

Meeting Date:
December 12, 2019

IPUC AGENDA ITEMS

1. Consideration of approval of the IPUC Wildfire Mitigation Plan as required by SB 901.

RECOMMENDED ACTION: Approve the Wildfire Mitigation Plan and authorize the Public Utilities Director to submit to the California Wildfire Advisory Board.

2. Report from the General Manager for the La Puente Valley County Water District regarding the Industry Public Utilities Water Operations.

RECOMMENDED ACTION: Receive and file the report



INDUSTRY PUBLIC UTILITIES COMMISSION

MEMORANDUM

TO: Honorable President Moss and Commissioners

FROM: Troy Helling, Public Utilities Director

STAFF: Joshua Nelson, IPUC Engineer
Dev Birla, Operations Manager, CNC Engineering *P.B.*

DATE: December 12, 2019

SUBJECT: Consideration of approval of the IPUC Wildfire Mitigation Plan as required by SB 901

Background:

The State of California has experienced devastating wildfires in the past few years. Senate Bill ("SB") 1028 (2016) and subsequently amended by SB 901 (2018) requires local publicly owned electrical utilities, such as the Industry Public Utilities Commission ("IPUC"), to construct, maintain and operate its electrical lines and equipment in a manner that will minimize the risk of a catastrophic wildfire posed by those electrical lines and equipment. The California Public Utilities Commission ("CPUC"), working with electrical utilities within the state, developed and adopted a Fire Threat Map on January 19, 2018 which shows the elevated tier 2 and extreme tier 3 fire threat areas within the state. The bill requires the governing board of publicly owned electrical utilities to determine whether any portion of the geographical area where the utility's overhead lines are located have a significant risk of catastrophic wildfire resulting from those electrical lines and equipment, and, if so, require the utility to prepare wildfire mitigation measures and a plan.

The bill also requires that a wildfire mitigation plan ("WMP") be approved by the governing board before January 1, 2020 and annually thereafter. The bill also required specified information and elements to be included in the plan and present this plan in an appropriately noticed public meeting, accept comments from the public and other local/state agencies and to verify that the plan complies with all applicable rules, regulations and standards, as appropriate. Local publicly owned electrical utilities are required to contract with a qualified independent evaluator to review and assess the comprehensiveness of its wildfire mitigation plan and submit a report which should be posted on the utility's website and present the report in person if required.

Discussion:

IPUC does not own, maintain or operate any overhead transmission and distribution electrical lines. All IPUC existing distribution lines are underground and future distribution

lines will be underground. Historically, underground electrical lines have not been associated with the catastrophic wildfires. No service territory of IPUC falls in or near the tier 2 or tier 3 Fire Threat Map, adopted by the CPUC on January 19, 2018. Based on the review of local conditions and historical fires, IPUC - Electrical Utility has determined that its electrical lines and equipment do not pose a significant risk of a catastrophic wildfire.

California Municipal Utilities Association (“CMUA”), of which IPUC is a member, has recognized that need and has prepared a template for a wildfire mitigation plan for utilities in a similar situation as IPUC with all electrical lines underground and minimal risk of catastrophic wildfires originating from its lines and equipment. The template prepared complies with all the applicable requirements of SB 901 and amended public utilities code (PUC) 8387. The IPUC Wildfire Mitigation Plan is based on that template with minor revisions.

The Wildfire Mitigation Plan is presented in Exhibit A and includes the following elements:

- Objective 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
- Metrics for evaluating the performance of the plan and areas for improvement
- Review and validation of plan by an independent third party evaluator

An independent evaluator has reviewed this wildfire mitigation plan and their report is provided in Exhibit B.

Fiscal Impact:

There is no fiscal impact is associated with approval of the IPUC Wildfire Mitigation Plan.

Recommendation:

It is recommended that the IPUC Board approve the IPUC Wildfire Mitigation Plan and authorize the Public Utilities Director to submit the WMP to the California Wildfire Advisory Board by July 1, 2020.

Exhibits:

- A. IPUC Wildfire Mitigation Plan
- B. Wildfire Mitigation Plan Independent Evaluation

EXHIBIT A

IPUC Wildfire Mitigation Plan

[Attached]

**INDUSTRY PUBLIC
UTILITIES
COMMISSION-
ELECTRICAL
UTILITY
WILDFIRE
MITIGATION
PLAN**

VERSION 1

December 12, 2019

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I. OVERVIEW

A. POLICY STATEMENT

City of Industry (“COI” or “City”) is a California charter city, located in Los Angeles County, approximately 12 square miles in area. It is mostly an industrial city and according to 2010 Census, it is home for over 3,000 businesses and approximately 219 residents. The electrical service to most of the customers in the city is provided by Southern California Edison (SCE). On February 22, 2001, the City Council adopted Ordinance No. 664 (Codified as Title 7 of the Industry Municipal Code), establishing a public utilities department to oversee the operations of the public utility (the utility is hereinafter referred to as the “Industry Public Utilities Commission” or the “IPUC”. The IPUC currently provides electrical service to approximately 115 customers with peak demand of 8 mW, and annual energy sales of approximately 42,000 mWh. IPUC’s overarching goal is to provide safe, reliable, and economic electric service to the local community. In order to meet this goal, the IPUC constructs, maintains, and operates its electrical lines and equipment in a manner that minimizes the risk of catastrophic wildfire posed by its electrical lines and equipment. All IPUC electrical lines are underground

