AGENDA ITEM NO.: 4.E
MEETING DATE: 05/17/2021
EXHIBIT B

ALAMEDA MUNICIPAL POWER

A Department of the City of Alameda

Alameda Municipal Power

WILDFIRE MITIGATION PLAN

Last Revised 04/21/2021

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I. OVERVIEW

A. POLICY STATEMENT

Alameda Municipal Power (AMP) is the City of Alameda's municipally owned electric utility. AMP was founded in 1887 and is the oldest municipal electric utility in California. The city has a population of 78,338 and comprises 22.8 square miles. AMP serves 34,979 total customer accounts of which 30,808 are residential accounts and 4,171 are commercial accounts. AMP's assets include 178.1 circuit miles of underground distribution lines, 86.1 pole miles of overhead distribution lines, 6.8 miles of overhead transmission lines and 1.9 circuit miles of underground transmission lines. AMP receives transmission service from Pacific Gas & Electric through one dual source 115 kV transmission line feeding two AMP substations. AMP's mission is to manage and safely provide reliable, cost effective, and environmentally friendly electric services for a sustainable Alameda.

B. PURPOSE OF THE WILDFIRE MITIGATION PLAN

AMP is located in a region of the state with a very low wildfire risk. No part of AMP's service territory is located in or near the High Fire Threat District designated in the California Public Utilities Commission's (CPUC) Fire Threat Map and all of AMP's service territory is designated as "non-fuel" or "moderate" in the California Department of Forestry and Fire Protection's (CALFIRE) Fire and Resource Assessment Program (FRAP) Fire Threat Map. Alameda is an urban island city which has no urban-wildland interface resulting in an extremely low threat of utility associated wildfire. In addition, Alameda is not adjacent to wilderness or a rural area and therefore, AMP's overhead electrical lines and equipment do not have a significant risk of coming in contact with combustible vegetation. Based on a review of local conditions and historical fires, AMP has determined that its electrical lines and equipment do not pose a significant risk of catastrophic wildfire.

AMP is a department of the City of Alameda (City). The 2019 City of Alameda Emergency Operation Plan (EOP) is the foundation for disaster response and recovery operations for the City. AMP coordinates closely with local safety and emergency officials to help protect against fires and respond to emergencies. In its role as a utility, AMP follows all applicable design, construction, operation, and maintenance requirements that reduce safety risk associated with its system. This Wildfire Mitigation Plan describes the safety-related measures that AMP follows to minimize its risk of causing wildfires.

C. ORGANIZATION OF THE WILDIRE MITIGATION PLAN

This Wildfire Mitigation Plan (WMP) includes the following elements:

- Objectives of the plan;

- Roles and responsibilities for carrying out the plan;
- Identification of key wildfire risks and risk drivers;
- Description of wildfire prevention, mitigation, and response strategies and programs;
- Metrics for evaluating the performance of the plan and identifying areas for improvement;
- Review and validation of the plan; and
- Timelines.

D. STATUATORY REQUIREMENTS OF THE WILDFIRE MITIGATION PLAN

This WMP is intended to meet the provisions of California Senate Bill (SB) 901[1] which was signed into law on September 21, 2018. SB 901 requires a publicly owned electric utility (POU) or electrical cooperative (COOP) , before January 1, 2020, and annually thereafter, to prepare a wildfire mitigation plan, except where its governing board determined that its federally approved fire prevention plan met the otherwise applicable requirements. The bill requires the POU or COOP to present each plan in an appropriately noticed public meeting, to accept comments on the plan from the public, other local and state agencies, and interested parties, and to verify that the plan complies with all applicable rules, regulations, and standards, as appropriate. The bill also requires the POU or COOP to contract with a qualified independent evaluator to review and assess the comprehensiveness of its initial plan. These requirements are codified in the California Public Utilities Code (PUC) Section 8387[2] for publicly owned utilities (POUs). PUC Section 8387 was amended on July 12, 2019 as a result of the signing of California's Assembly Bill (AB) 1054 into law. AB 1054 requires that after January 1, 2020, that each POU or electrical cooperative submit, by July 1 of each year, a WMP to the California Wildfire Safety Advisory Board. The bill also requires each POU to comprehensively revise its plan at least once every three years.

Table 1 contains a summary of the contents required within SB 901 and specified within PUC Section 8387 Part (b) as compared to the contents included within this WMP. The requirements of PUC Section 8387 (b) (2) state: "*The wildfire mitigation plan shall consider as necessary, at minimum, all of the following:"* Due the extremely low risk of utility caused wildfires within the AMP service area, some of these requirements have been deemed not applicable to AMP. These elements are further identified in Table 1.

This plan complies with the requirements of PUC Section 8387 (b) to prepare a WMP by January 1, 2020, and annually review it thereafter.

