San Diego Gas & Electric Company

2024 WILDFIRE MITIGATION PLAN ANNUAL REPORT ON COMPLIANCE

April 1, 2025

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List of Abbreviations

Abbreviation	Name
AAR	After-Action Review
ACI	Areas for Continued Improvement
ADS	Atmospheric Data Solutions
AFN	Access and Functional Needs
AGOL	ArcGIS Online
AI	Artificial intelligence
AQI	Air Quality Index
ARC	Annual Report on Compliance
ARFS	Advanced Radio Frequency Sensors
AWS	Amazon Web Services
CAL FIRE	California Department of Forestry and Fire Protection
CAISO	California Independent System Operator
CBO	Community Based Organization
CFSR	Climate Forecasting System Reanalysis
CMP	Corrective Maintenance Program
CNF	Cleveland National Forest
CPUC	California Public Utilities Commission
CRC	Community Resource Centers
CW3E	Center for Western Weather and Water Extremes
DFM	Dead Fuel Moisture
DWO	Dispatch Work Order
ENS	Enterprise Notification System
EOC	Emergency Operations Center
FERC	Federal Energy Regulatory Commission
FPI	Fire Potential Index
GAP	Generator Assistance Program
GGP	Generator Grant Program
GIS	geographic information system
GO	General Order
GOES	Geostationary Operational Environmental Satellite
GRC	General Rate Case
HFE	Human Factors Engineering
HFTD	High Fire Threat District

HLC	hotline clamp
HYSPLIT	Hybrid Single-Particle Lagrangian Integrated Trajectory
ICS	Incident Command System
IIP	Intelligent Image Processing
IOU	Investor-Owned Utility
kV	Kilovolt
LEP	Limited English Proficiency
LFM	Live Fuel Moisture
LiDAR	Light detection and ranging
MBL	Medical Baseline
MODIS	Moderate Resolution Imaging Spectroradiometer
NDVI	Normalized Difference Vegetation Index
NOAA	National Oceanic and Atmospheric Administration
O&M	Operations & Maintenance
OEIS or Energy Safety	Office of Energy Infrastructure Safety
OFER	Operational Field Emergency Readiness
OMS	Outage Management System
PEDS	Protective Equipment Device Settings
PQ	Power Quality
PRC	Public Resource Code
PUC	Public Resource Code
PSPS	Public Safety Power Shutoff
QA/QC	Quality Assessment/Quality Control
QDR	quarterly data reports
QEW	Qualified Electrical Worker
RIDI	Risk-Informed Drone Inspection
RAMP	Risk Assessment Mitigation Phase
RFW	Red Flag Warning
RMSU	Risk Modeling Support Unit
SAP	Systems Applications and Processes
SAWTI	Santa Ana Wind Threat Index
SCADA	supervisory control and data acquisition
SDG&E or Company	San Diego Gas & Electric
SDSC	San Diego Supercomputer Center
SRP	Sensitive Relay Profiles
SVI	social vulnerability index

SWO	scheduling work order
T&M	Time and Material
TGR	tree growth regulator
UCSD	University of California at San Diego
VMA	Vegetation Management Areas
VRI	Vegetation Risk Index
WCRC	Wildfire & Climate Resiliency Center
WFI	wireless fault indicator
WiNGS	Wildfire Next Generation System Planning
WMP	Wildfire Mitigation Plan
WRF	Weather Research and Forecast
WUI	Wildland Urban Interface

1 Introduction

Pursuant to Public Utilities Code (PUC) §8386, San Diego Gas & Electric's (SDG&E or Company) 2023-2025 Base Wildfire Mitigation Plan (WMP) contains a description of the preventive strategies and programs SDG&E employs to minimize the risk of its electrical lines and equipment causing catastrophic wildfires, including consideration of dynamic climate change risks and metrics to measure the plan's implementation and performance. SDG&E submitted its 2023-2025 Base WMP on March 27, 2023, in accordance with guidance from the Office of Energy Infrastructure Safety (OEIS or Energy Safety).[1] OEIS approved SDG&E's 2023-2025 Base WMP[2] on October 13, 2023. The programs, initiatives, and plans described in the 2023-2025 Base WMP highlight many of SDG&E's efforts to mitigate the risk of catastrophic wildfire and the customer impacts of Public Safety Power Shutoff (PSPS) de-energizations.

Pursuant to PUC § 8386.3(c)(1), SDG&E submits this 2024 Annual Report on Compliance (ARC), which is SDG&E's self-assessment of compliance with its approved 2023-2025 Base WMP for the 2024 compliance period. SDG&E asserts that it met its wildfire and PSPS risk reduction intent and provides quantitative and qualitative metrics demonstrating its achieved risk reduction. Appendix A: SDG&E 2024 ARC Summary Targets and Expenditures offers an at-a-glance view of SDG&E's planned and actual targets and spend.

In 2024, SDG&E implemented and tracked the progress of 41 quantitative mitigation programs and 101 qualitative 3-year objectives outlined in its 2023-2025 Base WMP. SDG&E's mitigations involve a wide array of categories such as grid hardening; inspection and maintenance; and vegetation management programs, all aimed at mitigating the risk of ignitions related to the electric system. Additional categories include situational awareness, which informs risk models and helps prioritize infrastructure hardening, replacement and upgrades; emergency planning and preparedness; and minimizing impacts related to PSPS, which enables strategies and tools for real time decision making during emergency response and PSPS activations. SDG&E's mitigation efforts also include programs designed to reduce likelihood of ignitions evolving into catastrophic wildfires, including high-definition cameras and ground and aerial fire suppression resources. In addition, SDG&E's 2023-2025 Base WMP included mitigations designed to minimize customer impacts associated with PSPS de-energizations, such as the installation of sectionalizing devices and customer service mitigations including the Generator Grant Program (GGP); Community Resource Centers (CRC), which are operated during PSPS de-energizations; and customer outreach programs, which are aimed at wildfire and PSPS preparedness.

SDG&E substantially completed or exceeded the target for 30 of 41 quantitative programs in 2024, achieving the overall risk reduction intent as described in the 2023-2025 Base WMP. Section 5 discusses the 2024 year-end status for the 41 quantitative programs. The following are key accomplishments for activities that occurred between January 1, 2024, and December 31, 2024.

- SDG&E fire hardened 52.5 miles of its overhead electric system within the High Fire Threat District (HFTD).

[1] *Office of Energy Infrastructure Safety's 2023-2025 Wildfire Mitigation Plan Technical Guidelines*. OEIS Docket No. 2023-2025-WMPs. December 6, 2022.
[2] SDG&E *2023-2025 Base WMP*. https://www.sdge.com/2023-wildfire-mitigation-plan

- SDG&E undergrounded 112 miles of its electric system within the HFTD.
- SDG&E completed routine and HFTD-focused distribution, substation, and transmission inspections, including timely remediation per general order requirements.
- SDG&E completed vegetation management annual inspections and pruning, including the inspection of over 523,000 trees in the service territory and the pruning or removal of over 11,500 targeted species trees to enhanced clearance levels exceeding regulatory requirements.

SDG&E's WMP implementation in 2024 was uniquely impacted by the circumstances of SDG&E's 2024 General Rate Case (GRC) Application (A.)22-05-016, submitted in May of 2022. In 2023, SDG&E requested California Public Utilities Commission (CPUC) approval of a Settlement Agreement with California Public Advocates Office on various issues in its GRC (Settlement Agreement),[3] including SDG&E's wildfire mitigation costs. The Settlement Agreement proposed agreed-upon reductions in both capital and Operations and Maintenance (O&M) requested spend for various WMP initiatives from 2024 to 2027.[4] Consistent with the Settlement Agreement, it was necessary for SDG&E to reduce the scope of its WMP initiatives in 2024 to achieve the anticipated cost reductions. Consequently, SDG&E submitted a Change Order request on November 1, 2023.[5] Energy Safety subsequently requested that SDG&E resubmit its Change Order Request to better reflect Energy Safety's intended purpose of the change order process.[6] SDG&E submitted a revised Change Order on December 19, 2023.[7]

On May 31, 2024, Energy Safety approved in part and rejected in part SDG&E's request to change its 2024 WMP targets.[8] The decision approved the Strategic Pole Replacement Program request but rejected eight other requests based on the rationale that the proposed changes did not reduce risk. While Energy Safety approved Change Order requests for other utilities based on final CPUC determinations regarding the reasonableness of wildfire mitigation costs,[9] SDG&E did not receive a final GRC decision until the end of 2024. To continue planning in alignment and in accord with its commitments in the Settlement Agreement, SDG&E proactively reduced scope and capital and O&M spend for multiple initiatives in 2024, anticipating filing a renewed Change Order request based on a final funding decision by the Commission.

On December 23, 2024, the end of SDG&E's Test Year, the CPUC issued a final decision in SDG&E's 2024 GRC, rejecting the proposed Settlement Agreement with respect to wildfire mitigation costs and

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[3] Joint Motion of Southern California Gas Company (U 904-G), San Diego Gas & Electric Company (U 902-M), and the Public Advocates Office for Adoption of Settlement Agreements Resolving Various Issues in the 2024 General Rate Case. October 24, 2023. https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M520/K647/520647938.PDF

[4] Ibid, pp. 26-29.

[5] 2023-11-01_*SDGE_2023_Change_Order_Report_R0. November 1, 2023* and *2023-11-01_SDGE_2023_Change Order Report_R0_Attachment A ("SDG&E 2023 Change Order Report")*. OEIS Docket No. 2023-2025-WMPs (November 1, 2023)

[6] *Energy Safety Response to SDG&E's Request to Resubmit Change Order Request*. OEIS Docket No. 2023-2025-WMPs (December 14, 2023)

[7] *2023-12-19_SDGE_2023_Change_Order_Report_R1.* November 1, 2023. *2023-12-19_SDGE_2023_Change Order Report_R1_Attachment A ("SDG&E 2023 Change Order Report_R1")*. OEIS Docket No. 2023-2025-WMPs. December 19, 2023.

[8] *Office of Energy Infrastructure Safety Decision on San Diego Gas & Electric Company's Change Order Request in relation to its 2023-2025 Base Wildfire Mitigation Pla*n. OEIS Docket No. 2023-2025-WMPs. May 31, 2024.

[9] *Office of Energy Infrastructure Safety Decision on Pacific Gas and Electric Company's Change Order Request in relation to its 2023-2025 Base Wildfire Mitigation Plan* at Table 1 at 3-10. OEIS Docket No. 2023-2025-WMPs. May 31, 2024.

adopting several significant cuts to SDG&E's requested wildfire mitigation capital costs. SDG&E subsequently filed a Change Order request to Energy Safety on January 27, 2025, reflecting the cost reductions resulting from the Decision and retroactively requesting revisions to various 2024 initiatives and proactively requesting revisions to 2025 initiatives to reflect the wildfire mitigation costs deemed reasonable by the Commission. Energy Safety denied the Change Order on February 24, 2025[10], and ordered SDG&E to submit a Petition to Amend in accordance with the 2026-2028 Wildfire Mitigation Plan Process and Evaluation Guidelines adopted on February 21, 2025.[11]

Based on Energy Safety's guidance, SDG&E is concurrently submitting a Petition to Amend, retroactively requesting target reductions to the following 2024 initiatives that were impacted by SDG&E's late GRC decision. SDG&E requests Energy Safety's thoughtful consideration of these requested target revisions when determining whether SDG&E has complied with its approved 2023-2025 Base WMP for the 2024 compliance period.

Table 1-1: 2024 Requested Target Revisions

WMP Initiative	Unit	Original Target	Requested Target	Actual Completions
Distribution Communications Reliability Improvements (WMP.549)	Base stations	60	5	3
Standby Power Program (WMP.468)	Generators	300	58	54
Drone Assessments (WMP.552)	Inspections	13,500	6,500	6,529
Distribution Infrared Inspections (WMP.481)	Inspections	9,532	300	6,398
Fuels Management (WMP.497)	Poles	500	150	147

SDG&E thoughtfully selected reductions to mitigations in order to align with anticipated cost reductions without unreasonably introducing additional wildfire risk. SDG&E notes that, despite these reductions in targets, the Company's successful mitigation of wildfire risk in 2024 was demonstrated by the fact that, during historically dry conditions at the end of 2024 and 2025 and high fire risk weather during January 2025, SDG&E's infrastructure, situational awareness, and emergency operations practices resulted in no utility-related wildfires. Further, while SDG&E understands the negative impacts of PSPS de-energizations on our communities, SDG&E's community partnerships and 2024 efforts to reduce PSPS risk resulted in the generally successful implementation of a relatively large scale PSPS activation. For all of these reasons, SDG&E submits that it has complied with its 2023-2025 Base WMP during the 2024 compliance period.

[10] *Office of Energy Infrastructure Safety Denial of Extension Request for 2025 Wildfire Mitigation Plan Update Change Order Request and the Change Order Request*. OEIS Docket No. 2023-2025-WMPs. February 24, 2025.
[11] *Office of Energy Infrastructure Safety's Wildfire Mitigation Plan Guidelines ("2026-2028 WMP Guidelines")* at Section IV Petition to Amend. OEIS Docket No. WMP-Guidelines. February 28, 2025.

2 Update on WMP Objectives

2.1 Risk Methodology and Assessment

In 2024, SDG&E continued the enhancement of its risk assessment capabilities to support informed decision-making, including significant updates to the Wildfire Next Generation System (WiNGS) Planning and WiNGS-Ops models.

Updates to WiNGS-Planning in 2024 included expanding risk assessment scope to include the full service territory, upgrading the risk assessment granularity to the span-conductor level, adopting a cost-benefit framework to align with 2025 Risk Assessment Mitigation Phase (RAMP) guidelines, developing Monte Carlo based probabilistic risk event outputs for all risk metrics, creating a new risk attribute for Protective Equipment Device Settings (PEDS) outage impacts, incorporating an egress factor into wildfire risk calculations, and completing research and development into the creation of a social vulnerability index (SVI) factor to drive more informed wildfire and PSPS safety impact assessments. Additional improvements included standardizing the model validation process, which will facilitate a more formalized and comprehensive review process for future model version releases.

In 2024, WiNGS-Ops aligned with software development best practices by integrating source control, code optimization, and a multi-stage production environment. These enhancements support advanced machine learning algorithms and real-time data integration, significantly improving the accuracy and reliability of wildfire and PSPS risk assessments during periods of concern.

Continuous training and development for internal staff have been implemented to maintain high standards of analytical proficiency and operational excellence. A dedicated PSPS support group, the Risk Modeling Support Unit (RMSU), was trained on how to navigate the WiNGS-Ops visualization platform in order to provide advanced analytics support during PSPS activations. This group is an integral part of the PSPS operational team, offering model insights and analytics support before, during, and after a PSPS de-energization.

The RMSU utilizes the latest data and predictive models to inform decision-making processes, enhancing the accuracy and effectiveness of PSPS de-energizations. By continuously updating their skills and knowledge, the team can adapt to new challenges and leverage cutting-edge technologies to improve wildfire and PSPS risk management. This proactive, data-driven approach strengthens SDG&E's operational capabilities, enhances technical expertise, and contributes to overall safety.

SDG&E has established regular collaboration with industry experts, academic researchers, and internal stakeholders to ensure that the models remain effective during critical decision-making processes. These efforts have resulted in a more robust, validated, and adaptive risk analytics framework, enabling SDG&E to make more informed decisions, enhance public safety, and effectively manage resources during extreme fire weather conditions. Ongoing improvements in WiNGS-Planning and WiNGS-Ops exemplify SDG&E's dedication to leveraging cutting-edge technology and best practices to mitigate wildfire risks and protect the communities it serves.

2.2 Wildfire Mitigation Strategy

In 2024, wildfire mitigation strategy evolved through enhancements to risk modeling and real-world lessons learned through initiative implementation. The mitigation portfolio for the WiNGS-Planning model is tuned to reduce the risk of wildfire and the impact of PSPS in the HFTD.

