



California Wildfire Safety
Advisory Board

Guidance Advisory Opinion for the 2021 Wildfire Mitigation Plans of Electric Publicly Owned Utilities and Cooperatives



APPROVED December 9, 2020



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California Wildfire Safety Advisory Board

The Board is comprised of seven appointed member experts. Each board member brings a unique perspective and expertise to the state and to their review of the POU WMPs.¹ Additional information about the Board and its members can be found on its website: www.cpuc.ca.gov/WSAB.

- Marcie Edwards, Chair
- Diane Fellman, Vice Chair
- Ralph Armstrong
- Jessica Block
- Chris Porter
- John Mader
- Alexandra Syphard

Acknowledgements

The 2020 wildfire season in California has ravaged countless populations from North to South: community members, firefighters, members of the civil service throughout a plethora of agencies, utility workers, and many more have been impacted to varying degrees. Alongside weather forecasters, journalists, scientists, and environmentalists, many minds are working individually and collaboratively to develop new and innovative techniques to apply to our current and ever-changing Wildfire landscape. The California Wildfire Safety Advisory Board has been given the responsibility of reviewing and advising the State's Electric Publicly Owned Utilities' and Cooperatives' (together, POUs) 2020 Wildfire Mitigation Plans (WMP). We appreciate the efforts that went into to developing these WMPs. The Board is honored to have reviewed the first wildfire risk mitigation plans and looks forward to our continued collaboration.

As always, we acknowledge the dedication, creativity and project management of our advisors, Jamie Ormond, and Katherine Stockton.

¹ The Board approves these recommendations, but each recommendation may not reflect the views of individual board members.



Introduction

Charting new territory has been the central theme of the Board's 2020 efforts. Without precedent or even instruction, we have had to meet our statutory responsibilities while respecting the differences between public power agencies and the investor-owned utilities. We appreciated the contribution and cooperation from the publicly owned utilities and electric cooperatives, especially through their representative organizations: California Municipal Utilities Association, Southern California Public Power Authority, Northern California Power Agency, and the Golden State Power Cooperative. This first round has been an education for us all. In this Guidance Advisory Opinion, we offer our recommendations for the next round of submittals, starting with the 2021 WMP Updates that will assist in clarifying information that we deem essential for understanding wildfire threats and mitigation measures. We also recognize the distinctions among the entities that can allow differentiation regarding the level and detail of information to be submitted in the future. We will continue to work with the representative organizations to create guidelines for the WMPs that permit the Board to meet its statutory responsibilities while being comprehensive, efficient, and respectful of the POUs' unique status. The Board appreciated the discussion at the November 18, 2020 workshop. The Board looks forward to receiving WMP updates that incorporate the guidance provided here, pursuant to the individual capacity of each utility.

Background

Assembly Bill (AB) 1054 (Holden, 2019) created the California Wildfire Safety Advisory Board (the Board or WSAB). Per AB 1054, which added Public Utilities Code Section 326.2(c), the Board is required to provide an Advisory Opinion to Publicly Owned Electric Utilities and Electrical Cooperatives (together, POUs) regarding their Wildfire Mitigation Plan (WMP) filings. The Board emphasizes that its independent, advisory role is distinct from a regulatory role. To that end, however, after reviewing 50 WMPs created by POUs, as well as reports by independent evaluators, the Board developed a holistic view of their role within the wildfire risk mitigation space. In this Guidance Advisory Opinion, the Board will surface several themes that have emerged and recommend essential information for the future WMP submittals by the POUs. Ultimately, the Board plans to provide individual guidance on the POU submittals; however, at this early stage it was believed appropriate to focus on areas that could improve the overall efficacy of the WMPs from the Board's perspective.

Board members read each of the 50 WMPs based the requirements and categories established in AB 1054² and performed their evaluations on each of the following topics:³

A	Staff responsibilities	G	Community notification	L	Identify enterprise-wide risk
B	General objectives	H	Vegetation management	M	Restoration of service
C	Program descriptions	I	Infrastructure inspections	N(i)	Monitoring & auditing
D	Future Metrics	J(i)	Grid design/operations risks	N(ii)	Audits & discovering deficiencies
E	Lessons learned, past metrics	J(ii)	Vegetation & climate risks	N(iii)	Monitoring asset inspections
F	Protocols for reclosers & PSPS	K	Expansion of the HFTD		

² In addition to adding 326.2(c), AB 1054 amended Public Utilities (Pub. Util.) Code Section 8387(b)(2). An excerpt is provided in Attachment 1.

³ The 50 plans can be accessed here: <https://www.cpuc.ca.gov/wsab/POUandCoopWMPs/>



The Board reviewed each of the 50 POU WMPs that were received including (cooperatives are *green*):

Alameda Municipal Power	Lassen Municipal Utility District	Redding Electric Utility, City of Redding
Anaheim Public Utilities	Lathrop Irrigation District	Riverside Public Utilities Dept.
<i>Anza Electric Cooperative</i>	Lodi Electric Utility, City of Lodi	Roseville Electric Utility, City of
Azusa Light & Water, City of	Lompoc, City of	Sacramento Municipal Utility District
Banning, City of	Los Angeles Dept. of Water and Power	San Francisco Public Utilities Comm.
Biggs, City of	Merced Irrigation District	Shasta Lake, City of
Burbank Water and Power	Modesto Irrigation District	Silicon Valley Power, City of Santa Clara
Cerritos Electric Utility, City of	Moreno Valley Utility	Stockton Utility, Port of Stockton
City of Colton Electric Dept.	Northern California Power Agency	<i>Surprise Valley Electrification Corp.</i>
Corona, City of	Oakland, Port of Oakland	Transmission Agency of Northern CA
Eastside Power Authority	Palo Alto Utilities, City of	Trinity Public Utility District
Glendale Water & Power	Pasadena Water and Power Department	Truckee Donner Public Utility District
Gridley California	Pittsburg Power Co (Island Energy)	Turlock Irrigation District
Healdsburg Electric Dept.	<i>Plumas-Sierra Rural Electric Co-Op</i>	Ukiah, City of
Imperial Irrigation District	Power & Water Resource Pooling Auth.	Vernon Public Utility, City of Vernon
Industry, City of	Rancho Cucamonga Municipal Utility	Victorville Municipal Utility Services
Kirkwood Meadows Public Utility District		

The 2020 Guidance Advisory Opinion is organized as follows:

- 1 – 4 Plan Structure: Risk Profiles, Governance, Independent Evaluations and Groupings
- 5 – 6 Customer Impacts: Investor-Owned Utility Public Safety Power Shutoffs, Communication with Customers, and Emergency Planning
- 7 – 9 The Grid: System Hardening, Inspections, and Undergrounded Lines
- 10 – 11 Risk Assessment: Risk Evaluation, Situational Awareness, and Managing Limited Resources
- 12 – 14 Vegetation Management: Treatment Plans, Experts, and Innovation

Given this is the Board's first time reviewing WMPs and the POUs first time submitting WMPs to the Board, the Board has provided POUs with guidance about our approach and review process in general rather than commenting on individual WMPs. The 2021 WMP Update is due on July 1, 2021. We respectfully request each POU incorporate the various recommendations, as appropriate, contained within this Guidance Advisory Opinion in its submittal.

Following its review, the Board observed that some common themes emerged across the submittals. To inform the 2021 updates and future WMPs, we focused on developing these themes and clarifying what information would be useful to understand and evaluate the wildfire mitigation efforts of each POU. The goal of this Guidance Advisory Opinion is to highlight these themes and create guidelines for the POUs to develop and deliver the most consequential information about their wildfire risk mitigation actions and planning processes in the future.