[1] https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB901
[2] http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=8387.&lawCode=PUC

Table 1 - WMP contents consistent with SB 901 – PUC Section 8387 (b)

SB 901 Requirements	Description	Section Number
b (2) (A)	An accounting of the responsibilities of persons responsible for executing the WMP	III.
b (2) (B)	The objectives of the WMP	II.
b (2)(C)	A description of the preventive strategies and programs to be adopted by the POU or COOP to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks.	V.
b (2)(D)	A description of the metrics the POU plans to use to evaluate the plan's performance and the assumptions that underlie the use of those metrics	VII.
b (2)(E).	A discussion of how the application of previously identified metrics to previous wildfire mitigation plan performances has informed this plan.	VII.
b (2)(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.	V.E.
b (2)(G)	Appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall direct notification to all public safety offices, critical first responders, health care facilities, and operators of telecommunications infrastructure with premises within the footprint of potential deenergization for a given event.	III.C
b (2)(H)	Plans for vegetation management.	V. C.
b (2)(I)	Plans for inspections of POU's electrical infrastructure.	V.D.

SB 901 Requirements	Description	Section Number
b (2)(J)	A list that identifies, describes, and prioritizes all wildfire risks, and drivers for those risks, throughout POU's service territory. The list shall include, but not be limited to, both the following: i. Risks and risk drivers associated with design, construction, operation, and maintenance of POU's equipment and facilities ii. Particular Risks and risk drivers associated with topographic and climatological risk factors throughout the different parts of POU's service territory	IV.
b (2)(K)	Identification of any geographic area in POU service territory that is a higher wildfire threat than is identified in a California Public Utilities Commission (CPUC) fire threat map, and identification of where the CPUC should expand a high fire threat district based on new information or changes to the environment.	Not Applicable to AMP
b (2)(L)	A methodology for identifying and presenting enterprise wide safety risk and wildfire-related risk.	IV. A., IV. B.
b (2)(M)	A statement of how the POU will restore service after a wildfire.	Not Applicable to AMP
b(2) (N)	A description of the processes and procedures the POU shall use to do all of the following: i. Monitor and audit the implementation of the WMP ii. Identify any deficiencies in the WMP or its implementation, and correct those deficiencies Monitor and audit the effectiveness of electrical line and equipment inspections, including inspections performed by contractors, that are carried out under the plan, other applicable statutes, or commission rules	VII. C. ,D.,E

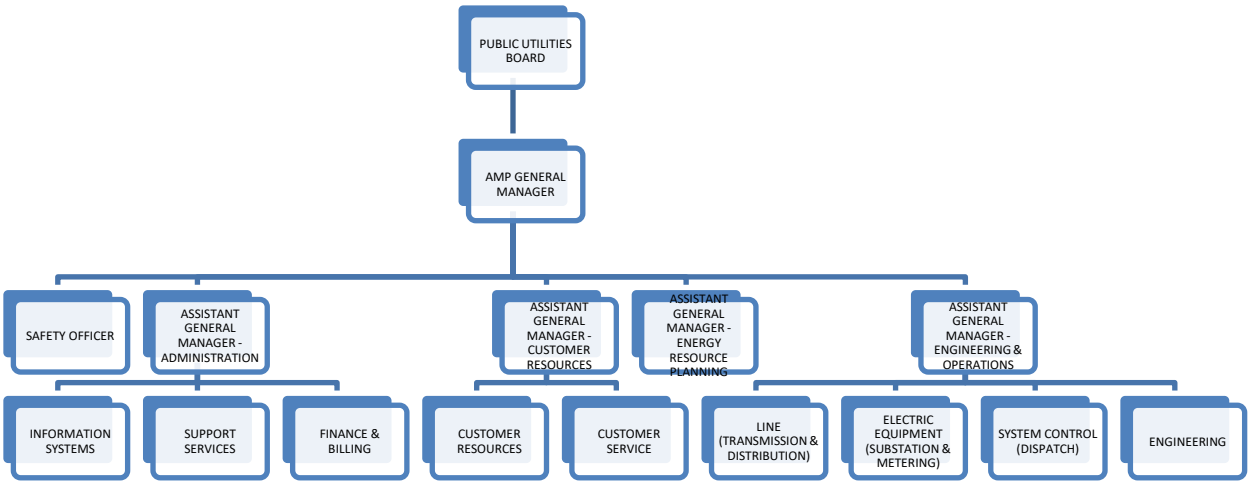
II. OBJECTIVES OF THE WILDFIRE MITIGATION PLAN

The primary goal of this WMP is to describe AMP's existing programs, practices, and measures that effectively reduce the probability that AMP's electric supply system could be the origin or contributing source for the ignition of a wildfire. To support this goal, AMP regularly evaluates the prudent and cost-effective improvements to its physical assets, operations, and training that can help reduce the risk of equipment-related fires.