In addition to updates made to the WiNGS-Planning model detailed in Section 2.1, SDG&E continued to incorporate third party recommendations for model improvements. SDG&E also transitioned away from maximum consequence values to probability distributions and incorporated extreme weather scenarios. Details are included in Areas for Continued Improvement (ACI) SDGE-25U-01, SDGE-25U-03, and SDGE-23B-04 (see Appendix D of the 2026-2028 Base WMP).

2.3 Grid Design, Operations, and Maintenance

In 2024, SDG&E successfully hardened 164.7 miles of overhead electric lines through implementation of its strategic undergrounding, covered conductor, and traditional hardening programs. It also reduced the impacts of PSPS de-energizations on its customers through the utilization of microgrids during PSPS de-energizations and deployment of customer resiliency programs.

In order to identify and resolve equipment conditions and failures on the grid before failures occur, SDG&E performed all required inspections governed by General Order (GO) 165 and addressed repair work in the required timeframes as governed by GO 95. Although supplemental inspection programs such as drone inspections and infrared inspections were reduced due to GRC impacts, SDG&E continued to pursue these mitigations and optimize their effectiveness.

2.4 Vegetation Management and Inspections

In 2024, enhancements to the Vegetation Management Program included tracking and maintaining an asset (tree and pole) database for all activities including detailed and off-cycle inspection, pruning and removals, enhanced vegetation management, pole clearing, and auditing. Additional work management enhancements in 2024 included the integration of invoicing-related data and tree data within the inventory tree and pole clearing records to improve financial reporting, the continued migration of Vegetation Management data into the Amazon Web Services (AWS) cloud, and the addition of geographic information system (GIS) mapping layers within EpochField for improved situational awareness for workers in the field.

SDG&E continued to refine the use of a risk-ranking structure for the scheduling of annual, off-cycle HFTD patrols.

Multiple reporting dashboards were created to track and schedule tree pruning work activities that were deferred due to customer refusals or environmental constraints. In addition, a dashboard was created to track past-due priority (“memo”) work that exceeded its scheduled completion date. These reporting tools will help more effectively manage deferred work, maintain activity work schedules, and improve compliance.

2.5 Situational Awareness and Forecasting

In 2024, technological advancements for fire science modeling and weather analysis included fully automating fire detection capabilities on the ALERTCalifornia[12] mountaintop cameras, exploring sensor technologies for portable monitoring in field trucks, exploring smoke plume modeling technology, and employing new machine learning wind speed and gust models. Additionally, partnerships with academia were continued, which will further develop fire science for integration into Santa Ana Wildfire Threat Index (SAWTI) and Fire Potential Index (FPI) as well as evaluate the inclusion of a module for impacts of large eddy scale weather into large computational resources. The opening of a Wildfire & Climate Resiliency Center (WCRC) in 2024 brought together leading thinkers and problem solvers in academia, government, and the community to create forward-looking solutions to help prevent ignitions, mitigate the impacts of fires, and ultimately help build a more resilient region. The WCRC also houses the Company's Emergency Operations Center (EOC), which not only accommodates situational awareness expertise and tools like advanced weather modeling but also provides critical support and regional coordination during extreme weather events and major disasters.

Air Quality Index data was made available to SDG&E employees enabling users to monitor real-time air quality in specific regions within the service territory.

2.6 Emergency Preparedness

In 2024, significant progress was made in modernizing and enhancing workforce training, particularly in storm response, processes, and documentation. Summer Readiness training sessions were conducted, and new training and tabletop exercises were developed in collaboration with Gas Operations. SDG&E conducted its largest and longest PSPS Functional Exercise in 2024, leading to both system improvements and enhanced responder readiness ahead of the 2024/2025 season. An Earthquake Exercise series was introduced to improve operational coordination and mutual assistance capabilities during large regional disasters. Efforts to expand Emergency Management Operations included ongoing research and planning to increase staff, with discussions focusing on the optimal use of full-time employees versus contractors. Additionally, the establishment of a 24/7 Watch Command Desk saw continued research and planning to design the most efficient use of resources. Human Factors Engineering (HFE) was integrated into the design of PSPS decision-making tools, and specific recommendations for WiNGS-Ops were reviewed and implemented.

Participation in mutual assistance programs remained active, supporting emergency associations and maintaining agreements to facilitate mutual aid. Development of dashboards and workflows for wildfire and PSPS notifications progressed, with an initial workflow and dashboard outline being created. Partnerships with 211 San Diego and Orange County were strengthened to support Medical Baseline (MBL) customers and individuals with Access and Functional Needs (AFN), ensuring ongoing collaboration and resource enhancements. Collaborations with Tribal governments and local organizations addressed challenges during PSPS de-energizations and provided necessary resources such as generators and emergency food distribution. The need for and capabilities of a new state-of-the-art Tactical Mobile Command Trailer continued; the project was paused to re-evaluate funding and will be revisited in 2026. Additionally, two new Incident Support Vehicles were purchased to support field

[12]ALERTCalifornia. https://alertcalifornia.org/

incidents, however, they require the installation of communications equipment to become fully operational.

2.7 Community Outreach and Engagement

In 2024, community outreach and public awareness efforts focused on year-round wildfire safety education and communication campaigns. Partnerships with Community Based Organizations (CBOs) in the HFTD and those serving individuals with an AFN were utilized to amplify PSPS and wildfire messaging. Mini wildfire-safety fairs were hosted to educate rural, hard-to-reach customers. The Resiliency Audits offering continued to provide tailored resources to residential customers in HFTD to enhance their resilience during power outages. Culturally appropriate communications and outreach were updated based on feedback provided by Tribes through listening sessions, surveys, and focus groups. The Tribal Relations team worked with the AFN Collaborative and Statewide Advisory Councils to refine and expand support services for individuals with AFN.

Partnerships with CBOs were also leveraged to promote and amplify preparedness messaging through social media packets, events, presentations, and workshops. Challenges in supporting individuals with AFN during PSPS de-energizations were addressed through collaborations with various councils and local governments. Broader engagement and planning with emergency and non-emergency planning agencies continued, including participation in meetings with other California Investor-Owned Utilities (IOUs) and membership with Chartwell, Inc. Enhancements were made to multiple mobile apps and communication platforms, such as the Public Safety Portal and the Alerts by SDG&E mobile app, to provide real-time updates and resources to customers. The Fire Science and Climate Adaptation business unit shared best practices with other utilities, and the EOC hosted tours to share information and resources with various stakeholders. The opening of the WCRC in 2024 brought together numerous community organizations, including 71 CBOs, 10 Tribal communities, and over 500 other organizations, to promote wildfire resiliency and emergency preparedness.

2.8 Public Safety Power Shutoff

In 2024, SDG&E made progress in mitigating PSPS impacts through grid hardening and customer backup resiliency initiatives, reducing PSPS impacts for approximately 17,000 customers during two events in November and December of 2024. Efforts to improve situational awareness during periods of extreme weather included establishing agreements to enhance FPI and SAWTI indices in 2025. WiNGS-Ops models were further developed to assess wildfire and PSPS risk, with improvements made to sub-models and visualization platforms. The FPI layer was integrated into the Outage Management System (OMS) to enhance safety and decision-making during unplanned outages. The Customer Notification System was successfully implemented and utilized during PSPS activations, and future enhancements were identified. An evaluation process for high PSPS risk circuits was developed, prioritizing corrective work and inspections based on various risk factors. Additionally, an experimental University of California at San Diego (UCSD) machine learning model and a vegetation model within WiNGS-Ops were created to assess vegetation-related failure risks, with ongoing validation and potential consolidation. Benchmarking with other IOUs on best practices continued to ensure continuous improvement.

3 Update on Objectives

This section provides an assessment of SDG&E's progress towards achieving its 3-year objectives as stated in Section 8 of its 2023-2025 Base WMP. Table 3-1 through Table 3-12 list SDG&E's 3-year objectives by category and provide a summary of progress made in 2024. SDG&E only provides a summary of progress for 10-year objectives that are also 3-year objectives or that have been completed (see Section 4); otherwise, no progress was made in 2024 towards the remaining 10-year objectives.

Table 3-1: Update on Objectives for Grid Design, Operations, and Maintenance

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.1.01 8.1.33	Continue to provide fixed backup power solutions to residential and commercial customers who experience frequent PSPS.	Standby Power Programs, WMP.468	8.1.2.11.2, p.181	12/31/2025	See Section 5.2.20 for progress towards completing quantitative targets.
8.1.02 8.1.34	Continue to provide portable backup power solutions to vulnerable, electricity-dependent customers.	Generator Grant Program, WMP.466	8.1.2.11.3, p.184	12/31/2025	In 2024, customers participating in the GGP were offered a resiliency assessment to determine their current awareness of PSPS resources, existing resiliency measures to which they may already have access, and other resiliency programs they may benefit from (such as permanent batteries).
8.1.03 8.1.35	Continue to provide rebates on portable backup power solutions to customers who experience PSPS.	Generator Assistance Program, WMP.467	8.1.2.11.4, p.185	12/31/2025	In 2024, qualifying customers participating in the Generator Assistance Program (GAP) were offered rebates on portable backup power solutions.
8.1.04 8.1.36	Build 185 Base Stations to deploy a privately-owned LTE network.	Distribution Communications Reliability Improvements, WMP.549	8.1.2.8.3, p.175	12/31/2033	See Section 0 for progress towards completing quantitative targets.
8.1.05 8.1.37	Install avian protection equipment on distribution poles in HFTD.	Avian Protection, WMP.972	8.1.2.10.1, p.178	12/31/2099 (Ongoing)	See Section 5.2.14 for progress towards completing quantitative targets.
8.1.07	Install new California Department of Forestry and Fire Protection (CAL FIRE)-approved power fuses to replace existing expulsion fuse equipment in the HFTD.	Expulsion Fuse Replacement, WMP.459	8.1.4.5, p.216	12/31/2025	See Section 5.2.11 for progress towards completing quantitative targets.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.1.08	Replace hotline clamp (HLC) connections that are connected directly to overhead primary conductors with compression connections.	Maintenance, repair, and replacement of connectors, including hotline clamps, WMP.464	8.1.4.4, p.222	12/31/2028	See Section 5.2.12 for progress towards completing quantitative targets.
8.1.09 8.1.38	Install CAL FIRE-approved lightning arresters in the HFTD.	Lightning arrester removal and replacement, WMP.550	8.1.4.6, p.226	12/31/2099 (Ongoing)	See Section 5.2.13 for progress towards completing quantitative targets.
8.1.10 8.1.39	Install switches in strategic locations improving the ability to isolate high-risk areas for potential de-energizations and minimize PSPS exposure to customers.	PSPS Sectionalizing Enhancements, WMP.461	8.1.2.11.1 p.181	12/31/2099 (Ongoing)	See Section 5.2.17 for progress towards completing quantitative targets.
8.1.11	Test devices that have been installed and identify the devices that do not have sufficient signals and low batteries, so they can be replaced in 2024 and 2025 by new material/WFI devices.	Wireless fault indicators, WMP.449	8.3.3, p.311	12/31/2028	In 2024, the Wireless Fault Indicator (WFI) Program was paused due to manufacturer upgrades. Upgraded WFIs require different communication specifications not currently employed, therefore, the feasibility of implementing this type of equipment is being evaluated. In the interim, supervisory control and data acquisition (SCADA) devices and existing WFIs will be utilized to provide situational awareness.
8.1.12 8.1.40	Expand microgrid off-grid solutions in the new Backup Power for Resilience Program.	Microgrids, WMP.462	8.1.2.7, p.167	12/31/2099 (Ongoing)	See Section 5.2.6 for progress towards completing quantitative targets.
8.1.13 8.1.41	Utilize strategic undergrounding to reduce or eliminate the threat of wildfire and the use of PSPS mitigation measures during extreme weather events.	Strategic Undergrounding Program, WMP.473	8.1.2.2, p.158	12/31/2099 (Ongoing)	See Section 5.2.2 for progress towards completing quantitative targets.
8.1.14 8.1.42	Install automation equipment on 21 circuits within the HFTD areas, with emphasis on Tier 3.	Falling Conductor Protection, Advanced Protection, WMP.463	8.1.2.8.1, p.169	12/31/2099 (Ongoing)	See Section 5.2.7 for progress towards completing quantitative targets.
8.1.15 8.1.43	Complete installation of advanced radio frequency sensors (ARFS) and Power Quality (PQ) meters on 30 circuits within	Early Fault Detection, WMP.1195	8.1.2.8.2, p.172	12/31/2099 (Ongoing)	See Section 5.2.8 for progress towards completing quantitative targets.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
	the HFTD areas, with emphasis on Tier 2 and Tier 3.				
8.1.16 8.1.44	Complete Tier 3 overhead hardening efforts, continue work on Tier 2 hardening.	Overhead Transmission Hardening, WMP.543 Underground Transmission Hardening, WMP.544 Distribution-Underbuild, WMP.545	8.1.2.5.2, p.164	12/31/2027	See Section 5.2.4 for progress towards completing quantitative targets.
8.1.17	Utilize data science methodologies to improve data integrity and develop predictive asset health analyses (Asset 360, IIP).	Asset 360, WMP.1341 IIP, WMP.1342	8.1.5.4.3, p.232	12/31/2099 (Ongoing)	In 2024, predictive distribution switch failure rates were developed, and work began on the connector failure rates. For transmission, the Asset 360 platform began using Large Language Model technology to analyze as-builts to collect attributes on shield wire in the HFTD. Datasets created from this process assist in the analysis of asset health and inform maintenance and replacement strategies. In addition, SDG&E began storing historical transmission asset photos on the Intelligent Image Processing (IIP) platform.
8.1.18 8.1.53	Utilize models to develop, enhance, and expand risk-informed strategies for asset management.	Integrated Asset Management Systems, WMP.1332	8.1.5.1, p.227	12/31/2099 (Ongoing)	In 2024, results from drone inspections were used to enhance current damage detection models and improve accuracy. Results were also used to refine damage code categories to capture current risk features. Furthermore, the Inspection Prioritization Model, which produces the scope for the Risk-Informed Drone Inspection (RIDI) Program, was optimized to consider not only the structures to inspect but the count of structures to inspect based on expected risk outcomes.
8.1.19	Continue development of Asset 360 data analytics foundation and integration.	Asset 360, WMP.1341	8.1.5.4, p.221	12/31/2099 (Ongoing)	In 2024, current data models were enhanced with new data points (such as IIP attributes) for critical assets. The Asset 360 platform also structured unstructured data using Optical Character Recognition.
8.1.20	Utilize Light detection and ranging (LiDAR) imagery and IIP for inventory of secondary conductor and services.	IIP, WMP.1342	8.1.5.4.3, p.232	12/31/2025	In 2024, a statement of work was obtained from SharperShape to classify secondary and services and to QC existing LiDAR imagery.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.1.21	Begin integrating digital asset imagery collected from drones, LiDAR, and other assessments into Asset 360	Integrated Asset Management Systems, WMP.1332	8.1.5.4, p.221	12/31/2099 (Ongoing)	In 2024, drone imagery was made available in Asset 360 and work to enable association of imagery data with existing assets was begun. In addition, the process of importing transmission asset photos into IIP began, which will enable future development of models and analysis.
8.1.22	Begin assessing accumulated data and utilizing/adopting geospatial platform.	Integrated Asset Management Systems, WMP.1332	8.1.5.4, p.229	12/31/2099 (Ongoing)	In 2024, work was performed to develop map services for the OEIS file geodatabase to test data from Quarterly Data Reports (QDRs) on the ArcGIS Online (AGOL) ArcGIS Hub Platform. The initiatives portion of the OEIS Geodatabase, including grid hardening, risk event, inspections and vegetation management datasets, were merged into a yearly geodatabase for publishing in the AGOL platform.
8.1.24	Continue infrastructure inspections per regulatory requirements while exceeding requirements in certain high- risk areas (HFTD and Wildland Urban Interface [WUI]).	Distribution Drone Assessments, WMP.552 Transmission 69 kV Tier 3 Visual Inspections, WMP.555 Distribution Infrared Inspections, WMP.481	8.1.3.7, p.202 8.1.3.10, p.213 8.1.3.3, p.195	12/31/2099 (Ongoing)	In 2024, all required inspections were performed per regulatory requirements. In addition, supplemental inspections such as drone inspections, infrared inspections, and additional visual patrols of 69-kilovolt (kV) transmission lines were performed, which exceeded regulatory requirements.
8.1.25	Expand the use and development of enhanced inspection technologies such as Infrared inspections of overhead distribution, drone assessments, and IIP to detect damage and collect data on distribution and vegetation.	Distribution Infrared Inspections, WMP.481 Transmission Infrared Inspections, WMP.482 Distribution Drone Assessments, WMP.552	8.1.3.3, p.195 8.1.3.4, p.197 8.1.3.7, p.202	12/31/2099 (Ongoing)	In 2024, drone inspections and infrared inspections were expanded into the WUI and infrared inspections were transitioned to a risk-informed program that primarily targeted the WUI during peak load summer months. The use of drone inspections on the transmission system was also evaluated and will continue to be evaluated in 2025.
8.1.26	Perform electric distribution drone inspections on 15% of HFTD and WUI structures prioritized on risk.	Distribution Drone Assessments, WMP.552	8.1.3.7, p.202	12/31/2099 (Ongoing)	In 2024 in anticipation of SDG&E's GRC, the Inspection Prioritization Model was updated to determine the number of structures to inspect based on expected risk outcomes. As a result, drone inspections were performed on 9% of structures in the HFTD, some of which were also in the WUI.
8.1.27	Continue the implementation of transmission wood pole intrusive inspections on an 8-year cycle (reduced from 10 years).	Transmission Wood Pole Intrusive inspections, WMP.1190	8.1.5.4.3, p.224	12/31/2099 (Ongoing)	In 2024, all required transmission wood pole intrusive inspections were performed. These inspections are performed on an 8-year cycle.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.1.28	Continue intelligent image processing, utilizing artificial intelligence and innovation to detect damage to high fire risk distribution assets and vegetation.	IIP, WMP.1342	8.1.6, p. 225	12/31/2099 (Ongoing)	In 2024, IIP Machine Learning models were expanded to include certain ground-based imagery to support the RIDI Program, wildfire mitigation programs, and asset replacement initiatives.
8.1.29	Regularly perform internal audits of inspections.	QA/QC of Distribution Detailed Inspections, WMP.491 QA/QC of Transmission Inspections, WMP.1191 QA/QC of Distribution Drone Assessments, WMP.1192 QA/QC of Wood Pole Intrusive Inspections, WMP.1193 QA/QC of Substation Inspections, WMP.1194	8.1.6.2, p.235 8.1.6.1, p.234 8.1.6.3, p.235 8.1.6.4, p.235 8.1.6.5, p.235	12/31/2099 (Ongoing)	In 2024, regular Quality Assessment/Quality Control (QA/QC) activities of inspections and findings were performed. Additionally, QA/QC of distribution detailed inspections was adjusted to reduce the timeframe between the inspection and the audit, increase the percentage of audits performed, and track the pass/fail results of the audits. See ACI SDGE-25U-07 (Appendix D of the 2026-2028 Base WMP) for details.
8.1.32	Examine electric line crew field personnel and first responder training for possible improvements.	Workforce Planning-Asset Inspections, WMP.1334	8.1.9.1, p.257	12/31/2099 (Ongoing)	In 2024, annual safety trainings were conducted for first responders who take part in emergency situations, including PSPS de-energizations. SDG&E partnered with the Operational Field Emergency Readiness (OFER) team to provide situational awareness training to first responder groups in San Diego County, including the San Diego Police Department and the San Diego Fire Department.

