperate with suppression agencies by working cooperatively with them to detect ignitions, in addition to notifying them of ignitions as needed
3		b. Utility is cooperating with suppression agencies throughout utility service areas	b. Utility plans to cooperate with suppression agencies throughout utility service areas
2		c. Utility accurately predicts and communicates the forecasted fire propagation path using available analytics resources and weather data	c. Utility plans to be able to accurately predict and communicate the forecasted fire propagation path using available analytics resources and weather data
1		d. Utility communicates fire paths to the community as requested	d. Utility plans to be able to communicate fire paths to the community as requested
0		e. Utility works to assist suppression crews logistically where possible	e. Utility plans to work to assist suppression crews logistically where possible
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

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		<b>Responses to survey questions</b> <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	<b>Bold responses have planned growth between 2020 and 2023</b>
4		a. Utility conducts fuel management throughout service area	a. Utility is plans to conduct fuel management throughout service area
3		b. Utility shares fuel management plans with other stakeholders, and coordinates fuel management activities, including adjusting plans, to cooperate with other stakeholders state-wide to focus on areas that would have the biggest impact in reducing wildfire risk	<b>b. Utility plans to share fuel management plans with other stakeholders, and to proactively coordinate fuel management activities, including adjustment of plans, to cooperate with other stakeholders state-wide to focus on areas that would have the biggest impact in reducing wildfire risk</b>
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 funds local groups (e.g., fire safe councils) to support fuel management	d. Utility plans to fund local groups (e.g., fire safe councils) to support fuel management
0			
		<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>	<b>Criteria missing to reach a maturity level of 1 or more:</b> <ul style="list-style-type: none"> <li>N/A – all criteria to reach a 1 are met based on survey responses and maturity rubric</li> </ul>

### 1.3 Bear Valley: 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 Bear Valley’s responses to the Utility Wildfire Mitigation Maturity 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
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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 estimates	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 operating 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 initiative 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
<b>A. Risk mapping and simulation</b>	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>B. Situational awareness and forecasting</b>	Advanced weather monitoring and weather stations
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
<b>C. Grid design and system hardening</b>	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
<b>D. Asset management and inspections</b>	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.
<b>E. Vegetation management and inspection</b>	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
<b>F. Grid operations and protocols</b>	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.
<b>G. Data governance</b>	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.
<b>H. Resource allocation methodology</b>	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
<b>I. Emergency planning and preparedness</b>	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.
<b>J. Stakeholder cooperation and community engagement</b>	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**

### **August 26, 2020 Final Action Statement Class A & B Deficiencies Disposition Summary**

**WSD Disposition of BVES's Response to Class A & Class B Conditions  
Outlined in Appendices B & C of Final Action Statement issued August 26, 2020**

	<b>Deficiency No.</b>	<b>Deficiency Title</b>	<b>Addressed in BVES WMP Refile?</b>	<b>WSD Finding</b>	<b>WMP Reso. Section</b>
1	Guidance-1	Lack of risk spend efficiency (RSE) information	Yes	Insufficient	7.4
2	Guidance-2	Lack of alternatives analysis for chosen initiatives	Yes	Insufficient	7.4
3	Guidance-3	Lack of risk modeling to inform decision-making	Yes	Sufficient	7.5.1
4	Guidance-4	Lack of discussion on PSPS impacts	Yes	Sufficient	7.5.6
5	Guidance-5	Aggregation of initiatives into programs	Yes	Sufficient	7.5
6	Guidance-6	Failure to disaggregate WMP initiatives from standard operations	Yes	Sufficient	7.5
7	Guidance-7	Lack of detail on effectiveness of "enhanced" inspection programs	Yes	Sufficient	7.5.4
8	Guidance-9	Insufficient discussion of pilot programs	Yes	Sufficient	7.5.3
9	Guidance-10	Data issues - general	Yes	Deferred to Data QC Report	7.5.7
10	Guidance-11	Lack of detail on plans to address personnel shortages	Yes	Sufficient	7.5
11	Guidance-12	Lack of detail on long-term planning	Yes	Insufficient	7.4
12	BVES-1	Focus on grid hardening	Yes	Insufficient	7.4 & 7.5.3

	<b>Deficiency No.</b>	<b>Deficiency Title</b>	<b>Addressed in BVES WMP Refile?</b>	<b>WSD Finding</b>	<b>WMP Reso. Section</b>
13	BVES-2	Wildfire cameras do not provide good coverage of service territory	Yes	Sufficient	7.5.2
14	BVES-3	High spend per circuit mile	Yes	Sufficient	7.5.3 & 7.5.8
15	BVES-4	LiDAR patrol targets not met	Yes	Sufficient	7.5.4
16	BVES-8	Patrols for asset and vegetation inspections combined	Yes	Sufficient	7.5.5
17	BVES-10	PSPS	Yes	Insufficient	7.5.6
18	BVES-11	BVES did not report an ability to identify and support customers with access and functional needs (AFN)	Yes	Insufficient	7.5.6 & 7.5.7
19	BVES-12	Undergrounding (Related to BVES-1)	Yes	Sufficient	7.5.3
20	BVES-15	Collaboration	Yes	Insufficient	7.5.10



**(End of Appendix F)**