B. PURPOSE OF THE WILDFIRE MITIGATION PLAN

The IPUC is located in a region of the state with a low wildfire risk. No part of the IPUC’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 IPUC 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. Based on a review of local conditions and historical fires, IPUC has determined that its electrical lines and equipment do not pose a significant risk of catastrophic wildfire.

Moreover, the IPUC’s entire 12,000- volt electric distribution system is located underground in conduit and vaults, and has no overhead distribution lines. IPUC does not own, operate or maintain any transmission or sub- transmission lines except two short underground 66,000- Volt taps less than 150 feet long which run from Southern California Edison’s (“SCE”) 66,000- Volt Grand Crossing Substation to the IPUC owned Waddingham 66,000 –Volt to 12,000- Volt Substation. Two other IPUC interconnections were made with SCE are located at the Pacific Palms Hotel and at the Anaheim- Puente Road city owned parcel to the west of the northerly end of the street via an underground

12,000- volt distribution system. All distribution lines emanating from Waddingham substation are underground and all future distribution lines will be underground.

Historically, undergrounded electric lines have not been associated with catastrophic wildfires. The undergrounding of electric lines serves as an effective mitigation measure to reduce the potential of power-line ignited wildfires. Based on a review of local conditions and historical fires, IPUC has determined that its electrical lines and equipment do not pose a significant risk of catastrophic wildfire.

Despite this low risk, IPUC takes appropriate actions to help the region prevent and respond to the increasing risk of devastating wildfires. In its role as a public agency, IPUC closely coordinates with other local safety and emergency officials (Los Angeles County Fire and Sheriff Departments) to help protect against fires and respond to emergencies. In its role as a utility, IPUC follows all applicable design, construction, operation, and maintenance requirements that reduce safety risks associated with its system. This Wildfire Mitigation Plan describes the safety-related measures that IPUC follows to reduce its risk of causing wildfires, including its various programs, policies and procedures.

This plan is subject to direct supervision by the IPUC- Board and is implemented by Public Utilities Director. 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 thereafter. This plan also complies with the requirement of SB 901.

C. ORGANIZATION OF THE WILDFIRE MITIGATION PLAN

This Wildfire Mitigation Plan 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

II. OBJECTIVES OF THE WILDFIRE MITIGATION PLAN

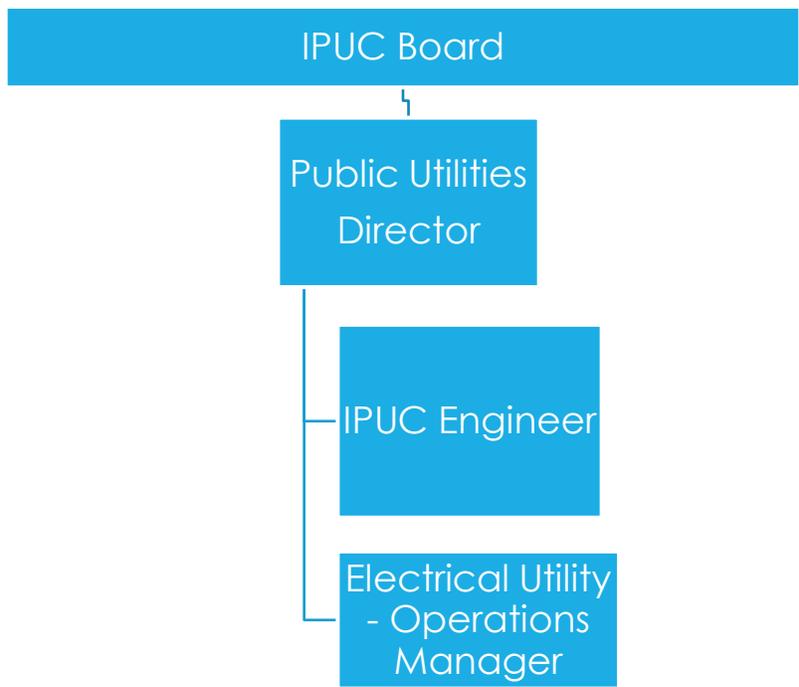
The primary goal of this Wildfire Mitigation Plan is to describe IPUC's existing programs, practices, and measures that effectively reduce the probability that IPUC's electric supply

system could be the origin or contributing source for the ignition of a wildfire. To support this goal, IPUC 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 Wildfire Mitigation Plan is to improve the resiliency of the electric grid. As part of the development of this plan, IPUC 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 GOVERNANCE STRUCTURE



[IPUC /Municipal Governance Structure]

This plan is subject to the direct supervision by the Industry Public Utilities Commission and will be implemented by the Industry Public Utilities Director. Pursuant to Section 7.04.020 of the City of Industry Municipal Code, the City Council serves as the Board of Directors of the IPUC, and the City Manager serves as the Public Utilities Director. The City’s Director of Public Works/City Engineer, serves as the Engineer to the IPUC.