The recommendations in this guidance document should be viewed as offering an efficient way to meet the requirements in Pub. Util. Code Section 8387(b)(2), not as adding to the statutory requirements. We developed these recommendations to fill in the blanks where the information was not readily apparent in the WMPs. The Board is seeking information to understand each POU's territory and the risk environment each POU operates within, but is not looking to single out any particular POU.



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Sections 1-4 relate to the structure of the Wildfire Mitigation Plans including: introducing a risk profile upfront, including information about approval processes, independent evaluations, and a structure for the 2021 plan updates.

1. Plan Structure: Future Wildfire Mitigation Plans Should Be Organized to Introduce Utility Risk Profile Upfront and Increase Information Accessibility, Bearing in Mind Federal Infrastructure Protection Protocols

During WSAB's POU WMP review process, Board Members spent a significant amount of time searching for information between the WMP document, the independent evaluator report, and the community and utility websites to understand each utility's baseline risk profile as required by Public Utilities Code Section 8387(b)(2).⁴ As a pillar of review, WSAB recommends that future WMPs have an increased level of transparency and information accessibility for public consumption. This includes providing information up front about each POU's risk profile and ensuring that the WMP has a prominent and easily locatable web-based publication location. Context setting is important.

Many POUs and Independent Evaluator reports included an index that showed where each of the statutory requirements were addressed in the WMP. It would be helpful if all POUs provided this index. Further, to understand each POU's risk profile, the WMPs should give an account of the municipal utility's customer base, load requirements, and assets available to meet customer load. As much as reasonably possible, the WMPs should describe the percentage of utility-managed circuits that are transmission or distribution and their typical maintenance schedule. The Board understands the confidentiality constraints regarding critical infrastructure, such as the Federal Infrastructure Protection Protocols, but encourages as much transparency as is reasonable.

The first POU utility WMPs did highlight information required by AB 1054. Given the challenge at times of finding utility-specific information and the redundancy of information referenced to statute⁵ and the CPUC General Orders, the Board is interested in streamlining the need for this context setting introductory information for each POU.

RECOMMENDATIONS FOR THE NEXT FILING

The Board requests that the WMP and Independent Evaluator Reports be prominently displayed and easily located on the POU websites. To assist the Board in its review, the WMP could also include an index or table that shows where each section of the statute is addressed in the WMP.

In the WMP update, the Board hopes to receive context-setting information at the beginning of each POU plan to help situate the Board's general understanding about each POU and Cooperative's risk profile in accordance with the statutory requirements. Public Utilities Code Section 8387(b)(2) details what risks are to be addressed including all wildfire risks, and drivers for those risks, throughout the service territory such as the utility's grid configuration and condition, climate threat, and geographic location. Without this information, the Board is unable to provide an individualized response to each

⁴See Attachment 1.

⁵ Pub. Util. Code Section 8387(b)(2).



filing. The goal would be to provide the unique utility context in the WMP document up front with the following information:

- Size of the utility territory in square miles;
- Asset identification including transmission, distribution, and generation;
- Number of customers, which may differ from the number of city or county residents;
- Types of customer classes served;
- Location and topography including percentage urban, wildland, or wildland-urban interface;
- Typical prevailing wind directions and speeds within the territory differentiated by season;
- Territory maps with CPUC High Fire Threat Districts (HFTD) or California Department of Forestry and Fire Protection (CAL FIRE) Fire and Resource Assessment Program (FRAP) Fire Threat Zones (FTZ) overlaid with distribution and transmission assets, again, considering the limitations of Federal Infrastructure Protection Protocols;
- Existing system hardening measures installed compared to non-hardened infrastructure such as 1) miles underground or overhead, 2) number of wooden, steel, or composite poles, 3) number of wooden, steel, fiberglass, or composite cross arms, and 4) miles of covered conductor;
- Impact on the POU of another utility's Public Safety Power Shutoff (PSPS) or similar wildfire related de-energization events, existing measures to mitigate the other utility's PSPS, and whether the POU expects to call its own PSPS, or engages in the de-energization of lines that are fire threatened.

To simplify this requirement, the Board developed a template for its own review and asks that it be applied to the POU WMPs:

Utility Name	Utility Name
Size in Square Miles	<i>square miles</i>
Assets	<input type="checkbox"/> Transmission <input type="checkbox"/> Distribution <input type="checkbox"/> Generation
Number of Customers Served	<i>customers</i>
Customer Classes	<input type="checkbox"/> Residential <input type="checkbox"/> Government <input type="checkbox"/> Agricultural <input type="checkbox"/> Small/Medium Business <input type="checkbox"/> Commercial/Industrial
Location/Topography	<input type="checkbox"/> Urban <input type="checkbox"/> Wildland Urban Interface <input type="checkbox"/> Rural/Forest <input type="checkbox"/> Rural/Desert <input type="checkbox"/> Rural/Agriculture
Percent Territory in CPUC High Fire Threat Districts	<input type="checkbox"/> Includes maps % in Tier 2 % in Tier 3
CAL FIRE FRAP Map Fire Threat Zones	<input type="checkbox"/> Includes maps % Extreme % Very High % High
Existing Grid Hardening Measures	<input type="checkbox"/> Describes hardened & non-hardened infrastructure
Utility Fire Threat Risk Level	<input type="checkbox"/> High <input type="checkbox"/> Low <input type="checkbox"/> Mixed
Impacted by another utility's PSPS?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mitigates impact of another utility's PSPS?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Expects to initiate its own PSPS?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Prevailing wind directions & speeds by season	<input type="checkbox"/> Includes maps <input type="checkbox"/> Includes a description



2. Plan Structure: Include Information about Approval Process, Measuring Success of the Plan, and Funding Mechanisms

Approval Process: Per Public Utilities Code Section 8387(b)(3), the utilities must conduct a public process on the WMPs and verify compliance with the requisite legal requirements. The Board recognizes the approval process incorporates funding that is needed to complete any work that is included in any WMP. The Board would appreciate additional context-setting detail regarding how utilities approach this process and, if it requires approval by either a governing board or director, identifying the entity that has that authority. Only a small paragraph is requested here.

Monitoring and Auditing to Demonstrate Success: The Board requests additional data (tables, charts) about wildfire mitigation goal setting to determine utility achievements. The details in the monitoring and auditing sections in some of the wildfire mitigation plans are somewhat sparse. Utilities should determine how they will judge their own success and then share that general methodology in their plans for their municipalities and the Board.

Describe Funding Mechanism to be Used: Municipalities have year-round budgets. How will a municipality raise money to complete the work of system hardening? Additionally, WSAB is interested in understanding the context regarding how utilities are then validating that their planned funding allowance and reporting to the Board that the funding was used the way it was planned.

RECOMMENDATIONS FOR THE NEXT FILING

In the WMP update, the Board recommends utilities provide a paragraph describing the public review of the plan and how it is approved, if required. The Board requests additional data on monitoring and auditing and how that information is presented. A brief explanation on each POU's funding mechanism to be used to perform wildfire mitigation would also be helpful to the Board.

3. Plan Structure: Independent Evaluations of the Wildfire Mitigation Plans Should Be More Specific and Less Repetitive

Independent Evaluator (IE) reports should serve as a helpful tool for POUs to improve wildfire mitigation planning. These IE reports assisted the Board in identifying where various sections of reports were located within submitted documents and that index or map of the documents was useful.

However, the 2020 IE reports read in isolation seemed to be a cursory review of whether a POU addressed the elements required by AB 1054. As a first effort, the IE reports ranged broadly. However, in the future, it will prove useful to have a more standardized format, as appropriate, for their evaluation as well.

