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Subject: Independent Evaluation Report of the Lassen Municipal Utility District 2023 Wildfire Mitigation Plan

1 Introduction

The Lassen Municipal Utility District (LMUD) contracted with Dudek to engage in an independent evaluation of its Wildfire Mitigation Plan (WMP). This letter includes our review of your 2023 WMP and its compliance with California Public Utilities Code (PUC) §8387(b). The WMP requirements are codified in PUC §8387(b)(2) for local publicly owned electric utilities (POUs). PUC §8387(c) requires that an independent evaluator review and assess the comprehensiveness of a POU's WMP and issue a summary report. The year 2023 is a particularly important year for publicly owned utilities since they are required by the PUC §8387(b)(1) to "At least once every three years, the submission shall be a comprehensive revision of the plan."

Dudek conducted a review of LMUD's 2023 WMP from June 6 to 26, 2023. The focus of the evaluation was to determine whether the WMP included all elements required under PUC §8387(b)(2) (listed in Attachment A).

In addition to evaluating the elements required by the Public Utility Code, Dudek reviewed the specific Wildfire Safety Advisory Board's (WSAB) specific guidance for the LMUD published in the WSAB's *Guidance Advisory Opinion for the 2023 Wildfire Mitigation Plans of Electric Publicly Owned Utilities and Rural Electrical Cooperatives*. (WSAB 2022).

This Independent Evaluator's report contains the following elements: (1) an overview of the LMUD, (2) a review of the statutory requirements in PUC Section 8387(b)(2) for WMPs, (3) a review of each Public Utility Code requirement in PUC Section 8387(b)(2) for comprehensiveness, (4) a review of the specific recommendations published by the WSAB for the LMUD 2022 WMP, (5) an overview of the metrics used the LMUD's WMP, and (6) a review of the vegetation management strategies used by the LMUD.

2 Wildfire Mitigation Plan Statutory Requirements

PUC §8387(b)(2) lists the statutory requirements for WMPs. These are the specific elements that the independent evaluator must review to make its determination for this report. The specific elements that must be addressed in LMUD's WMP are included in Table A (see Attachment A) and are summarized here for reference.

- **REPORT**
 - Staff Responsibilities
 - General Objectives
 - · Wildfire risk reduction program descriptions.
 - The metrics to use to evaluate the wildfire mitigation plan's performance.
 - How the application of previously identified metrics has informed the wildfire mitigation plan.
 - Protocols for reclosers, de-energization, and Public Safety Power Shut-off (PSPS)
 - Procedures for community notification and outreach.
 - Vegetation Management Plans
 - Electrical Equipment and Infrastructure Inspection Plans.
 - Description of wildfire risks, and drivers for those risks, throughout the service territory, including design, construction, operation, and maintenance of equipment and facilities, and topographic and climatological risk factors.
 - Identification of any geographic area in the service territory that is a higher wildfire threat than is identified in a commission fire threat map.
 - Identification of enterprise-wide safety risk and wildfire-related risks.
 - How the service will be restored after a wildfire.
 - The processes and procedures used to monitor and audit the implementation of the wildfire mitigation plan, identify any deficiencies, and the effectiveness of electrical line and equipment inspections.

3 Public Utility Code Requirements

Dudek found that LMUD's WMP meets the statutory requirements of comprehensiveness per PUC Section 8387. The review of the WMP's elements is summarized relative to the application of the WMP. Dudek's assessment is beneath the description of the requirement. The table in Attachment A lists each required element for LMUD's WMP and provides Dudek's initial assessment of the comprehensiveness of that element within the WMP that was reported to the LMUD in the first review and the final assessment.

A. Minimizing Wildfire Risks

PUC §8387(a) requires the following: "Each local publicly owned electric utility and electrical cooperative shall construct, maintain, and operate its electrical lines and equipment in a manner that will minimize the risk of wildfire posed by those electrical lines and equipment."

The LMUD's WMP and the standard operating procedures referenced in the WMP comprehensively describes the safety-related measures that the LMUD follows to reduce its risk of causing wildfires. Dudek has determined that LMUD complies with this standard through the design of its system, its operational procedures, and the implementation of wildfire risk reduction and wildfire response strategies.