B ROLES AND RESPONSIBILITIES FOR EXECUTION OF PLAN

Executive Level Responsibility: The Public Utilities Director will oversee implementation of the Plan, and ensure that staff follows procedures and protocols. IPUC Engineer will manage the execution of performance monitoring which includes providing guidance to IPUC staff and leading the development of any reports required.

The table below describes the proposed assignments and are subject to change.

Assignment	Lead Personnel	Key Technical Personnel
IPUC Wildfire Prevention and Improved Response Program	IPUC Engineer and person in- charge of Local Los Angeles County Fire Department Station	IPUC- Electrical Operations Manager and Local LA County Fire Department
Public Safety and Notification	IPUC Engineer & IPUC- Electrical Operations Manager	IPUC Contractor – ENCO City and IPUC Staff as required
Enhanced Inspections and Operational Practices	IPUC- Electrical Operations Manager	IPUC Staff – Inspectors IPUC Contractors – PUI & ENCO
Wildfire Response and Recovery	IPUC Engineer and person in- charge of Local Los Angeles County Fire Department Station	IPUC- Electrical Operations Manager and Local LA County Fire Department
Coordination with Los Angeles County Sheriffs and LA County Public Works Department	IPUC Engineer and person in- charge of Local Los Angeles County Fire Department Station	CNC Engineering for LA County Public Works Department
Coordination with other City Departments	IPUC Engineer	CNC Engineering

C. ROLE IN WILDFIRE PREVENTION

IPUC – Electrical staff roles and responsibilities for (1) electric facility design, maintenance, and inspection; and (2) Vegetation Management if required.

- Operate system in a manner that will minimize potential wildfire risks.
- Take all reasonable and practicable actions to minimize the risk of a catastrophic wildfire caused by IPUC electric facilities.
- Coordinate with federal, state, and local fire management personnel as necessary or appropriate to implement IPUC Wildfire Mitigation Plan.

- Immediately report fires, pursuant to existing IPUC practices and the requirements of this Wildfire Mitigation Plan.
- Take corrective action when the staff witnesses or is notified that fire protection measures have not been properly installed or maintained.
- Comply with relevant federal, state, and industry standard requirements, including the industry standards established by the California Public Utilities Commission.

D. WILDFIRE RESPONSE AND RECOVERY

Los Angeles County Fire Department (“LACFD”) is the lead agency in cooperation with City of Industry, IPUC for implementation of the Wildfire Prevention and Response Program. LACFD will direct IPUC regarding public safety priorities. IPUC Staff’s role in response to wildfire and during recovery process is set forth in Section E (“SEMS”). As mentioned above under the roles and responsibilities, IPUC will coordinate with LAC Sheriff’s Department for situational awareness and other public safety issues. The IPUC will also coordinate with LAC Department of Public Works (“LACDPW”) and other local water and wastewater companies to ensure power to these critical facilities.

E. STANDARDIZED EMERGENCY MANAGEMENT SYSTEM (SEMS)

IPUC is located within the County of Los Angeles and will assist in the functioning of Emergency Operations Center if required depending on the situation and the request from the lead agency. As a local governmental agency, IPUC has planning, communication, and coordination obligations pursuant to the California Office of Emergency Services’ Standardized Emergency Management 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, IPUC will coordinate and communicate with the relevant safety agencies as well as other relevant local and state agencies as required. The IPUC via LACFD and LACDPW works closely with Los Angeles County to coordinate emergency operations.

Los Angeles County coordinates with Federal, State and local agencies to prepare, respond and recover from emergencies and natural disasters.

- Los Angeles County (LAC) also coordinates and maintains the county Emergency Operations Center (EOC). The EOC can be used during a major incident such as a wildfire to carry out the principles of emergency preparedness and emergency management between multiple agencies.

- LAC has a direct link to the California Governor’s Office of Emergency Services during disasters or any other critical incident. In the event of a major incident LAC can work with CAL OES to obtain a Presidential proclamation.
- LAC works closely with other local agencies and acts as a point of contact for local agencies to California Governor’s Office of Emergency Services.

LAC has identified wildland fires as one of the specific hazards that impact the county. LAC’s Board of Supervisors has approved emergency and disaster plans and annexes (<https://ceo.lacounty.gov/emergencydisaster-plans-and-annexes/>), including the Operational Area Emergency Response Plan (OAERP) to establish the coordinated emergency management system for prevention, protection, response, recovery and mitigation activities within the Operational Area. LAC’s OAERP conforms to SEMS.

