

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Implement  
Electric Utility Wildfire Mitigation Plans  
Pursuant to Senate Bill 901 (2018)

R.18-10-007  
(Issued October 25, 2018)

**RESPONSE OF SAN DIEGO GAS & ELECTRIC COMPANY (U 902-E) TO  
ADMINISTRATIVE LAW JUDGE'S RULING REQUIRING  
UPDATED PROGRESS REPORTS – WILDFIRE MITIGATION PLANS**

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January 15, 2020

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Pursuant to the December 19, 2019 *Administrative Law Judge’s Ruling Requiring Updated Progress Reports – Wildfire Mitigation Plans*, San Diego Gas & Electric Company (SDG&E) hereby submits its report showing progress on its 2019 Wildfire Mitigation Plan implementation through December 31, 2019. SDG&E’s Progress Report is included as Attachment 1 to this filing.

Respectfully submitted,

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**Attachment 1**

**SDG&E's 2019 Wildfire Mitigation Plan Implementation Progress  
(as of December 31, 2019)**

# SDG&E's 2019 Wildfire Mitigation Plan (WMP) Progress Update

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(All data is as of December 31<sup>st</sup>, 2019)

# Wildfire Mitigation Plan Activities Summary



Operational Practices				Vegetation Management			Situational Awareness		
4.1.1 – Operate based on normal, elevated, and extreme conditions	4.1.2 – Disable reclosing during elevated or higher conditions	4.1.3 – Restrict high risk work during elevated or higher conditions		4.4.1 – Create a tree database for analysis	4.4.2 – Increase inspections within the HFTD	4.4.3 – Increase post trim clearance to 25’ within the HFTD	4.5.1 – Creates a Fire Science and Climate Adaptation department	4.5.2 – Perform analysis of weather data to inform circuit risk	4.5.3 – Publish Fire Potential Index to inform Operations
4.1.4.1 – Send fire suppression crews to support electric crews	4.1.4.2 – Aerial resources available for CalFire Dispatch year round	4.1.4.3 – Ground fire suppression resources available for dispatch year round		4.4.4 – Utilize technology to prioritize trimming and hardening efforts	4.4.5 – Audit the trimming to ensure quality and compliance	4.4.6 – Inspect and remove “hazard trees” that could fall into lines	4.5.4 – Utilize SAWTI to gauge severity of Santa Ana Wind events	4.5.5 – Utilize wildfire simulation model to understand the impacts of ignitions	4.5.6 – Utilize camera networks to improve response times to fires
4.1.4.5 – Create ignition database and perform root cause analysis		4.1.4.6 – Clear fuels on BLM land and 13 priority circuits		4.4.7 – Clear vegetation at the base of poles with equipment	4.4.8 – Electric Equipment Training through joint inspections with CalFire	4.4.9 – Perform inspections in high risk areas prior to red flag events	4.6.1 – Collaborate with stakeholders to better understand the impacts of climate change	4.6.2 – SDG&E will install 500 wireless fault indicators	4.6.3 – Add 13 weather stations to SDG&E’s weather network
Plans for Inspection				Public Safety Power Shutoff					
4.2.1 – Complete distribution Inspections	4.2.2 – Complete substation inspections	4.2.3 – Complete transmission inspections		4.2.3 – Complete GIS portal to share data		4.7.1 – SDG&E utilizes PSPS as a last resort mitigation	4.7.2 – SDG&E patrols lines before re-energizing after PSPS events	4.7.4 – SDG&E notifies its customers in five languages of impeding PSPS events	4.7.5 – SDG&E continues to collaborate with key community stakeholders
System Hardening									
4.3.1 – Leverage design and construction standards	4.3.2 – SDG&E looks to apply new technologies to mitigate wildfire risk	4.3.3 – SDG&E performs facility analysis to inform risk models and prioritization	4.3.4 – SDG&E has created a formal wildfire mitigation strategy and governance team	4.3.5 – SDG&E has formed a centralized asset management group	4.3.6 – SDG&E plans to harden 10 miles of transmission lines (outside of CNF)	4.3.7 – SDG&E plans to underground 1.25 miles of overhead in 2019	4.3.8 – SDG&E plans to harden 68 miles of overhead lines within the CNF	4.3.9 – SDG&E plans to harden 80 miles of distribution lines within the HFTD	4.3.10 – SDG&E plans to replace 700 wood pole structures within the HFTD
4.3.11 – SDG&E plans to replace 2250 fuses within the HFTD	4.3.12 – SDG&E plans to replace 500 hot line clamps within the HFTD	4.3.13 – SDG&E plans to harden 5.7 miles of distribution lines in the wildland urban interface	4.3.14 – SDG&E will develop standards and work methods for covered conductor	4.3.15 – SDG&E will enable falling conductor protection on 8 circuits	4.3.16 – SDG&E will install LTE equipment and fiber backhaul within the HFTD	4.3.17 – SDG&E has installed over 200 remote switching devices within the HFTD	4.3.18 – SDG&E will install seven additional remote switching devices	4.3.19 – SDG&E replaces poles as part of its inspections and maintenance program	4.3.20 – SDG&E installs back up generation to mitigate the impacts of PSPS