The secondary goal of this WMP is to improve the resiliency of the electric grid. As part of the plan maintenance, AMP assesses new industry practices and technologies that will reduce the likelihood of an interruption (frequency) in service and improve the restoration (duration) of service.

III. ROLES AND RESPONSIBILITIES

A. UTILITY GOVERANCE STRUCTURE



AMP provides electricity to all residents and businesses of Alameda. AMP began operation in 1887 and was the first municipal electric utility in California. AMP is governed by an independent Public Utilities Board (PUB) that was created in 1930 to ensure that the utility would remain under local control and generate a return to the community. AMP is under the policy control of the PUB, in accordance with the Alameda City Charter. The PUB controls and manages all public utilities owned by the City established for the purpose of generating, distributing or selling electricity. The PUB consists of four members appointed by the City Council, and the City Manager.

<u>General Management</u>

The AMP General Manager (GM) provides overall oversight of all operating division activities and interfaces to outside organizations including the PUB, City Manager, and City Council. The GM provides guidance to staff on issues related to state and federal legislation, external and internal communication, operations, customer service, energy resource options, and financial management. The primary role of the GM is to set goals and provide resources to enable AMP staff to achieve these goals.

Engineering & Operations Division

The Engineering & Operations Division is aligned into four work sections: Engineering, Line, Electrical Equipment, and System Control. Engineering is responsible for the planning and technical aspects of the transmission and distribution system. Line is responsible for the safe construction, maintenance, and inspection of transmission and distribution assets. In addition, Line is responsible for providing safe and timely responses to electrical hazards and system abnormalities. Electrical Equipment is responsible for the construction and maintenance of the system's substations, relay equipment, and metering. System Control monitors transmission and distribution system activity.

Administration Division

The Administration Division provides business management for the operating divisions including customer billing services, network and computer support, purchasing, inventory management, financial management and cost accounting. The primary goal of Administration is to provide accurate and timely information for material support, record retention, customer bill issuance, financial performance reporting, and decision-making options for the operating divisions.

Customer Resources Division

The Customer Resources Division comprises of Customer Service, Communications/Public Relations, Customer Programs, Key Accounts, and Energy Efficiency. The main objectives of the division are to provide responsive, quality customer service; develop and implement payment and financial assistance programs; develop and manage energy efficiency and other customer programs and advise on best practices; and communicate and market these programs to residential and commercial customers.

Energy Resources Division

The Energy Resources Division is responsible for forecasting Alameda's electric loads, customer sales/revenues, power costs, overall financial position, and the need for power supply resources; managing the purchase/sale of Cap & Trade allowances, Low Carbon Fuel Standard credits, Resource Adequacy and Renewable Energy Credits; analyzing and recommending sources of power that are low-cost, reliable and that meet the State's Renewable Portfolio Standard goals; recommending and implementing effective and equitable retail electricity rates; planning effective solar PV generation, distributed generation, local storage technologies, and electric vehicle growth programs to reduce green-house gas emissions, participating in regulatory and legislative arenas to advocate for local accountability, lower CAISO transmission costs and improved transmission system reliability.

B. WILDFIRE PREVENTION

The GM has overall oversight of AMP's daily operating activities. The GM is responsible for the following:

- Overall development of the WMP;
- Ensuring the WMP is implemented, updated, and regularly tested; and
- Representing AMP during City of Alameda Emergency Operations Center (EOC) activations and providing direction and communications to AMP staff regarding citywide needs and priorities.

The Assistant General Manager - Engineering & Operations (AGM-E&O) is responsible for the safe and reliable construction, maintenance, and operation of AMP's electric utility system. The AGM-E&O is responsible for the following:

- Updating the WMP;
- Scheduling and coordinating plan training exercises;
- Conducting an annual review of the WMP;
- Overseeing and directing restoration of AMP's electric system during outages; and
- Managing the Division Operations Center (DOC) and directing all AMP emergency activities.

The AGM-Energy Resources is responsible for planning for emergencies that affect energy resources.

The AGM-Customer Resources is responsible for planning for emergencies that affect the customer service and marketing functions and assisting E&O in plans to provide timely and accurate information to customers, agencies, and media during emergencies.

The AGM-Administration is responsible for planning for emergencies that affect the support service and finance functions. They also assist the E&O Division in the development of plans for logistics during emergencies.

All AMP employees are responsible for actively taking precautions to prevent fires, reporting potentially unsafe conditions, and immediately reporting fires. Employees receive initial training on the WMP, followed by annual refresher training, as outlined in AMP's Injury Illness Prevention Program Section 1: General Rules. Any revisions to the WMP will be communicated to all employees and training will be updated to reflect the changes. All fires are reported to the Alameda Fire Department, AMP's System Control, and AMP's safety officer. All fires involving AMP's equipment are investigated, regardless of cause.