Under the SEMS structure, a significant amount of preparation is done through advanced planning at the county level, including the coordination of public, private, and nonprofit organizations. LAC’s Board of Supervisors established the LAC Operational Area on July 5, 1995. LAC serves as the lead agency of this Operational Area and is guided by the Los Angeles County Disaster Council that is made up of representatives of local agencies. The Operational Area includes local and regional organizations that bring relevant expertise to the wildfire prevention and recovery planning process. It is divided into eight Disaster Management Areas to coordinate management, planning, training, and preparedness actions. The IPUC is located in Disaster Management Area D. Area D participants and partners include the cities of Arcadia, Azusa, Baldwin Park, Bradbury, Claremont, Covina, Diamond Bar, Duarte, El Monte, Glendora, Irwindale, La Puente, La Verne, Monrovia, Pomona, Rosemead, San Dimas, Sierra Madre, South El Monte, Temple City, Walnut, and West Covina; County of Los Angeles Sheriff’s Department; Hacienda La Puente Unified School District; the American Red Cross; and California State Polytechnic University, Pomona.

Pursuant to the SEMS structure, IPUC will participate if required in annual training exercises.

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

A. BACKGROUND

Like most areas of Southern California, the City of Industry and IPUC service territory typically experiences cool, wet winters and hot dry summers, creating extreme fire conditions from May through October, especially during the Santa Ana Wind conditions

which may happen outside the hot months. Daily temperatures during the fire season from June to October are usually above 90 degrees Fahrenheit, and humidity can vary from day to day, with some days experiencing humidity in the single digits. The IPUC service area is mostly an urban area without many trees or any wooded/brush area with the exception of the Industry Business Center (“IBC”). The IBC is an area of approximately 600 acres that is currently under development. The area currently consists of vacant land with some dry brush or grass on the project site. There are no IPUC overhead lines in that area or its vicinity with no significant risk to initiate any wildfire. The City is working to keep the grass areas of the IBC green, and reduce potential for dry brush. All existing electrical lines at the IBC are underground and also will be underground in future.

B. AS MENTIONED EARLIER, THE POTENTIAL AND RISK OF WILDFIRE ORIGINATED FROM THE ELECTRICAL LINES OWNED, OPERATED AND MAINTAINED BY IPUC IS LOW, BECAUSE THE IPUC’S ENTIRE 12,000-VOLT ELECTRIC DISTRIBUTION SYSTEM IS LOCATED UNDERGROUND IN CONDUIT AND VAULTS, AND THE IPUC HAS NO OVERHEAD DISTRIBUTION LINES. HISTORICALLY, UNDERGROUND LINES HAVE NOT BEEN ASSOCIATED WITH CATASTROPHIC WILDFIRES. ENTERPRISE SYSTEM, OUTAGES AND OPERATIONAL/SAFETY RISK

As previously mentioned IPUC is a very small publicly owned utility, and below the minimum requirements of National Electric Reliability Council (“NERC”) and Western System Coordinating Council (WSCC) of 25 megawatts, to maintain records and report power outages with annual reliability matrixes. IPUC does not own, operate or maintain any transmission lines and all distribution lines are underground and future distribution lines will be underground. Based on the foregoing, the IPUC has determined that its electrical lines and equipment do not pose a significant risk of catastrophic wildfire. Despite this low risk, IPUC takes appropriate actions to help the region prevent and respond to the increasing risk of devastating wildfires. Some of the actions include:

1. IPUC will purchase and use better quality equipment such as underground distribution cable with Ethylene Propylene (EPR) Insulation instead of Crosslinked Polyethylene (XLP) which is less prone to premature cable failure and potential for arcing.
2. More frequent detailed distribution system inspection cycles than required by CPCU GO 165. For example, CPCU GO 165 requires detailed distribution inspections on a 5 year cycle but the IPUC will perform that inspection on a 3 year cycle. That inspection will include a visual and detailed inspection of the current condition and to confirm that all the underground structures, pad mount switches and pad mount transformers are functioning

normal and catch anything which isn't functioning as designed and take action to correct it.