Complete
  Ahead of Plan
  On Track
  Off Track

# Q4 Activity Status vs 2019 Goals

## Operational Practices

### Operating Conditions

**137 days**

Operated in elevated or higher condition

#### Operating Conditions (4.1.1)

**Volume vs 2019 Goal:** SDG&E has operated in elevated or higher condition 137 days in 2019.

**Key Actions:** SDG&E continues to define and change its operating procedures based on its conditions which are defined by SDG&E's fire potential index. These are defined as normal, elevated, and extreme.

### Other Special Work Procedures

**Complete**

#### Other Special Work Procedures (4.1.3)

**Volume vs 2019 Goal:** 100% of days elevated or higher, SDG&E has implemented special work procedures.

**Key Actions:** SDG&E ensures that on elevated days, electric crews are accompanied by fire suppression crews to ensure safety. On extreme days, certain activities are stopped altogether within the HFTD.

### Aviation Firefighting Program

**3**

Aerial fire suppression resources available

#### Aviation Firefighting Program (4.1.4.2)

**Volume vs 2019 Goal:** SDG&E has three aerial fire suppression resources available year-round in 2019.

**Key Actions:** These assets have made a combined 279 drops including 220,453 gallons of water.

### Ignition Management Program

**Complete**

#### Ignition Management Program (4.1.4.5)

**Volume vs 2019 Goal:** SDG&E has secured a resource for this role in June and the database has been developed.

**Key Actions:** The ignition management program lead has begun to collect data and perform root cause analysis on ignitions.

### Recloser Protocols

**Complete**

#### Recloser Protocols (4.1.2)

**Volume vs 2019 Goal:** 100% of days elevated or higher, SDG&E has disabled reclosing and enabled sensitive protections on its reclosers within the HFTD in an effort to mitigate the risk of wildfire.

### Wildfire Infrastructure Protection Teams

**Complete**

#### Wildfire Infrastructure Protection Teams (4.1.4.1)

**Volume vs 2019 Goal:** 100% of days elevated or higher, wildfire infrastructure teams join SDG&E electric crews to provide fire suppression capabilities during high risk work. These crews are also there to support re-energization during PSPS events.

### Industrial Fire Brigade

**Complete**

#### Industrial Fire Brigade (4.1.4.3)

**Volume vs 2019 Goal:** Industrial fire brigade resource has been secured and is available year-round in 2019.

**Key Actions:** This fire suppression resource responds to active fire events caused by SDG&E equipment. They are equipped with a liquid foam truck which can extinguish oil fires caused by transformers.