C. WILDFIRE RESPONSE AND RECOVERY

AMP has established procedures for notifying and communicating with customers and agencies in the event of a wildfire. Notifications will be sent via social media, email, one-way voice messaging, and updates on AMP's website. In addition, AMP staff will collaborate with the City of Alameda to issue notifications through the Alameda County Alert (AC Alert) system if necessary. AC Alert is a mass notification system, used by city and county agencies throughout Alameda County to rapidly

disseminate emergency alerts to people who live, work in, or visit Alameda County. AC Alert is capable of sending alerts by voice, text, and email, as well as Federal Emergency Management Agency (FEMA) Wireless Alerts. AMP wildfire emergency response and communications staff responsibilities are contained within this Section of the plan.

GM is responsible for the following:

- At the discretion of the GM only – Coordinating communication with Public Utilities Board Members and key City offices to provide updates related to outages, system events, and emergencies.
- Communicating electric utility system status information throughout an event to the City of Alameda EOC.

AGM-E&O is responsible for the following:

- Providing event debriefings to key AMP personnel throughout an outage, system event or emergency including real-time updates on progress, issues, and planned actions since previous debriefing.
- Communicating electric utility system status information throughout an event to the GM at the City of Alameda EOC.

AGM-Customer Resources is responsible for the following:

- Answering questions from customers reporting an outage or system event.
- Notifying System Control of outage and/or system event details reports from customers on social media.
- Notifying System Control of reports of possible outage causes (flashes, arcing, car-poles, etc.) from customers on social media.
- Notifying impacted key customers to provide outage, system event or emergency updates.
- Updating AMP online media with outage information, system event or emergency updates.
- Updating outgoing messages on AMP main phone lines and interactive voice response (IVR) with outage information, system event or emergency updates.
- Coordinating media communications.

System Control is responsible for the following:

- Assessing the status of AMP's electric distribution and transmission system.
- Guiding line personnel first responders to assess AMP's system in the field.
- Single authority for switching and grid restoration.
- Notifying key AMP personnel upon becoming aware of an outage, system event or emergency.
- Notifying key AMP personnel during an outage, system event or emergency of electric system assessments (customers affected, circuit(s) affected, service areas affected, critical and key customers impacted, etc.).

- Notifying key AMP personnel of outage restoration efforts.
- Answering calls from customers calling to report an outage, system event or emergency.
- Activating AMP's interactive voice response system (IVR) when necessary.
- Communicating with PG&E regarding loss of transmission feed to AMP due to a wildfire.
- Receiving direct real time notifications from California Independent System Operator (CAISO) informing AMP of statewide transmission level emergencies.
- Monitoring 72-hour, 48-hour, and 24-hour pre-warnings for PG&E Public Safety Power Shutoff (PSPS). In addition, PG&E notifies System Control of any loss affecting AMP's grid within 20 minutes. Monitoring weather for storms and emergencies.

D. STANDARDIZED EMERGENCY MANAGEMENT SYSTEM

The 2019 City of Alameda (City) Emergency Operations Plan (EOP) is the foundation for disaster response and recovery operations for the City. The EOP establishes the emergency organization, specifies policies and general procedures, and provides for coordination of the responsibilities of the City of Alameda as a member of the Alameda County Operational Area with other member organizations, in all phases of an emergency or disaster.

As a local governmental agency, AMP has planning, communication, and coordination obligations pursuant to the California Office of Emergency Services' Standardized Emergency Manage System (SEMS) Regulations, adopted in accordance with Government Code section 8607. The SEMS Regulations specify roles, responsibilities, and structures of communications at five different levels: field response, local government, operational area, regional, and state. Pursuant to this structure, AMP coordinates and communicates with the relevant safety agencies as well as other relevant local and state agencies.

Local governments including the City of Alameda (City) are responsible for the management and coordination of the overall emergency response and recovery activities within their jurisdiction. The City must adopt SEMS and demonstrate use of SEMS protocols when activating their EOC or when a local emergency is declared eligible for State reimbursement of response-related personnel costs, as defined in Government Code 8558(c). Coordination takes place between the field level and the EOC and from the EOC to the Operational Area (OA). Information is reported from the OA to the California Office of Emergency Services (Cal OES) Coastal Region and from the region to the State Operations Center (SOC). The City is also responsible for providing resources and mutual aid within their capabilities. The City will comply with SEMS regulations to be eligible for state funding of response-related personnel costs and will:

- Use SEMS when a local emergency is declared or proclaimed, or the EOC is activated
- Establish coordination and communications with Incident Commander(s) either through Department Operations Centers (DOC) or the EOC
- Use existing mutual aid systems for coordinating utility, fire and law enforcement resources
- Establish coordination and communications between the City of Alameda EOC, the Alameda OA EOC, and any state or local emergency response agency having jurisdiction over an incident within the City's boundaries

- Use multi-agency or inter-agency coordination to facilitate decisions for overall local government level emergency response activities

In accordance with SEMS, California's emergency response operations rely on a system in which government levels work together from the field level upward, in a single, integrated structure. Incidents are managed at the lowest possible level. Local government has primary responsibility for emergency response activities within its jurisdiction. Operational Areas, the region, and the State provide support to local jurisdictions. SEMS also provides a standardized response structure for emergencies involving multiple jurisdictions or multiple agencies in California. It defines a standard management structure and a standard terminology for statewide use. SEMS is applicable to all organizational levels and functions in the emergency response system.

Pursuant to the SEMS structure, AMP employees having any responsibilities in emergency response or being assigned a position in the EOC participate in regular training exercises.

Separate from the City's EOP, AMP has developed a department Emergency Management Plan (EMP). The EMP outlines how AMP will respond to emergencies and establishes emergency preparedness measures, organization structure, DOC activation procedures, response priorities, communication requirements, and restoration priorities during emergencies and disasters. The EMP's key objectives are:

- Protect life and property;
- Assess restoration needs quickly and accurately;
- Communicate effectively with customers, AMP personnel, City leaders, and all other City departments as required;
- Mobilize resources to restore electric and other services safely and as quickly as possible; and
- Provide the template for an Emergency Management Organization that is ready and trained to activate when emergency response is triggered.

The EMP purpose is to define the basic structure for the Emergency Management Organization and the roles and responsibilities for employees to respond to the restoration efforts. In addition, it provides for instructions for staffing and restoration of electric service. The EMP further establishes that whenever the City's EOC is activated, AMP's DOC is also activated to manage the restoration of the electric systems and high numbers of customers impacted. When the DOC is activated, AMP's AGM-E&O directs the electric utility's restoration activities. The GM is the liaison to the City's EOC and responds to media and regulatory agency inquiries.

AMP is a member of the California Utility Emergency Association, which plays a key role in ensuring communications between utilities during emergencies. AMP also participates in the Northern California Power Agency Mutual Assistant Agreement and the American Public Power Association Mutual Assistant Agreement.

IV. WILDFIRE RISKS AND DRIVERS ASSOCIATED WITH DESIGN, CONSTRUCTION, OPERATION, AND MAINTENANCE

The primary risk drivers for wildfires within the AMP service area and corresponding impacts and mitigation measures are shown in Table 2.

Table 2 - Potential Wildfire Risk Drivers & Probability

Potential Risk Drivers	Wildfire Probability	Description	Mitigation Measures and Programs
Topology	N/A	Wildland areas with exposure to overhead power lines.	Not Required
Adverse Weather	Extremely Low	High winds will not spread wildfires due to lack of fuels	Not Required
Vegetation	Extremely Low	Overhead lines located in areas containing fuel for wildfires	Vegetation Management Program
Equipment	Extremely Low	Utility equipment operation or failure causes wildfire ignition	• Wood pole intrusive inspections • Detailed and visual distribution and transmission line inspections • Eliminating existing overhead primary lines where applicable

A. PARTICULAR RISKS AND RISK DRIVERS ASSOCIATED WITH TOPOGRAPHIC AND CLIMATOLOGICAL RISK FACTORS

In 2016, the City developed a Local Hazard Mitigation Plan to identify natural hazards, review and assess past disaster occurrences, estimate the probability of future occurrences, and set goals to mitigate potential risks, in order to reduce or eliminate long-term risk to people and property from natural hazards. On October 19, 2016 the Local Hazard Mitigation Plan was adopted by the Alameda City Council.

The Local Hazard Mitigation Plan examined and found wildfires to be of minimal risk to Alameda. The plan determined that “wildfire is an unlikely event as Alameda is an island separated from the mainland by the Oakland Estuary. Bay Farm Island lies at the end of a peninsula bordered by Metropolitan Oakland International Airport and Metropolitan Golf Links, neither of which has the kind of vegetation needed for a wildland fire.”

Alameda is not adjacent to wilderness or a rural area and therefore, AMP’s overhead electrical lines and equipment do not have a significant risk of coming in contact with combustible vegetation. AMP’s overhead electrical utility system lines and equipment are located within a geographical area that does not have a significant risk of catastrophic wildfire.