B. Evaluation of WMP Elements

Dudek reviewed LMUD's WMP for comprehensiveness per the statutory requirements of PUC §8387. The review of the WMP's elements is summarized relative to the application of the WMP. The table in Attachment A lists each required element for LMUD's WMP and provides Dudek's assessment of the comprehensiveness of that element within the WMP.



Below is a summary of the WMP elements as required by PUC Section 8387, including restating sections of the WMP where applicable.

- PUC 8387(b)(2)(A): Responsibilities of Persons Responsible for Executing the Plan.
 - WMP Section IV. comprehensively describes staff responsibilities and functions in the implementation of their WMP.
- PUC 8387(b)(2)(B): Objectives of the Wildfire Mitigation Plan
 - WMP Section III. comprehensively describes the utility's WMP objectives.
- PUC 8387(b)(2)(C): Prevention Strategies and Programs
 - WMP Section VI. describes the utility's wildfire prevention strategies. It is very comprehensive, covering existing programs, progress in wildfire prevention efforts, and future work. It also includes equipment hardening accomplishments and the specific vegetation management actions the LMUD performs.
- PUC 8387(b)(2)(D): Metrics and Assumptions for Measuring WMP Performance
 - O WMP Section IX. A. describes the two metrics the LMUD uses to evaluate WMP performance. Dudek has determined that these are appropriate metrics for this WMP. The new wildfire ignitions and wires down events metrics continue to be effective metrics for the LMUD's WMP because each metric event the LMUD records additional relevant data (e.g., which fire threat district did the event originate in, did the event occur during red flag warning conditions).
- PUC 8387(b)(2)(E): Impact of Previous Metrics on WMP
 - o WMP Section IX. B. describes how LMUD intends to use the data collected.
- PUC 8387(b)(2)(F): Reclosing Protocols
 - o <u>WMP Section VI. G. describes the utility's reclosing protocols specifically that automatic reclosing</u> schemes are disabled during Red Flag conditions.
- PUC 8387(b)(2)(G): De-energization Notification Procedures
 - WMP Section VI. H. describes the utility's strategies needed to preemptively initiate a PSPS during periods of high fire danger. This section also contains its public safety and notification plans.
 LMUD has several operating customer notification systems, including text alerts. The Equipment Changes and Modifications section describes some noteworthy practices, accomplishments, and intentions that may be better if highlighted in other related sections.
- PUC 8387(b)(2)(H): Vegetation Management
 - WMP Section VI. D. contains a comprehensive description of the vegetation management program, the guidelines followed, and the work accomplished to date. LMUD will be implementing a FEMA HMGP project; the scope of work is in this section.
- PUC 8387(b)(2)(I): Inspections



- WMP Section VI. E. comprehensively describes the utility's inspection program including vegetation inspections.
- PUC 8387(b)(2)(J): Risks and Risk Drivers
- (i): Associated with Design and Construction Standards
 - WMP Section V. A. provides a list of wildfire risk drivers in LMUD's service territory associated with design and construction standards.

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- (ii): Associated with Topographic and Climatological Risk Factors
 - WMP Section V. B. provides a list of wildfire risk drivers in LMUD's service territory associated with topographic and climatological risk factors.
- PUC 8387(b (2)) (K): Geographical Area of Higher Wildfire Threat
 - WMP Section V. D. describes the utility's review of the CPUC fire threat map and their conclusions about the geographical of the high fire threat areas.
- PUC 8387(b)(2)(L): Enterprise-wide Safety Risks
 - WMP Section V. C. describes the utility's enterprise-wide safety risk assessment process and the results of previous assessments.
- PUC 8387(b)(2)(M): Restoration of Service
 - WMP Section VIII. describes the steps used by the utility to restore service after a re-energization event.
- PUC 8387(b)(2)(N): (i): Monitoring and Auditing WMP Implementation; (ii): Identifying and correcting WMP deficiencies; (iii): Monitoring and Auditing the effectiveness of inspections.
 - <u>WMP Section IX. C., D., and E. describes the utility's processes for monitoring and auditing WMP implementation, correcting WMP deficiencies, and monitoring the effectiveness of inspections.</u>