Table 3-2: Update on Objectives for Vegetation Management and Inspection

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.2.02	Vegetation Management Enterprise System.	Vegetation Management Enterprise System, WMP.511	8.2.4, p.287	12/31/2025	In 2024, Phase I of the vegetation management data migration from PowerWorkz-Oracle to AWS began, and the design phase of the new vegetation management data lake in AWS was completed. In addition, LiDAR strike-tree points were added to Epoch, new ESA polygons were updated in Epoch, and updated Near-Map imagery was loaded into Epoch.
8.2.05 8.2.14	Continue pole clearing (brushing) including multiple, annual activities of mechanical, chemical, and re-clear activities to prevent ignitions. Continue pole brushing in areas not required by law as an added fire-prevention activity. Continue integrated tree growth regulator (TGR) application during the pre-inspection process.	Pole Clearing "Brushing", WMP.512	8.2.3.1, p.278	12/31/2025	In 2024, the annual target for pole clearing was exceeded. Non-mandated pole clearing was also performed as a discretionary measure on poles that include only exempt HLC hardware.
8.2.06 8.2.15	Continue to thin flammable vegetation around select poles subject to Public Resource Code (PRC) § 4292 using risk and environmental impact criteria. Pilot alternate methods of thinning such as the cultural use of goats for sustainability goals.	Fuels Management Program, WMP.497	8.2.3, p.276	12/31/2025	In 2024 Q3 and Q4, the decision was made to cease this program due to the Affordability Action Plan and the pending GRC decision. Because poles in the service territory are still maintained under the Pole Clearing activity as required under PRC§4292, risks for pausing the Fuels Management Program were considered low. The Fuels Management Program was fully funded in the final GRC decision in December 2024 and will therefore resume in 2025.
8.2.07 8.2.16	Continue performing multiple inspection activities in the HFTD including "Level 2" hazard tree patrols within the entire "utility strike zone" to identify risk trees that could impact the overhead conductor.	Off-Cycle Patrols, WMP.508	8.2.2.2, p.273	12/31/2025	In 2024, off-cycle patrols were completed in the 106 Vegetation Management Areas (VMAs) that are whole or partially in the HFTD. New enhancements for off-cycle patrol work orders were developed in for improved tracking, reporting, and documentation of this activity

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.2.08 8.2.17	Continue pursuing expanded trim clearances greater than 12 feet in the HFTD for targeted species, exceeding regulatory requirements. Update methodology for modeling and forecasting application of enhanced clearances.	Clearance, "Enhanced", WMP.501	8.2.3.3, p.282	12/31/2025	In 2024, the target was met for this initiative. Bi-weekly meetings with the Joint IOUs, the OEIS, and a third-party vendor to discuss the Enhanced Clearances Joint Study. This resulted in the completion of a "common database" that standardized tree-related outage tracking. The study was completed in 2024 and the third-party vendor delivered recommendations based on the results. The Joint IOUs began a white paper on the effectiveness of the study, which will be included in their 2026-2028 Base WMPs.
8.2.09 8.2.18	Continue annual, required, internal contractor training for Hazard Tree, Environmental, Fire Preparedness, and Environmental Regulation. Develop and document internal training material for new Vegetation Management personnel.	Workforce Planning, WMP.506	8.2.7, p.292	12/31/2025	In 2024 all contractors completed the required training.
8.2.10 8.2.19	Continue engagement and collaboration with California Community College of Education, UAA, local unions, and Joint IOUs on Line Clearance Tree Trimming training. Expand curriculum to include training for Certified Arborists.	Workforce Planning, WMP.506	8.2.7, p.292	12/31/2025	In 2024, two 5-week qualified-line-clearance-training sessions were completed and approximately 40 students graduated from the program. An on-site job fair was also presented for graduates immediately following training completion.

Table 3-3: Update on Objectives for Situational Awareness and Forecasting

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.3.01	Continue to improve the quality of Air Quality Index (AQI) data and notifications.	Air Quality Management Program, WMP.970	8.3.2.1.3, p.306	12/31/2025	In 2024, air quality notifications continued. In addition, the association between distribution lists and the location of particulate sensors continued to be reviewed to ensure that employees assigned to work locations in an area impacted by wildfire smoke receive quality data. Data quality also continued to be reviewed and compared to county-operated sensors, particularly during wildfire events.
8.3.02	Continue to benchmark with other IOUs on monitoring solutions.	Air Quality Management	8.3.2.1.3, p.306	12/31/2099 (Ongoing)	In 2024, benchmarking on AQI tracking and notifications with other IOUs and companies continued. Safety staff attended conferences where

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
		Program, WMP.970			benchmarking takes place, which led to the identification of a portable sensor technology that will be considered for field testing (see Objective 8.3.03 for details).
8.3.03	Explore sensor technologies for portable monitoring in field/trucks.	Air Quality Management Program, WMP.970	8.3.2.1.3, p.306	12/31/2025	In 2024, an assessment of the Temtop handheld particulate sensor began and will continue in 2025. Depending on the assessment results, portable particulate sensors could be available for use in 2025.
8.3.04	Track and adapt to regulatory changes.	Air Quality Management Program, WMP.970	8.3.2.1.3, p.306	12/31/2099 (Ongoing)	In 2024, tracking of regulatory changes continued. There were no regulatory updates or impacts in 2024.
8.3.06 8.3.35	Explore smoke plume modeling technology.	Air Quality Management Program, WMP.970	8.3.2.1.3, p.306	12/31/2099 (Ongoing)	In 2024, an in-house smoke modeling feature that would potentially increase utilization and accuracy over the current Hybrid Single-Particle Lagrangian Integrated Trajectory (HYSPLIT) model was explored.
8.3.07	Develop full automation in fire detection capabilities.	Satellite Based Remote Sensing, WMP.971	8.3.4.1.1, p.319	12/31/2025	In 2024, progress was made on testing a technology that uses Geostationary Operational Environmental Satellite (GOES) West and East satellite detection. The technology triangulates wildfire mountain top cameras on an ignition point and sends a map-based product as an alert to registered users. This objective is ahead of schedule as of the end of 2024.
8.3.08	Archive ignition detection information from ground sources and perform analysis to help improve algorithms.	Satellite Based Remote Sensing, WMP.971	8.3.4.1.1, p.319	12/31/2025	In 2024, work to archive ignition detection information from ground sources and perform analysis to help improve algorithms continued. A new contract with San Diego Supercomputer Center (SDSC) was also drafted, which, when finalized, will support this effort until the completion date.
8.3.09	Archive camera verification of satellite heat detections.	Satellite Based Remote Sensing, WMP.971	8.3.4.1.1, p.319	12/31/2025	In 2024, work to archive ignition detection information from ground sources and perform analysis to help improve algorithms continued. A new contract with SDSC was also drafted, which, when finalized, will support this effort for the next 2 years.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.3.10	Continuously provide feedback on validation to vendor concerning hot spot detection.	Satellite Based Remote Sensing, WMP.971	8.3.4.1.1, p.319	12/31/2025	In 2024, archiving camera verification of satellite heat detections to provide feedback to the vendor continued. A new contract with SDSC was also drafted, which, when finalized, will support this effort until completion.
8.3.11	Filter out areas of known recurring false positives such as industrial solar farms.	Satellite Based Remote Sensing, WMP.971	8.3.4.1.1, p.319	12/31/2025	In 2024, archiving camera verification of satellite heat detections to provide feedback to the vendor continued. A new contract with SDSC was also drafted, which, when finalized, will support this effort until completion.
8.3.14	2025: Continue to harden infrastructure to support communications via mountaintop camera network.	Cameras, WMP.1343	8.3.4.1.1, p.320	12/31/2025	In 2024, efforts to strengthen infrastructure persisted. As technology evolves or encounters issues, the system needs continuous upkeep. SDG&E ensures this ongoing upkeep through a formal agreement with UC Regents.
8.3.15	Continue to replace and/or update existing weather stations to improve weather data and ultimately provide more accurate forecasting.	Weather Stations and NDVI Cameras, WMP.447	8.3.2.4.1, p.310	12/31/2025	In 2024, all stations were visited and calibrated except for two that had customer access issues and access points damaged by severe weather.
8.3.16	Perform upgrades to the weather station network including scaling fuels monitoring with the addition of Dead Fuel Moisture (DFM) sensors, Normalized Difference Vegetation Index (NDVI) cameras, communication equipment (modems), and batteries throughout the service territory.	Weather Stations and NDVI Cameras (WMP.447)	8.3.2.4.1, p.310	12/31/2025	In 2024, nine sites were fully installed. Note, this is a 3-year objective with work taking place every 2 to 3 years as equipment requires replacement.
8.3.18	Utilize high-performance computing clusters to generate higher resolution operational products.	Weather Forecasting, WMP.541	8.3.5, p.326	12/31/2025	In 2024, the model output was upgraded from 2-kilometer grid spacing to 1.5-kilometer grid spacing, which resulted in better forecasting with higher fidelity.
8.3.19	Implement the new operational 1.5-kilometer Weather Research and Forecast (WRF) configuration upgraded from the current 2-kilometer resolution and update all downstream indices from the higher resolution WRF output.	Weather Forecasting SAWTI, WMP.540 FPI, WMP.450	8.3.5.1.2, p.327 8.3.6, p.335	12/31/2025	In 2024, Meteorology implemented a new operational 1.5-kilometer WRF configuration upgrade from the previous 2.0-kilometer resolution, which updated all downstream indices to the higher resolution, including the Fire Potential Index and the SAWTI.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.3.20	Build a new Machine Learning wind speed and gust model that will be trained with the new consistent operational and historical 30-year dataset. Use the ultra-high-resolution terrain to place corrections on the WRF domain.	Weather Forecasting, WMP.452	8.3.5.3, p. 328	12/31/2025	In 2024, work continued on a new Machine Learning wind speed and gust model, which is on target to be implemented by the end of 2025.
8.3.22	Continue to work with academia and fire agencies to further develop fire science for integration into SAWTI. Re-code software that processes weather and fuels data when the resolution of the modeling used to generate the SAWTI is increased.	Weather Forecasting SAWTI, WMP.540	8.3.5.1.2, p.327	12/31/2025	In 2024, there was a meeting with the U.S. Forestry Service in January. Subsequent tasks were then outlined in the Atmospheric Data Sciences (ADS) scope of work.
8.3.23	Improve LFM Machine Learning model, which is an input in both FPI and SAWTI models.	Weather Forecasting SAWTI, WMP.540 FPI, WMP.450	8.3.5.1.2, p.327 8.3.6, p.335	12/31/2025	On August 21, 2024, 2-year scope of work with San Jose State University was finalized that will support the improvement of the live fuel moisture (LFM) machine learning model.
8.3.24	Continue partnerships with academia to work to advance fire science and weather science.	FPI, WMP.450	8.3.6, p.335	12/31/2025	In 2024, partnerships with four academic partners, the Center for Western Weather and Water Extremes (CW3E), San Jose State University, SDSC, and Cal Poly San Luis Obispo continued. These partnerships worked on developing new LFM content tools to better assess fire danger; storing datasets for weather forecasting, the FPI, and fuels; and running a version of the WRF model optimized for extreme weather prediction in the western United States.
8.3.25	Improve the inputs and outputs of the FPI, which may impact operational decision making.	FPI, WMP.450	8.3.6, p.335	12/31/2025	In 2024, the CW3E continued developing improvements to inputs and outputs of the FPI.
8.3.27	Implement the new operational 1.5-kilometer WRF configuration upgraded from the current 2-kilometer resolution and update all downstream indices (FPI, SAWTI) with the higher resolution WRF output.	FPI, WMP.450	8.3.6, p.335	12/31/2025	In 2024, upgrading the WRF to a 1.5-kilometer resolution was completed and all downstream indices except for SAWTI were updated. SAWTI is on target to complete this update in 2025.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.3.31	Partner with academia to explore and evaluate large computational resource to include a module for impact of large eddy scale weather	Weather Forecasting, WMP.452	8.3.5.3, p.328	12/31/2099 (Ongoing)	In 2024, a high-resolution test case was performed to determine the value of downscaling to the sub-kilometer resolution. Results indicated that it would be a beneficial change, therefore, two operational ensembles were downscaled to the sub-kilometer resolution. This was accomplished through a partnership with SDSC and can be visualized at https://wxmap.sdsc.edu//.