We found a great deal of both repetitive and general material in the IE reports that still did not fully address the specific POU's WMP. The evaluator will not be providing additional benefit to the municipality funding the evaluation, unless the IE provides a more robust analysis of each POU's specific plan. The Board found the IE reports particularly helpful that compared the POU's plan to industry standards defined by the IE's assessment of best practices. For example, Healdsburg Electric



Department's Independent Evaluator Report identifies 13 industry best practices for comparable utilities with Tier 2 HFTD and similar service territories and risk profiles. The report evaluates the WMP and makes recommendations for improvement.⁶

Upon further review, the Board found it beneficial where the IE reports provided examples of industry standards and made recommendations on how the POUs should improve its WMP in order to meet its statutory obligations.

RECOMMENDATIONS FOR THE NEXT FILING

In the future, the Board recommends IEs perform a robust evaluation of the contents and substance of the POUs WMP. The Board especially appreciates evaluations of how each POU compares to the IE's assessment of industry standards.

4. Plan Structure: Create Wildfire Mitigation Plan Guidelines Based on Utility Groupings, for Example Risk Profile and Type of Publicly Owned Utility

Public Utilities Code Section 8387 requires POUs to file a WMP that includes a risk profile or a “list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks,” including enterprise-wide risks, particular risks associated with grid design and construction, and particular risks associated with topography and climate.⁷ The Board's review revealed that all POUs are not similarly situated, rather, they have a variety of characteristics that impact their risk profile that may allow different kinds of reporting in the WMPs based on ignition threat. Lower risk profiles include POUs that are urban, urban-locked, bordering an ocean or large lake, or have a high percentage of undergrounded lines. Higher risk profiles include POUs that are rural, forested, surrounded by wildland or in the wildland urban interface. To tailor future WMP filings to the risks and areas of concern for the variety of POUs that must report, the Board suggests creating groups based on these generic risk profiles and requiring slightly different reporting from each group. Despite lower risk for some utilities, all POUs should provide descriptions and analysis of the risks that are present within their agency in order to help the Board understand each utilities' overall risk exposure.

For example, consider a utility with undergrounded lines that uses external above-ground transformation which is bordered or typically downwind of a HFTD inside their area or inside another utility's service territory. While this Utility could be seen as having a limited risk exposure, that utility should consider the risk of its own infrastructure failing and causing an ignition in another bordering or typically downwind territory. While the Board recommends developing different reporting requirements for utilities with various wildfire risk profiles, utilities with undergrounded infrastructure should consider reporting on plans for backup batteries, backup communications, or other risk mitigation that could be at risk from ignition relating to above ground equipment. The Board recognizes that while utilities with

⁶In addition to the Healdsburg Electric Department IE Report highlighted here, the reports prepared for the following utilities included a comparison between the utility and the IE's assessment of best practices: Anaheim Public Utilities, Burbank Water and Power, Glendale Water and Power, Redding Electric Utility, Truckee Donner Public Utility District, and Sacramento Municipal Utility District.

⁷Pub. Util. Code Section 8387(b)(2)(J), and (L). See Attachment 1.



underground powerlines do face perhaps different risks than utilities with traditional overhead wires, the risk imposed by any related above ground equipment should be addressed or at least touched upon in the WMP.

To better understand utility risk profiles, WSAB proposes working with municipal utility and cooperative associations to categorize and group utilities in the following ways but is certainly open to alternative suggestions or definitions:

- Port, urban-locked or undergrounded utilities;
- Utilities with wildfire risk profiles ranging from urban wildland interface to extreme threat;
- Utilities that border another Utility's HFTD;
- And Utilities with blended risk profiles.

The Board will initiate a dialogue with the POUs to determine if this list is sufficient or if there are other types of groupings to consider.

WSAB thanks the California Municipal Utilities Association (CMUA) for developing a preliminary model reporting template that was used by a number of POUs. Generally, the model template provided a map to the statutory requirements and offered suggested language to include in each POUs WMP. The model template was an admirable initial effort and a launch pad for refinement incorporating the recommendations in this Guidance Advisory Opinion. The next step is to look beyond the letter of the statute to its spirit and develop a reporting structure that provides the information specific to each POU as discussed in this Guidance Advisory Opinion. We look forward to working with the municipal associations to develop guidelines that incorporates the Board's suggestions as appropriate.

RECOMMENDATIONS FOR THE NEXT FILING

The 2021 POU WMPs and/or updates should be based on the guidelines. It would be helpful to create a revised template that reflects the learnings from the 2020 initial effort. To develop that template in a timely manner, the Board invites the municipal utility associations CMUA, the Southern California Public Power Association, the Northern California Power Agency, and the Golden State Power Cooperative, to work collaboratively with the WSAB to identify the utility groupings and develop a revised template for 2021. The Board appreciated the discussion with the municipal utility and cooperative associations at the workshop on November 18, 2020 and looks forward to further discussion at the final Board meeting of 2020, scheduled for December 9, 2020 at 1pm. The Board will continue to work with these associations to develop future WMP guidelines within in the next 120 day or no later than March 1, 2021. Of course, feedback from the individual agencies is also welcomed.

Sections 5-6 relate to the customer impacts of wildfire mitigation and planning including: the impact of Investor-Owned Utility Public Safety Power Shutoffs, communication to customers regarding Investor-Owned Utility Public Safety Power Shutoffs, regular communication plans to customers, and separating citywide emergency preparedness from wildfire mitigation.



5. Customer Impacts: Describe how Investor-Owned Utility Public Safety Power Shutoffs Impact the Publicly Owned Utilities

One of the more important pieces of information that should be conveyed in a wildfire mitigation plan is how a Public Safety Power Shut Off (PSPS) would impact the utility's ability to operate. The Board appreciates that the utilities see PSPS events as an action of last resort for their customers given the impacts on vital city services, including first responders. Further, many POU's view their host utilities PSPS as out of their control. One missing piece from the POU template and most of the filings is the impact of investor-owned utilities (IOU) PSPS events on POU customers and how the POU manages this intersect. In addition, those POU's who are also balancing authorities should consider noting their criteria for wildfire related de-energizations, even if the term, PSPS, is not applicable. The Board recognizes that each utility is unique in its association with the IOUs and PSPS. This context-setting information should be made clear upfront. These are the questions that Board would like to have answered in the future:

- Is the utility affected by IOU PSPS events?
- What is the relationship between the IOU and the utility during PSPS events?
- Does the POU receive advance notification?
- Is it affected at the transmission or distribution level?
- Is the utility implementing a mitigation strategy for IOU PSPS?
- What is the POU's obligation to inform its customers?
- Does the utility have its own permanent or temporary generation, (or customer provision of same) allowing it to withstand an IOU PSPS?
- Does the utility distribute back-up generators to customers?
- Does the utility deenergize their own lines when a wildfire threat looms, even if it is not labelled a PSPS?
- In the above instance, what customer communication takes place?

A few agencies have their own generation assets, but it is unclear how the assets are used to mitigate the impact of an IOU (or POU) PSPS event. A few utilities address their electrical relationship to the IOU in their territory, including indicating how much control the utility has over managing impacts from an IOU initiated PSPS or initiating its own PSPS event.

RECOMMENDATIONS FOR THE NEXT FILING

In the next round of WMPs, utilities should provide the context-setting information discussed above. POU's should include a detailed protocol to address these concerns in order for the Board to understand the strategic direction and effectiveness of each POU and assist in furthering best practices.