B. ENTERPRISEWIDE SAFETY RISKS

As outlined above, there is no significant risk of catastrophic wildfire within AMP's service territory. In addition, the City's Local Hazard Mitigation Plan reviewed historic Bay Area fire perimeters and determined that there have been no historic wildland fire occurrences in the City of Alameda. However, to promote system reliability and customer safety, AMP's prevention programs includes the following to further eliminate risk:

- Vegetation management;
- Wood pole intrusive inspections;
- Detailed and visual distribution and transmission line inspection; and
- Eliminating existing overhead primary lines where applicable.

V. WILDFIRE PREVENTION STRATEGIES

A. HIGH FIRE THREAT DISTRICT

The California Public Utilities Commission (CPUC) ordered the development of the statewide CPUC Fire-Threat Map designed specifically for the purpose of identifying areas where there is an increased risk for utility-associated wildfires. The CPUC Fire-Threat Map identifies geographical areas in the State of California and the likelihood of utility-associated wildfire threat.

AMP has confirmed that based on local conditions and historical fire data, that all of AMP's service territory was excluded.

B. WEATHER MONITORING

AMP's System Control is responsible for monitoring Red Flag Warnings. Red Flag Warning are issued by the National Weather Service when warm temperatures, very low humidity, and stronger winds are expected to combine to produce an increased risk of fire danger. Red Flag Warnings are contained in System Control's daily logs at least 7-days in advance and whenever weather changes. In addition, weather updates are distributed to key AMP personnel weekly for the upcoming week.

C. DESIGN AND CONSTRUCTION STANDARDS

AMP's electric facilities are designed and constructed to meet the relevant federal, state, or industry standards. AMP treats CPUC General Orders (GO) 95 and GO 128 as key industry standards for design, construction, and maintenance for overhead and underground electrical facilities. AMP meets all standards in GO 95 and GO 128. Additionally, AMP monitors and follows, as appropriate, the National Electric Safety Code.

D. VEGETATION MANAGEMENT

The City of Alameda's Public Works Department (PW) contracts tree trimming to perform routine vegetation management. PW has divided AMP's service territory into five zones. Each year, PW oversees tree trimming in one of the five zones, including line clearances. The city's tree trimming contractors trim at a minimum to industry standard clearance and are knowledgeable about work near energized electric lines, tree growth rates, and pruning methods to maintain tree health. In addition, AMP inspectors perform regular field patrols to inspect trees and identify hazard trees. Throughout the year, AMP inspectors work with PW or its contractor to coordinate required line clearances when located outside of the designated zone for that year. Furthermore, AMP line crews execute tree trimming for emergency line clearances when necessary.

AMP meets the minimum industry standard vegetation management practices. For transmission-level facilities, AMP complies with NERC FAC-003-4, where applicable. For both transmission and distribution level facilities, AMP meets: (1) Public Resources Code section 4292; (2) Public Resources Code section 4293; (3) GO 95 Rules 35; and GO 95 Appendix E Guidelines to Rules 35. The recommended time-of-trim guidelines do not establish a mandatory standard, but instead provide useful guidance to utilities. AMP will use specific knowledge of growing conditions and tree species to determine the appropriate time of trim clearance in each circumstance.

GO 95, Rule 35, Table 1					
Case	Type of Clearance	Trolley Contact, Feeder and Span Wires, 0-5kV	Supply Conductors and Supply Cables, 750 - 22,500 Volts	Supply Conductors and Supply Cables, 22.5 - 300 kV	Supply Conductors and Supply Cables, 300 - 550 kV (mm)
13	Radial clearance of bare line conductors from tree branches or foliage	18 inches	18 inches	¼ Pin Spacing	½ Pin Spacing
14	Radial clearance of bare line conductors from vegetation in the Fire-Threat District	18 inches	48 inches	48 inches	120 inches

Appendix E Guidelines to Rule 35
The radial clearances shown below are recommended minimum clearances that should be established, at time of trimming, between the vegetation and the energized conductors and associated live parts where practicable. Reasonable vegetation management practices may make it advantageous for the purposes of public safety or service reliability to obtain greater clearances than those listed below to ensure compliance until the next scheduled maintenance. Each utility may determine and apply additional appropriate clearances beyond clearances listed below, which take into consideration various factors, including: line operating voltage, length of span, line sag, planned maintenance cycles, location of vegetation within the span, species type, experience with particular species, vegetation growth rate and characteristics, vegetation management

standards and best practices, local climate, elevation, fire risk, and vegetation trimming requirements that are applicable to State Responsibility Area lands pursuant to Public Resource Code Sections 4102 and 4293.		
Voltage of Lines	**Case 13**	**Case 14**
Radial clearances for any conductor of a line operating at 2,400 or more volts, but less than 72,000 volts	4 feet	12 feet
Radial clearances for any conductor of a line operating at 72,000 or more volts, but less than 110,000 volts	6 feet	20 feet
Radial clearances for any conductor of a line operating at 110,000 or more volts, but less than 300,000 volts	10 feet	30 feet
Radial clearances for any conductor of a line operating at 300,000 or more volts	15 feet	30 feet

E. INSPECTIONS

In general, AMP performs electrical infrastructure patrol inspections of each component of the electrical system to check for abnormalities. The Line Superintendent has oversight of AMP's inspection program including requirements provided in GO95 and GO165. Table 3 below summarizes AMP's inspection cycles. If AMP staff discovers a facility in need of repair that is owned by an entity other than AMP, AMP will issue a notice to repair to the facility owner and work to ensure that necessary repairs are completed promptly.