Table 3-4: Update on Objectives for Emergency Preparedness

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.4.01	Modernize and enhance workforce training in the areas of storm response, process, and documentation (collab with DOC-E and ERO).	Emergency Response Wildfire/PSPS exercise and training, WMP.526	8.4.2.1.3, p.351	6/30/2024	In 2024, Summer Readiness training was conducted and training and tabletop exercises, DOC-G, and an Earthquake Exercise series were developed in collaboration with Gas Operations. The Earthquake Exercise series will develop capabilities for operational coordination and inbound mutual assistance during a large regional disaster.
8.4.02	Expand Emergency Management Operations by increasing staff dedicated to enhancing various emergency programs.	Watch Command Desk, WMP.1335	8.4.2.2.1, p.352	6/30/2025	In 2024, research and planning to increase staff continued. Discussions on full-time employees versus contractor staff continued, with the goal of designing the most efficient use of resources.
8.4.03	Establish or Commission a 24/7 Watch Command Desk.	Watch Command Desk, WMP.1335	8.4.2.2.1, p.352	12/31/2025	In 2024, research and additional planning work design the most efficient use of resources continued.
8.4.04	Enhance HFE into the design of current and future PSPS decision making tools.	Watch Command Desk, WMP.1335	8.4.2.2.1, p.352	12/31/2099 (Ongoing)	In 2024, dashboard development and enhancement utilizing HFE continued. Specifically, recommendations for WiNGS-Ops were developed and reviewed.
8.4.05	Continue participation and support of Mutual Assistance Programs.	Preparedness and planning for service restoration, WMP.1009	8.4.3.3, p.377	12/31/2099 (Ongoing)	In 2024, participation and support of mutual assistance programs continued. As required by GO 166, membership in multiple emergency associations continued to facilitate mutual assistance and maintain active mutual assistance agreements.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.4.06	Continue engaging Human Engineering to develop a dashboard and workflow for wildfire/PSPS notifications.	Watch Command Desk, WMP.1335	8.4.2.2.1, p.352	6/30/2025	In 2024, development of a dashboard and workflow for wildfire and PSPS notifications continued. Specifically, an initial workflow and dashboard outline has been developed.
8.4.07	Continue collaboration with 211 in San Diego and Orange County to support AFN customers.	Public outreach and education awareness program, WMP.527	8.4.3.4, p.379	12/31/2099 (Ongoing)	In 2024, partnerships continued with 211 San Diego and Orange County United Way to support MBL customers and individuals with AFN. Specifically, a cadence of touchpoints was established to ensure ongoing collaboration and resource enhancements as new opportunities are identified.
8.4.08	Enhance community outreach by incorporating effectiveness outreach survey feedback, expanding Tribal and AFN campaigns, enhancing partnerships with Indian Councils, CBOs, and local school districts.	Public outreach and education awareness program, WMP.527	8.4.3.4, p.379	12/31/2099 (Ongoing)	In 2024, enhancement of community outreach continued through work with internal stakeholders, Indian Health Councils, local school districts, Tribal governments, and CBOs. The Tribal Relations team continued engagement with Tribal leaders, staff, and community members to understand their greatest challenges during PSPS de-energizations. In response, support systems with Indian Health Councils were established to provide generators, resiliency items, information, resources, and support with emergency food distribution during PSPS de-energizations. Additionally, an annual survey was developed and implemented to obtain direct feedback and identify areas of opportunity to enhance SDG&E's partnership with sovereign Tribal Nations.
8.4.09	Continue maintenance of emergency response plans using an Incident Command System (ICS) structure and process.	Emergency preparedness plan, WMP.1008	8.4.2.1, p.347	12/31/2099 (Ongoing)	In 2024, SDG&E maintained 52 emergency management plans (17 plans are updated yearly), 7 gas standard plans, and 62 business continuity plans.
8.4.10	Add one new state-of-the-art Tactical Mobile Command Trailer to the emergency fleet.	Watch Command Desk, WMP.1335	8.4.2.2.1, p.352	06/25/2025	In 2024, identification of the needs and capabilities of a Tactical Mobil Command Trailer continued. However, the project has been paused to re-evaluate funding and will be re-visited in 2026.
8.4.11	Put two new state-of-the-art Incident Support Vehicles in service to support existing fleet in field incidents.	Watch Command Desk, WMP.1335	8.4.2.2.1, p.352	12/31/2025	In 2024, two incident support vehicles were purchased. However, installation of communications equipment is still needed to make the vehicles fully serviceable.
8.4.12	Create new repository (software solution) for After-Action Reviews (AARs)	Public outreach and education awareness program, WMP.527	8.4.3.4, p.379	12/31/2024	In 2024, the IT project was put on hold due to internal prioritization criteria. SDG&E remains committed to the project completion and plans to revisit the project in subsequent years.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
	(platform to share with Safety Services). Accessible to others to interact.				
8.4.13	Enhance collaboration and engagement with public safety partners and the community through the use of the new WCRC.	Public outreach and education awareness program, WMP.527	8.4.3.4, p.379	9/30/2024	In 2024, the WCRC improved workforce training and fostered community engagement to develop a more inclusive and effective climate resilience plan, while equipping SDG&E's current and future workforce to manage and maintain a resilient grid.

Table 3-5: Update on Objectives for Community Outreach and Engagement

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.5.01	Continue community outreach and public awareness efforts with year-round wildfire safety education and communication campaign	Weather Research and Forecast, WMP.532	8.3.5.1.1 p.327	12/31/2099 (Ongoing)	In 2024, outreach continued utilizing partnerships with CBOs located in the HFTD or serving individuals with AFN to amplify PSPS and wildfire messaging. The outreach team also hosted mini wildfire-safety fairs, targeting rural, hard-to-reach customers, to provide education in wildfire safety.
8.5.02	Solicit large-scale customer/ stakeholder feedback (campaign/notifications) for public education campaign	Weather Research and Forecast, WMP.532	8.3.5.1.1 p.327	12/31/2099 (Ongoing)	In 2024, the Resiliency Audits offering continued to serve residential customers in the HFTD by offering tailored resources to enhance their resilience during power outages.
8.5.03	Refine and augment campaign and notifications for Annual Public education; expand reach based on customer/stakeholder feedback. Expand public education to AFN, Limited English Proficiency (LEP) populations and Tribal communities.	Weather Research and Forecast, WMP.532	8.3.5.1.1 p.327	12/31/2099 (Ongoing)	In 2024, culturally appropriate communications and outreach continued to be updated based on feedback from Tribes via listening sessions, online surveys, and focus groups. Additionally, the Tribal Relations team participated in the AFN Collaborative and Statewide Advisory Councils to partner with statewide experts and identify opportunities to refine and expand support services to individuals with AFN.
8.5.04	Promote and amplify PSPS, wildfire, and readiness messaging through CBO partnership activities.	Public Emergency Communication Strategy, WMP.563	8.4.4, p.380	12/31/2099 (Ongoing)	In 2024, partnerships with CBOs continued to promote and amplify preparedness messaging, including social media packets, events, presentations, and workshops.

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
8.5.05	Assess and resolve any customer support and communications gaps identified through AFN stakeholders.	Engagement with Access and Functional Needs Populations, WMP.1336	8.5.3, p.407	12/31/2099 (Ongoing)	In 2024, challenges of supporting individuals with AFN during PSPS de-energizations, as outlined in the AFN Plan, continued to be evaluated and addressed through partnerships with an AFN Collaborative Council, AFN Core Planning team, Regional PSPS Working Group, local governments, and Tribal communities.
8.5.06	Establish broader engagement and deeper planning with emergency and non-emergency planning agencies.	Other – Community Engagement, WMP.1337	8.5.2.4, p.403	12/31/2099 (Ongoing)	In 2024, collaboration continued with other California IOUs through participation in weekly and monthly meetings to strategize and align where possible on wildfire and PSPS mitigations. Additionally, the Company has a membership with Chartwell, Inc., a national membership group for gas and electric utilities that collaborates on problem-solving opportunities and events to help utilities improve customer experience and operational efficiency. The Fire Science and Climate Adaptation business unit continued to provide best practices to other national and international utilities. The EOC also regularly hosted tours for other utilities; trade groups; emergency response agencies/personnel; local, state, and federal agencies; and representatives to share information, best practices, and resources. Stakeholder and contact lists are updated regularly as changes occur.
8.5.07	Enhance multiple mobile apps and communication platforms including school communication platforms.	Weather Research and Forecast, WMP.532	8.3.5.1.1 p.327	12/31/2099 (Ongoing)	In 2024, Public Safety Portal features were enhanced to include real-time map information linked to a secure GIS portal, the ability to follow the PSPS status of one or more jurisdiction, customized push notifications, sectionalizing devices listed by community, and a resource page that includes a social media tool kit, point of contact information, and community flyers. The Alerts by SDG&E mobile app, available in English and Spanish, continued to provide real-time updates to customers on a PSPS de-energization for up to five addresses.

Table 3-6: Update on Objectives for Public Safety Power Shutoff

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
9.1.01 9.1.09	Continue grid hardening and customer backup resiliency initiatives to mitigate PSPS impacts for approximately 30,000 customers by 2025.	Undergrounding of electric lines and/or equipment, WMP.473 PSPS Sectionalizing Enhancements, WMP.461 GGP, WMP.466 Standby Power Programs, WMP.468 GAP, WMP.467 Microgrids, WMP.462	8.1.2.2, p.158 8.1.2.11.1 p.181 8.1.2.11.3, p.184 8.1.2.11.2, p.181 8.1.2.11.4, p.185 8.1.2.7, p.167	12/31/2025	In 2024, grid hardening efforts reduced PSPS impacts for approximately 17,000 customers.
9.1.02	Continue improving service territory situational awareness during periods of high risk by improving existing FPI and SAWTI models and noting and evaluating discrepancies between predictions and observed reality.	Fire Potential Index, WMP.450 Santa Ana Wildfire Threat Index, WMP.540	8.3.6, p.335 8.3.5.1.2, p.327	12/31/2099 (Ongoing)	In 2024, SDG&E established contractual agreements to improve both FPI and SAWTI indices in 2025.
9.1.03	Continue developing WiNGS-Ops models to assess wildfire and PSPS risk. Continue evaluating customer impacts during PSPS events.	WiNGS Ops, WMP.442	6.7, p.96	12/31/2099 (Ongoing)	In 2024, improvement of WiNGS-Planning and WiNGS-Ops platforms continued. Specifically, improvements were made to the sub model and visualization platforms.
9.1.05	Continue improving customer notifications by enhancing the Enterprise Notification System (ENS).	PSPS Communication Practices, WMP.563	8.4.4 p.381	12/31/2099 (Ongoing)	In 2024, the Customer Notification System was implemented. The new platform was successfully utilized during PSPS activations in November and December, and enhancements were identified that could be implemented in the future.
9.1.06	Prioritize Corrective Maintenance Program (CMP) findings on high PSPS risk circuits.	Distribution Overhead Detailed Inspections, WMP.478	8.1.3.1, p.189	12/31/2099 (Ongoing)	In 2024, an open condition evaluation process was developed for structures on overhead lines historically impacted by PSPS de-energizations. The evaluation uses factors such as condition severity level, damage imagery, structure location, anticipated wind speeds, and the Vegetation Risk Index (VRI) to prioritize conditions that may impact the scope of a PSPS de-energization, specifically, the number of

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section/Page #	Completion Date	Summary of Progress
					customers impacted. Outcomes of this evaluation included accelerating corrective work that has the greatest impact on customer counts, prioritizing additional patrol inspections, and providing additional information to inform PSPS decisions.
9.1.07	Supplant VRI with a predictive model for the likelihood of vegetation related failures.	Risk Assessment Improvement Plan, WMP.1339	6.7, p.96	12/31/2025	In late 2024, an experimental version of the UCSD Machine Learning model became operational. Additionally, a vegetation model was created within WiNGS-Ops to assess the probability of vegetation contact with assets during PSPS conditions. SDG&E and UCSD began validation of both models, examining the potential consolidation into a unified model and discussing future enhancements for this consolidated model. Based on these assessments, investigations began into the replacement of the VRI. Assessments are ongoing and to date, a decision on the replacement of the VRI model has not been reached.
9.1.08 9.1.10	Continue benchmarking with IOUs on best practices.	Best Practice Sharing with Other Electrical Corporations, WMP.1340	8.5.5, p.411	12/31/2099 (Ongoing)	In 2024, benchmarking with other IOUs continued.

4 Assessment of Completed Objectives

This section provides an assessment of SDG&E's completion of its 3- and 10-year objectives as stated in Section 8 of its 2023-2025 Base WMP. Table 4 1 through Table 4 12 list objectives that were completed in 2024.

Table 4-1: Completion of Objectives for Grid Design, Operations, and Maintenance

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section, Page #	Projected Completion Date	Actual Completion Date	Method of Verification	Assessment of Progress
8.1.30	Explore and implement virtual reality/augmented reality around the proper operation of field and substation equipment	Workforce Planning-Asset Inspections WMP.1334	8.1.9.1, p.257	12/31/2025	12/31/2024	Three virtual reality modules were incorporated into training. ESCPS205 - PSPS Patroller - (VR) ESCPS210 - PSPS Observer - (VR) STUEL315 - OH CMP Inspection Simulation (VR)	In 2024, SDG&E's virtual reality modules were incorporated into training modules for CMP inspectors and new line inspectors.

Table 4-2: Completion of Objectives for Vegetation Management and Inspection

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section, Page #	Projected Completion Date	Actual Completion Date	Method of Verification	Assessment of Progress
8.2.03 8.2.12	Create system on server-side application to auto- close Dispatch Work Orders upon closure of Scheduling Work Orders	Vegetation Management Enterprise System WMP.511	8.2.4, p.287	12/31/2025	9/2/2024	Auto-complete DWOs when the final tree record in that work order has been updated.	In 2024, enhancements to CitiWorks work management system were completed to auto-complete Dispatch Work Orders (DWOs) after the final inventory tree record in that work order is updated. During development, the decision was made to retain manual closure of the parent scheduling work orders (SWOs) to provide greater flexibility to update records within a DWO and to track vendor completion of SWOs.

