WILDFIRE MITIGATION PLAN

VERSION 1.2 (FIRST ANNUAL UPDATE)

May 1, 2020

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I. OVERVIEW

A. UTILITY SERVICE TERITORY DESCRIPTION

The Truckee Donner Public Utility District (District) is a Special District of the State of California engaged in the distribution, sale and delivery of electric power and water. The District provides retail electric service to about 14,000 customers. The District is a Transmission-Dependent Utility connected to NV Energy's system and is located high on the eastern slope of the Sierra Nevada. The District is not interconnected with any other utility. The District's electric service territory is comprised of approximately 44 square miles in eastern Nevada County and approximately 1.5 square miles in adjacent Placer County. The electric system includes approximately 225 miles total with 135 miles of 12.47 kV and 14.4 kV overhead distribution lines, and about one-half mile of 60kV overhead transmission lines.

B. POLICY STATEMENT

The Mission of the District is to provide reliable, high quality water and electrical power services while meeting customer demand, and to manage District resources in a safe, open, responsible, environmentally sound manner at the lowest practical cost.

The District strives to manage and mitigate the risk of wildfire with a holistic approach to operating its system. The outcome of this approach is diligent stewardship of customer/owner investment in the District as it continues to construct, maintain, and operate its electric distribution system in a manner that minimizes the risk of catastrophic wildfire posed by its electrical lines and equipment. The District has applied careful consideration in the development of broad strategies to mitigate utility-posed wildfire risks while remaining consistent with the intention of Senate Bill 901 (SB 901) and other regulatory requirements.

Although staff acknowledges different designations of Tier 3 area amongst various Fire Threat Maps and the California Public Utilities Commission (CPUC) Fire Threat Map, for the purpose of prioritizing and applying operational consistency, the District will apply this WMP (Plan) as though its service area resides exclusively in Tier 3 (Exhibit A), where practicable. This methodology will be evaluated on an annual basis and adjustments made as new or substantive information becomes available.

The District will continue to closely coordinate with local fire and safety officials in the development and subsequent annual review of this Plan.

C. PURPOSE OF THE WILDFIRE MITIGATION PLAN

This Wildfire Mitigation Plan (WMP or Plan) describes the range of activities the District takes to mitigate the threat of District equipment ignited wildfires. Included in within the Plan is an explanation of various programs, practices, and procedures the District utilizes to comply with SB 901.

This Plan is subject to direct approval by the District's Board of Directors and is implemented by the General Manager. The District's Board adopted the initial WMP on July 17, 2019 and this is the first annual update. This Plan complies with the requirements of Public Utilities Code Section 8387 for publicly owned electric utilities to prepare a wildfire mitigation Plan by January 1, 2020, and annually review it thereafter.

D. ORGANIZATION OF THE WILDFIRE MITIGATION PLAN

This Wildfire Mitigation Plan includes the following elements:

- Objectives of the Plan;
- Roles and responsibilities for executing the Plan;
- Identification of key wildfire risks and risk drivers;
- Description of wildfire prevention strategies;
- Metrics for measuring performance of the Plan and identifying areas for improvement; and
- Community outreach and education.

II. OBJECTIVES OF THE WILDFIRE MITIGATION PLAN

A. MINIMIZING SOURCES OF IGNITION

The primary goal of this Plan is to minimize the probability the District's distribution system may be an original or contributing source of ignition. The District has evaluated the prudent and cost-effective improvements to its physical assets, operations, and training that can help to meet this objective. Further, the District is updating operational practices to reflect its commitment to prudent system management and will continue to explore new opportunities for improving the efficacy of the Plan.

The District utilizes the California Public Utility Commission (CPUC) state-wide Fire Threat Map (Map) adopted January 19, 2018 (Exhibit A), in addition to informational fire threat maps from other State of California Government agencies to inform and aid in the development of this Plan and its subsequent updating. The CPUC Map designates a portion of the District's service territory (predominantly the Tahoe Donner area) as Tier 3 (Extreme); additionally, areas circumnavigating the Tahoe Donner area are designated as Tier 2 (Glenshire, Martis Valley, Truckee, and Donner Lake) with interspersed locations identified as Tier 1, or exempt from the High-Fire-Threat-District (HFTD).

B. RESILIENCY OF THE ELECTRIC GRID

The secondary goal of this Plan is to ensure and improve where practicable, system resiliency. System resiliency is defined by the National Infrastructure Advisory Council as the ability to reduce the magnitude and/or duration of disruptive events. As part of the development of this

Plan, the District assesses new industry practices and technologies that may reduce the likelihood of a disruption in service or improve the timeline for restoration of service.

To accomplish this, the District utilizes heavy-loading construction standards that are designed to withstand sustained heavy winds; covered jumper wire (where practicable); FR3 insulating fluid; current limiting fuses; and vegetation management, among other operational practices. The Districts distribution system has already been designed to be sectionalized by individual circuit with open points at each tie point.