6. Customer Impacts: Describe Communication Plans Alerting Customers about IOU PSPS, or Other Wildfire Related Service Interruptions

Utility emergency preparedness is separate and apart from city or municipal emergency preparedness and this differentiation must be clear. Publicly owned utilities are part of and subservient to the will of the



municipal entity and the elected officials of a city council. Municipalities have emergency preparedness plans for communities and many of the emergency plans are developed and implemented by municipal jurisdictions. For future wildfire mitigation planning, the idea of “emergency preparedness” for a utility should be distinguished as needed from the city’s emergency preparedness plans. Although it is quite likely that these distinctions already exist within municipalities, these distinctions should be called out so that a reader understands the full scope of the plans. Where needed, utilities should have separate and distinct communications needs from a municipality since the utility communicates with a variety of customer types for emergency preparedness purposes.

We are aware of the importance of Incident Command Protocols and the need for uniform communications across the municipality. Nevertheless, there are distinct messages that come only from the utility, and times wherein the Emergency Command Centers are not alerted, but the Utility needs to inform its customers. There are those occasions wherein a PSPS is insufficient to open an Emergency Command Center. In those instances, we need to further understand how the utility communicates with its customers and the typical messaging used.

The Board would like to understand whether the Emergency Communication Plan template submitted in many of the WMPs is deemed sufficient to address the specific needs of wildfire events compared to other types of emergencies. Some utilities shared information about their plans for Community Resource Centers, community meetings, monthly meetings, and other utilities provide this information as part of their city emergency plan. Regardless of the communication method chosen, the POUs need to articulate the adequacy of the current plan as well as the manner of notice is given to POU customers and other impacted community members about IOU-triggered or local agency-triggered PSPS events. The Board would like to better understand any additional efforts taken to notify customers that are vulnerable to telecommunication outages or water pumping outages during IOU-triggered PSPS. In future WMPs, utilities should also detail the process for reaching the most vulnerable members of its community such as Access and Functional Needs (AFN), Medical Baseline, or non-English speaking customers.

RECOMMENDATIONS FOR THE NEXT FILING

For planning purposes, the Board understands that there is a distinction between being a resident of a community and being customer of a utility. The utility plan, while frequently a part of the municipal plan, should address the utility customer dimensions of emergency preparedness planning with respect to PSPS and wildfires and the unique concerns of more vulnerable customers such as: Access and Functional Needs, medical baseline, non-English speakers, and those at risk of losing water or telecommunications service. The Board recommends future WMPs continue to describe the specific methods, content, and timing used to communicate with customers. Beginning with the 2021 WMPs, the POUs should provide an evaluation of whether the current method of emergency communication appears sufficient and, if not, what can be done to improve it, especially protocols for notifying customers, essential service providers, and other critical facilities of IOU or self-triggered PSPS events.

Sections 7-9 relate to the system upgrades and grid operations including: system hardening and grid design, infrastructure inspections, and discovering previously unidentified risks.



7. The Grid: Highlight Particular System Hardening and Grid Design Improvements

AB 1054, which amended Pub. Util. Code Section 8387 requires utilities to report on “programs to be adopted by the [POU]... to minimize the risk of its electrical lines and equipment causing catastrophic wildfires...” including plans for inspections, risk drivers associated with their system, and their recloser policy. In the 2021 WMP Updates, POUs should describe what specific system hardening measures and the timing under which each utility will be targeting measures such as: replacing expulsion fuses in the HFTD, undergrounding facilities and assets, adding covered conductors, increasing the spacing between lines, applying more localized sectionalizing equipment, and replacing wooden poles with wind-resistant poles. The Board would appreciate information on existing and planned system upgrades and hardening measures as well as the overarching timelines by which the utilities mean to accomplish the goals relating to these actions.

Further, it would be helpful if POUs describe the risks that are being targeted for mitigation with each specific utility hardening practice. Helpful information includes how many miles of assets are located within HFTDs as well as the potential risk of the asset to start a fire. POUs should describe the mitigation measure utilities are providing to HFTDs and why. POUs should be specific about the goals they want to achieve and how they are monitoring progress. For example, if the goal is to replace 22 switches, what is the methodology to ensure that those 22 switches are actually replaced?

Information should be included in WMPs to explain whether each POU mitigates PSPS or other de-energization events by performing system upgrades, for example:

- Does the POU perform a circuit-by-circuit analysis to identify essential facilities (and whether they have backup power) like hospitals, communication centers, and community resource centers? Does the POU assess system hardening measures that could be installed to prevent PSPS for those facilities? In what way does the POU prepare these facilities for a PSPS or another wildfire related de-energization event?
- For POUs that power water utilities or supply water themselves, if that water is used for drinking and firefighting, are certain projects being undertaken to harden the system for water delivery purposes? Are pump stations self-contained or have some level of fire protection? Is the supply to sewage treatment plants hardened?
- Is supplemental generation available such as backup batteries or backup power facilities? Are the majority installed by the customers themselves or the utility?
- Can the utility open and close taps? Can the utility back-feed? Are there wildfire related circumstances wherein either of these tactics would be useful?
- Can the utility sectionalize in a localized fashion? Sectionalizing in higher, more vulnerable areas allows utilities to drop less load and impact fewer customers during PSPS or other utility related de-energization event.

As POUs implement wildfire mitigation projects and programs around the state, they may encounter shortages of certain equipment and increased prices as a result because IOUs and other POUs are competing for the same limited resources. California utilities should consider collaboration where practical and use their economic power to ease equipment shortages, manage price increases, and reduce



shipping delays.⁸ POU should report any such challenges with limited resources in the 2021 WMP Updates and any measures they are taking to mitigate resource shortages. In addition, they should consider listing ways in which state or federal agencies could assist in this endeavor.

RECOMMENDATIONS FOR THE NEXT FILING

The Board requests information from utilities on their existing and planned system upgrades. In future WMPs, the Board would like to understand the details of each utility's system hardening and grid design programs described in the WMP filing. Text of the WMPs should indicate the goals of the programs and the risk any particular program is designed to mitigate. The Board also wants to understand each POU's approach to PSPS mitigation and prevention. Finally, POUs should identify any supply shortages.

8. The Grid: Highlight Particular Infrastructure Inspection Plans for Regular and Post-Incident Inspections

Many POUs are moving to using drones for visual inspections and video images to determine if certain elements, like pins, were missing from equipment, and to measure wood separation from structures. These innovative efforts pursued by some utilities are very encouraging.

When IOUs shed load, they frequently require that load be shed across their service territory, including in POU territory for whom they provide balancing services. Each POU has different protocols for load restoration depending on whether de-energization was initiated by PSPS, another type of load shedding event, or a wildfire. These differences influence the process and outcome of inspection results concerning POU assets and equipment. Specific information about these impacts, if they occur, would be helpful in a utility's description of the inspection process that each utility must perform before reenergizing its lines after an event. Further, do staffing limitations slow circuit restoration after a de-energization event?

The WMPs demonstrated that even when POUs have little risk, they take their mission to provide safe service seriously. Some POUs discuss how they start patrolling right when the circuit(s) are deenergized. Others describe the staffing related challenges that occur when restoring service. Information on any challenges faced and how POUs manage to mitigate these challenges should be highlighted.

RECOMMENDATIONS FOR THE NEXT FILING

To prevent unanticipated ignitions due to our changing environmental circumstances, utilities should consider additional visual patrols on all potentially impacted circuits annually. The Board requests that future WMPs describe the unique risks a utility is inspecting for such as insect, wildfire incursion,

⁸ See Section 3.6. of the Board's Recommendations on the 2021 IOU WMP Guidelines, available at: https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/WSAB%20Recommendations%20on%202021%20WMP%20Guidelines%20APPROVED%20CONCURRENCES%206.24.2020.pdf



wood split, woodpeckers, purposeful insulator destruction, termites, etc., be included in the WMP text. WMPs should also describe whether and how system inspections lead to system improvements.