4 Wildfire Safety Advisory Board Guidance Advisory Opinions

In November 2022 the WSAB published a report (California Wildfire Safety Advisory Board Guidance Advisory Opinion for the 2023 Wildfire Mitigation Plans of Electric Publicly Owned Utilities and Rural Electrical Cooperatives) with a description of general recommendations for improving the Wildfire Mitigation Plans for publicly owned utilities and rural electrical cooperatives (POUs). In addition, the report provided specific recommendations for each utility that submitted a WMP for review by the board. Dudek reviewed the WSAB's report, and the section below contains a summary of each recommendation the WSAB had specifically for the LMUD 2022 WMP and whether the 2023 WMP has addressed the WSAB's recommendation. It should be noted that the materials published by the WSAB and the recommendations within are for 'guidance' and not statutory requirements.

Inclusion of Utility Description and Context Setting and Statutory Cross-Reference Tables. The WSAB reiterates its recommendation that the context setting template, cross-reference table, and other



enhancements included in the informational response, be incorporated in the appropriate sections of the WMP itself, preventing the need to look at different places in the WMP.

- o WSAB comment: The WSAB appreciates Lassen including the <u>context setting template</u> and <u>statutory cross-reference table</u> near the beginning of their 2022 WMP as requested in the WSAB's 2022 Guidance Advisory Opinion. The WSAB encourages Lassen to continue this practice, as envisioned in the new comprehensive revision template in Appendix 1.
- o WMP Section II. A. page 4: Cross Reference to Statutory Requirements
- WMP Section II. B. page 7: Context Setting Table
- o IE comment: Both tables are located appropriately within the WMP.
- <u>Summarizing of public comments received</u>. The WSAB suggests that LMUD consider including a summary of any public comment received during the WMP adoption process.
 - WSAB comment: The WSAB appreciates Lassen's inclusion of paragraphs in the 2022 WMP describing Board meetings, public comment opportunities, and WMP adoption processes. The WSAB encourages Lassen to continue this practice and to consider following the related recommendations in the new comprehensive template in Appendix 1, including <u>summarizing</u> any public comment received or stating that none was.
 - WMP Section II. C on page 10: Process for Utility Adoption and Submittal of Annual WMP and Opportunities for Public Comment.
 - IE comment: The WMP notes that no comments were received.
- <u>Providing a full complement of WMP information on the LMUD website</u>. The WSAB requests that LMUD provide a full complement of WMP information on the LMUD website.
 - WSAB comment: The WSAB notes that Lassen's website posting of WMP information appears to have gone in the opposite direction as WSAB recommendations. The website previously included the 2021 WMP, albeit with a bit of a search, but now appears to include no WMP information at all, not even the current WMP. The WSAB encourages Lassen once again to provide a full complement of WMP information on their website, including current and previous versions of the WMP, IE Reports, and other WMP information as appropriate, in a relatively prominent or obvious location. The WSAB also continues to encourage a paragraph describing where that information may be found on the website within future WMPs.
 - o WMP Section II. E. on page 10: Location of WMP Information.
 - o IE comment: The WMP provides information on access to the WMP and IE letter.
- Continue to consider climate change impacts. The WSAB encourages LMUD to continue considering climate change impacts in future WMPs.



- WSAB comment: The WSAB appreciates the addition of substantial information about the impacts and risks of climate change in Lassen's 2022 WMP. The WSAB encourages Lassen to continue to consider climate change impacts as it moves forward to address wildfire mitigation in future WMPs.
- WMP Section V. A. on page 18: Particular risks and risk drivers associated with topographic and climatological risk factors.
- o IE comment: LMUD will continue to consider climate change going forward.
- Continue enhanced and innovative investments to reduce wildfire risk. The WSAB encourages LMUD to continue enhanced and innovative investments to reduce wildfire risk.
 - WSAB comment: The WSAB appreciates Lassen's continued consideration of and implementation of wildfire mitigation strategies such as testing nonexpulsion fuses and similar equipment, enhanced inspections using drones and expanded right of way clearance activities to reduce wildfire risk. The WSAB also appreciates updates about how the Dixie fire delayed some of the testing and other strategies Lassen was contemplating these kinds of updates are helpful. As a utility with relatively significant territory and surrounding area in the Tier 2 fire risk category, the WSAB encourages Lassen to continue enhanced and innovative investments to reduce wildfire risk and looks forward to further description of the planned operational functionality being added to the SCADA system.
 - o WMP Section VI. on page 19: Wildfire Preventative Strategies.
 - IE comment: LMUD will continue to include any additional enhanced and innovative investments to reduce wildfire risk.