Table 4-3: Completion of Objectives for Situational Awareness and Forecasting

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section, Page #	Projected Completion Date	Actual Completion Date	Method of Verification	Assessment of Progress
8.3.13	Continue hardening backbone network and expand to new sites when/where broader fire community benefit can be realized. Automate smoke detection notifications leveraging AI software, if determined to add value.	Cameras (WMP.1343)	8.3.4.1.1, p.320	12/31/2024	12/31/2024	HPWREN User Group Member Planning - website interface verified via first responder use.	In 2024, work was completed to fully integrate artificial intelligence (AI) into ALERTCalifornia mountaintop cameras for first responder use.
8.3.17	Retrieve updated observation data to generate 95th, 99th, and max wind weather station statistics and update the historical observation statistics for all weather stations.	Weather Stations and NDVI Cameras, WMP.447	8.3.2.4.1, p.310	12/31/2099 (Ongoing)	12/31/2024	The process of obtaining updated numbers is performed by a data management vendor each summer.	This annual process was successfully performed before year end, 2024.
8.3.21	Upgrade Weather Visualization Portal Plots to enable 4.5-kilometer and 1.5-kilometer resolution for standard pressure levels and numerous meteorological and fuels variables of operational interest.	Weather Forecasting, WMP.452	8.3.5.3, p.328	12/31/2025	9/30/2024	1.5-kilometer and 4.5-kilometer portal plots are enabled and can be viewed at https://wxmap.sdsc.edu// The data is verified daily by a meteorology staff member.	1.5-kilometer and 4.5-kilometer portal plots are enabled and are generated twice daily, viewable at https://wxmap.sdsc.edu//
8.3.28	Re-create the 30-year downscaled National Oceanic and Atmospheric Administration (NOAA's) Climate Forecasting System Reanalysis (CFSR) data using higher resolution 1.5-kilometer WRF and integrate into FPI and SAWTI.	Weather Forecasting SAWTI, WMP.540 FPI, WMP.450	8.3.5.1.2, p.327 8.3.6, p.335	12/31/2025	11/29/2024	In 2025, the effectiveness of the indices will be evaluated against observations, particularly during the shoulder seasons of spring and fall, where forecasting errors are most significant.	In 2024, the 30-year downscaled NOAA CFSR data was re-created using a higher resolution of 1.5-kilometer WRF and has been integrated into the FPI and SAWTI. The current operational use of these indices is expected to enhance forecasting capabilities in 2025.
8.3.29	Update the NDVI Machine Learning models by identifying	FPI, WMP.450	8.3.6, p.335	12/31/2024	9/30/2024	Meteorology has transitioned from the government MODIS NDVI	In 2024, the update to NDVI Machine Learning models was completed by

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section, Page #	Projected Completion Date	Actual Completion Date	Method of Verification	Assessment of Progress
	grassland sites across the domain and gathering up-to-date Moderate Resolution Imaging Spectroradiometer (MODIS) NDVI observations for grassland sites.					program offered at 250-meter resolution to the Planet NDVI offering at 3.7-meter resolution. Weekly data retrieval is verified for accuracy based on known conditions by a fire science meteorologist.	identifying grassland sites across the domain. Additional sites are being considered for 2025.
8.3.30	Continue improving existing models (FPI, SAWTI) by noting and evaluating discrepancies between predictions and observed reality.	Weather Forecasting SAWTI, WMP.540 FPI, WMP.450	8.3.5.1.2, p.327 8.3.6, p.335	12/31/2099 (Ongoing)	12/31/2024	The FPI will be audited by leading scientists at the CW3E.	SAWTI grid spacing resolution has improved, and the U.S. Forrest Service is working on adjusting the thresholds between legend criteria.
8.3.31	Partner with academia to explore and evaluate large computational resource to include a module for impact of large eddy scale weather	Weather Forecasting (WMP.452)	8.3.5.3, p. 328	12/31/2099	12/31/2024	Forecasted conditions were compared to observed conditions to evaluate the performance of the sub-kilometer ensemble. This process is ongoing.	In 2024, a high-resolution test case was conducted to evaluate the advantages of downscaling to sub-kilometer resolutions. The findings revealed significant benefits, leading to the establishment of two operational ensembles at sub-kilometer scales. In collaboration with SDSC, these sub-kilometer ensembles can be visualized at the following link: https://wxmap.sdsc.edu//.
8.3.38	Seek to integrate AI Smoke Detection from mountain top cameras into a common operating picture	Cameras (WMP.1343)	8.3.4.1.2, p. 311	12/31/2032	9/30/2024	Verification TBD - The integration of AI smoke detection into mountaintop cameras has enhanced the speed and accuracy needed to maintain critical situational awareness. CAL FIRE employees who are alerted of a possible smoke plume and are responsible for confirming if it is valid or not.	In 2024, AI was integrated into mountaintop cameras via HPWREN. Previously Alchera provided this service, but services are now offered as a standard operating procedure.

Table 4-4: Completion of Objectives for Emergency Preparedness

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section, Page #	Projected Completion Date	Actual Completion Date	Method of Verification	Assessment of Progress
8.4.19	Enhance post event documentation and application of lessons learned to update plans and exercises.	WMP.1010	8.4.3.1, p. 362	12/31/2099 (Ongoing)	12/31/2024	Agendas: Bi-Weekly AFN Planning Meeting San Diego Regional PSPS Working Group Statewide AFN Advisory Council Reporting: PSPS Pre-Season Report Lessons Learned: Integration of findings/areas of improvement into PSPS exercises and EOC responder training.	In 2024, this program was updated to include key improvements in the AAR program.

Table 4-5: Completion of Objectives for Community Outreach and Engagement

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section, Page #	Projected Completion Date	Actual Completion Date	Method of Verification	Assessment of Progress
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: There were no completed objectives for Community Outreach.

Table 4-6: Completion of Objectives for Public Safety Power Shutoff

Objective Number	Objective	Applicable Initiative(s), Tracking ID(s)	2023-2025 WMP Section, Page #	Projected Completion Date	Actual Completion Date	Method of Verification	Assessment of Progress
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Note: There were no completed objectives for PSPS.

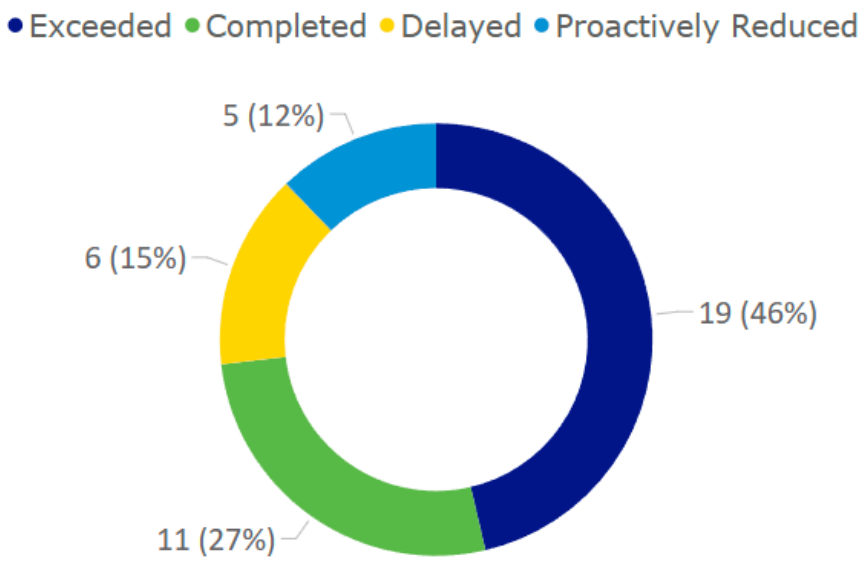
5 Assessment of 2024 Targets and Expenditures

This section provides an assessment of SDG&E's 41 quantitative mitigation programs with associated targets and spend and 19 initiatives with associated spend but no associated targets. This section presents 2024 planned and actual targets and expenditures and provides variance explanations for all target units and for expenditures with greater or less than 10% of planned.

In 2024, SDG&E substantially completed or exceeded the target for 30 of 41 quantitative programs. In these achievements, the overall risk reduction intent as described in the 2023-2025 Base WMP was met. Figure 5-1 shows 2024 year-end status for the 41 quantitative programs. The following are key accomplishments for activities that occurred between January 1, 2024, and December 31, 2024.

- SDG&E fire hardened 52.5 miles of its overhead electric system within the HFTD.
- SDG&E undergrounded 112 miles of its electric system within the HFTD.
- SDG&E completed routine and HFTD-focused distribution, substation, and transmission inspections, including timely remediation per general order requirements.
- SDG&E completed all required inspections and corrective repairs and supplemented with additional discretionary inspection programs.
- Vegetation management annual inspections and pruning were completed, including the inspection of over 523,000 trees in the service territory and the pruning or removal of over 11,500 targeted species trees to enhanced clearance levels.

Figure 5-1: 2024 Program Status



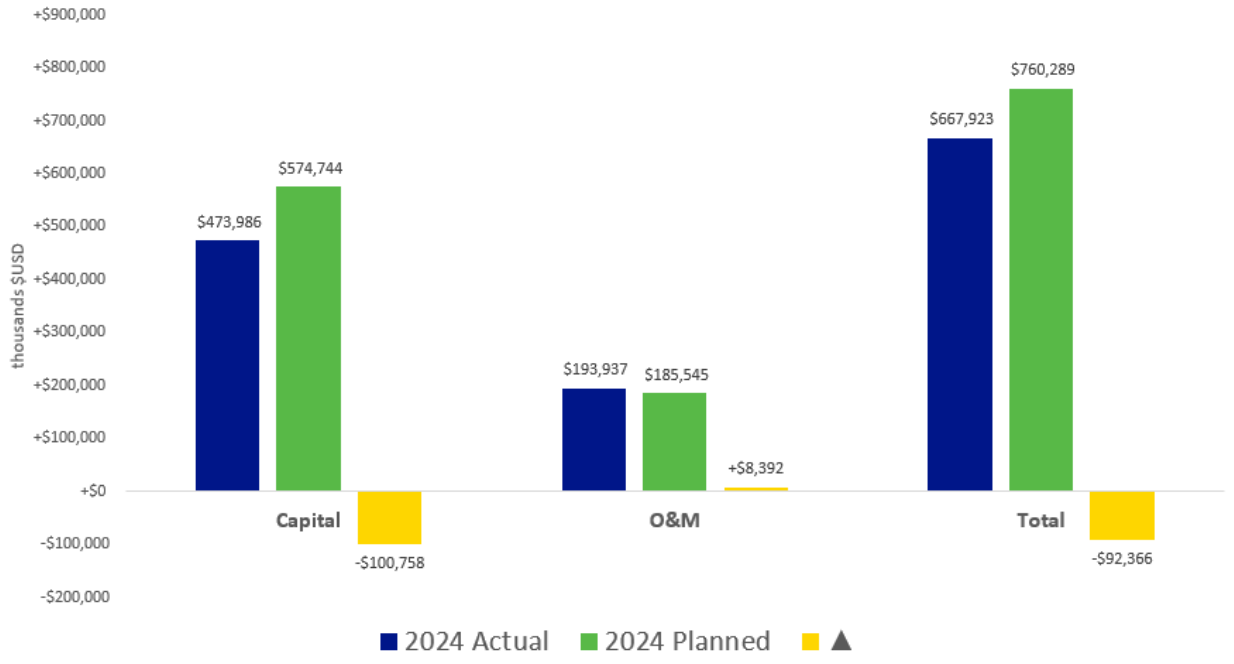
SDG&E did not meet 11 quantitative program targets as initially planned in its 2023-2025 Base WMP. Five of the 11 delayed initiatives are due to SDG&E electing to proactively reduce the scope and scale of non-mandated, discretionary programs in anticipation of the 2024 GRC decision. Programs that were intentionally reduced are indicated in Table 5-1.

Generally, four of the programs met the risk reduction intent, two programs do not provide direct risk reduction, and the remaining five did not meet their risk reduction intent (see Table 5-1). Risk reduction mitigation and corrective actions for these programs are described in more detail within each section.

Table 5-1: Programs not Meeting Quantitative Targets in 2024

Program Name, Tracking ID	Intentionally Reduced?	Delayed, Meeting Risk Reduction Intent	Delayed with no Direct Risk Reduction	Delayed, not Meeting Risk Reduction Intent
Covered Conductor, WMP.455	No			X
Advanced Protection, WMP.463	No			X
Distribution Communications Reliability Improvements, WMP.549	Yes		X	
Wireless Fault Indicators, WMP.499	No	X		
Strategic Pole Replacement Program, WMP.1189	No			X
Microgrids, WMP.462	No	X		
Standby power (fixed power backup), WMP.468	Yes			X
Distribution Infrared Inspections, WMP.481	Yes	X		
Drone Assessments, WMP.552	Yes	X		
Air Quality Index, WMP.970	No		X	
Fuels Management, WMP.497	Yes			X

Figure 5-2: 2024 Expenditures



5.1 Wildfire Mitigation Strategy Development

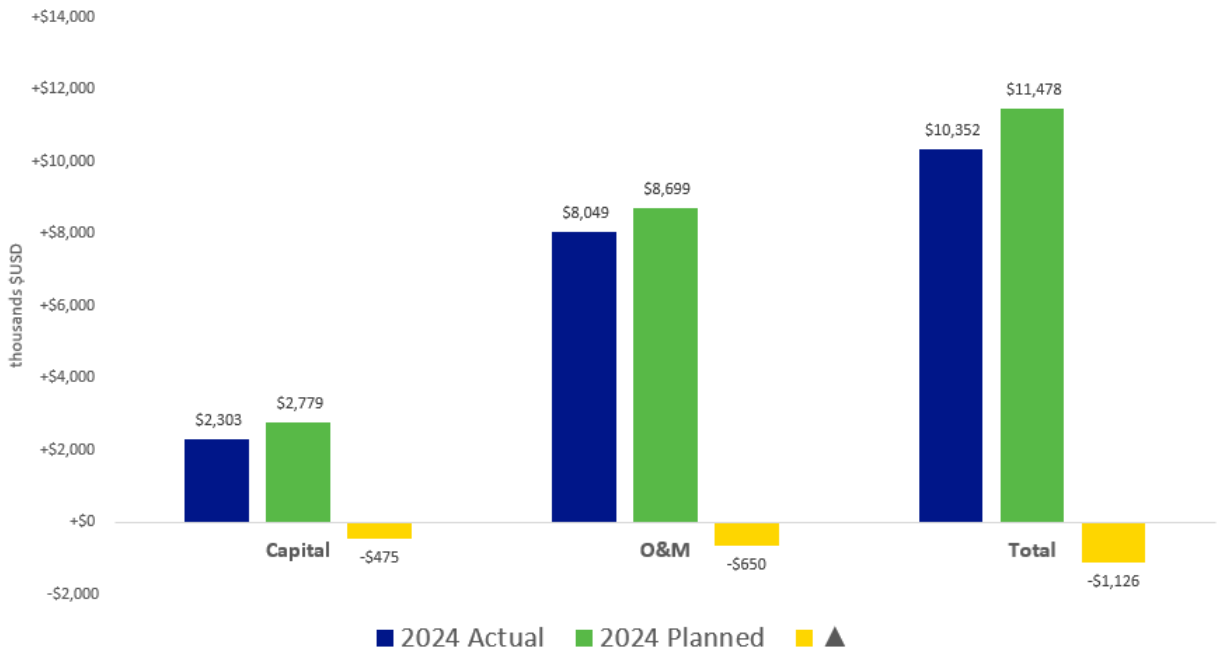
The wildfire mitigation strategy is continuously evolving, incorporating improvements in risk modeling and insights gained from real-world implementation. The WiNGS-Planning model's mitigation portfolio is optimized to lower wildfire risk and minimize the impact of PSPS in the HFTD. SDG&E aims to achieve its long-term wildfire risk reduction goals, including the reduction of reliance on PSPS, through ongoing grid hardening initiatives. These initiatives will be guided by the WiNGS Planning model, which assesses wildfire and PSPS risk at the circuit segment level and evaluates the effectiveness of covered conductor installation and undergrounding of electric lines as mitigation options.

In 2024, progress was made in several key areas. Enhancements to risk modeling were implemented, and, as mentioned in Section 2.1, new functionalities were introduced to further optimize processes. Efforts on the Systems Applications and Processes (SAP) data foundation project continued, and ongoing work in data governance promoted reliability, standardization, and transparency. Improvements in data verification of the WiNGS-Planning and WiNGS-Ops models continued and efficacy studies were conducted, enabling the WiNGS models to offer insights for more informed decision-making.

Appendix A lists projected and actual expenditures for each initiative within the Wildfire Mitigation Strategy Development category of the 2023-2025 Base WMP.[13] Narrative is provided in this section if actual spend was greater or less than 10% of planned.

Figure 5-3 is a financial summary for initiatives within the Wildfire Mitigation Strategy Development category of the 2023-2025 Base WMP.

Figure 5-3: Wildfire Mitigation Strategy Development: 2024 Expenditures



[13] SDG&E 2023-2025 Base WMP at Section 7. https://www.sdge.com/2023-wildfire-mitigation-plan

5.1.1 Summarized Risk Map (WMP.442)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

In 2024, O&M expenditures exceeded the planned budget by 37%. This increase was attributed to the expansion of advanced analytics projects outsourced to contractors and external vendors to meet regulatory requirements for risk modeling.

5.1.2 Wildfire-Related Data and Algorithms (WMP.521)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

In 2024, capital expenditures were less than planned by 100%. Costs for WiNGS cloud-based risk models and WiNGS-Planning and WiNGS-Ops Visualization Platforms are now tracked within centralized repository for data (WMP.519). Therefore, there are no actual costs associated with this initiative.