9. The Grid: Discovering Previously Unidentified Risks

The electric lines that caused the Camp Fire were susceptible to stress that they were not designed to withstand, the stress of towers shifting after seismic activity.⁹ The utility likely did not consider that this type of tower movement might contribute to equipment failure. The assumption likely was not questioned in advance. Tower location were static, and lateral stress consequences were not likely anticipated and analyzed. Utility decision-makers likely did not consider the need to recheck connection points based on how lateral stress consequences might impact connection points.

Utility engineers need to be encouraged to develop a questioning state of mind to identify new risks that are not initially quantified. For example, nuclear engineers work with two teams on the same project. The first team designs a project and develops project assumptions. The second team challenges the project design and all of its assumptions to mitigate safety issues before they are issues. This system may seem confrontational but testing someone else's work as it is being built/designed does tend to surface potential catastrophic events, or previously unidentified risks.

The Board encourages utilities to consider different ways to challenge the assumptions on existing and future grid designs, including system upgrades. POUs could consider working with utility peers and municipal utility and cooperative associations or creating their own engineering or risk management position or team that would develop a method for assessing the risks that could lead to more catastrophic events. This group could surface and flag potential risks for further consideration and remediation.

Apart from assessing seismic activity, another example of a way to discover previously unidentified risks is during annual patrols, utilities could evaluate all parts of the system with the same scrutiny it would a system surrounded by vegetation and topography that increases the risk of wildfire (i.e. tall dry grasses in HFTD or FTZ areas).

RECOMMENDATIONS FOR THE NEXT FILING

The Board encourages POUs to consider different options for surfacing for further consideration and remediation, previously unidentified risks that could lead to catastrophic wildfires. POUs could work with the municipal and cooperative utility associations and neighboring utilities or create their own engineering or risk management teams.

Sections 10-11 assess POU approaches to risk assessment related to design and construction, and situational awareness programs and technologies.

⁹ See also, Section 5.1 of the Board's Recommendation on the 2021 IOU WMP Guidelines.



10. Risk Assessment: Highlight Particular Wildfire Risks Associated with System Design and Construction

The Board believes that POU's are already planning for and attempting to comply with, and some exceed, the CPUC's General Order (G.O.) 95 standards. For the 2021 WMP Updates, the Board would like to request information related to the specific risks associated with design and construction such as:

- Are there design or construction issues related to the utility's specific topography or geographic location that the Board should be aware of?
- How will the utility address risks associated with facilities requiring power that about a Tier 2 or Tier 3 HFTD?
- How does the utility assess its risks associated with system design and construction? In what areas does the utility consider going above and beyond G.O. 95 or other General Order standards related to design and construction?

Further, the Board would like information about any facilities that are exempt from G.O. 95,¹⁰ both inside and outside of HFTDs. The WMPs should highlight descriptions of G.O. 95 exempt equipment and inspection processes for exempted lines should be relayed to the Board through the WMPs as they relate to potential wildfire risk. The Board would like to understand how each utility identifies these risks on its own system and then better understand plans to mitigate the risk of exempt assets.

Finally, the Board encourages utilities to provide suggestions about how to build or design their systems in the future to further mitigate wildfire risk. For example, should the CPUC modify G.O. 95 to require a topography analysis before new poles are set?¹¹ By modifying the General Order, utilities would have to identify wind speeds and potential increases over ridgelines and other terrain. This may already be happening within certain utilities; the Board would like to know.

RECOMMENDATIONS FOR THE NEXT FILING

The Board recommends the WMPs state the particular wildfire risks associated with system design and construction such as topography and location near a HFTD of another utility. The Board would also like information about G.O. 95 exempt assets and possible updates to G.O. 95 that could facilitate more resilient utility transmission and distribution assets.

¹⁰ See G.O. 95 Rule 12.1 on applicability stating that, "[t]he requirements apply to all such lines and extensions of lines constructed hereafter" the adoption of G.O. 95. G.O. 95 was adopted in 1941.

¹¹ The Board recommends modifying G.O. 95 to require topography analysis prior to setting new poles. Studying topography prior to pole setting would require a utility to understand wind zones for utility infrastructure prior to building. Examples of utility infrastructure falling as a result of unknown high wind speeds can be found across the state in distribution and transmission line sections. Lassen notes that they design their poles for increased wind zones already, to survive 100 mile per hour winds and snow.



11. Risk Assessment: Situational Awareness Technology and Data Sharing Partnerships

Utilities generally know the average wind speed and average weather conditions, as well as red flag weather, high fire threat wind patterns and weather conditions for their service territories. These conditions define the engineering needs for a particular territory and contribute to the risk profile for the utility. The Board requests that the prevailing wind directions and speeds within each POU's territory differentiated by season, along with average weather conditions by season be described in the POU WMPs.

POUs are adding “intelligence assets,” or situational awareness technology in order to gather and assess risk and weather data to more accurately address POU risk profile, especially in HFTDs. These technologies include weather stations, cameras, drones, or other monitoring technologies. These types of mitigation measures are generally less expensive compared to system upgrades and are useful in helping a utility understand the strengths and weaknesses of its system.

Some POUs may be partnering with an IOU or neighboring POU to share or collect weather or modeling data. Describing these partnerships with IOUs or other entities would help the Board understand additional intersectionality between agencies.

RECOMMENDATIONS FOR THE NEXT FILING

To understand the engineering needs and wildfire risk, the Board requests POUs include context-setting information in the WMPs including information about the prevailing wind directions and speeds, differentiated by season, along with average weather conditions by season.

The Board requests information on how and why situational awareness technology is installed, and where on the system. The Board would also like insight into decisions that are made not to install situational awareness technology. Are there constraints such as budgets, availability of equipment, knowledge to effectively deploy, or qualified personnel to install and monitor effectively?

The Board also requests information about whether this modeling data is received from or shared with other agencies, utilities, or fire professionals.

Sections 12-14 relate vegetation management including: more comprehensive descriptions of treatments, the qualifications of the personnel that evaluate vegetation management plans and perform certain dangerous activities, and innovative approaches to vegetation and forest management.

12. Vegetation Management: Describe Utility Requirements for Vegetation Above and Below Electrical Lines

To assist in evaluating each WMP, the Board requests utilities describe and evaluate what vegetation and vegetation management practices reduce wildfire related risk and the ecological impact of the treatment options chosen. Utilities should address the specific methods employed to remove trees around power lines and their unique standards for vegetation from the trees to sky or for radial clearance from the line. As stated previously, the Board believes that POUs are already planning for and attempting to comply



with the CPUC's G.O. 95 standards. POUs should also describe the decision-making processes each utility uses to determine which treatments are appropriate for which types of vegetation.

In order to effectively evaluate utility planning processes, the WMPs should include descriptions of the variety of treatment methods each POU uses. These treatment methods include tree or branch removal, trimming, pruning, mowing, goats to remove grass, use of mechanical tools to clear brush, surface fuel clearing during the dry season, and herbicide use. Further, information on herbicide use would be helpful because herbicides generally kill all the vegetation treated and has cumulative impacts ecological and human health. Additionally, the dead vegetation that remains must be cleared. When all vegetation is cleared, there are opportunities for new plants grow, especially grass, which creates additional fuel for a wildfire. The WMPs should also list both native and non-native plants in the region, especially plants found around electrical equipment. The WMPs should describe how treatment methods vary depending upon the type of species.