C. MINIMIZING UNNECESSARY OR INEFFECTIVE ACTIONS

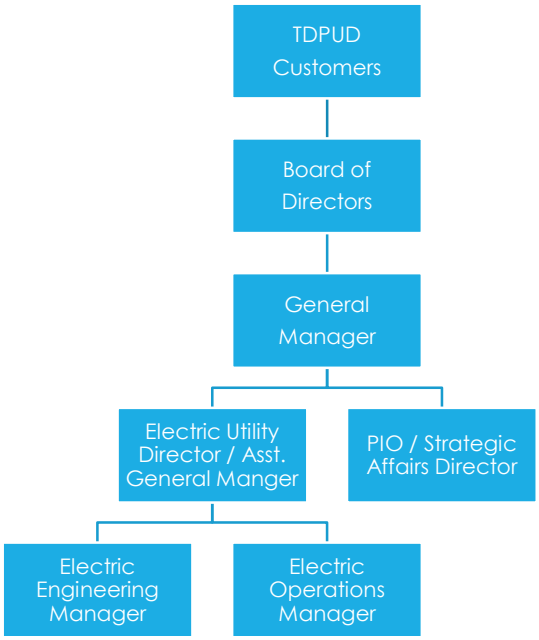
The final goal for this Plan is to measure the effectiveness of specific mitigation strategies as they apply to the District. Where a particular action, program, or protocol is determined to be unnecessary or ineffective, the District will evaluate whether modification or replacement is suitable. This approach will also help determine if more cost-effective measures would produce the same or better results.

This is discussed in more depth in section VIII. D – Identifying and correction deficiencies.

III. ROLES AND RESPONSIBILITIES

A. DISTRICT ROLES AND RESPONSIBILITIES

Truckee Donner Public Utility District



The District utilizes a Board/General Manager reporting hierarchy.

Board members are elected at large by District customers to rotating four-year terms, representing constituents across the District's service territory. The Board President and Vice President are in title; these positions are nominated and appointed by the Board annually. The Board is responsible for adoption of all policy and delegates the operational implementation of policy to the General Manager.

The General Manager has full operational authority of the District and operates as the Chief Executive, reporting directly to the Board. The General Manager provides direction and management to all District staff while implementing Board adopted policy.

The Public Information Officer (PIO) / Strategic Affairs Director, serves as the District's public liaison to outside agencies as well as responding to requests for information, including proactively promulgating public awareness outreach or emergency information.

The Electric Utility Director / Assistant General Manager (AGM) has overall functional management of the Electric Utility and provides day-to-day oversight of the Electric Utility. The Electric Utility Director utilizes the Electric Operations Manager and Electric Engineering Manager for division oversight. The AGM also assumes the operational authority of General Manager in the absence of the General Manager.

The Electric Operations Manager oversees the daily electric utility operations, including; construction; maintenance; energy control; fleet; vegetation management; and other ancillary daily duties. The Electric Operations Manager maintains functional management of assigned divisions within the Electric Utility and reports to the Electric Utility Director.

The Electric Engineering Manager oversees the design/engineering tasks associated with distribution system modification and development/maintenance of material specifications. The Electric Engineering Manager maintains functional management over the electric engineering related tasks within the Electric Utility and reports directly to the Electric Utility Director.

District staff have the following responsibilities regarding fire prevention, response and investigation:

- Conduct work in a manner that will minimize potential fire dangers;
- Take all reasonable and practicable actions to prevent and suppress fires resulting from District electric facilities;
- Coordinate with Federal, State, and Local fire management personnel to ensure that appropriate preventative measures are in place;
- Immediately report fires, pursuant to specified procedures;
- Take corrective action when observing or having been notified that fire protection measures have not been properly installed or maintained;
- Ensure compliance with relevant Federal, State, and industry standard requirements;
- Ensure that wildfire data is appropriately collected; and
- Maintain adequate training programs for all relevant employees.

B. COORDINATION WITH WATER UTILITIES/DEPARTMENT

The District owns and operates a Water Utility within its service territory, providing retail service to approximately 13,000 customers. When electric operations could or are known to impact the water utility, District electric and water staff will coordinate so as to mitigate, or where practicable, eliminate impact to electric and/or water service continuity. District electric staff collaborates proactively to notify District water staff of planned outages and communicate as quickly as practicable during emergency power outages that impact one or both enterprises. This emergency notification will be extended to the Truckee Fire District and other agencies as needed.

C. COORDINATION WITH COMMUNICATION INFRASTRUCTURE PROVIDERS

Communications providers are notified via the District's reverse auto-dial system for planned service disruptions. Further, during emergency operations, District staff update the customer-facing information website dashboard at https://www.tdpud.org/i-want-to/outagecenter. Local communication service providers are included in our NV Energy Public Safety Outage Management (PSOM) notification process. Local communication service providers are:

- Verizon, Suddenlink, AT&T, Plumas Sierra Telecom

D. STANDARDIZED EMERGENCY MANAGEMENT SYSTEM

As a local governmental agency,[1] the District has planning, communication, and coordination obligations pursuant to the California Office of Emergency Services' Standardized Emergency Management System ("SEMS") Regulations,[2] 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.[3] Pursuant to this structure, the District regularly coordinates and

[1] As defined in Cal. Gov. Code § 8680.2.
[2] 19 CCR § 2407.
[3] Cal. Gov. Code § 2403(b):

> (1) "Field response level" commands emergency response personnel and resources to carry out tactical decisions and activities in direct response to an incident or threat.
>
> (2) "Local government level" manages and coordinates the overall emergency response and recovery activities within their jurisdiction.
>
> (3) "Operational area level" manages and/or coordinates information, resources, and priorities among local governments within the operational area and serves as the coordination and communication link between the local government level and the regional level.
>
> (4) "Regional level" manages and coordinates information and resources among operational areas within the mutual aid region designated pursuant to Government Code §8600 and between

communicates with the relevant safety agencies as well as other relevant local and State agencies.