5.1.3 Allocation Methodology Development and Application (WMP.523)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

In 2024, O&M expenditures were less than planned by 35% due to costs being moved from Allocation Methodology Development and Application (WMP.523) to Summarized Risk Map Showing Overall Ignition Probability and Estimated Wildfire Consequences Along Electrical Lines and Equipment (WMP.442).

In 2024, capital expenditures were less than planned by 15% due to cost being embedded within the Emergency Preparedness Plan (WMP.1008).

5.1.4 Wildfire Mitigation Strategy Development (WMP.1209)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

Expenditures for this program are tracked within Centralized Repository for Data (WMP.519) and Allocation Methodology Development and Application (WMP.533).

5.2 Grid Design, Operations, and Maintenance

SDG&E's grid design, operations, and maintenance programs are a set of controls and mitigations that directly address WMP goals by reducing risk events that can lead to ignitions caused by utility equipment and minimizing societal impacts to customers from mitigations such as PSPS de-energizations. Some mitigations have a measured reduction in risk events, others reduce the likelihood that a risk event would result in an ignition, and others reduce PSPS de-energization impacts to customers. Asset management and inspections identify and repair conditions and components to reduce potentially defective equipment on the electric system to minimize hazards and maintain system reliability. Grid operations and protocols consist of mitigations that reduce risk through changing the way SDG&E operates during periods of elevated and extreme wildfire risk. This includes disabling of reclosing in the HFTD, enabling of Sensitive Relay Profiles (SRP), and restricting work in the HFTD during times of extreme fire potential and Red Flag Warnings (RFW).

Appendix A lists programs and initiatives within the Grid Design, Operations, and Maintenance category of the 2023-2025 Base WMP[14] and their associated targets, the method of verification for each target, projected and actual expenditures, and whether risk reduction was achieved. Projected and actual completion dates for all programs were December 31, 2024. Narrative is provided in this section if the target was not met, actual spend was greater or less than 10% of planned, risk impact was not achieved, or if there is a QA/QC component.

Figure 5-4 is a status summary for programs within the Grid Design, Operations, and Maintenance category of the 2023-2025 Base WMP.

Figure 5-5 is a financial summary for programs and initiatives within the Grid Design, Operations, and Maintenance category of the 2023-2025 Base WMP.

[14] SDG&E 2023-2025 Base WMP at Section 8.1. https://www.sdge.com/2023-wildfire-mitigation-plan

Figure 5-4: Grid Design, Operations, and Maintenance: 2024 Program Status

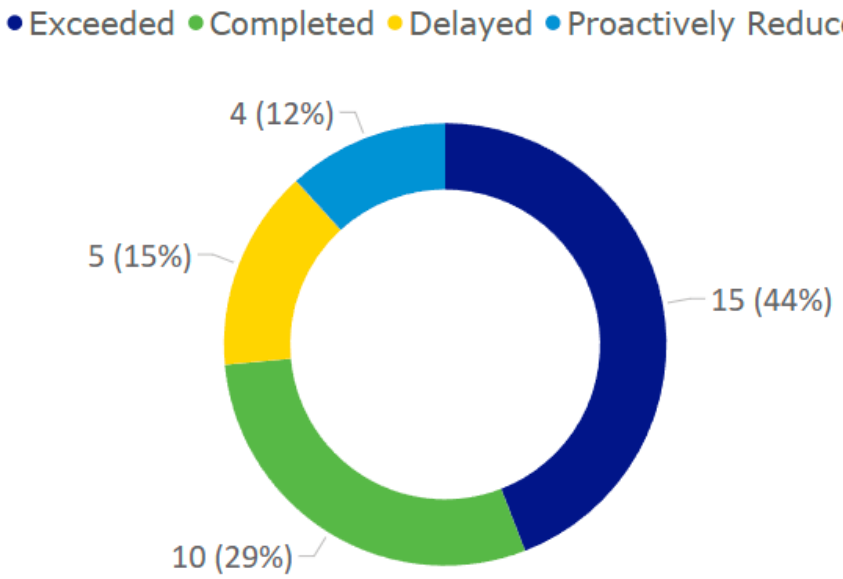
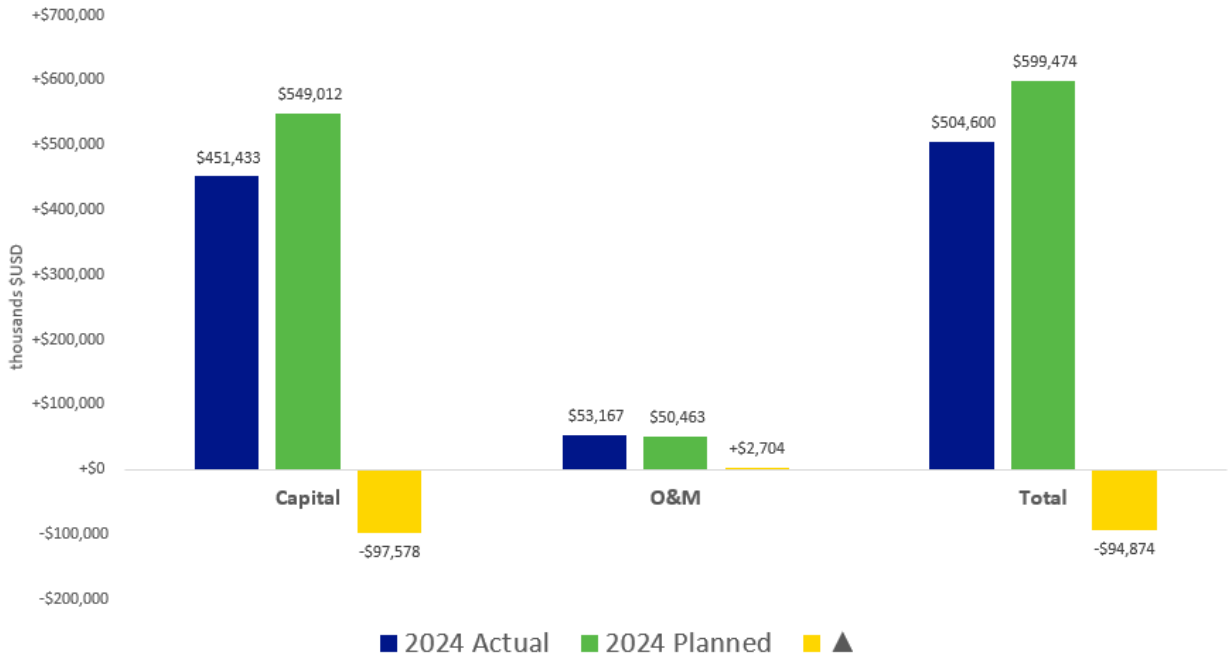


Figure 5-5: Grid Design, Operations, and Maintenance: 2024 Expenditures



5.2.1 Covered Conductor Installation (WMP.455)

On November 1, 2023, SDG&E submitted a Change Order request to reduce the target of covered conductor installations for 2024 from 60 to 40 miles and increase the 2025 target from 40 to 60 miles,

effectively meeting the 2023 to 2025 target of 160 miles.[15] Energy Safety subsequently requested that SDG&E resubmit its Change Order Request to better reflect Energy Safety's intended purpose of the change order process. SDG&E submitted a revised Change Order on December 19, 2023.[16] However, the decision rejecting the target reduction from OEIS was not received until May 31, 2024[17] By the time the rejection was received, it was not possible to add an additional 20 miles into the workplan for 2024. When comparing 2024 actuals to the requested 2024 workplan of 40 miles, 90% (36 of 40 miles) of projected targets for Covered Conductor were completed. The remaining miles were deferred to 2025 as those projects experienced delays for several reasons. One reason was land rights acquisition delays with the City of San Diego for approximately 5.5 miles. Other reasons included final engineering and design (approximately 8 miles), permitting (6.5 miles), environmental permitting (1.5 miles), and customer negotiations (0.5 miles). Several projects that were in construction at the end of 2024 would have allowed SDG&E to reach the requested 40-mile target, however, they were delayed due to material availability, such as steel poles and fiberglass crossarms, and two Santa Ana Wind Events (in November and December 2024) that impacted construction schedules. Corrective actions taken included:

- Expanding engineering and design resources.
- Working with land and environmental resources to prioritize and expedite work.
- Working with agencies more frequently and as early in the decision process as possible.
- Expanding construction resources to include contractors in addition to internal crews.
- Working with the material management department to forecast and prioritize material allocations.
- Accelerating construction as safely and efficiently as possible when weather permits.

Intended risk reduction is delayed and will be achieved in 2025.

QA/QC is performed at three stages of a project's lifecycle including constructability reviews at Stage 3 (Final Design), post-construction inspections performed by a Qualified Electrical Worker (QEW) at Stage 6 (Closeout), and a post-construction true-up analysis at Stage 6 (Closeout). These QA/QC checks ensure the projects are designed and built to meet GO 95 and SDG&E requirements and ensures corrections are made as necessary.

O&M expenditure for 2024 was more than planned by 10%. Actual costs exceeded planned costs due to construction costs having a higher component of O&M costs than planned. Planned costs for 2024 were based on 2023 actuals. O&M costs are difficult to forecast because they can vary from project to project as they are dependent on the scope of work of each project. In addition, some activities are considered O&M and others are considered Capital per SDG&E accounting guidelines.

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[15] 2023-11-01_*SDGE_2023_Change_Order_Report_R0.* November 1, 2023.
2023-11-01_SDGE_2023_Change Order Report_R0_Attachment A ("SDG&E 2023 Change Order Report"). OEIS Docket No. 2023-2025-WMPs. November 1, 2023.

[16] 2023-12-19_*SDGE_2023_Change_Order_Report_R1. November 1, 2023* and
2023-12-19_SDGE_2023_Change Order Report_R1_Attachment A ("SDG&E 2023 Change Order Report_R1"). OEIS Docket No. 2023-2025-WMPs. December 19, 2023.

[17] *Office of Energy Infrastructure Safety Decision on San Diego Gas & Electric Company's Change Order Request in relation to its 2023-2025 Base Wildfire Mitigation Pla*n. OEIS Docket No. 2023-2025-WMPs. May 31, 2024.

5.2.2 Strategic Undergrounding (WMP.473)

In 2024, 90% of the targeted miles were completed for the Strategic Undergrounding Program. The remaining 10% were shifted to 2025.

In 2024, the Strategic Undergrounding Program team began efforts to more closely align with agencies in an attempt to secure permits in a timelier manner. Factors impacting the ability to achieve the targeted mileage included land rights acquisition from private property owners, discretionary permitting from Caltrans and the U.S. Forest Service, and weather conditions. Most of these delays occurred between the finalization of the route selection at the 30% design stage gate and the later stage gate, which contains the hold point for acquisition of permits and land rights. To better achieve the annual proposed target, SDG&E plans to advance a larger slate of projects than the target amount, which will allow for resequencing of projects if constraints are encountered

Risk reduction intent was met in 2024 with substantial completion of this program.

Post-construction QA/QC review is performed as part of this program and was completed in 2024.

Capital expenditures were less than planned by 29% primarily due to delays in construction that were driven by land rights and easement challenges, weather impacts, and re-design. In addition, SDG&E realized construction cost efficiencies because of effective strategic pricing from a competitive bidding process in 2023 and 2024. This process competitively bid new civil construction and electric construction rates for the Strategic Undergrounding Program. These rates included cost per mile civil construction rates, fixed bid civil construction rates, and competitively bid Time and Material (T&M) rates for both civil and electric construction.

O&M expenditures exceeded planned by 82% due to a combination of two factors. The first was an error that resulted in capital installation costs being charged to an activity code that over-allocated to O&M in 2024. SDG&E intends to correct this error, which will result in a credit of approximately $500,000 in 2025. The second factor is the use of 2023 actual spend as the basis for 2024 planned O&M spend. There was a significant increase in mileage from 2023 to 2024 and O&M spend had a corresponding increase.

5.2.3 Distribution Overhead System Hardening (WMP.475)

In 2024, the projected target for Distribution Overhead System Hardening was exceeded by 100% due to the availability of resources to complete additional overhead mileage.

All risk reduction was met in 2024 with completion of this program.

Post construction review is embedded within this program and was completed in 2024. QA/QC for this program is performed at three stages, including constructability reviews at Stage 3 (Final Design), post-construction inspections performed by a QEW at Stage 6 (Closeout), and a post-construction true-up analysis at Stage 6 (Closeout). These QA/QC checks ensure the projects are designed and built to meet GO 95 and SDG&E requirements and ensure corrections are made as necessary.

Capital and O&M expenditures were over planned by 58% and 194%, respectively, due to the transfer of unanticipated construction work to the program after the planned forecast was developed.

5.2.4 Transmission Overhead Hardening (WMP.543)

In 2024, 90% of the projected targets were completed. The remaining 10% are planned to be completed in 2025. Transmission projects are extensive and linear, covering long distances and often involving complex logistics. The completion of these construction activities can be influenced by various factors, such as weather conditions, permitting, and resource availability. In 2024, there were six days with red flag warnings in the San Diego region, which indicate high fire risk due to weather conditions such as strong winds and low humidity. These extreme weather conditions resulted in delays in construction work to ensure safety and compliance.

All risk reduction was met in 2024 with completion of this program.

Post construction review is embedded within this program and was completed in 2024.

Expenditures for this program are Federal Energy Regulatory Commission (FERC) funded and not reported within the WMP.

5.2.5 Distribution Underbuild (WMP.545)

In 2024, the projected target for Transmission System Hardening Distribution Underbuild was exceeded by 700% due to the availability of resources to complete additional overhead mileage.

All risk reduction was met in 2024 with completion of this program.

Post construction review is embedded within this program and was completed in 2024.

O&M was less than planned by 3,375% due to the reclassification of charges from O&M to Capital.

5.2.6 Microgrids (WMP.462)

In 2024, 0% (0 of 4) of the projected microgrids were completed. The four microgrids are installed and operational, however, the intended target included completion of battery storage at these sites. Renewable generation to three sites has been put on hold indefinitely due to SDG&E's 2024 GRC decision. These microgrids are operational and are used to reduce the impacts of PSPS de-energizations on customers through use of conventional generators.

The construction completion for renewable generation and battery storage does not impact the PSPS risk reduction on customers. All PSPS risk reduction was met in 2024 with the operation of permanent and/or temporary microgrid deployments.

There is no QA/QC associated with this program.

O&M expenditures were less than planned by 37% due to less than planned need for generator rental deployments and lack of opportunities to advance and deploy the mobile battery.

5.2.7 Advanced Protection (WMP.463)

In 2024, 62.5% of the projected targets for Advanced Protection were completed. The remaining targets were not met due to the reallocation of crews to Strategic Undergrounding and Covered Conductor in November and December. Remaining work will shift to 2025.

Intended risk reduction is delayed and will be achieved in 2025.

Post construction review is embedded within this program and was completed in 2024.

Capital expenditures were less than planned by 30% due to the program delays described above.

O&M expenditures were less than planned by 26% due to the program delays described above.

5.2.8 Early Fault Detection (WMP.1195)

In 2024, the projected target for Early Fault Detection was exceeded by 3% due to efficiencies with deploying PQ designs to construction.

All risk reduction was met in 2024 with completion of this program.

Post construction review is embedded within this program and was completed in 2024.

Capital expenditures were 17% less than planned due to the shift of construction resources in Q4 of 2024. Remaining work is now planned for 2025.

O&M expenditures were exceeded by 2,975% due to lack of historical actual spend to serve as a basis for the forecast.

5.2.9 Distribution Communications Reliability Improvements (WMP.549)

In 2024, 5% (3 of 60 sites) of the projected target for Distribution Communication Reliability Improvements was completed due to budget reductions made in anticipation of the 2024 GRC decision. See SDG&E's Petition to Amend, submitted concurrently with this ARC.