RECOMMENDATIONS FOR THE NEXT FILING

The Board recommends the 2021 WMP Updates describe treatment plans for all types of vegetation associated with utility infrastructure, from the ground to the sky, which includes vegetation above and below electrical lines. In order to understand current and future risk profiles for each POU, the WMPs should highlight:

- The reasoning behind each treatment plan and the ecological impact of the treatment options chosen;
- How vegetation management in the HFTD or Fire Threat Zones differs from other areas, including within private property and urban landscaping;
- The difference between any enhanced vegetation management and the vegetation management that meets the G.O. 95 standard;
- A list of native and non-native species and describe how treatment methods vary; and
- The new growth that occurs in areas that has previously been cleared or treated, and how the POUs tracks growth.

13. Vegetation Management: Personnel Qualifications Related to Vegetation Evaluation and Safety Compliance

Qualifications of Personnel Evaluating Vegetation Management Plans: The Board would more information about how the utilities develop their worker qualifications and interact with scientific personnel in the design and provision of POU WMP vegetation management plans.¹² Scientists understand the relative growing and regeneration patterns, species traits, flammability, and ecological role that vegetation plays relative to fire ignition and behavior. Do POUs rely on scientists with expertise in ecology, fire ecology, fire behavior, and meteorology? For many POUs, most of the vegetation

¹² See also, 3.3 on the Board's Recommendation on the 2021 IOU WMP Guidelines.
https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/WSAB%20Recommendations%20on%202021%20WMP%20Guidelines%20APPROVED%20CONCURRENCES%206.24.2020.pdf



management work is completed by contractors, but it is not clear who within the utility manages the contractors and that staff person's level of expertise.

Qualifications of Workers to Meet Safety Standards: Qualified Electrical Workers (QEW) are electrical asset inspectors with at least two years of specialized training and experience working with high-voltage utility lines and are knowledgeable about the hazards involved.¹³ Qualified Line Clearance Tree Trimmers (QLCTT) have at least 18 months of specialized training and experience with the techniques and hazards involved in tree trimming work.¹⁴ The California Department of Industrial Relations Division of Occupational Safety and Health (Cal/OSHA) regulations requires different Minimum Approach Distances (MAD) for QEWs versus QLCTTs, which vary depending upon the voltage of the electrical equipment. For example, a typical 12 kV distribution line requires a MAD of 2.14 feet or nearly 26 inches for QEWs, and a 10-foot MAD for QLCTTs. Beyond the 10 feet, Cal/OSHA regulations allow non-qualified persons such as other vegetation management personnel. These MADs are critical to ensure worker safety because only QEWs are specially trained.

Continuing with the example of a 12 kV electrical line, G.O. 95, Rule 35 requires radial clearances of 18 inches between the bare line conductors and the tree branch or foliage. Therefore, in order to comply with G.O. 95 and Cal/OSHA standards, QEWs must be present within approximately 26 inches. The Board is encouraged that some POU WMPs state that the contractors hired for vegetation management are knowledgeable about safety standards. For the 2021 WMP Updates, the Board suggests POUs describe measures taken to ensure and verify contractor compliance with Cal/OSHA standards and other measures taken to enhance a safety culture. Safety culture and compliance with Cal/OSHA standards is critical because many POUs rely on contractors who must compete against other contractors for utility work.

RECOMMENDATIONS FOR THE NEXT FILING

The Board recommends the POU WMPs list the qualifications of any experts relied upon, such as scientific experts in ecology, fire ecology, fire behavior, geology, and meteorology. The WMPs should specify the level of expertise of the POU staff that manages the contractors performing vegetation management.

The Board also recommends the WMPs describe measures each POU takes to ensure that POU staff and contractors comply with or verify compliance with Cal/OSHA standards on Minimum Approach Distances (MAD). Ensuring that on Qualified Electrical Workers treat vegetation within the MAD of an energized utility line as required by Cal/OSHA, is critical to fostering a strong safety culture.

¹³ California Code of Regulations Section 2940.2; enforced by Cal/OSHA and available at: https://www.dir.ca.gov/title8/2940_2.html.

¹⁴ *Id.*



14. Vegetation Management: Innovative Approaches to Vegetation Management

California wildfires have been intensifying in recent years due to climate change, drought, forest density, poor management of vegetation surrounding homes, in some cases ignitions caused by utility equipment, extreme weather events, and larger populations living in wildlands and in the wildland urban interface. Given the magnitude of these challenges, business as usual is not an option. The Board appreciates POUs that are exploring innovative new strategies and pilot programs.

Municipal codes sometimes require different vegetation management practices to keep communities safe. For example, the City of Glendale requires property owners to maintain defensible space within 100 feet of structures. Since most utility assets are within 100 feet of structures, Glendale Water & Power focuses its mitigation efforts on areas outside the 100-foot radius. Enforcing these individual municipal standards requires a closer integration of the fire department and the utility department. This relationship is more prevalent with smaller utilities. We appreciate the role the City of Glendale has taken to acknowledge the potential for landscaping within private property to result in ignitions from power lines.

It is commendable that many POUs and fire department are working together to improve fire safety. The WMPs should provide details about defensible space methods to increase the safety of structures and reduce the potential for powerline ignitions. Additionally, irrigation is a method to achieve both objectives. Ensuring high fuel moisture content reduces flammability and prevents ignition.

The Board is interested in learning, in the WMPs, whether POUs have considered innovative approaches like these, or others. For example, if a major policy goal is to prevent and reduce the loss of structures and homes, should IOUs and POUs do pilot programs, perhaps offering rebates on home hardening investments?

RECOMMENDATIONS FOR THE NEXT FILING

The Board recommends WMPs describe whether the POU has considered innovative and alternative approaches to vegetation management such as, but not limited to requiring property owners to manage vegetation a certain distance from structures or utility lines, and pilot programs in home hardening.

Continued on the next page.



Conclusion

Once again, the Board thanks the Electric Publicly Owned Utilities and Cooperatives for developing their first round of Wildfire Mitigation Plans pursuant to the direction provided by AB 1054. The Board looks forward to working with the POUs to further develop a framework to report and receive wildfire risk mitigation planning information in the spirit of the legislation, in the 2021 plan updates. The Board appreciates the efforts of the California Municipal Utilities Association, the Southern California Public Power Authority, the Northern California Power Agency, and the Golden State Power Cooperative to work with utilities and the Board to properly frame the next round of Wildfire Mitigation Plans and develop future WMP guidelines at the final Board Meeting of the year, on December 9, 2020, and within in the next 120 day or no later than March 1, 2021.

The California Wildfire Safety Advisory Board's Guidance Advisory Opinion for the 2021 Wildfire Mitigation Plans of Electric Publicly Owned Utilities and Cooperatives were approved on December 9, 2020 and are hereby executed on December 15, 2020.

Marcie Edwards, Chair

Diane Fellman, Vice Chair

Ralph M. Armstrong Jr., Board Member

Jessica Block, Board Member

John Mader, Board Member

Christopher Porter, Board Member

Alexandra Syphard, Board Member

Pub. Util. Code Section 8387 (b)(2)¹⁵

A	An accounting of the responsibilities of the persons responsible for executing the plan.
B	The objectives of the wildfire mitigation plan.
C	Description of the preventative strategies and programs to be adopted by the publicly owned electric utility or electrical cooperative to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.
D	A description of the metrics the local publicly owned electric utility or electrical cooperative plans to use to evaluate the wildfire mitigation plan's performance and the assumptions made that underlie the use of those metrics.
E	A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed the wildfire mitigation plan.
F	Protocols for disabling reclosers and de-energizing portions of the electrical distribution system that consider the associated impacts on public safety, as well as protocols related to mitigating the public safety impacts of those protocols, including impacts on critical first responders and on health and communication infrastructure
G	Appropriate and feasible procedures for notifying a customer who may be impacted by the de-energizing of electric lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.
H	Plans for vegetation management.
I	Plans for inspections of the local publicly owned electric utility's or electrical cooperative's electrical infrastructure.
J	A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout the local publicly owned electric utility's or electrical cooperative's service territory. The list shall include, but not be limited to, both of the following:
	(i) Risks and risk drivers associated with design, construction, operations, and maintenance of the local publicly owned electric utility or electrical cooperative's equipment and facilities.
	(ii) Particular risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of the local publicly owned utility's or electrical cooperative's service territory.
K	Identification of any geographic area in the local publicly owned electric utility's or electrical cooperative's service territory that is a higher wildfire threat than is currently identified in a commission fire threat map, and identification of where the commission should expand the high fire threat district based on new information or changes to the environment.