Pursuant to these rules, utilities inspect electric facilities in the High Fire Threat District more frequently than the other areas of its service territory. As described above, AMP currently does not have any overhead powerlines located within or near the High Fire Threat District on the CPUC's Fire Threat Map. However, AMP staff uses their knowledge of the specific environmental and geographical conditions of AMP's service territory to determine if any particular areas require more frequent inspections.

Table 3 - Facility Inspection and Patrol Cycles

Equipment	Cycle
Overhead Distribution Line Patrol	4/5ths Annually
Underground Distribution Lines	Annually – Detailed 1/5, Visual 4/5ths
Distribution Poles Intrusive Inspections	Every 10 Years
Distribution Lines Infrared Inspections	Every 5 years - 1/5th Annually
Substations Infrared Inspections	Quarterly
Transmission Line Detailed Inspection	Annually

F. RECLOSING POLICY

AMP has installed Supervisory Control and Data Acquisition (SCADA) controlled line reclosers in its overhead electric utility system. In addition, SCADA controlled reclosing relays are installed in AMP's substations. AMP has established the following protection schemes for reclosers installed in its electric utility system.

Line Reclosers

- Fault detected
- Line recloser opens permanently
- Inspection/line patrol of fault location triggered

Reclosing Relays

- Fault detected
- Reclosing relay opens circuit breaker
- Circuit breaker automatically closes after 5 seconds (Remains closed if fault no longer detected)
- Fault detected
- Reclosing relay opens circuit breaker
- Circuit breaker automatically closes after 15 seconds (Remains closed if fault no longer detected)
- Fault detected
- Reclosing relay opens breaker permanently
- Inspection of fault location triggered

Due to the extremely low wildfire risk in AMP's service territory, AMP does not make changes to relay settings.

G. DEENERGIZATION

AMP has the authority to preemptively shut off power due to fire-threat conditions; however, this option will only be used in extraordinary circumstances. Due to the minimal risk of AMP's electrical supply facilities causing a power-line ignited wildfire, AMP is not adopting specific protocols for de-energizing any portions of its electric distribution system. AMP will re-evaluate this determination in future updates to this Wildfire Mitigation Plan.

VI. RESTORATION OF SERVICE

AMP's policy is to respond safely, rapidly, and effectively to protect public safety and to restore essential electric utility services due to outages, other system events, or emergencies. AMP personnel are expected to respond to emergencies and will first complete a comprehensive assessment of outages and

system conditions to ensure make-safe and restoration priorities are followed. An initial assessment is critical for ideal allocation and deployment of resources at all times.

In an effort to restore large blocks of customers in a timely manner, the following restoration priorities will be used to prioritize personnel deployment:

- Transmission line outages
- Substation bank outages
- Distribution circuit outages
- Distribution fuse protected areas
- Distribution transformer and service outages

In addition to the restoration priorities listed above, AMP considers other criteria such as:

- Type of customer: Public safety, emergency services, residential, commercial, industrial, individual services.
- Number of customers: What specific efforts will restore the largest number of customers.
- Time of day: Industrial/Commercial customer may have critical power needs at certain times of the day.
- Ease/difficulty of restoration: Some customers may be restored with minimal resources and time.
- Potential length of outage: Customers expect power restoration within a reasonable time.

The following outlines AMP's process to restore service after an outage during normal business hours:

- System Control receives notification of outage or event.
- System Control dispatches AMP Field staff to the outage location.
- System Control sends email to key AMP personnel informing that an outage or event has occurred.
- Field staff makes the site safe.
- Field staff provides site assessment to System Control.
- System Control notifies key AMP personnel with an assessment of the outage or event.
- Field staff restores service, if capable.
- If Field staff is unable to restore service, field staff informs System Control and Line Superintendent and provides the following:
    - Detail of necessary repairs, including material needs
    - Crew size required to make repairs
    - Estimated restoration time
- Crew mobilized and assigned work
- Crew completes repairs and informs System Control and Line Superintendent that load is normal.
- System Control informs key AMP personnel informing that customers are restored and the event is closed.