### Fuels Management Program

**808**

Poles surveyed

**511**

Poles treated

#### Fuel Management (4.1.4.6)

**Volume vs 2019 Goal:** Baseline surveys were completed for 808 poles including BLM, Priority 13, Tier 3, and CNF poles. 511 of the surveyed poles were treated. The remaining poles did not meet the habitat requirements for fuel work, or the landowner denied access.

**Key Actions:** SDG&E has completed fuels management on 100% of the poles surveyed that met the program criteria and were able to be accessed.

# Q4 Activity Status vs 2019 Goals

## Plans for Inspection

### Distribution System Inspection

**100%** QA/QC  
**100%** Detailed

#### Distribution System Inspection (4.2.1)

**Volume vs 2019 Goal:** 10,000 of 10,000 poles completed QA/QC inspection (100%), 47,813 of 47,850 poles completed for detailed inspection (100%)

**Key Actions:** SDG&E completes remediations within 6 months in tier 3 HFTD per general orders, and within 12 months in the tier 2 HFTD

### Transmission System Inspection

**100%**

Structures inspected

#### Transmission System Inspection (4.2.3)

**Volume vs 2019 Goal:** 6,730 of 6,730 OH Structures inspected (100%)

**Key Actions:** Transmission inspections and remediations are completed in accordance with general orders and the filed maintenance plan with the California ISO.

### Substation System Inspection

**100%**

Substations inspected

#### Substation System Inspection (4.2.2)

**Volume vs 2019 Goal:** 301 of 300 substation inspected (100%)

**Key Actions:** SDG&E completes substation inspections and remediations in accordance with general order 174

### Geographic Information Data System

**Complete**

#### Geographic Information System Data (4.2.4)

**Volume vs 2019 Goal:** The GIS portal to share information with CALOES during emergency and PPS events has been implemented.

**Key Actions:** SDG&E has successfully shared GIS information through the portal on multiple activations in 2019

# Q4 Activity Status vs 2019 Goals

## System Hardening (1 of 3)

Design and Construction Standards

Complete

### Design and Construction Standards (4.3.1)

**Key Actions:** SDG&E designs and constructs its transmission and distribution system in accordance with its standards.

Testing and Deploying Emerging Technologies

Complete

### Testing and Deploying Emerging Technologies (4.3.2)

**Key Actions:** SDG&E continues to evaluate and implement emerging technologies. Examples this year include the installation of falling conductor protection, the installation of the Cal Fire approved fuses, and the completion of vendor selection and standards for covered conductor.

Facility Analysis

Complete

### Facility Analysis (4.3.3)

**Key Actions:** SDG&E has completed the actions performed in the facilities analysis section of the WMP. This information informs SDG&E's risk models and helps with the prioritization of wildfire mitigation

Oversight of Activities in the Rural Areas

Complete

### Oversight of Activities in the Rural Areas (4.3.4)

**Key Actions:** This governance and strategy role has evolved in 2019 with the creation of the Wildfire Mitigation Department.

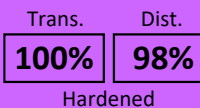
Asset Management

Complete

### Asset Management (4.3.5)

**Key Actions:** The asset management group has been stood up, and they are in the process of publishing asset strategies and are developing asset health index tools.

Overhead Trans. and Dist. Fire Hardening



### Overhead Transmission and Distribution Fire Hardening (4.3.6)

**Volume vs 2019 Goal:** 10 of 10 miles of transmission hardened (100%); 83 of 85 miles of distribution hardened (98%)

**Key Actions:** SDG&E continues the hardening of its 69kV transmission system and is on track to finish all transmission circuits within the HFTD by 2025.