The District will support Emergency Operation Center (EOC) operations, when requested by an emergency manager representing local or State agencies. Support could include the exchange of information, supplying resources, or staffing an EOC.

Under the SEMS structure, a significant amount of preparation is done through advanced planning at the county level, including the coordination of effort of public, private, and nonprofit organizations. Generally, the majority of the District's service territory resides in Nevada County. When Nevada County serves as the Operational Area, which is guided by the Operational Area Emergency Service Council (Nevada County) and is made headed by the Chairman of the Board of Supervisors (or designee). The Operational Area includes local and regional organizations that bring relevant expertise to the wildfire prevention and recovery planning process. These participants include:

- Director of Emergency Services; Nevada County. Stephen Monaghan (steve.monaghan@co.nevada.ca.us, 530-265-1238)City of Nevada City (or designee);
- City of Grass Valley (or designee);
- Town of Truckee (or designee);
- Nevada Irrigation District (or designee);
- Nevada County Fire Chief's Association (or designee);
- Nevada County Sheriff (or designee);
- American Red Cross (or designee);
- Tahoe National Forest (or designee);
- California Department of Forestry & Fire Protection (or designee);
- Sierra Nevada Memorial Hospital (or designee);
- Pacific Gas & Electric (or designee);
- Nevada County Public Health Administrator (or designee)
- Placer County Public Health Administrator (or designee); and
- Such others as the Council requests be in attendance.

Additionally, a small portion of the District's service territory resides in Nevada County, overseen by the Nevada County Operational Area Emergency Services Council (NC-ESC). The NC-ESC Operational Area includes local and regional organizations that bring relevant expertise to the wildfire prevention and recovery planning process. The District will support Emergency Operation Center (EOC) operations for the NC-ESC, when requested by an emergency

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the operational areas and the state level. This level along with the state level coordinates overall state agency support for emergency response activities.

(5) "State level" manages state resources in response to the emergency needs of the other levels, manages and coordinates mutual aid among the mutual aid regions and between the regional level and state level, and serves as the coordination and communication link with the federal disaster response system.

manager representing local or State agencies. Support could include the exchange of information, supplying resources or staffing an EOC.

Pursuant to the SEMS structure, the District participates in training exercises with its counterparts both in field drills and tabletop exercises.

The District is a member of the California Utility Emergency Association (CUEA), which plays a key role in ensuring communications between utilities and emergency responders during emergencies. The District also participate in the Western Energy Institute's Western Region Mutual Assistance Agreement (WRMAG), which is a mutual assistance agreement covering utilities across a number of western states. In addition to those agreements, the District is also signatory to the American Public Power Association (APPA) mutual aid agreement, providing nationwide access to resources for system restoration and support after a major event that exhausts District resources.

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

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

Per PUC 8387 (C) (as amended on 7/12/19): "A description of the preventive strategies and programs to be adopted by the local 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."

The District will continue to respond to the existing and potential impacts of climate change including projected increases in temperature, severe storms, flooding, and climate-related increases in population.

Increased population is possible due to climate refuges leading to increases in both full-time and transient population, more traffic, etc. This concept is part of Truckee's climate adaptation and mitigation plan.

Within the District's service territory and the surrounding areas, the primary risk drivers for wildfire are the following:

- Climate change;
- Extended drought;
- Vegetation type;
- High winds;
- Mountainous terrain/accessibility;
- Tree mortality;
- Lightning;
- Increased population; and

- Lack of early fall precipitation.

B. ENTERPRISE-WIDE SAFETY RISKS

The District will use a methodical approach to address/mitigate enterprise safety risks. This approach will utilize both Risk Assessment (RA) and intimate knowledge of our operational practices. RA is a process to identify and manage potential risks that could undermine core business functions, threaten business continuity or impact recover. RA will be used to analyze safety risks, which include:

- Pole Replacement Ranking Tool (Attachment 2);
- Unavailability of NV Energy's transmission (Donner Lake Substation & Tahoe Donner Substation) interconnection & its distribution interconnection (Glenshire);
- Unavailability of CalPeco / Liberty Utilities' alternate distribution feed (Glenshire);
- Loss of Internet connectivity;
- Loss of radio communications;
- Loss of cellular communications;
- Impacts of system de-energization; and
- Impacted roadways limiting movement of personnel and equipment.

C. CHANGES TO CPUC FIRE THREAT MAP

The District does not recommend any changes to the CPUC state-wide Fire Threat Map, adopted January 19, 2018, at this time. Future changes in District knowledge or recommendations going forward will be communicated as required by statute.

V. WILDFIRE PREVENTATIVE STRATEGIES

A. HIGH FIRE THREAT DISTRICT

The District participated in the development of the California Public Utilities Commission's (CPUC) Fire-Threat Map,[4] which designates the HFTD. In the map development process, the District served as a territory lead, and worked with Cal Fire, CPUC staff and local fire officials to identify areas of the District's service territory which are at an elevated or extreme risk of power line ignited wildfire. The District incorporated the High Fire Threat District into its construction, inspection, operation, maintenance, repair, and vegetation management practices.

The Fire Threat Areas as designated by both CalFire and the CPUC have been incorporated into the District's Geographic Information System (GIS) in order to overlay with District Water and Electric facilities and identify any infrastructure within areas of high fire threat.

B. AUTOMATED METERING INFRASTRUCTURE (AMI)

[4] Adopted by CPUC Decision 17-12-024.