The following outlines AMP's process to restore service after an outage outside of normal business hours:

- System Control receives notification of outage or event.
- System Control calls Field staff from call out list.
- System Control notifies key AMP personnel informing that an outage or event has occurred.
- Field staff makes the site safe.
- Field staff provides site assessment to System Control.
- Field staff restores service, if capable.
- If Field staff is unable to restore service, the Field staff informs System Control and provides the following:
    - Detail of necessary repairs, including material needs
    - Crew size required to make repairs
    - Estimated restoration time
- System Control calls additional personnel from call out list.
- System Control informs key AMP personnel with an assessment of the outage or event.
- Crew mobilized and assigned work
- Crew completes repairs and informs System Control that load is normal.
- System Control informs key AMP personnel informing that customers are restored and the event is closed.

VII. EVALUATING OF THE PLAN

A. METRICS AND ASSUMPTIONS FOR MEASURING PLAN PERFORMANCE

AMP will track two metrics to measure the performance of this WMP: (1) number of fire ignitions; and (2) wires down within the service territory.

METRIC 1: FIRE IGNITIONS

For the purposes of this metric, a fire ignition is defined as follows:

- AMP facility was associated with the fire;
- The fire was self-propagating and of a material other than electrical and/or communication facilities;
- The resulting fire traveled greater than one linear meter from the ignition point; and
- AMP has knowledge that the fire occurred.

In subsequent WMPs, AMP will provide the number of fires that occurred that were less than 10 acres in size. Any fires greater than 10 acres will be individually described.

- In the period preceding this WMP there were no recorded fire ignitions.

METRIC 2: WIRES DOWN

The second metric is the number of distribution and transmission wires downed within AMP's service territory. For purposes of this metric, a wires down event includes any instance where an electric transmission or primary distribution conductor falls to the ground or on to a foreign object.

AMP will not normalize this metric by excluding unusual events, such as severe storms. Instead, AMP will supplement this metric with a qualitative description of any such unusual events.

- In the period preceding this WMP there was one instance of wires down. The cause was a tree branch that downed the conductors during high wind conditions. The distribution lateral was deenergized manually. No fire ignition occurred.

B. IMPACT OF METRICS ON PLAN

Metrics have been first introduced in the initial WMP and AMP did not have any incidents since to gather data for these metrics. Although AMP does not anticipate any incidents, should data be collected in the future, AMP will be able to identify areas of its operations and service territory that are disproportionately impacted. AMP will then evaluate potential improvements to the plan.

C. MONITORING AND AUDITING THE PLAN

This WMP will be will be presented to the Public Utilities Board on an annual basis. Additionally, the plan will be presented to the Wildfire Safety Advisory Board (WSAB). Roles and responsibilities of AMP staff for monitoring and auditing the WMP are contained with Section III.C of this plan.

D. IDENTIFYING AND CORRECTING DEFICIENCIES IN THE PLAN

On an annual basis, the AGM E&O evaluates reported deficiencies and updates this WMP accordingly. The GM approves this WMP annually.

This WMP will be reviewed and updated prior to being presented to the Public Utilities Board. Based on the recommendations of its Public Utilities Board, AMP will correct any identified deficiencies.

E. MONITORING THE EFFECTIVENESS OF INSPECTIONS

The Line Superintendent has oversight of AMP's inspection program and is responsible for monitoring the effectiveness of the program.

During inspections, a maintenance tag is generated for each item found that requires attention. Every maintenance tag generated reports the following:

- Equipment/Pole Number
- Location (Address number and street)
- Condition (Corrective action needed)
- Date Reported
- Date Required Complete
- Circuit Number
- Tag Number
- Priority

The Line Superintendent will prioritize and identify labor needs for each maintenance tag and then assign work to appropriate staff to execute. Table 4 below summarizes maintenance tag priority levels.

Table 4 – Maintenance Tag Priority Levels

Priority	Complete By
1	30 Days
2	6 Months
3	1 Year
4	3 Years
5	Re-assess in 5 Years

Upon completion, every maintenance tag is updated to include the following:

- Date Completed
- Total Labor Hours

The Line Superintendent will regularly evaluate AMP's inspection program and will perform the following tasks to monitor effectiveness:

- Review maintenance tag records weekly;
- Monitor staff performing inspection activities;
- Identify deficiencies in the program;
- Monitor timeliness of completion;
- Meet with staff performing inspections to evaluate their knowledge of the program;
- Identify and implement program improvements.
- Review monthly metrics including the quantity of maintenance tags reported, completed, pending, and overdue.

VIII. INDEPENDENT AUDITOR

Public Utilities Code section 8387(c) required AMP to contract with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of the WMP. AMP's independent evaluator issued a report that was presented to the Public Utilities Board at its November 18, 2019 public meeting. The recommendations in the report were implemented in the WMP prior and the WMP was presented to the board. The WMP and the report were posted to AMP's website.