5 Wildfire Mitigation Plan Metric Overview

Metrics help POUs determine if their wildfire prevention strategies are effective for reducing the risk of a wildfire ignited by their electrical equipment. In 2020 the California Municipal Utilities Association published a WMP template for POUs to use in the preparation of their WMPs. This template included two metrics: number of fire ignition events and wires down events. These two metrics are general and do not provide the POU a lot of information about the effectiveness of their wildfire prevention strategies. As POUs have gained more experience with their WMPs they have either adopted new metrics or added supplemental data, such as location, cause, and whether the event occurred in a High Fire Threat District, that increases the usefulness of these two metrics. The LMUD has used the two initial metrics in the previous versions of their WMP and continues to use them in the 2023 WMP.

A fire event in September of 2022 occurred in a Tier 2 area. The cause was a "de-energized" wire that broke and fell into an energized circuit (under-build) before hitting the ground. The fire was limited to five acres in desert sagebrush type terrain. The incident caused a brief outage for customers on the circuit. All customers were back in power within three hours of the incident.



The "wires down" documented in the WMP all occurred during a January winter storm. The conductors broke due to being over-loaded with the weight from a heavy wet snowfall; this created an "ice storm" type of effect on the conductors.

6 Vegetation Management

LMUD has 80 miles of transmission line and 350 miles of overhead distribution lines. All 430 miles of overhead lines are patrolled for vegetation management purposes during each 12-month period and trimmed accordingly.

LMUD contracts line clearance tree-trimming to Skyline Tree. Each year (on average), the contractor removes approximately 200 hazard trees from around the overhead lines. These dead or dying hazard trees are on private property and public lands (USFS and BLM) and need to be removed. Permission is obtained by the landowner or the appropriate agency prior to removal.

Line inspections are completed annually by line crews. Transmission lines are inspected twice each year, once before fire season and again prior to winter. Patrol inspections are done on the distribution system yearly. Drone inspections are conducted in remote areas and where access is difficult.

In fiscal year 2022-2023, LMUD replaced one mile of overhead line with one mile of underground primary conductor. This mile of line was in a Tier 2 area and on public land.

7 Conclusion

The LMUD has prepared a comprehensive WMP for 2023. The plan meets all statutory requirements described in PUC Section 8387(b)(2) for a POU. The LMUD has also considered the recommendations of the Wildfire Safety Advisory Board and revised their WMP accordingly. The LMUD's WMP with the provided appendices describes a wildfire mitigation program that accurately assesses the risks and risk drivers present in their service territory and implements preventative strategies that are effective at reducing the wildfire risk of these risks and risk drivers.

Based on the wildfire prevention programs described in the WMP and the progress the LMUD has made in its wildfire prevention programs, the LMUD takes the risk of wildfire in its service territory seriously and is making a serious effort to reduce the risk that its equipment starts or aids in the spread of a wildfire.



Sincerely,

Jeremy Cawn

Fire Protection Planner

Doug Nickles

Sr. Fire Protection Specialist.

Attachment A: LMUD WMP PUC Sec.8387 and WSAB Compliance Spreadsheet



SUBJECT: LASSEN MUNICIPAL UTILITY DISTRICT 2023 WILDFIRE MITIGATION PLAN, INDEPENDENT EVALUATOR'S REPORT

References

CALIFORNIA WILDFIRE SAFETY ADVISORY BOARD (WSAB). 2022. GUIDANCE ADVISORY OPINION FOR THE 2023 WILDFIRE MITIGATION PLANS OF ELECTRIC PUBLICLY OWNED UTILITIES AND RURAL ELECTRIC COOPERATIVES DRAFT. OFFICE OF ENERGY INFRASTRUCTURE SAFETY. OCTOBER 17, 2022. SACRAMENTO, CA. RETRIEVED FROM: WILDFIRE SAFETY ADVISORY BOARD | OFFICE OF ENERGY INFRASTRUCTURE SAFETY (CA.GOV)