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

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

- Extended drought - Southern California just went through extended drought condition starting from December 27, 2011 to March 5, 2019 and lasted 376 weeks. It can happen again in future.
- Vegetation type - The IPUC service territory is mostly urban with very few trees on the city streets. The IBC Development that is approximately 600 acres has vacant land with dry grass and other brush on site and adjacent to it. Industry Hills near Pacific Palms Hotel and Expo areas have lot of trees and dry brush.
- Vegetation Density - Low to moderate except in the Industry Hills and Expo area
- Weather - Summer is usually hot dry with daily temperatures usually above 90 degree Fahrenheit from June to October months. Winter is cool and wet and most of 14.68 average annual rain between months of November and March. Average annual temperature is 77 degrees fahrenheit. Humidity can vary from day to day and can be in single digits in hot summer months from May to October and creating extreme fire conditions in combination with Santa Ana Winds.
- High winds - Santa Ana Wind conditions normally happen during summer months from May to October and can also happen outside the hot months. Santa Ana Winds are strong gusty winds with speed which can range from 30 miles per hour to as much as 90 miles per hour.
- Terrain - there is more significant terrain variation at the IBC and at the Pacific Palms Resort area.
- Changing Weather Patterns (Climate Change) - It is believed that the global warming has impact on the climate and increasing potential of more wildfires.
- Communities at Risk - Besides the City of industry, other adjacent cities of Diamond Bar, Walnut and La Puente may be impacted but the chances are slim.
- Fire History- There is no known history of wildfires in the area served by IPUC.

V. WILDFIRE PREVENTATIVE STRATEGIES AND PROGRAMS

A. CPUC HIGH FIRE THREAT DISTRICT

IPUC did not directly participate in the development of the CPUC's Fire-Threat Map, which designates a High-Fire Threat District.

IPUC has reviewed the proposed boundaries of the High Fire Threat District and confirmed that, based on local conditions and historical fire data, all of IPUC's service territory was properly excluded, and has no tier 2 or tier 3 fire threat area as of November 2019. IPUC does not need to incorporate the High Fire Threat District into its construction, inspection, maintenance, repair, and clearance practices, until CPUC Fire Threat Map is revised to show any area served by IPUC falls with it, but IPUC will continue to follow those as an extra precautionary measure where applicable.

B. DESIGN AND CONSTRUCTION STANDARDS

IPUC's electric facilities are designed and constructed to meet or exceed the relevant federal, state, or industry standard. IPUC follows CPUC General Orders (GO) 128 as a key industry standard for design and construction of underground electrical facilities. . Additionally, IPUC monitors and follows, as appropriate, the National Electric Safety Code.

C. ENHANCED INSPECTIONS

Inspections and follow up with action items to perform required maintenance plays an important role in wildfire prevention. Currently, the IPUC patrols its distribution system regularly and plans to increase the detailed inspections frequency to exceed GO165 requirements. IPUC is considering detailed inspection on a 3 year cycle as compared to the 5 years required by GO165.

Some of inspection activities may include more detailed inspections of pad mounted equipment such as switch blades, rusting and any other abnormal thing which can cause short-circuits and failures with an initiating arc. Similarly, for underground structures we will perform infrared tests on the cable terminators or 600 amp and 200 amp elbows if required.

If IPUC staff discovers a facility in need of repair that is owned by an entity other than IPUC, the IPUC may issue a notice to repair to the facility owner and work to ensure that necessary repairs are completed promptly.

D. DEENERGIZATION

IPUC has the authority to preemptively shut off power due to fire-threat conditions, however, this option is not likely to be used and will only be used in extraordinary

circumstances. Due to the minimal risk of IPUC's electrical supply facilities causing a power-line ignited wildfire, IPUC is not adopting specific protocols for de-energizing any portions of its electric distribution system. IPUC will re-evaluate this determination in future updates to this Wildfire Mitigation Plan.

E. SITUATIONAL AWARENESS

Presently IPUC is considering installing smart electrical meters with automated metering infrastructure (AMI) to track individual customer power outages along with the outage notification system as part of the Meter Data Management (MDM) system. IPUC's plan to upgrade to AMI and MDM would help better provide situational awareness of the condition of the electrical distribution system at all times.

IPUC staff monitors weather reports from the local radio and television stations and is alert during the Santa Ana Winds and other high fire threat conditions and will attempt to not schedule any field work to be performed as a precautionary measure unless it is absolutely necessary.

F. OPERATIONAL PRACTICES

IPUC will operate the electrical distribution system in a manner that will minimize potential wildfire risks including taking all reasonable and practical actions to minimize the risk of a catastrophic wildfire caused by the IPUC's electrical facilities. As recommended by the third party evaluator, IPUC will hire a consultant to perform a relay protection coordination study for each of the six 12,000- Volt distribution feeders originating from the Waddingham Substation. This study will include protection coordination of substation feeder relays with the downstream protective devices of fuses in the pad mount switches and pad mounted transformers and fine-tune the relay settings to make sure that any electrical fault on these distribution lines is cleared as quickly as possible and any faulted part of circuit isolated to reduce the potential risk of any arc. Staff will take corrective actions for deficiencies when the staff witnesses or is notified of improperly installed or maintained fire protection measures. In general, during high wildfires, threats period (red flag warnings) the IPUC will perform only essential work.

G. PUBLIC SAFETY AND NOTIFICATION

The IPUC will do the following to communicate with the community during high fire threat periods and disaster.