This program does not provide direct risk reduction; however, it is expected to provide communication security, resiliency, and reliability and support use cases at SDG&E including Falling Conductor Technology, Early Fault Detection, Strategic Undergrounding, and day-to-day operations.

QA/QC is performed at various stages of a project's lifecycle, including design reviews by engineering and IT, and each location build has oversite by Civil and Electrical by a qualified construction advisor. Each site goes through a rigorous site commission effort that is supported by qualified technicians and varies depending on the site type, including stand-alone sites within a substation, retrofitting or replacing existing telecommunication facilities, retrofitting on transmission lattice or steel pole locations, or distribution pole replacements or interests.

Capital expenditures were less than planned by 32% due budget reductions.

O&M expenditures exceeded planned by 55% due to maintenance and service costs incurred on existing sites.

5.2.10 Capacitor Maintenance and Replacement Program (SCADA) (WMP.453)

In 2024, the projected target for the Capacitor Maintenance and Replacement Program was exceeded by 100% due to the completion of one project that was not completed in 2023 because of environmental constraints.

All risk reduction was met in 2024 with completion of this program.

Post-construction review is embedded in this program and was completed in 2024.

Capital expenditures were less than planned by 29% due to overall reduced unit costs and the budget being funded minimally for trailing charges.

5.2.11 Expulsion Fuse Replacement (WMP.459)

In 2024, the projected target for Expulsion Fuse Replacements was exceeded by 88% because the target was determined prior to structures being fielded and confirmed as included in scope. An additional 10% of work was carried over from the previous year due to the mid-2023 fuse shortage. Fuse replacements are identified concurrently with Lightning Arrestor Removal and Replacements, which is the driver for the high-volume program.

All risk reduction was met in 2024 with completion of this program.

Post-construction review is embedded in this program and was completed in 2024.

Capital expenditures were less than planned by 86% due to a decrease in direct costs for all jobs listed compared to 2023. Efficiencies were also gained because a high volume of jobs were performed alongside lightning arrestor replacements and hotline clamp removals at a single structure.

5.2.12 Maintenance, Repair, and Replacement of Connectors, including Hotline Clamps (WMP.464)

In 2024, the projected target for Maintenance, Repair, and Replacement of Connectors, including Hotline Clamps, was exceeded by 171% because the target was determined prior to structures being fielded and confirmed as included in scope. Hotline clamp replacements are identified concurrently with lightning arrestor replacements and are required to support lightning arrestors, which is the driver for the volume of work performed in this program.

All risk reduction was met in 2024 with completion of this program.

Post-construction review is embedded in this program and was completed in 2024.

Capital expenditures were less than planned by 58% due to a decrease in direct cost per widget compared to 2023. Efficiencies were also gained because a high volume of jobs were performed alongside lightning arrestor replacements and hotline clamp removals at a single structure.

O&M expenditures exceeded planned by 133% due to the higher volume of work completed.

5.2.13 Lightning Arrestor Removal and Replacement (WMP.550)

In 2024, 90% of projected targets for Lightning Arrestor Removal and Replacement were completed.

Risk reduction intent was met with the substantial completion of this program.

Post-construction review is embedded in this program and was completed in 2024.

No variance explanations are needed for program expenditures.

5.2.14 Avian Protection (WMP.972)

In 2024, the projected target for Avian Protection was exceeded by 287% because the target was determined prior to structures being fielded and confirmed as included in scope. Avian Protection units are identified concurrently with lightning arrestor replacements, which is the driver for the volume of work performed in this program.

Risk reduction intent was met with substantial completion of this program.

Post-construction review is embedded in this program and was completed in 2024.

O&M expenditures exceeded planned by 200% due to the higher volume of work completed.

5.2.15 Strategic Pole Replacement Program (WMP.1189)

In 2024, 15% of the projected target for Strategic Pole Replacements was completed. SDG&E evaluated and selected a new design firm, which delayed the engineering and design process and did not allow sufficient time for project design, issue to construction, and completion in 2024. Therefore, although approximately 140 poles were issued to construction in 2024, only 40 poles were completed. Additional factors impacting construction were steel pole delays and the Santa Ana Wind events in November and December. Corrective actions were taken to accelerate designs by dividing work between multiple design contractors and by awarding engineering and design for future work before the planned year for construction. For example, engineering and design work for poles planned to be completed in 2025 began in 2024.

Although the direct risk reduction intent was not met by this program, the poles that were targeted for replacement in 2024 were mitigated through cyclical, routine asset inspection programs if they were due for inspection. Required vegetation management activities were also performed.

Post-construction inspections and true-up analysis are embedded in this program and are completed after as-builts are received from the construction team.

Capital expenditures were less than planned by 65% due to program delays described above.

O&M expenditures exceeded planned by 3,275%. O&M forecasts are typically estimated from historical actuals, and because there was only one project completed in 2023, an informed forecast was difficult to develop. SDG&E will utilize cost trends for the larger volume of work completed in 2024 to develop more accurate forecasts for future work.

5.2.16 Wireless Fault Indicators (WMP.449)

Energy Safety rejected the Change Order SDG&E submitted December 19, 2023, proposing to reduce its target for Wireless Fault Indicators for 2024 from 300 to 0 installations due to an incompatible technology update. SDG&E paused this program due to manufacturer upgrades to the currently used fault indicators. The upgraded equipment requires additional communication requirements not currently employed, thus requiring SDG&E to evaluate the feasibility of implementing the equipment. SDG&E is also evaluating other types of fault indicators from various manufacturers to determine the best approach. In the interim, SDG&E utilizes SCADA devices and existing fault indicators to provide situational awareness and guide first responders to the likely location of a fault.

Intended risk reduction was met in 2024 utilizing manual fault indicators.

There is no QA/QC associated with this program.

No variance explanations are needed for program expenditures.

5.2.17 PSPS Sectionalizing Enhancements (WMP.461)

In 2024, the projected target for PSPS Sectionalizing Enhancements was exceeded by 80% due to completing additional service restorer disconnect replacements.

All risk reduction was met in 2024 with the completion of this program.

Post-construction review is embedded in this program and was completed in 2024.

Capital expenditures exceeded planned by 20% due to completing additional service restorer disconnect replacements.

5.2.18 Generator Grant Program (WMP.466)

In 2024, this program achieved all qualitative milestones.

All risk reduction was met in 2024 with the completion of this program.

There is no QA/QC associated with this program.

O&M expenditures were less than planned by 70% due to delays in third-party vendor spend due to program adjustments based on portable battery market availability. A large portion of annual spend for the program is to procure portable battery units and as the broader product market evolves based on updated technology and safety information, the availability of certified products is impacted. This creates delays in the spend to procure and replenish program inventory. In addition, due to anticipated budget implications from SDG&E's 2024 GRC, the program focused on efforts to reduce budget spend for 2024.

5.2.19 Generator Assistance Program (WMP.467)

In 2024, this program achieved all qualitative milestones.

All risk reduction was met in 2024 with the completion of this program.

There is no QA/QC associated with this program.

No variance explanations are needed for program expenditures.

5.2.20 Standby Power Program (Fixed Backup Power) (WMP.468)

In 2024, 18% of the projected targets for Fixed Power Backup were completed. The 2024 program year faced planning challenges due to uncertainty with its then-pending GRC decision, which funds the program's operation. Therefore, 2024 was used to complete outstanding projects from prior years and evaluate alternative offerings that could be provided to customers moving forward. SDG&E submitted a

Change Order on December 19, 2023, in anticipation of budgetary constraints on the program.[18] However, the Change Order was rejected. See SDG&E's Petition to Amend submitted concurrently with this ARC.

SDG&E's intended PSPS risk reduction was met by completing the outstanding projects from prior years, which was informed by historical PSPS de-energizations and those customers impacted. As of Q3 2024, SDG&E had experienced zero PSPS de-energizations since 2021, therefore, no new customers had been identified. There is no QA/QC associated with this program.

No variance explanations are needed for program expenditures.

5.2.21 Distribution Overhead Detailed Inspections (WMP.478)

In 2024, the projected target for Distribution Overhead Detailed Inspections was exceeded by 7% due to an increase in the number of overhead facilities with required inspection due dates, as outlined in GO 165. The forecasted targets are based on a snapshot in time, and the fluidity of the grid and ongoing changes often result in the inclusion of additional structures. Additionally, inspections are sometimes performed earlier than required due to resource availability.

All risk reduction was met in 2024 with completion of this program and completion of all overhead detailed inspections by the GO 165 compliance due date.

Inspections performed in this program undergo QA/QC under QA/QC of Distribution Detailed Inspections. See Section 5.2.32.

Capital expenditures were exceeded by 34% because more corrective work orders were completed than planned, driven by the responsive nature of corrective work identified during inspections. Additionally, there was an increase in the average cost per job, which was associated with rising material and labor costs.

O&M expenditures were less than planned by 40% due to more capital repairs performed than O&M repairs.

Overhead detailed inspections, wood pole intrusive inspections, infrared inspections, and overhead patrol inspections are all separate programs. However, the capital costs for repair work identified during these inspections are managed together. In 2024, the actual capital costs for follow-up repairs exceeded the planned budget by 42%.

5.2.22 Transmission Overhead Detailed Inspections (WMP.479)

In 2024, the projected target for Transmission Overhead Detailed Inspections was exceeded by 50% due to several factors. First, reporting for this program was expanded to include structures within the WUI that were not previously included. This proactive decision was made primarily in response to several wildfires in WUI regions that occurred in 2023. Additionally, the fluidity of the grid and ongoing changes often result in the inclusion of additional structures over time. Lastly, as stated in SDG&E's 2023 ARC, 13 tie lines comprising 459 structures were completed in Q1 2024 instead of Q4 2023 due to SDG&E's

[18] 2023-12-19_*SDGE_2023_Change_Order_Report_R1.* November 1, 2023.
2023-12-19_SDGE_2023_Change Order Report_R1_Attachment A ("SDG&E 2023 Change Order Report_R1"). OEIS Docket No. 2023-2025-WMPs. December 19, 2023.

California Independent System Operator (CAISO)-approved transmission maintenance practice, which allows for a 6-month completion timeframe.

All risk reduction was met in 2024 with completion of this program.

Inspections performed in this program undergo QA/QC under QA/QC of Transmission Inspections. See Section 5.2.32.

Capital expenditures were less than planned by 40% because forecasting is based on historical needs rather than specifically planned projects. This dynamic, reactive program responds to findings from routine mandated inspections, which resulted in a lower number of replaced transmission poles with distribution underbuilt compared to 2023.

O&M expenditures were less than planned by 84% due to fewer poles needing replacement compared to 2023. Additionally, the program responded to fewer findings from routine inspections.

5.2.23 Distribution Infrared Inspections (WMP.481)

In 2024, 67% of the projected targets for Distribution Infrared Inspections were completed. Due to uncertainties with the 2024 GRC and informed by the Settlement Agreement, SDG&E adopted a risk-informed approach to find efficiencies and optimize outcomes. SDG&E also submitted a Change Order to reduce the target for this program to 300 inspections, which was rejected by Energy Safety. See SDG&E's Petition to Amend submitted concurrently with this ARC.

Upon review of program history, SDG&E found that this inspection program yielded only a 0.2% find rate. Therefore, in 2024 the program targeted specific areas during peak load season, selecting structures based on a risk-informed strategy utilizing SDG&E's Asset 360 models, risk analytics models, and IIP. This risk-informed approach will continue in 2025, with inspections planned for 300 structures, as approved in the 2025 WMP Update.

Given the program's low find rate (0.2%), risk reduction was met in 2024 for this program.

There is no QA/QC associated with this program.

O&M expenditures exceeded planned by 1,327% due to performing 2,033% more inspections than requested in SDG&E's 2023 Change Order, which was rejected.

5.2.24 Transmission Infrared Inspections (WMP.482)

In 2024, the projected target for Transmission Infrared Inspections was exceeded by 16% due to the inaccuracy of the forecast. The forecast for this program was determined in late 2023 and was subject to the variability of active structures on energized tielines.

All risk reduction was met in 2024 with completion of this program.

Inspections performed in this program undergo QA/QC under QA/QC of Transmission Inspections. See Section 5.2.32.

Expenditures for this program are FERC-funded and are not reported within the WMP.

5.2.25 Distribution Wood Pole Intrusive Inspections (WMP.483)

In 2024, the projected target for Distribution Wood Pole Intrusive Inspections was exceeded by 12% due to an increase in the number of overhead facilities that had required inspection due dates, as outlined in GO 165. The forecasted targets are based on a snapshot in time, and the fluidity of the grid and ongoing changes often result in the inclusion of additional structures.

All risk reduction was met in 2024 with completion of this program.

Inspections performed in this program undergo QA/QC under QA/QC of Wood Pole Intrusive. See Section 5.2.34.

Capital expenditures were less than planned by 76% because corrective work identified by these inspections is funded through distribution overhead detailed inspections, wood pole intrusive inspections, infrared inspections, and overhead patrol inspections. In 2024, the actual capital costs for follow-up repairs exceeded the planned budget by 42%.

O&M expenditures were less than planned by 29% due to more capital repairs performed than O&M repairs.

5.2.26 Transmission Wood Pole Intrusive Inspections (WMP.1190)

In 2024, the projected target for Transmission Wood Pole Intrusive Inspections was exceeded by 100% because additional non-routine inspections were performed in the HFTD. Non-routine inspections are not included in the target because they are requested for various reasons and are typically performed to support pole-loading calculations needed for engineering and design work.

All risk reduction was met in 2024 with completion of this program.

Inspections performed in this program undergo QA/QC under QA/QC of Wood Pole Intrusive. See Section 5.2.34.

Expenditures for this program are FERC-funded and are not reported within the WMP.

5.2.27 Drone Assessments (WMP.552)

In 2024, 48% of the projected targets for Distribution Drone Assessments were completed. SDG&E's 2023 Change Order requested to reduce the 2024 target from 13,500 inspections to 6,500 inspections, however, this request was rejected by Energy Safety. See SDG&E's Petition to Amend submitted concurrently with this ARC.

To find cost efficiencies without increasing wildfire risk and consider affordability measures given the pending GRC and to align with the pending Settlement Agreement, SDG&E reevaluated the program to optimize the number of inspections based on further risk assessment. The historical number and severity of findings from the first year of program implementation (2023), along with historical repair and replacement costs, were evaluated against the expected wildfire risk consequences at each asset location. This resulted in a determination to perform 6,500 inspections, which represented a balanced approach that still maximized risk reduction.

Inspections performed in this program undergo QA/QC under QA/QC of Distribution Drone Assessments. See Section 5.2.33.

Capital expenditures exceeded planned by 13% due to more corrective work orders generated in response to inspection repairs and an increase in the cost of materials and labor in 2024.

5.2.28 Distribution Overhead Patrol Inspections (WMP.488)

In 2024, 100% of projected targets for Distribution Overhead Patrol Inspections were completed.

All risk reduction was met in 2024 with completion of this program.

There is no QA/QC associated with this program.

Capital expenditures exceeded planned by 336% because more corrective work orders were completed than planned, driven by the responsive nature of corrective work identified during inspections. Additionally, there was an increase in the average cost per job that was associated with rising material and labor costs.

Overhead detailed inspections, wood pole intrusive inspections, infrared inspections, and overhead patrol inspections are all separate programs. However, the capital costs for repair work identified during these inspections are managed together. In 2024, the actual capital costs for follow-up repairs exceeded the planned budget by 42%.

5.2.29 Transmission Overhead Patrol Inspections (WMP.489)

In 2024, the projected target for Transmission Overhead Patrol Inspections was exceeded by 16% due to the inaccuracy of the forecast. The forecast for this program was determined in late 2023 and was subject to the variability of active structures on energized tielines.

All risk reduction was met in 2024 with completion of this program.

Inspections performed in this program undergo QA/QC under QA/QC of Transmission Inspections. See Section 5.2.32.

Expenditures for this program are FERC-funded and are not reported within the WMP.