Attachment A: LMUD WMP PUC Sec.8387 and WSAB Compliance Spreadsheet

2023 Lassen Municipal Utility District WMP IE Report Summary Tables CPUC Requirements

Public Utility Code 8387(b)(2)	Description of Required Element	Initial Review Comment	Final Review Comment
А	Staff Roles and Responsibilities	Meets requirements. WMP page 14. General Manager is responsible for plan implementation.	Meets requirements.
В	General Objectives	More information needed. WMP page 11. 1. Objective C should include an introductory statement that describes what the objective is. For example "The third goal of this plan is to minimize the spread of a wildfire within and near LMUD assets."	Updated. Meets requirements.
С	Description of preventative strategies and programs	More information needed. WMP page 19. 1. Consider including proposed actions described in the FEMA HMGP scope of work. 2. Clarify what operational changes are made during Elevated, Extreme and Red Flag conditions.	Updated. Meets requirements.
D	Description of Metrics used to evaluate the plan's performance	More information needed. WMP page 26. Only two metrics are listed: fire ignitions and wires down. 1. Consider other external risk metrics such as # of Red Flag days, high wind warning days, other relevant weather patterns (heavy snow fall), etc. 2. Consider reporting on metrics specifically relevant to LMUD including both performance metrics (tracking wildfire mitigation activities such as fuse replacements, Veg Mgmt. plans, completion) and outcome metrics (fire ignitions and wires down).	Updated. Meets requirements.

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E	Previously identified metrics that have informed the plan	More information needed. WMP page 30. 1. Include a discussion of how previously identified metrics have informed the Plan since the first draft. 2. Provide data about actual results or performance on metrics chosen for as much historical data as available.	Updated. Meets requirements.
F	Protocols for reclosers, de- energization, and PSPS mitigation that consider impacts to public safety, first responders, health and communications	More information needed. WMP page 23. 1. Clarify if the reclosing policy only applies to Red Flag conditions. 2. The discussion of public safety impacts and impacts on first responders must also include mitigating protocols.	Updated. Meets requirements.
G	Community notification procedures for potential deenergization	More information needed. WMP page 24. 1. Clarify the contact procedure regarding contacts and roles for PG&E. 2. Clarify how health care facilities and telecommunications operators are notified. 3. Clarify contact procedure and timing of text alerts and additional contact options.	Updated. Meets requirements.
Н	Vegetation Management	Meets requirements. WMP page 20. Three vegetation management treatment types: tree trimming, surface vegetation, and enforcement.	Updated. Meets requirements.
I	Infrastructure Inspections	More information needed. WMP page 22. 1. Clarify the inspection frequency of the "high-risk" and "other areas" of the service territory.	Updated. Meets requirements.
J(i)	Prioritized list describing wildfire risks and drivers associated with design, construction, operation and maintenance More information needed. Not addressed in WMP. 1. Prioritize all wildfire risks and drivers. 2. Add separate list of risks and risk drivers associated with design, construction, operation, and maintenance.		Updated. Meets requirements.
J(ii)	Prioritized list describing wildfire risks and drivers associated with topographic and climatological risk factors	More information needed. WMP page 18. 1. Prioritize all wildfire risks and drivers. 2. Add separate list of risks and risk drivers associated with topography and	Updated. Meets requirements.

		climate, which are currently not addressed.	
К	Identification and expansion of higher wildfire threat areas	Meets requirements. WMP page 19. 1. Any specific areas of concern and identification of any changes to be made? Volcanic/lava flow outcrops?	Meets requirements.
L	Description of methodology for identifying enterprise-wide risk	More information needed. WMP page 19. 1. Include a discussion of the methodology for identifying enterprise wide safety risk and wildfire-related risk. 2. Consider referencing limited public roadway system with infrequent maintenance thereby delaying access to facilities.	Updated. Meets requirements.
М	Restoration of Service	Meets requirements . WMP page 25.	Meets requirements.
N(i)	Processes and procedures for monitoring and auditing the plan 29. Meets requirements. WMP page 29.		Meets requirements.
N(ii)	Processes and procedures for identifying and correcting deficiencies	More information needed. WMP page 29. 1. Consider adding any corrections derived from metric tracking. 2. Are there any corrections that can be reported from metric tracking? 3.Lessons learned?	Updated. Meets requirements.
N(iii)	Processes and procedures for monitoring asset inspections	Meets requirements . WMP page 29.	Meets requirements.