- Coordinate with LACFD and LAC Sheriff's Department

- Develop communication protocol for notification to community and social media

VI. RESTORATION OF SERVICE

In the event of a wildfire or other emergency event, IPUC will coordinate the activities necessary to restore electrical service to all parties as required. The IPUC will coordinate with SCE on the restoration of the three interconnection points of Waddingham 66,000 volt to 12,000-Volt Substation, Anaheim- Puente 12,000 volt and Pacific Palms Hotel 12,000 volt interconnections. Restoration of service in each specific incident may be different but the steps taken will be similar to begin the restoration process. The steps are as follows:

Assessment.

The IPUC will patrol each line segment to determine the extent of damage that has occurred. The patrol will include the assessment of access to the equipment, clean/up and debris removal personal protective equipment (PPE) requirements of the crews. The IPUC will work with the LACFD and LACSD as required to make sure area is deemed safe to restore electrical power.

Planning.

After the preliminary and initial assessment, IPUC Staff will discuss the plan and needed work to restore power. Any individual customer that has damage to its electrical service panel or transformer will be isolated from the pad mounted switch. Teams will focus on prioritizing the restoration efforts to most critical infrastructure needs first, such as critical water and communication facilities, Pacific Palms Hotel and Waddingham Substation etc.

Mobilize and Action.

Based on the complexity of restoration efforts, the IPUC will coordinate the crews and material needs as required. IPUC has some contracts with material vendors for material needs but in the event of widespread catastrophic damage in the region it may become a challenge to acquire the needed material.

Restoration.

Rebuild effort will start as soon as the areas become safe to access. Initial effort will be to restore the interconnections with SCE, first starting from the Waddingham Substation and then all 12,000- volt distribution circuits. Depending upon case by case, rebuilding or any demolition required may be done simultaneously or rebuilding first and demolitions later if safe to do so. After all distribution circuits are restored all individual customers will

be restored to power except those which have sustained damage and isolated from the circuit. After the repair or replacement of transformer and /or electrical service panel and inspection certification if needed, the remaining customers will be restored.

VII. EVALUATING OF THE PLAN

A. METRICS AND ASSUMPTIONS FOR MEASURING PLAN PERFORMANCE

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

METRIC 1: FIRE IGNITIONS

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

- IPUC 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
- IPUC has knowledge that the fire occurred.

In future Wildfire Mitigation Plans, IPUC 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.

METRIC 2: WIRES DOWN

The second metric is the number of distribution and transmission wires downed within IPUC service territory. Since IPUC has no overhead transmission and distribution lines and this metric is not applicable to IPUC.

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

B. IMPACT OF METRICS ON PLAN

In the initial years, IPUC anticipates that there will be relatively limited data gathered through these metrics. However, as the data collection history becomes more robust,

IPUC will be able to identify areas of its operations and service territory that are disproportionately impacted. IPUC will then evaluate potential improvements to the plan.

C. MONITORING AND AUDITING THE PLAN

This Wildfire Mitigation Plan will be presented to IPUC Board on an annual basis. Additionally, a qualified independent evaluator will review the Plan and provide any suggested improvements. If required, third party evaluator will present a report on this plan to the IPUC Board.

D. IDENTIFYING AND CORRECTING DEFICIENCIES IN THE PLAN

IPUC Staff, inspectors and contractors are encouraged to identify Wildfire Mitigation Plan deficiencies to the IPUC – Operations Manager as soon as possible when observed. The Operations Manager will evaluate each reported deficiency and if it is determined to be a valid deficiency, it will be entered into a log with the following information:

- Date the deficiency was discovered
- Description of deficiency
- Source identifying the deficiency
- Priority based on the severity
- Corrective action required and with deadline to accomplish
- Assigned staff for corrective action
- Date corrective action completed

E. MONITORING THE EFFECTIVENESS OF INSPECTIONS

As previously mentioned, IPUC will endeavor to exceed the GO165 requirement to conduct a detailed inspection on a five year cycle, and instead, perform that inspection on a three or four year cycle. Also IPUC is currently performing GO165 inspections and making a note of the observations and will review those after the inspection is completed. Anything found that need improvement or appear hazardous will be documented, and will be given a priority with a work order and that work order will be tracked to the closure.

VIII. INDEPENDENT AUDITOR

Public Utilities Code section 8387(c) requires the IPUC 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 Wildfire Mitigation

Plan. The independent evaluator must issue a report that is posted to the IPUC's website. This report must also be presented to IPUC at a public meeting.

The IPUC engaged Richard Mrlik from Intertie Incorporation (Intertie) as an independent third party evaluator to review and assess the comprehensiveness of Wildfire Mitigation Plan. Richard is very familiar with IPUC's operation and its electrical system and had worked previously with IPUC. He was selected due to his past experience, knowledge and background suited for this task. He has reviewed the WMP and made some recommendations to improve the WMP. His complete report is attached as Exhibit B with the staff report for consideration of approval of WMP by the IPUC Board on December 12, 2019. This report will be posted on the IPUC website and Richard will be present during the meeting of December 12 to make any presentation on his report if required or answer any questions. .