Undergrounding Circuit Line Segments

208%

Undergrounded

### Underground Circuit Line Segments (4.3.7)

**Volume vs 2019 Goal:** 2.6 of 1.25 miles undergrounded (208%)

**Key Actions:** This program has exceeded its goal for 2019.

Cleveland National Forest Fire Hardening

90%

Hardened

### Cleveland National Forest Fire Hardening (4.3.8)

**Volume vs 2019 Goal:** 61 of 68 miles hardened (90%)

**Key Actions:** Includes both transmission and distribution fire hardening of lines within the Cleveland National Forest



# Q4 Activity Status vs 2019 Goals

## System Hardening (2 of 3)

### Fire Risk Mitigation

**96%**

Complete

#### Fire Risk Mitigation (4.3.9)

**Volume vs 2019 Goal:** 82 of 85 miles complete (96%)  
**Key Actions:** FiRM continues to replace small high-risk conductor with high tensile strength conductor, it's replaced 403 miles program to date.

### Expulsion Fuse Replacement

**111%**

Fuses replaced

#### Expulsion Fuse Replacement (4.3.11)

**Volume vs 2019 Goal:** 2490 of 2250 fuses replaced (111%)  
**Key Actions:** Program has exceeded its goal for 2019.

### Wire Safety Enhancement

**100%**

Enhanced

#### Wire Safety Enhancement (4.3.13)

**Volume vs 2019 Goal:** 5.7 of 5.7 miles enhanced (100%)  
**Key Actions:** Installation have been completed in the wild land urban interface in Rancho Santa Fe, and in the costal canyons of La Jolla.

### Fire Threat Zone Advanced Protection

**100%**

Enabled

#### Fire Threat Zone Advanced Protection (4.3.15)

**Volume vs 2019 Goal:** 8 of 8 circuits enabled with falling conductor protection (100%)

### Pole Risk Mitigation and Engineering

**99%**

Hardened

#### Pole Risk Mitigation and Engineering (4.3.10)

**Volume vs 2019 Goal:** 695 of 700 poles hardened (99%)

### Hotline Clamps

**132%**

Hotline clamps removed

#### Hotline Clamps (4.3.12)

**Volume vs 2019 Goal:** 660 of 500 hotline clamps removed (132%)  
**Key Actions:** Program has exceeded its goal for 2019.

### Covered Conductor

**Substantially Complete**

#### Covered Conductor (4.3.14)

**Key Actions:** Distribution Standards have selected covered conductor vendors, installed the conductor at a controlled test site, attached new hardware to SDG&E, and are in route to publish standards in January of 2020.

### LTE Communication Network

**Complete**

#### LTE Communication Network (4.3.16)

**Key Actions:** LTE equipment and fiber back haul installations have begun in 2019.

# Q4 Activity Status vs 2019 Goals



## System Hardening (3 of 3)

### Automated Reclosers

**200**

Installed

### Automated Reclosers (4.3.17)

**Key Actions:** SDG&E has over 200 remote reclosers installed within the HFTD and continues to install more in an effort to be more targeted in PSPS events

### Pole Replacement and Reinforcement

**725**

Poles replaced

### Pole Replacement and Reinforcement (4.3.19)

**Volume vs 2019 Goal:** SDG&E has replaced 725 poles found through the GO165 visual and intrusive inspections within the HFTD.

### PSPS Engineering Enhancements

**100%**

Installed

### Public Safety Power Shutoff Engineering Enhancements (4.3.18)

**Volume vs 2019 Goal:** 7 of 7 switches installed (100%)

**Key Actions:** SDG&E completed its 2019 goal to expand switch installations within the HFTD to mitigate the impacts of PSPS

### Backup Power for Resilience

**Complete**

### Backup Power for Resilience (4.3.20)

**Key Actions:** All Community Resource Centers requiring a transfer switch to facilitate backup generation were fitted with manual transfer switches by year end. 79 medical baseline customers were identified and offered generators. 65 of 79 received the generator, were trained on its use, and are considered complete. The remaining 14 customers did not participate in the program: 3 were unresponsive to outreach efforts, 8 refused to participate, and 3 had relocated. All targeted HPWREN system upgrades were completed by December 31, 2019.