The District has invested in and deployed advanced metering infrastructure within our service territory. AMI is an integrated system of smart meters, communications networks, and data management systems that enable two-way communication between utilities and customers. The system provides a number of important functions that were not previously possible or had to be performed manually, such as the ability to automatically and remotely measure electricity use, connect and disconnect services, detect tampering, identify and isolate outages, and monitor voltages.

C. OUTAGE MANAGEMENT SYSTEM (OMS)

Since 2007, the District has utilized Schneider Electric's Responder Outage Management System (OMS) within the GIS for tracking and responding to electric outages and system hazards. The OMS automatically captures outage information in real time from all AMI meters and also captures incoming phone calls from the public and District customers. The OMS very quickly consolidates field events and alerts staff to potential issues impacting the electric system. In 2019, the District extended categorizing incidents to include Fires, Hazard Trees, or branches in proximity of electric lines. The Wires Down category has been tracked since the program's inception in 2007.

In addition to tracking active hazards to the system, all calls entered into the OMS can later be used for reporting based on Outage Cause, Duration, System Device, and number of customers affected. This information is used by District engineers to plan electric system upgrades and device replacements. Events recorded in the OMS are stored in the Responder Archives and are available for engineering and operations staff upon request and made available to public agencies as part of yearly CPUC reporting requirements on reliability indices.

D. SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA)

The District has invested in a robust fiber-based SCADA system that provides staff the capability to operate the substation reclosures on supervisory control from the District office or remotely through a secure VPN connection.

The District is investigating an upgrade to the system to allow for supervisory control of all field reclosures, a function which is currently unavailable. These functions would allow the District to remotely turn all reclosures on to Non-reclose (One Shot) annually from early June to early November to minimize the risk of fires caused by arcing or faults. Currently we need to manually place these reclosures on non-reclose.

E. WEATHER MONITORING

The District monitors current and forecasted weather data from a variety of sources including:

- The National Oceanic and Atmospheric Administration (NOAA);
- United States National Weather Service (NWS);
- United States Forest Service Wildland Fire Assessment System;

- National Fire Danger Rating System;
- National Interagency Fire Center – Predictive Services for Northern and Southern California;
- Internal knowledge of local conditions.

Each day, the District will assign one of four operating conditions based on the relevant weather data and knowledge of local conditions:

(1) Normal: During normal conditions, no changes are made to operations or work procedures.

(2) Elevated: During elevated fire-risk conditions, District staff will perform normal work with an elevated level of observation for environmental factors that could lead to an ignition.

(3) Extreme: During extreme fire-risk conditions, the District may delay routine work on energized primary lines (12.47kV & 14.4kV). The District may perform necessary work to preserve facilities or property. Extreme weather is defined as: weather phenomena that are at the extremes of the historical distribution and are rare for a particular place and/or time, especially severe or unseasonal weather. Such extremes include severe thunderstorms; severe snowstorms; ice storms; blizzards; flooding; high winds; or heat waves.

(4) Red Flag: If the National Weather Service declares a Red Flag Warning (RFW) for any portion of District's service territory, the District will delay all routine work on energized primary lines (12.47kV & 14.4kV). The District may perform necessary work to preserve facilities or property.

F. DESIGN AND CONSTRUCTION STANDARDS

District electric facilities are designed and constructed to meet or exceed relevant Federal, State, and industry standards. The District treats State of California, General Order 95 (GO 95) as a guiding standard for design and construction of overhead electrical facilities. The District meets or exceeds all standards in GO 95 and constructs its facilities consistent with the "heavy-loading" district as defined by the CPUC (Exhibit B). As a result of this approach, the District's system is hardened and more resilient to extreme weather events than systems that do not build to a heavy-loading district standard.

The District monitors trends in materials, technology and work methods to evaluate prudent operational changes to enhance the efficacy of wildfire mitigation. These evaluations include:

- Engineering Pole Ranking Tools;
- Intrusive Pole Inspections;
- New Construction Methods/Materials;
- Undergrounding New Construction; and
- Tree Wire (covered wire) Use, where applicable.

G. VEGETATION MANAGEMENT

The District meets or exceeds minimum State standard(s) for vegetation management practices. For distribution level facilities, the District meets: (1) Public Resources Code section 4292; (2) Public Resources Code section 4293; (3) GO 95 Rule 35 (Exhibit C); and (4) the GO 95 Appendix E Guidelines to Rule 35 (Exhibit D). These standards require significantly increased clearances in a HFTD area. The time-of-trim guidelines do not establish a mandatory standard, but instead provide guidance to utilities. The District will use specific knowledge of growing conditions and tree species to determine the appropriate time of trim clearance in each circumstance.

The District has developed a comprehensive Vegetation Management Plan (VMP) (Attachment 1) that complies with the aforementioned statues. In addition, the VMP is subject to updates from time-to-time as practices and technology evolve.

As part of the District's Tree Trimming Program, contractors and internal District staff are equipped with District provided mobile devices to record the location and dates of tree trimming work. All tree trimming inspection records are stored in the District's Geographic Information System (GIS) and are used for reporting yearly tree trimming progress and planning future tree trimming routes and locations.

In addition to planned Tree Trimming, the District's Customer Information System (CIS) also records customer calls regarding concern for potential tree hazards in proximity to electric lines. Service Orders are created for crews to respond to and correct hazard tree reports, as well as record the outcome of the hazard. This information can also be used for reporting the number of customer calls regarding hazard trees, number of hazard tree removals, and number of occurrences by location. This program began in 2005 and, continuing for 2020, the District will be on a five year cutting cycle.