¹⁵ Please visit <http://leginfo.legislature.ca.gov/> for a complete and official copy of Public Utilities Code Section 8387.



L	A methodology for identifying and presenting enterprise-wide safety risk and wildfire-related risk.	
M	A statement of how the local publicly owned electric utility will restore service after a wildfire.	
N	A description of the processes and procedures the local publicly owned electric utility or electrical cooperative shall use to do all of the following:	
	(i)	Monitor and audit the wildfire mitigation plan.
	(ii)	Identify any deficiencies in the wildfire mitigation plan or its implementation, and correct those deficiencies.
	(iii)	Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, that are carried out under the plan, and other applicable statutes, or commission rules.

Response to Public Comment on Draft Guidance Advisory Opinion

The Board presents responses to public comments received on November 22, 2020 and November 30, 2020¹⁶ to the Board's Draft Guidance Advisory Opinion.¹⁷ The Guidance Advisory Opinion is the Board's statutory interpretation of the reporting requirements and therefore an indication of the information that utilities should provide to the Board to permit the Board to review its risk reduction plans.

Joint Associations Comments		
California Municipal Utility Association (CMUA); Golden State Power Cooperative (GSPC); Northern California Power Agency (NCPA); Southern California Public Power Agency (SCPPA)		
PAGE	RECOMMENDATION ADDRESSED	WSAB RESPONSE
2	Overarching A. Minimum Plan Requirements v. Informational	The Guidance Advisory Opinion is the Board's way of meeting our obligations under AB 1054 to review the utilities' Wildfire Mitigation Plans. As such, it contains recommendations on the form and content of the utilities' WMP to satisfy AB 1054's statutory requirements. The Board relied on the information supplied by the POU's in its review. 2020 is a first step as part of an iterative process and serves as a base for future updates and plans. The Board appreciates the participation of the Joint Associations in the further development of the WMP filing process that fully addresses AB 1054's provisions for both the Board and the utilities.
2	Overarching B. Entity-Specific Advisory Opinion	The Board chose to indicate its general concerns initially since there was not detailed guidance for preparation of the 2020 plans. In the future, it is the Board's intention to prepare individualized advisory opinions utilizing the recommended guidance as its basis for review. We

¹⁶ Public comments are available at <https://www.cpuc.ca.gov/wsab/publiccomment/>.

¹⁷ The Draft Guidance Advisory Opinion is available at: https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/WSAB%20Guidance%20Advisory%20Opinion%20DRAFT%20PUB%2011.13.2020.pdf.



		anticipate that the capacity building in this round of WMPs will inform the next and shape the contents tailored, as appropriate, to the individual utility.
2	Overarching C. Response Timeline	The Board requests that each POU to do its best to provide the Board the information outlined in this Guidance Advisory Opinion.
3	Overarching D. Differences between IOUs and POUs/Co-ops	WSAB recognizes that each POU is unique and requests that this utility-specific information be presented so that the Board can properly evaluate whether each unique utility is presenting its wildfire risk in sufficient detail, as well as instituting effective mitigation. The Board is not recommending anything experimental or untested.
3	Overarching E. Differences among POUs/Co-ops	The WSAB is simply asking for this information to be provided, and is not intending to pigeonhole agencies into buckets that that the agencies do not see as reasonable.
3	Overarching F. Bifurcate recommendations	The Board would hope that, at a minimum, each utility would provide its background, context setting, self-identifying information so that the Board can properly evaluate the wildfire mitigation plans submitted. This information, while much was provided, was provided in unique ways that occasionally made it difficult to uncover. Therefore, the Board is providing guidance in the hope that information will be provided in an easily accessible way.
4-5	1 - Risk Profile Info Upfront	<p>This information is necessary to help Board members develop a preliminary context for reviewing each utility as the Board members review utility WMPs. This context setting necessary is to help Board Members review plans appropriately.</p> <ul style="list-style-type: none"> • The Board appreciates the recommendations on additional information or re-framed information and added these suggestions to the table on page 2 of the final draft. • The Board understands the constraints such as the Federal Infrastructure Protection Protocols and added a sentence about these constraints. • The point of categorization was never to categorize specifically based on risk only; rather it was to assist Board members in evaluating how similarly situated utilities behave similarly or differently, and for what reasons.
5	2 - Governance, Auditing, Budgets	This request is simply additional context setting for the POU or co-op and should be part of the standard self-identifying information that the POU or co-op provides upfront. While we have



		<p>heard concerns that this documentation could be used by others for reasons different than evaluating the WMPs, we have efforted to keep our requests to information that is already publicly available in one form or another to try and mitigate this concern.</p> <p>Further, it would be helpful to the Board if WMPs were written with both the Board and the POU's public process and governing boards in mind. The Boards understands that the WMP process is iterative and would appreciate it if the POUs could assist in demonstrating progress. Finally, the Board finds budgetary information relevant to its review and believes that this information is either publicly available or could easily be obtained via a Freedom of Information Act request.</p>
5-6	3 - Independent Evaluations	<p>The role of the IE should be to help the utility determine if their WMP meets statutory requirements and aligns, as appropriate, with any guidance the Board has issued. The IE should help improve the plan prior to its submission to the Board.</p> <p>It is the role of the Board to help "develop best practices for wildfire reduction" (Assembly Bill 1054, Holden, 2019, Sec. 2). If the IE's can help in this process, that would be welcomed. The IE should check to see that utilities specifically identify their practices and explain why these practices are chosen over others, so that the Board can look across the board to review if the practices utilized fall within practices generally understood to be the best.</p> <p>The Board has not specifically endorsed any "best practices."</p>
6-7	4 - Templates Based on Groupings/Risk Profiles	<p>The Board agrees that the groupings or categories should be based on factual characteristics, with the purpose of helping to streamline reporting, especially with respect to certain analysis that may not be applicable to some utilities.</p>
7	5 - Impacts of IOU PSPS	<p>The Joint Associations' comment notes that not all utilities have PSPS impacts to manage, and therefore it is unnecessary to prepare for these events. The Board requests that this information be clearly identified for each POU because this information is necessary to understand the WMP, yet it was unclear in previous submissions. POUs should describe (1) whether a utility is impacted by an IOU or its own PSPS (or label it as purposeful de-energization of a circuit due to wildfire related reasons if the problem is nomenclature), and (2) what preparations must be made in the event there is a de-energization event of this type.</p>



8	6 - Communication Plans	The Board requests emergency planning processes be identified on a utility by utility basis to describe if there are unique processes in place for communication with customers in case of emergency that go beyond that issued by Emergency or Centralized Command Centers.
8	7- Hardening and Design Improvements	The Board's role is to help "develop best practices for wildfire reduction" (Assembly Bill 1054, Holden, 2019, Sec. 2). The Board's questions go to the risks associated with equipment and facilities regarding system improvements and requesting a detailed, utility-specific response. Pub. Util. Code section 8387(b)(2)(J)(ii) requires reporting of "Particular risks and risk drivers associated with topographic and climatological risk factors." For example, regarding temporary or backup generation, the Board requests identifying the entity responsible (i.e. IOU? POU? Fire Department?) for implementing these mitigation measures in each POU's WMP.
8-9	9 - Black Swan Events Now, Previously Unidentified Risks	The Board has noted that an engineering team or position focused solely on Black Swan events could be onerous. Perhaps POUs could team up via their Associations or neighboring utilities and create teams that meet once a quarter to have a discussion about ways to discover previously unidentified risks. This should be helpful to the State of California, as extreme weather and climate conditions are becoming the norm. POUs should prepare for different possibilities with the common goal of protecting customers, as well as their own infrastructure. The Board has revised this section.
9	10 - Risks RE Design and Construction	The Board is looking for specific information about the specific activities practiced by specific utilities, relating to risks regarding design and construction, such as topography and location near a HFTD of another utility.
9	11 - Situational Awareness and Data Sharing	The Board is looking for specific information about the specific activities practiced by specific utilities that is readily available.
10	12 - Vegetation Management Methods	"Enhanced vegetation management" refers to vegetation management methods that exceed any state or federal requirements.