# Q4 Activity Status vs 2019 Goals



## Vegetation Management (1 of 2)

### Tree Database

**455,000**

Trees inventoried

### Tree Database (4.4.1)

**Volume vs 2019 Goal:** YTD 455,000 trees in inventory

### Patrol and Pruning

**Complete**

### Patrol and Pruning (4.4.2)

**Key Actions:** Bamboo and Century Plant off cycle Patrols are Complete

### Enhanced Inspections, Patrols, and Trimming

**Complete**

### Enhanced Inspections, Patrols, and Trimming (4.4.3)

**Volume vs 2019 Goal:** 81,000 trees targeted for enhanced 25-foot post prune clearance or complete removal. Post Red flag Warning patrols in specified HFTD Circuits.

**Key Actions:** 28 of 28 circuits completed off cycle patrols and trimming (100%)

### Technology

**Complete**

### Technology (4.4.4)

**Key Actions:** Utilized Meteorological data to complete first phase of Vegetation Risk Index (VRI).

### Quality Assurance

**80%**

HFTD audits complete

### Quality Assurance (4.4.5)

**Key Actions:** Slight impact to schedule as a result of Red Flag Warning and fires keeping crews safe and outside the affected areas. Completed 80% of HFTD audits by year end.

### Hazard Tree Removal and Right Tree-Right Place

<b>9884</b>	<b>260</b>
Removed	Replaced

### Hazard Tree Removal and Right Tree-Right Place (4.4.6)

**Key Actions:** YTD completed 9,884 tree removals and replacing 260\* trees.

*\*Replacement trees revised downward due to recalculation.*

### Pole Brushing

**100%** **100%**

Mech. brushing & chem app.    Re-clear cycle complete

### Pole Brushing (4.4.7)

**Key Actions:** 100% Mechanical brushing and Chem applications are complete. Currently 100% Complete in re-clear cycle. Notification process for the next cycle is 80% complete.

### Electrical Equipment Training

**Off Track**

### Electric Equipment Training (4.4.8)

**Key Actions:** Cal Fire was not available for training or joint inspections in 2019. Cal Fire did commit to scheduling training in 2020.

# Q4 Activity Status vs 2019 Goals

## Vegetation Management (2 of 2)

Red Flag Operations

**Complete**

**Red Flag Operations (4.4.9)**

**Key Actions:** Tree Trim Crews have been staged during each Red flag Warning event at the request of the EDO.

# Q4 Activity Status vs 2019 Goals

## Situational Awareness (1 of 2)

Fire Science and Climate Adaptation Department  
**Complete**

**Fire Science and Climate Adaptation Department (4.5.1)**  
**Volume vs 2019 Goal:** This department was formed in 2018  
**Key Actions:** This department forms the foundation for situational awareness, emergency response, and hardening prioritization

Meteorological Cap. and Tech.  
**Complete**

**Meteorological Capabilities and Technologies (4.5.2)**  
**Volume vs 2019 Goal:** SDG&E's weather network has grown from 178 to 191 in 2019.  
**Key Actions:** Leveraging SDG&E's dense weather network, SDG&E performs statistical analysis to model risk on individual electric circuits

Fire Potential Index  
**Complete**

**Fire Potential Index (4.5.3)**  
**Volume vs 2019 Goal:** SDG&E has published an FPI every business day in elevated or higher conditions 137/137 days (100%)  
**Key Actions:** SDG&E leverages the FPI to inform it's operating conditions and procedures

Santa Ana Wildfire Threat Index  
**Complete**

**Santa Ana Wildfire Threat Index (4.5.4)**  
**Volume vs 2019 Goal:** SDG&E developed in conjunction with US Forest Service and UCLA, and it's published every business day  
**Key Actions:** This tool allows SDG&E to gauge the severity of Santa Ana wind events

WRRM - Operational System  
**29**  
Simulations published

**Wildfire Risk Reduction Model – Operational System (4.5.5)**  
**Key Actions:** SDG&E has published 29 fire simulations which inform impact analysis of fires without suppression to get an idea of the structures, customers, and SDG&E infrastructure that is at risk due to an ignition. This tool is used to prioritize hardening efforts.