(Vegetation management practices within the District's service territory are governed by: Public Resource Code 4292; Public Resource Code 4293; and, California General Order 95, Rule 35.)

H. INSPECTIONS

The District meets or exceeds the minimum inspection requirements provided in CPUC GO 165, Table 1 (Exhibit E) and CPUC GO 95, Rule 18 (Exhibit F). Pursuant to these rules, the District inspects electric facilities in the High Fire Threat District more frequently than its counterparts in non-HFTD areas. Additionally, District staff use their knowledge of the specific environmental and geographical conditions to determine when areas may require more frequent inspections. The District utilizes GO 95 and GO 165 as its guiding document, as part of a robust asset management/maintenance program.

The District's GIS contains records for electric system inspections performed as part of the General Order (G.O) Inspection program. District Crews are equipped with mobile devices with access to the District's GIS data in order to record inspections and report any potential issues to be corrected. Beginning in 2019, this inspection program was extended to capture potential tree

hazards in proximity to electric infrastructure. Corrections and repairs to the system are also recorded as part of this program, and data is available to the District's engineering and operations staff in order to plan repairs and upgrades to the electric system. This program began in 2011.

The District's goal is to ensure that all inspections performed within its service territory are complete before the beginning of the historic fire season, typically by June 1. The District monitors drought conditions and other relevant factors throughout the year to determine if inspections should be completed on an adjusted timeline.

If District staff discovers a facility in need of repair that is owned by an entity other than the District, the District will notify the facility owner in writing, as well as notify the agency having jurisdiction.

I. FR3 INSULATING FLUID

Envirotemp FR3 fluid is a dielectric insulating fluid that is a natural ester derived from vegetable oils. FR3 has an extremely high flashpoint, in excess of two times that of its traditional mineral oil counterpart (360 degrees vs 160 degree Celsius). With the exception of padmounted switchgear, the District switched exclusively to FR3 dielectric insulating fluid circa 2008 and it is now a requirement for all new oil insulated equipment, including: transformers (pole bolted & pad-mounted); substation transformers; and substation voltage regulators. Staff will evaluate the appropriateness of FR3 insulating fluid in its future procurement of padmounted switchgear.

J. NON-EXPULSIONARY CURRENT LIMITING FUSES

In 2019, the District started a pilot project in a Tier 3 neighborhood to evaluate the suitability of non-expulsionary fuses on its overhead system. Typical utility industry practice is to install expulsion fuses on transformer and tap-lines as a means of protecting and isolating parts of the system that have experienced a faulted condition.

Expulsion fuses utilize a silver-link element in an arc-tube that vents gas and potentially molten metal to atmosphere as a means of extinguishing an arc created by a faulted condition. The molten metal, however, can be a source of ignition for fire.

In contrast, non-expulsionary current-limiting fuses are a non-venting fuse encapsulated within a tube to contain the arc and gases, which minimizes the potential for molten metals to be expelled. The District selected Eaton's Cooper Power full range current limiting dropout ELF fuse for the Pilot project. The ELF fuse has been granted permanent exemption by CalFire from pole clearance requirements as specifically listed in CCR Title 14, section 1255.10.

As part of the District's ELF Fuse Pilot Project, all in-line and transformer fuse locations where an ELF fuse has been installed is tracked in the GIS and tagged with ELF identifier. This allows the District to track and report any outage or hazard occurrences on ELF fuses through the District's Responder OMS. This program began in early 2019.

Staff completed the evaluation of the ELF fuses, validating and confirming their suitability and effectiveness for the District's electric system. Beginning 2021, staff will be implementing a three year capital improvement project and funding to replace all overhead fuses in the distribution system with ELF fuses.

K. WORKFORCE TRAINING

The District has developed rules and complementary training programs for its workforce to reduce the likelihood of an ignition. All field staff will be trained annually: in the content of the WMP; in proper use and storage of fire extinguishers; in required pre-job briefings to discuss the potential(s) for ignition, environmental conditions (current and forecasted weather that coincides with the duration of work for the day); and in identifying the closest fire extinguisher.

L. RECLOSER OPERATIONAL PRACTICE

Annually, the District will disable all automatic reclosing function for all Automatic Circuit Reclosers (ACRs or reclosers) on its system, (i.e. one-shot operation). This ensures there will be no automatic circuit reclosing during the fire season. Fire season is typically defined as early June through early November but may be extended based on actual fire danger.

Operational needs may change due to extended/early winter conditions within the service district. During these types of weather events the Electric Operations Manager or his designee may suspend the summer one shot operation practice and return the automatic system reclosures to normal operation. In the event there was the lack of winter precipitation, reclosures may be placed on one shot early ahead of the summer months due to the dry conditions.

M. DE-ENERGIZATION

The District, in consultation with the local Truckee Fire District and water utility staff, has evaluated the efficacy of a Public Safety Power Shutdown (PSPS). Major considerations included: the Districts heavy-loading construction standards which are hardened to withstand high wind, snow loading, and ice formation; the offset between when the District's overhead electric distribution system experiences its most severe weather threats (i.e. severe winter storm(s) and the weather conditions during red-flag warnings (i.e. typically in late Summer/Fall with only moderate weather threats); and the potential negative impacts to fire response, water supply, public safety, and emergency communications should a fire occur while the District de-energized a portion or all of its system.