EXHIBIT B

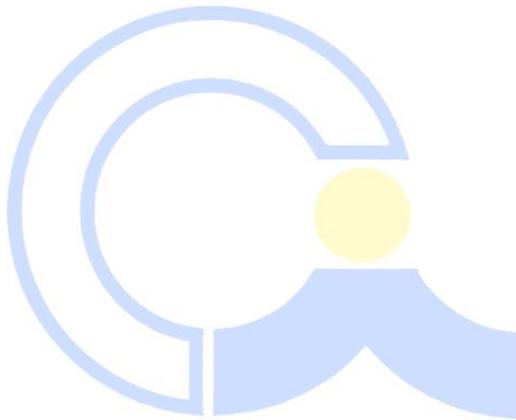
Wildfire Mitigation Plan Independent Evaluation

[Attached]

WILDFIRE MITIGATION PLAN INDEPENDENT EVALUATION

Prepared for:

INDUSTRY PUBLIC UTILITIES COMMISSION



December 4, 2019 Revision 1

Submitted by:



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THIS REPORT WAS PREPARED BY INTERTIE INCORPORATED (INTERTIE) FOR THE INDUSTRY PUBLIC UTILITIES COMMISSION. THE WORK PRESENTED IN THIS REPORT REPRESENTS INTERTIE'S PROFESSIONAL JUDGMENT BASED ON THE INFORMATION AVAILABLE AT THE TIME THIS REPORT WAS PREPARED. INTERTIE IS NOT RESPONSIBLE FOR THE READER'S USE OF, OR RELIANCE UPON, THE REPORT, NOR ANY DECISIONS BASED ON THE REPORT AND MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESSED OR IMPLIED.

EXECUTIVE SUMMARY

Intertie Incorporated (Intertie) was engaged by the Industry Public Utility Commission (IPUC) to perform an independent evaluation of its Wildfire Mitigation Plan (WMP or Plan). The Plan was prepared as a response to Senate Bill (SB) 901, which was signed into law on September 21, 2018. SB 901 requires electric utilities to prepare and adopt Plans within 2019 and revise and update the Plan annually thereafter. Additional statutory requirements are listed in Public Utilities Code (PUC) Section 8387 that addresses publicly-owned utilities (POUs). More specifically PUC Section 8387(c) mandates an independent evaluation of IPUC's Plan which is the basis of Intertie's evaluation report.

This independent evaluation report describes the technical review and evaluation of IPUC's WMP provided by Intertie. Intertie performed this evaluation in November 2019 and reviewed detailed information related to IPUC's WMP and assessed IPUC's procedures related to its Plan based on the statutory requirements of PUC Section 8387. Based on our review, IPUC's Wildfire Mitigation Plan contains the required elements set forth in SB901 and AB1054. The Report was developed to satisfy the statutory requirement for public review. This Report underlies the required evaluation by the IPUC Board at a public meeting, scheduled for December 12, 2019.

As shown in Figure 1, as of November 2019, none of IPUC's electric service territory is within the California Public Utility Commission's ("CPUC") tier 2 or tier 3 fire- threat area referred to also as the High Fire Threat District. Additionally, IPUC's entire electric distribution system is located underground in conduit and vaults and has no overhead distribution lines. While having all of its electric facilities outside of CPUC designated High Fire Threat District and underground greatly mitigates the threat of power-line ignited wildfires, IPUC's WWP generally addresses the critical key strategic plan elements contemplated by statutory requirements including:

- 1) Design and Construction
- 2) Inspection and Maintenance
- 3) Operational Practices
- 4) Situational and Conditional Awareness
- 5) Response and Recovery

Intertie completed a detailed review of IPUC's WWP. Rather than individually affirm details of the IPUC WWP's substantial compliance with statutory requirements of SB901 & PUC§8387, this evaluation provides commentary on areas for improvement.

Design and Construction

All of IPUC electric facilities with the exception of pad-mounted transformers are located underground, obviating the need for risk mitigation upgrades such as replacing bare wires with covered conductors.

Inspection and Maintenance

SB901 and PUC 8387 require that electrical utilities develop and implement plans for the inspection and maintenance of electric infrastructure, including but not limited to conducting system patrols, employing technology to facilitate and improve the quality of inspections and adopting industry best practices for inspection and maintenance. Currently IPUC patrols its distribution system regularly and plans to increase the detailed inspections frequency to exceed GO165 requirements which is prescribed by the CPUC to establish minimum requirements for electrical distribution facilities, regarding inspection, condition rating, scheduling and performance of corrective action, record-keeping and reporting in order to insure safe and high-quality electrical services. IPUC's WWP should provide more granularity on GO165 Distribution Inspection Cycles for its distribution facilities including underground and pad-mounted transformers, switches and other facilities all of which are located in urban areas and required both patrol and detailed inspections with different cycles. These need to be identified and a system for tracking and providing notification of such inspections should be implemented.