LMUD Specific WSAB Recommendations			
WSAB 2023 POU WMP Guidance Advisory Opinion	Text of the WSAB Recommendation	Initial Review Comment	Final Review Comment
Page A3-26	The WSAB appreciates Lassen including the context setting template and statutory crossreference table near the beginning of their 2022 WMP as requested in the WSAB's 2022 Guidance Advisory Opinion. The WSAB encourages Lassen to continue this practice, as envisioned in the new comprehensive revision template in Appendix 1.	Follows guidelines. Consider adding dynamic links to the statutory cross-reference table.	Updated. Meets guidelines.
Page A3-27	The WSAB appreciates Lassen's inclusion of paragraphs in the 2022 WMP describing Board meetings, public comment opportunities, and WMP adoption processes. The WSAB encourages Lassen to continue this practice and to consider following the related recommendations in the new comprehensive template in Appendix 1, including summarizing any public comment received or stating that none was.	New guideline. Consider including a summary of any public comment received or stating that none was.	Updated. Meets guidelines.



Page A3-27	The WSAB notes that Lassen's website posting of WMP information appears to have gone in the opposite direction as WSAB recommendations. The website previously included the 2021 WMP, albeit with a bit of a search, but now appears to include no WMP information at all, not even the current WMP. The WSAB encourages Lassen once again to provide a full complement of WMP information on their website, including current and previous versions of the WMP, IE Reports, and other WMP information as appropriate, in a relatively prominent or obvious location. The WSAB also continues to encourage a paragraph describing where that information may be found on the website within future WMPs.	Does not follow guideline. Consider providing WMP information on the website or including an explanation of why it is not included.	Updated. Meets guidelines.
Page A3-27	The WSAB appreciates the addition of substantial information about the impacts and risks of climate change in Lassen's 2022 WMP. The WSAB encourages Lassen to continue to consider climate change impacts as it moves forward to address wildfire mitigation in future WMPs.	Follows guideline. Consider adding climate change impacts moving forward to address wildfire mitigation.	Meets guidelines.

Page A3-27	The WSAB appreciates Lassen's continued consideration of and implementation of wildfire mitigation strategies such as testing nonexpulsion fuses and similar equipment, enhanced inspections using drones and expanded right of way clearance activities to reduce wildfire risk. The WSAB also appreciates updates about how the Dixie fire delayed some of the testing and other strategies Lassen was contemplating — these kinds of updates are helpful. As a utility with relatively significant territory and surrounding area in the Tier 2 fire risk category, the WSAB encourages Lassen to continue enhanced and innovative investments to reduce wildfire risk and looks forward to further description of the planned operational functionality being added to the SCADA system.	Follows guideline. Consider describing any additional enhanced and innovative investments to reduce wildfire risk.	Meets guidelines.
Page A3-27	The WSAB notes that the 2023 WMP includes the words "informational response" in the footer and has a watermark that says "DRAFT" throughout the document. The WSAB understands that these are non- substantive issues from a wildfire perspective but submits that these apparent errors imply a certain lack of attention to properly and completely updating annual WMPs.	Information only. Check outline numbering and headers and footers for consistency.	Addressed.

LMUD WMP Comments

Location	Page	Initial Review Comment	Final Review Comment	
Section III. F.	11	Consider adding annual and historical results for metrics.	Updated.	
Section IV. A.	14	Consider adding alternative roles and responsibilities that are specific to LMUD.	Updated.	
Section IV. B.	16	Are there any essential fire-fighting water facilities that require proactive measures such as pumping or other preparation? What water utilities are within LMUDs service territory? Describe coordination and communication. Describe any essential fire-fighting water facilities that require proactive measures such as pumping or other preparation. Identify water utilities are within the service territory including coordination and communication.	Updated.	
Section IV. C.	16	Consider adding any successes and/or difficulties.	Updated.	
Section VI. C.	20	Describe instances of system design and hardening practices. Perhaps move text from the "Changes and Modifications" section.	Updated.	
Section VI.	23	Consider adding any specific examples of public safety impacts.	Updated.	
Section VII.	24	Considering adding any evaluation of customer outreach.	Updated.	