The District, due to its location from 6,000 to 8,500 feet altitude, experiences severe winter weather including blizzards and atmospheric river precipitation events. It is not uncommon for these extreme weather events to include, in addition to rain, snow, and ice, winds in excess of 100 miles per hour. For these reasons, the District's overhead electric system is built to a heavy-loading construction standard. In addition, during these extreme winter events the wildfire threat is minimal.

During red flag warnings however, which again occur in late Summer/Fall, the winds that accompany these events are typically a fraction of what the District's overhead electric distribution system experiences in the winter and what our predominately pine forests can withstand. During red flag warnings, the most likely cause of wildfire ignition is lightning strikes, transportation, illegal fireworks, or recreation.

While the District is willing to take whatever steps are necessary to protect our community and the public that we serve, the risks and potential consequences of initiating a PSPS are significant and extremely complex. Foremost concerns include: potential loss of water supply to fight wildfires due to loss of production wells and pumping facilities, negative impacts to emergency response and public safety due to the historic disruptions in Internet and cell phone service during periods of extended power outages, and the loss of key community infrastructure and operational efficiency that occurs during power outages.

Based on the above considerations, the risks of implementing a PSPS program seem to far outweigh the chances that the District's electric overhead distribution system would cause a catastrophic wildfire. The District, on a case-by-case basis, has historically and will continue to consider de-energizing a portion of its system in response to a known public safety issue or in response to a request from an outside emergency management/response agency. Any de-energizing will be performed in coordination with District water utility staff and key local partner agencies. The District will also monitor the evolution of PSPS implementation by other California electric utilities to continue to refine its evaluation of this important topic.

While the District has not implemented PSPS for its system, the District's is a Transmission Dependent Utility of NV Energy who, shortly after the District adopted the original WMP, announced their own de-energizing program called Public Safety Outage Management (PSOM). It is possible that, during extreme fire danger, the District could experience a system-wide outage due to a loss of transmission from NV Energy which will likely be from a PSOM event.

As a result the District, and other key local agencies, held a series of meetings with NV Energy to fully understand the conditions under which NV Energy would de-energize transmission and to develop communication protocols so that NV Energy could notify the District and the District could notify key agencies and our customers. The District has developed a list of critical agencies/emergency responders with a commitment to make direct contact should NV Energy announce a potential PSOM. The District has also conducted extensive customer outreach to encourage them to sign up for PSOM alerts. It should be noted that NV Energy did not have any PSOM events in 2019

N. RE-ENERGIZATION

District staff, using the GIS system, have created Re-energization route maps. In order to patrol the District's primary overhead lines in a timely manner prior to re-energizing after an outage event, District staff have identified and categorized patrol routes by access type for the electric system. This includes overhead lines that can be patrolled by driving, walking, ATV, or helicopter.

These routes have also been created for patrolling District feeders in order to complete patrols in the most efficient and timely manner possible. Driving routes for electric lines along roadways have been created in order to eliminate or reduce back-tracking. In addition, drop off and pick up locations for lines requiring walking or snow-shoeing have been identified in order to utilize electric crew time during an outage in the most efficient way possible and ensure that power is restored both safely and quickly.

District staff used the GIS system to identify and create restoration maps based on priorities. These include:

- Critical loads, (District Office, Fire, Police, Hospital, Telecom)
- TDPUD water facilities
- Circuit loading, (Customers per circuit)
- Residential vs. Commercial

Each feeder was ranked with a score of 1-17 based on the number of Total Customers (TC), Critical Customer Count (CC), Residential Customer Count (RC), Commercial Customer Count (CM), and number of TDPUD Water Faculties served (WF). The ranking score was then totaled to determine a Total Priority Ranking (TC+CC+RC+CM+WF = Total Priority Ranking). This would be the basis for restoration order, then physical circuit layout within the District was factored in to determine the shortest patrol route and fastest restoration time.

This program began in the summer of 2019.

O. TREE ATTACHMENTS (LEGACY ATTACHMENTS)

The District has legacy attachments to trees that consist of: service drop(s); secondary conductor(s); or, security lighting. Although these installations are permitted pursuant to Title 14 CCR §1257, the District does not engage in this practice for new installations.

Existing tree attachment service drops are tracked within the GIS in order to identify locations where trees and branches may be a potential hazards to electric infrastructure and provide District crews with location information for inspecting tree attachments. Legacy tree attachments are no longer allowed and any time an attachment is removed due to a fallen tree or other reason a utility pole is installed in its place

Pursuant to Title 14 CCR §1257; annually starting in 2020, contract tree crews are trimming the area of the attachments and performing an inspection. Any hazard found is immediately reported to District staff for mitigation. All new service installations will be fed from an underground source and comply with Article P – Proposed Service Requirements.

P. PROPOSED SERVICE REQUIREMENTS

Since circa 1995, District code has required all new or reconstructed developments to take service from the District via an underground system; however, exceptions exist in current District

Code for some single family residences. The District seeks to minimize the installation of overhead power lines where practicable and will therefore, recommend an underground requirement for all electric services and consider the following:

- All new installations will be required to take service from an underground source;
- Like-for-like panel replacements will be required to convert to underground service;
- Upgraded panel replacements will be required to convert to underground service;
- The District will not attach to trees for any reason;
- The District may consider a cost-sharing program for customers that desire to convert an existing overhead service to an underground service; and
- Customer(s) receiving service via legacy tree attachment(s) will be required to comply with Article P – Proposed Service Requirements.