10	13 - Vegetation Management Qualifications	CalOSHA influences how the people involved in performing vegetation management are treated and trained and therefore appropriately falls within the context of the WMPs. That having been said, the Board is very appreciative of the POUs focus on the safety of their customers as well as the safety of employees and contractors.
10	14 - Vegetation Management Innovation	The Board is interested in learning about innovative approaches and understands that the science in this area is continually developing.

Los Angeles Department of Water and Power (LADWP) Comments		
PAGE	RECOMMENDATION ADDRESSED	WSAB RESPONSE
1	2 - Governance, Auditing, Budgets	The request here is to describe in a paragraph how the utility goes about getting approval from what governing body. Every utility should provide their own unique information about their process. This information should already be publicly available. Please also see the Board's response to the Joint Associations.
1	3 - Independent Evaluations	Please see the Board's response to the Joint Associations.
2	4 - Templates Based on Groupings or Risk Profiles	The Board agrees that "risk level" is not the appropriate groupings method. See comments to Joint Associations.
2	7 - Hardening and Design Improvements	The insert for Anaheim has been removed. We appreciate the catch.



Sacramento Municipal Utility District (SMUD) Comments		
PAGE	RECOMMENDATION ADDRESSED	WSAB RESPONSE
2-4	4 - Templates Based on Groupings or Risk Profiles	As noted herein, the type of information that SMUD has provided in its comments is enough to give the Board the context it needs, but that is not the case for all agencies.
4	1 - Risk Profile Info Upfront	The Board appreciates that SMUD understands that Board members need context-setting information about each utility up front in order to properly assess each individual WMP.
4-5	2 - Governance, Auditing, Budgets	We appreciate the brief description of the budgeting process noted in the comment to the Advisory Opinion. This type of information would be useful in future WMP updates as it helps to set the context of an individual utility.
5	3 - Independent Evaluations	Please see the Board's response to the Joint Associations.
6	5 - Impacts of IOU PSPS	SMUD's description of the IOU PSPS impact in comments in response to the Advisory Opinion could help other agencies in determining what could be appropriate context in this area.
7	6 - Communication Plans	It is clear that SMUD understands and agrees that it is appropriate for utilities to describe their individual and unique communication plans above and beyond those plans developed by the city or municipality.
8	10 - Risks RE Design and Construction	G.O. 95 exempt equipment refers to utility assets that are not required to meet the construction standards in G.O. 95, because these assets were constructed prior to the 1941 adoption of G.O. 95. See Rule 12.1 on applicability of the rule. The intent is to determine whether the POUs are both aware and track utility assets that are G.O. 95 exempt. The Board would also like to know whether POUs assess this equipment's the potential impact on wildfire risk and mitigation.
8-9	11 - Situational Awareness and Data Sharing	In the draft, the Board used "situational awareness" and "intelligence assets" synonymously. The Board is not interested in creating any data sharing obligations. The Board merely asks for



		information about whether POUs have existing data sharing partnerships that might serve as examples for their peers. The Board does encourage further POU data sharing.
9	12 - Vegetation Management Methods	<p>The Board agrees with SMUD's observation about differentiating the review of risks in a Wildfire Mitigation Plan from the entire universe of potential risks. The main point that the Board would like to convey is that we are not addressing all vegetation management activities, but as SMUD states, only "ignition risk created by vegetation affecting utility overhead facilities," and "within the jurisdiction of the utility."</p> <p>Please also see the Board's response to the Joint Associations question on "enhanced vegetation management."</p>
10	13 - Vegetation Management Qualifications	<p>Here, the Board is lending its expertise in order to "develop best practices for wildfire reduction" (Assembly Bill 1054, Holden, 2019, Sec. 2). Working with and learning from fire scientists and ecologists in developing vegetation management plans is a best practice. The Board is not imposing a new requirement, but it is asking for information.</p> <p>This expertise could be gained in a variety of ways. For example, POUs could partner with neighboring utilities to contract with fire scientists and ecologists. Alternatively, the Joint Associations could coordinate statewide or regional trainings, presentations, or workshops, where fire scientists and ecologists provide information about sustainable vegetation management practices. These are but two of a myriad of potential ideas.</p>
10	14 - Vegetation Management Innovation	<p>Innovation may be different for each POU. The Board lists Glendale as an example. The Board wants to recognize the innovative tactics of all utilities and can do so when those innovations are surfaced in the WMP.</p> <p>Please also see the Board's response to the Joint Associations.</p>



Acton Town Council (ATC) Comments		
PAGE	RECOMMENDATION ADDRESSED	WSAB RESPONSE
1-2	1 - Risk Profile Info Upfront	The Board agrees that PSPS can, in and of itself, cause increased wildfire risks. Under Pub. Util. Code Section 8387(b)(2), POUs are required to include information about how the POU identifies enterprise-wide risks as well as specific risks associated with system design and operations, vegetation, and climate. The risks created by PSPS should be included in these sections as well as the section about the protocols for reclosers and the protocols for PSPS.
2	6 - Communication Plans	<p>The Board agrees that notification about PSPS is especially important to customers that are at risk of losing water and communication services and has updated the Guidance Advisory Opinion accordingly.</p> <p>The Board also recommends that Acton Town Council follow the CPUC Rulemaking 18-10-007 and the Wildfire Safety Division's process for review of the Investor-Owned Utility WMPs, if it does not already.</p>
3	9 - Black Swan Events Now, Previously Unidentified Risks	The Board agrees that poorly maintained lines do not necessarily cause Black Swan events, albeit their failure might contribute to one. Poorly maintained lines cause risks that are usually easily foreseeable. Identifying Black Swan events requires additional analysis. The Board has revised this section to focus on discovering previously unidentified risks.
3	10 - Risks RE Design and Construction	The Board would like to learn about equipment both inside and outside High Fire Threat Districts and Fire Threat Zones that is exempt from G.O. 95. See G.O. 95 Rule 12.1 on applicability.
4	12 - Vegetation Management Methods	The Board agrees that vegetation management practices are part of the overall suit of wildfire risk management practices that can be deployed by a utility. The Board has indicated that it hopes the utilities are aware of the effectiveness of utilizing multiple, situationally based, techniques for vegetation management.



Grid Subject Matter Experts Comments		
PAGE	RECOMMENDATION ADDRESSED	WSAB RESPONSE
1	Overarching, Entity-Specific Advisory Opinion	See the Board's response to the Joint Associations on Entity-Specific Advisory Opinions.
1	3 - Independent Evaluations	The Board has taken this recommendation under advisement.
1	9 - Black Swan Events, Now, Previously Unidentified Risks	See the Board's responses to SMUD and the Joint Associations on this topic.