Camera Networks and Fire Detection  
**107**  
Cameras

**Camera Networks and Fire Detection (4.5.6)**  
**Volume vs 2019 Goal:** SDG&E has a total of 107 cameras across the service territory  
**Key Actions:** The primary use to improve fire suppression response time by triangulating locations of ignitions as soon as they occur

Climate Change Adaptation  
**Complete**

**Climate Change Adaptation (4.6)**  
**Key Actions:** SDG&E collaborates with the San Diego Association of Governments(SANDAG) and educational institutions to better understand the impacts of climate change, and how to best mitigate these impacts. SDG&E has an internal climate advisory group that advices on climate-based decisions.

Wireless Fault Indicators  
**119%**  
Complete

**Wireless Fault Indicators (4.6.2)**  
**Volume vs 2019 Goal:** 594 of 500 wireless fault indicators (119%)  
**Key Actions:** This program exceeded its goal for 2019.

# Q4 Activity Status vs 2019 Goals

## Situational Awareness (2 of 2)

Advanced Weather  
Station Integration  
and Forecast

**Complete**

**Advanced Weather Station Integration and Forecast (4.6.3)**

**Volume vs 2019 Goal:** Added 13 of 13 weather stations (100%)

**Key Actions:** This year, SDG&E has installed a software enhancement on 105 of it's 190 weather stations which allows for reads every 30 seconds, a significant improvement from reads every 10 minutes. This enables better real time decision making.

# Q4 Activity Status vs 2019 Goals



## Public Safety Power Shutoff

Strategy for  
Minimizing Public  
Safety Risk

Complete

### Strategy for Minimizing Public Safety Risk (4.7.1)

**Key Actions:** SDG&E continues to use Power Safety Power Shutoff as a last resort mitigation during the most extreme weather events of the year. In 2019, SDG&E activated PSPS protocols on three events and utilized PPS all three times. One of the PPS protocol activations included three separate Red Flag Warnings, of which PPS was only utilized for two of the three RFWs.

Communication  
Practices

Complete

### Communication Practices (4.7.4)

**Key Actions:** SDG&E has implemented notification procedures in five languages to keep our customers informed of potential and impending PPS events utilizing multiple channels of communication as outlined in SDG&E's wildfire mitigation plan.

Public Safety Power  
Shutoff Protocols

Complete

### Public Safety Power Shutoff Protocols (4.7.2)

**Key Actions:** Before re-energizing customers after a PPS event, SDG&E confirms with meteorology that the peak winds have passed, and 100% of the circuit is patrolled by ground or helicopter to ensure no damage occurred during the event.

Mitigating the Public  
Safety Impact of  
PPSP Protocols

Complete

### Mitigating the Public Safety Impact of PPS Protocols (4.7.5)

**Key Actions:** SDG&E has and continues to communicate with key stakeholders as outlined in SDG&E's Wildfire Mitigation Plan

# Appendix

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## Off Track Activity Details



# 2019 WMP Off Track Activities – Details



## (4.4.8) – Electric Equipment Training

**Summary:** This program was initiated as a collaboration with CalFire. Both SDG&E and CalFire are required to perform inspections in compliance with PRC 4292 and 4293. SDG&E and CalFire jointly perform these inspections so that CalFire better understands the electrical equipment and so that SDG&E better understands the wildfire risk of the area.

**Progress/Challenges:** SDG&E offered to train CalFire employees on electrical equipment at the beginning of 2019, but they didn't have resources available to complete the training. CalFire confirmed there was a county staffing issue, and that the county will provide additional staffing in 2020. They have plans to resume joint inspections with SDG&E in 2020.