Q. COVERED PRIMARY JUMPER WIRE

The District is implementing the use of covered (i.e. Tree wire) primary jumper wire in place of bare wire. Primary jumpers are used to connect transformers, UG risers and fuse cutouts to main overhead circuit conductors. The use of covered primary jumper wires helps to minimize the unintentional contact [with] wildlife and windblown debris. This practice will also help mitigate [the] possibility of a flashover that may result in ignition of electrical facilities and the surrounding areas.

VI. COMMUNITY OUTREACH AND PUBLIC AWARENESS

As a key publicly-owned agency, the District has extensive relationships across all organizations in the community. This includes direct interactions with the agencies directly responsible to fight fires (Truckee Fire District and Cal Fire), agencies leading emergency response efforts (Town of Truckee, Nevada County, and Placer County), along with key public and private land-owners (United States Forest Service, California State Parks, Tahoe Donner Association, Tahoe-Truckee Airport District, etc.). The local agencies and land-owners work collaboratively together to educate each other and the community. District staff regularly provide information to these agencies including updates on fire, vegetation management requirements, and District programs.

As the local electric and water utility, the District has robust community outreach and marketing programs to effectively communicate with our customers and community. All Board meetings are publicly agendized and the regularly scheduled Board meetings are broadcast live on local TV (Truckee Tahoe Community Television), streamed live from the District's website (www.tdpud.org), and archived on District's website for access after the meeting.

The District is active in the community, typically attending dozens of community events each year including: Truckee Day; Truckee Thursday's; Tahoe Truckee Earth Day; Truckee Home Show; Truckee Farmers Market; Truckee Block Party; and Big Truck Day. The District staffs booths, has staff available to interact with the community, and delivers energy, water, and customer programs directly to our customers. This includes providing information on the Districts Vegetation Management Program, free de-energizing of customers overhead service

connections to allow them to clear defensible space while working safely, and educating the community on the District's overall efforts to respond to catastrophic wildfires.

The District also has robust marketing and communication efforts leveraging the website (www.tdpud.org), social medial (Facebook/Twitter/YouTube), bill stuffers, print ads, and digital marketing. The District is a regular advertiser in the Sierra Sun, Moonshine Ink, Truckee Chamber of Commerce, Tahoe Donner News, The Shire, and on KTKE 101.5 local radio. In addition, the District has a new customer lobby designed to enhance customer engagement with ready access to customers service representatives, extensive digital media to educate customers, and engaging displays to capture the visitors attention.

With regards to fire-related community outreach, the District has been very active promoting the Vegetation Management Program; including the recent regulatory changes increasing the vegetation clearances. The District sends out an annual bill insert to all customers along with information on the website, social media, digital media, print advertising, and radio. The District has worked with Tahoe Donner Association, which is located in a Tier 3 area and has almost half of the District's residential connections, to include an extensive article in the monthly Tahoe Donner News regarding fire, vegetation management, and everyone doing their part.

District staff previously participated in a local event (Wildfire Prevention and Preparedness Town Hall) hosted in partnership by the Nevada County Office of Emergency Services, Truckee Police Department & Emergency Services, and Truckee Fire Protection District. District staff set up a table-top at the event to share information and participated in a panel discussion. Other participants included: CAL FIRE, Placer County Office of Emergency Services, Fire Safe Council of Nevada County, Placer County Fire Safe Alliance, Truckee Tahoe Unified School District, Tahoe National Forest, Tahoe Forest Hospital, and California Highway Patrol. Participation in similar events is expected for 2020.

For preparation of the original SB 901 Wildfire Mitigation Plan, District staff worked extensively with Truckee Fire Protection District, CAL FIRE, Town of Truckee, Nevada & Placer Counties, and many other local agencies and stakeholders. The District conducted a publically agendized Board Workshop on wildfire, March 6, 2019, a second Workshop specifically on the WMP in June 5, 2019, followed by formal adoption of the WMP by the District's Board in July 17, 2019.

Since adoption of the plan by the District's Board in July of 2019, the WMP was reviewed by an independent, third-party expert (Navigant Consultant) who confirmed that the District's WMP meets the requirements of SB901. Navigant made a presentation to the District's Board in December of 2019.

VII. RESTORATION OF SERVICE

Although the District does not have a PSPS operational practice, it may participate for one of the following reasons:

- If an outside emergency management/emergency response agency request a power shutdown;
- If the District elects to de-energize segments of its system due to extreme weather; or

- As a result of a NV Energy Public Safety Power Shut Off (PSOM) event.

In such events the District staff will patrol the affected portions of the system before the system can be re-energized. Suspect equipment or distribution lines that cannot be patrolled will remain de-energized. In addition, system performance abnormalities will be monitored via the District's SCADA system and its AMI/OMS systems. For more information please see Re-energization on page 19.

In addition, TDPUD participates with California Emergency Management Agency (CEMA) and California Utilities Emergency Association (CUEA). CEMA is a California agency responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities while CUEA serves as a point-of-contact for critical infrastructure utilities and Cal OES before, during and after an event to facilitate communications, provide emergency response and support emergency planning, mitigation, training, exercises and education.

VIII. EVALUATING THE PLAN

A. METRICS AND ASSUMPTIONS FOR MEASURING PLAN PERFORMANCE

The District is tracking two metrics to measure the performance of this Plan:

(1) Number of fire ignitions; and

(2) Wire down events within the service territory

In 2019, District staff started capturing wire down and fires caused by District facilities in GIS. This will help with reporting and identifying trouble areas in the future Metric

1: Fire Ignitions

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

- The District's electrical infrastructure was associated with the fire;
- The fire was self-propagating and of a material other than electrical;
- The resulting fire traveled greater than one linear meter from the ignition point; and
- The District has knowledge that the fire occurred.