The bulk of IPUC's electrical facilities are located underground which significantly reduces the need for vegetation management. However IPUC primarily provides services to end-use customers using pad-mounted equipment which would need to be inspected and vegetation management practices developed and implemented in these areas.

Operational Practices

While IPUC will operate its electrical distribution system in a manner that will minimize potential wildfire risks including taking all reasonable and practical actions to minimize the risk of a catastrophic wild fire caused by IPUC electrical facilities, we recommend that IPUC should perform the protection coordination study of distribution feeder relays with downstream devices such as fuses of pad mounted switches and transformer and implement the results of that study to expedite the detection and isolation of system faults. The project will be completed within two years.

There are no plans to "harden" IPUC's electric system as it has little to no exposure to wildfire ignitions and the current practices are in place to provide adequate system reliability.

IPUC should document its Standard Operating Procedures and Standard Work Practices for its electric distribution operations as a first step to improving the quality of service, system reliability and ability to respond to system outages or faults.

Situational and Conditional Awareness

Presently IPUC is considering installing smart electrical meters with automated metering infrastructure (AMI) to track individual customer power outages. IPUC's plan to upgrade to AMI can help provide better situational awareness of the condition of the electrical distribution system at all times.

Response and Recovery

The WMP's Standardized Emergency Management System ("SEMS") lacks sufficient granularity and specification of roles, responsibilities, and structures of communications such as a contact list of participants from school districts, utilities, Fire Districts, special districts, communications providers, and other similar organizations. The WMP needs to better develop appropriate and feasible procedures for notifying a customer who may be impacted by the deenergizing of electrical lines. The procedures shall consider the need to notify, as a priority, critical first responders, health care facilities, and operators of telecommunications infrastructure.

Particular Risks and Risk Drivers

While quantifying risk is not possible, a structured risk analysis is achievable by gathering pertinent information on key risk drivers, key risk impacts and internal/external risk trends and using this information to establish expectations, processes, procedures and controls for preventive and mitigation activities.

Climate Change

Climate change is an external risk whose trend points to increased wildfire probabilities going forward. California has already been experiencing the impacts of climate change including prolonged droughts, increased coastal flooding and erosion and tree mortality. A number of climate-related factors have contributed to the increasing risk of wildfires due to principally to increased combustible vegetation material and weather conditions. As air temperatures rise, vegetation is drying out, creating weather conditions ripe for fire ignition and expansion.

Historically, fire season begins in early spring and extends through late fall. Climate change has expanded the dry and hot time horizon in IPUC's geographic region, resulting in the need for year-round fire prevention and preparedness. As identified earlier, vegetation management practices developed and implemented in areas around pad-mount equipment, which are the only IPUC electric facilities that could potentially be exposed to vegetation.

Local Weather Patterns

Santa Ana winds can bring exceptionally hot weather and historically peak from October through December, according to a 2017 climatology study, but can occur anytime from September into June. Under these circumstances, the risk of wildfire ignition and spread is the greatest. The combined impact of longer Santa Ana periods with the increased likelihood of

extended drought due to climate change, the need for year-round prevention and preparedness is self-evident.

IPUC Electrical Facilities Wildfire Risk

While there have not been any wildfires caused by IPUC electrical equipment, the key risk drivers from electrical facilities are: contact with objects, equipment failures, wire to wire contact and others such as vandalism. The key risk impacts from wildfires are serious injury/fatality, property damage, service reliability and financial. IPUC acknowledges the impacts that wildfires can have on the community, the City and local economy. IPUC provides electric service primarily to commercial/industrial customers located in areas with limited vegetation with the exception of Pacific Palms hotel.

As previously mentioned, all of IPUC electric facilities are underground with the exception of pad-mounted transformers used to extend service from distribution lines to customers electric service panels.

Principal Consultant Qualifications

Richard Mrlik, the principal energy consultant from Intertie was contacted by IPUC staff to provide the WMP evaluation. Mr. Mrlik received his BS and MS degree in engineering from Stanford University and has over 25 years of electric industry experience that includes generation, interconnection and distribution infrastructure. He has worked extensively with the planning and installation of electric distribution and service facilities to mixed-use master planned developments throughout the Western US. He previously was integrally involved with the startup of IPUC's electric utility in 2001 and from 2001 to 2016 worked closely with the City Engineer on all planning, operations and management of electric operations. He worked on various different assignments related to Metrolink Solar Facility PV1, the initiation of wholesale distribution service and interconnection of Industry Hills, some part of Waddingham Substation such as Interconnection Agreement with SCE and all previous 12 kV interconnections. He is very familiar with the IPUC, its operation and its service territory.

Mr. Mrlik has reviewed and provided comment on IPUC-Electrical Wildfire Mitigation Plan. As part of his Company's audit and evaluation, he shall complete an extensive site inspection of IPUC-Electrical electric facilities.