In future Wildfire Mitigation Plans, the District 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. Any ignition will be reported to management and firefighting agencies.

Metric 2: Wires Down

The second metric is the number of wire-down events within the District's service territory. For purposes of this metric, a wire-down event includes any instance where primary distribution conductor falls to the ground or on to a foreign object, defined as: any object not specifically an asset of the District (i.e. phone, cable, trees, etc.).

The District will not normalize this metric by excluding unusual events, (i.e. severe storms, car versus pole incidents, or snow unloading). However, the District will supplement this metric with a qualitative description of any such unusual events.

B. IMPACT OF METRICS ON PLAN

The District anticipates relatively limited data will be gathered through these metrics, particularly in the initial years. Therefore, it will be difficult to draw meaningful conclusions based on this data. The District will evaluate modifying these metrics or adding additional metrics in future years as more data becomes available and situational awareness continues to improve.

C. MONITORING AND AUDITING THE PLAN

This Wildfire Mitigation Plan is subject to review by the District's Board of Directors. The District will present this Plan to its Board on an annual basis.

The Electric Utility Director, or designee, will at least, on a semi-annual basis, update the General Manager regarding the Plan's implementation, identified deficiencies or recommendations for updating.

D. IDENTIFYING AND CORRECTING DEFICIENCIES IN THE PLAN

Achieving a robust, all-encompassing plan to mitigate wildfire risk is the primary objective of this document. Staff have the role of vetting current procedures and recommending changes or enhancements to build upon non-optimized strategies in the Plan. Either due to unforeseen circumstances, regulatory changes, emerging technologies, or other rationales, deficiencies within the Plan will be sought out and reported to the Board in the form of an updated Plan on an annual basis.

The Electric Utility Director, or their designee, will be responsible for spearheading discussions on correcting deficiencies when updating the Plan for its annual presentation to the Board. All stakeholders are empowered to suggest improvement opportunities, including, but not limited to: field crews; management; auditors; fire safety professionals; and, members of the public.

E. MONITORING THE EFFECTIVENESS OF INSPECTIONS

The District currently utilizes General Orders 95 (GO95) and 165 (GO165), respectively, as its guide to inspect its system. Field staff routinely patrol the service territory and correct deficiencies as they are encountered. The District tracks deficiencies that are repaired upon discovery within its Geographical Information System (GIS) and consistent with the guidelines of GO 95 and 165, respectively. Further, for deficiencies that cannot be repaired upon discovery, they are assigned a priority level. The repairs are defined as Level 1 (highest), Level 2 (moderate), or Level 3 (lowest) as defined by GO 95, Rule 18 (Exhibit F), with the discovery, remedy and

supporting documentation being tracked within the District's Geographical Information System (GIS).

District staff will report as part of its annual WMP presentation to the Board, the number of deficiencies found; the number of deficiencies repaired within the defined priority timeline and the number of outstanding deficiencies that were not repaired within the defined timeline.

IX. INDEPENDENT AUDITOR

Public Utilities Code section 8387(c) requires the District to contract with a qualified independent evaluator with experience in assessing the safe operation of electrical infrastructure to review and assess the comprehensiveness of this Plan. The independent evaluator must issue a report to be posted on the District's website. This report must also be presented to the District's Board at a public meeting. The District hired Navigant Consulting in 2019 to conduct the independent audit. Navigant presented their finding to the District Board on December 4, 2019 and concluded that:

1. TDPUD's WMP aligns appropriately with PUC Section 8387 and includes all required elements
2. TDPUD's Plan is determined to be comprehensive

The District's WMP satisfied the requirements of SB 901and this updated WMP considers the recommendations of the independent auditor.

X. APPENDIX

Exhibit A – California Public Utilities Commission Fire Threat Map, Adopted January 19, 2018

Exhibit B – California Public Utilities Commission, Heavy loading district Map

Exhibit C – California Public Utilities Commission, General Order 95, Rule 35

Exhibit D – California Public Utilities Commission, General Order 95, Appendix E

Exhibit E – California Public Utilities Commission, General Order 165, Table 1, Distribution Inspection cycles

Exhibit F – California Public Utilities Commission, General Order 95, Rule 18

XI. REFERENCES

14CCR § 1257

July 9, 2019 Memorandum, RE: Current Limiting Fuses

July 9, 2019 Memorandum, RE: Disabling of Automatic Circuit Reclosers (ACRs)

July 9, 2019 Memorandum, RE: Hotline Work during Extreme Weather or RFW Events

July 9, 2019 Memorandum, RE: Mandatory Reporting Requirements – Fire Ignition

July 9, 2019 Memorandum, RE: Mandatory Reporting Requirements – Wire Down

July 9, 2019 Memorandum, RE: Re-Energization of Lines

July 9, 2019 Memorandum, RE: Tree Attachments

March 16, 2020 Memorandum 2020-001, RE: Use of Bare #6 Copper

March 16, 2020 Memorandum 2020-002, RE: Use of Hendrix Insulators

Public Resources Code section 4292

Public Resources Code section 4293

Public Utilities Code Section 8387

State of California, General Order 95

State of California, General Order 165

Vegetation Management Plan (VMP), Attachment 1

Pole Replacement Ranking Tool, Attachment 2