5.2.30 Transmission 69 kV Tier 3 Visual Inspections (WMP.555)

In 2024, 98% of projected targets for Transmission 69 kV Tier 3 Visual Inspections were completed. The remaining 2% were not completed due to the inaccuracy of the forecast. The forecast for this program was determined in late 2023 and was subject to the variability of active structures on energized tielines.

All risk reduction was met in 2024 with completion of this program.

Inspections performed in this program undergo QA/QC under QA/QC of Transmission Inspections. See Section 5.2.32.

Expenditures for this program are FERC-funded and are not reported within the WMP.

5.2.31 Substation Patrol Inspections (WMP.492)

In 2024, 99% of the projected target for Substation Patrol Inspections was completed. The forecast was determined in late 2023, prior to decommissioning two substations. Furthermore, the inspection cycle for any substation may change from monthly to bi-monthly, or vice versa. These routine infrastructure adjustments drive the actual inspections performed, which could vary from the forecast.

All risk reduction was met in 2024 with completion of this program.

Inspections performed in this program undergo QA/QC under QA/QC of Substation Inspections. See Section 5.2.36.

Expenditures for this program are FERC-funded and are not reported within the WMP.

5.2.32 QA/QC of Transmission Inspections (WMP.1191)

In 2024, 100% of projected targets for QA/QC of Transmission Inspections were completed.

All risk reduction was met in 2024 with completion of this program.

Expenditures for this program are FERC-funded and are not reported within the WMP.

5.2.33 QA/QC of Distribution Detailed Inspections (WMP.491)

In 2024, the projected target for QA/QC of Distribution Detailed Inspections was exceeded by 471% due to completing additional overhead inspections, which warranted additional QA/QC activities. Additionally, the audit list is generated through randomized sampling and because a larger number of inspections in the HFTD were identified, there was an increase the QA/QC inspections performed.

All risk reduction was met in 2024 with completion of this program.

Expenditures for this program are embedded within Detailed Distribution Inspections and are not exclusively reported within the WMP.

5.2.34 QA/QC of Distribution Drone Assessments (WMP.1192)

In 2024, 100% of projected targets for QA/QC of Distribution Drone Assessments were completed.

All risk reduction was met in 2024 with completion of this program.

Expenditures for this program are embedded within Distribution Drone Assessments (WMP.552) and are not exclusively reported within the WMP.

5.2.35 QA/QC of Wood Pole Intrusive, Transmission & Distribution (WMP.1193)

In 2024, 100% of projected targets for QA/QC of Wood Pole Intrusive Inspections were completed.

All risk reduction was met in 2024 with completion of this program.

Expenditures for this program are embedded within Transmission and Distribution Wood Pole Intrusive Inspections and are not exclusively reported within the WMP.

5.2.36 QA/QC of Substation Inspections (WMP.1194)

In 2024, the projected target for QA/QC of Substation Inspections was exceeded by 22%. The goal of this program is to QA/QC a minimum of 18 substation inspections every year, with the possibility of performing additional inspections as needed.

All risk reduction was met in 2024 with completion of this program.

Expenditures for this program are FERC-funded and are not reported within the WMP.

5.2.37 CNF (Distribution Overhead) (WMP.1017)

There is no target for this initiative.

Risk reduction met with completion of this activity.

There is no QA/QC associated with this program.

This is a completed program that had associated costs in 2024. Electric infrastructure hardening work within the Cleveland National Forest (CNF) was completed, however, capital expenditures exceeded planned by 75% due to ongoing environmental restoration work. Restoration activities are dependent on many factors, including weather, which can make forecasting difficult. This program remains compliant with its Mitigation Monitoring, Compliance, and Reporting Program.

O&M expenditures were exceeded by 51% due to work on access road restoration.

5.2.38 Centralized Repository for Data (WMP.519)

There is no target for this initiative.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

Capital and O&M expenditures were less than planned by 14% and 22%, respectively, due to reduction in scope of work including visualization capabilities and subsequent reduction of resources. Vendor resource skills were consolidated to optimize efforts on SAP data foundation and to focus on new functionalities, including Temporary Construction Compliance supporting PSPS decision making.

5.3 Vegetation Management and Inspection

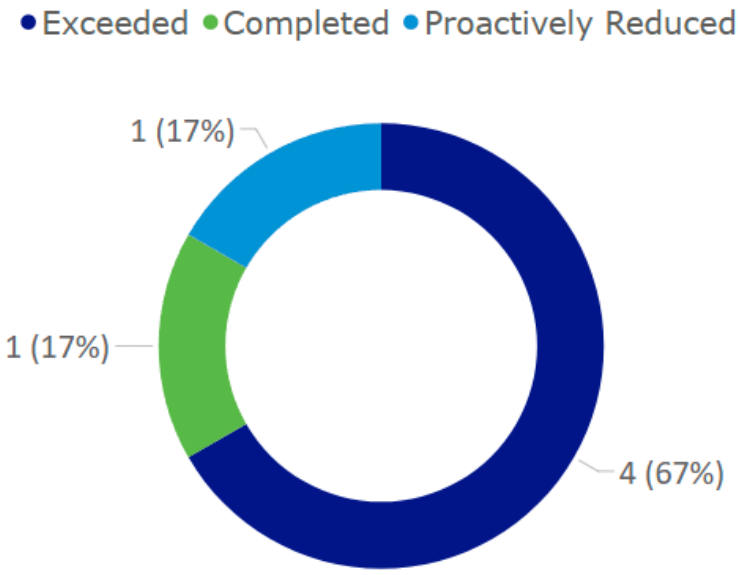
As part of its efforts to make its electric system more resistant to wildfires and to comply with relevant Commission rules and state law, Vegetation Management was designed with the goal of keeping trees and brush clear of electric infrastructure. Vegetation Management involves tracking and maintaining a database of inventory trees and poles, routine and enhanced patrolling, pruning and removing hazardous trees, replacing unsafe trees with more situationally compatible species, pole clearing, and training first responders in electrical and fire awareness.

Appendix A lists programs and initiatives within the Vegetation Management and Inspection category of the 2023-2025 Base WMP[19] and their associated targets, the method of verification for each target, projected and actual expenditures, and whether risk reduction was achieved. Projected and actual completion dates for all programs were December 31, 2024. Narrative is provided in this section if the target was not met, actual spend was greater or less than 10% of planned, risk impact was not achieved, or if there is a QA/QC component.

Figure 5-6 is a status summary for programs within the Vegetation Management and Inspection category of the 2023-2025 Base WMP.

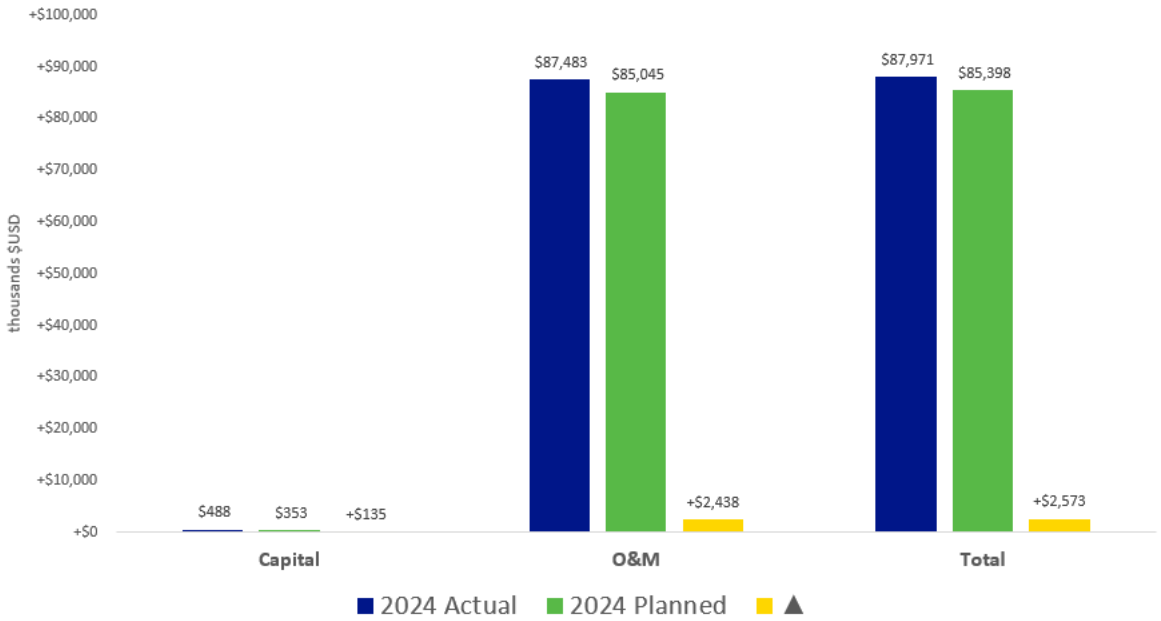
Figure 5-7 is a financial summary for programs and initiatives within the Vegetation Management and Inspection category of the 2023-2025 Base WMP.

Figure 5-6: Vegetation Management and Inspection: 2024 Program Status



[19] SDG&E 2023-2025 Base WMP at Section 8.2. https://www.sdge.com/2023-wildfire-mitigation-plan

Figure 5-7: Vegetation Management and Inspection: 2024 Expenditures



5.3.1 Detailed Inspections (WMP.494)

In 2024, the projected target for Detailed Inspections was exceeded by approximately 8%. Targets for this program are forecasted based on the estimated number of inventory trees throughout the service territory that will require inspection. The population of inventory trees fluctuates as new trees are added to the database when they first meet the inventory tree criteria and removed from the database when they are removed from the landscape.

All risk reduction was met in 2024 with completion of this program.

A post-activity QA/QC audit is performed on a representative sample of all completed detailed inspections. See Section 5.3.4 for the audit sample percentage and pass rate for this activity.

O&M expenditures exceeded planned by 27%. Expenditures recorded for this initiative include Detailed Inspections, Off-Cycle Patrol, QA/QC of Vegetation Management, and Clearance, including enhanced and routine tree pruning and removal activities. Most of the increase in O&M expenditures can be attributed to negotiated unit cost rates resulting from new service agreements between SDG&E and its contractors.

5.3.2 Fuels Management (WMP.497)

In 2024, 29% of the projected target for Fuels Management was completed. SDG&E elected to reduce this program in anticipation of its then-pending 2024 GRC decision. See SDG&E's Petition to Amend submitted concurrently with this ARC.

The election to reduce the scope of this initiative was informed by the knowledge that the remaining poles in the fuels management initiative would be addressed by other risk-reducing vegetation management measures such as pole clearing.

There is no QA/QC associated with this program.

O&M expenditures were less than planned by 46% due to the reduction in work volume completed for this initiative in 2024. Additionally, some of the work completed in 2024 was performed in collaboration with the federally recognized Pala Indian Reservation using local Tribal labor at a reduced cost to the program.

5.3.3 Clearance (WMP.501)

In 2024, the projected target for Clearance was exceeded by 5% due to the continued emphasis to obtain greater (enhanced) post-trim clearances on "targeted" species throughout the HFTD and to remove fast-growing species that are not compatible with power lines. The target forecast for this initiative is based on historical trim and removal rates, however, the actual number of trees that receive enhanced clearances is influenced by several factors, including annual precipitation, expected growth rate, proper pruning practices, minimum clearance requirements, and the health of the tree. The determination of whether a tree requires enhanced clearance is made by the tree contractor when the work is performed based on the above criteria and site specific and tree specific conditions.

All risk reduction was met in 2024 with the completion of this program.

A post-activity audit on a representative sample of all completed tree pruning and removal work is performed on an annual basis. See Section 5.3.4 for the audit sample percentage and pass rate for this activity.

O&M expenditures were less than planned by 100% due to cost being embedded within the costs of Clearance, Detailed Inspections; Off-Cycle Patrol; and QA/QC.

5.3.4 QA/QC Vegetation Management (WMP.505)

In 2024, the projected target for QA/QC Vegetation Management was exceeded by 2.5% as an overall average due to a relative increase in the initiative work activities that are subject to audit. A post-activity audit is performed on a representative sample of all completed vegetation management work including the activities of Pre-Inspection, Tree Pruning and Removal including clearance activities, and Pole Clearing. The projected target for this program is to complete a sample of 12% to 15% of work completed. Table 5-2 illustrates the actual, average audit sample percentage and pass rate for these activities in 2023.

Table 5-2: QA/QC Vegetation Management

Activity Audited	Audit Sample %	Pass Rate
Detailed Inspections	16.8%	94.4%
Tree Pruning/Removal (including Clearance)	15.1%	92.6%
Pole Clearing	24.4%	98.3%
Average	18.8%	95.6%

This program does not provide direct risk reduction.

Expenditures for this program are embedded within Detailed Inspections; Off-Cycle Patrol; and Clearance and are not exclusively reported within the WMP.

5.3.5 Off-Cycle Patrol (WMP.508)

In 2024, 100% of the projected target for Off-Cycle Patrols was completed.

All risk reduction was met in 2024 with the completion of this program.

There is no QA/QC associated with this program.

Costs for Off-Cycle Patrol are associated with Detailed Inspections, which are addressed in Section 5.3.1.

5.3.6 Vegetation Management Enterprise System (WMP.511)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

Capital expenditures for this initiative exceeded planned by 38% due to unexpected cost associated with advancements made in Oracle AWS and with unplanned enhancements made in the work management system, Epoch,

5.3.7 Pole Clearing (Brushing) (WMP.512)

In 2024, the projected target for Pole Clearing was exceeded by 11% due to the clearing of additional poles in the first half of the year that were technically exempt from regulatory requirement (PRC §4292). These poles were cleared as an added precautionary measure to reduce the likelihood of ignition caused by arcing material falling to the ground. Additionally, a modification in the methodology of extracting Pole Clearing data resulted in an increase in the total number of reported Pole Clearing activities.

All risk reduction was met in 2024 with the completion of this program.

Post-activity audit on a representative sample of all completed vegetation management work is performed on an annual basis.

O&M expenditures were less than planned by 10% primarily due to halting the clearing of poles that carry only exempt-hardware and are therefore exempt from the clearing requirement of PRC §4292. This activity was halted in the second half of 2024 based on the Company's affordability action plan that included identifying cost efficiencies for ratepayers, a lack of data showing a risk-reduction associated with clearing exempt poles, and to reduce impacts to customers.

5.3.8 Tree Planting – Right Tree Right Place (WMP.1325)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

No variance explanations are needed for program expenditures.

5.4 Situational Awareness and Forecasting

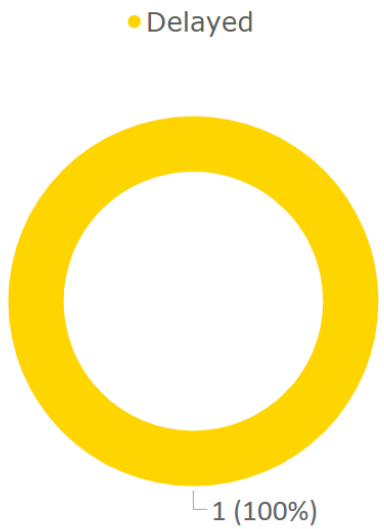
Weather continues to have a significant impact on utility operations. Utilization of situational awareness tools such as weather stations, cameras, WFIs, and the FPI have proven successful and continue to be beneficial to system planning, emergency operations, and the safe implementation of PSPS de-energizations. Based on these successes, situational awareness networks will be expanded into areas where they can be used to minimize the impacts of PSPS de-energizations and make communities safer.

Appendix A lists programs and initiatives within the Situational Awareness and Forecasting category of the 2023-2025 Base WMP[20] and their associated targets, the method of verification for each target, projected and actual expenditures, and whether risk reduction was achieved. Projected and actual completion dates for all programs were December 31, 2023. Narrative is provided in this section if the target was not met, actual spend was greater or less than 10% of planned, risk impact was not achieved, or if there is a QA/QC component.

Figure 5-8 is a status summary for programs within the Situational Awareness and Forecasting category of the 2023-2025 Base WMP.

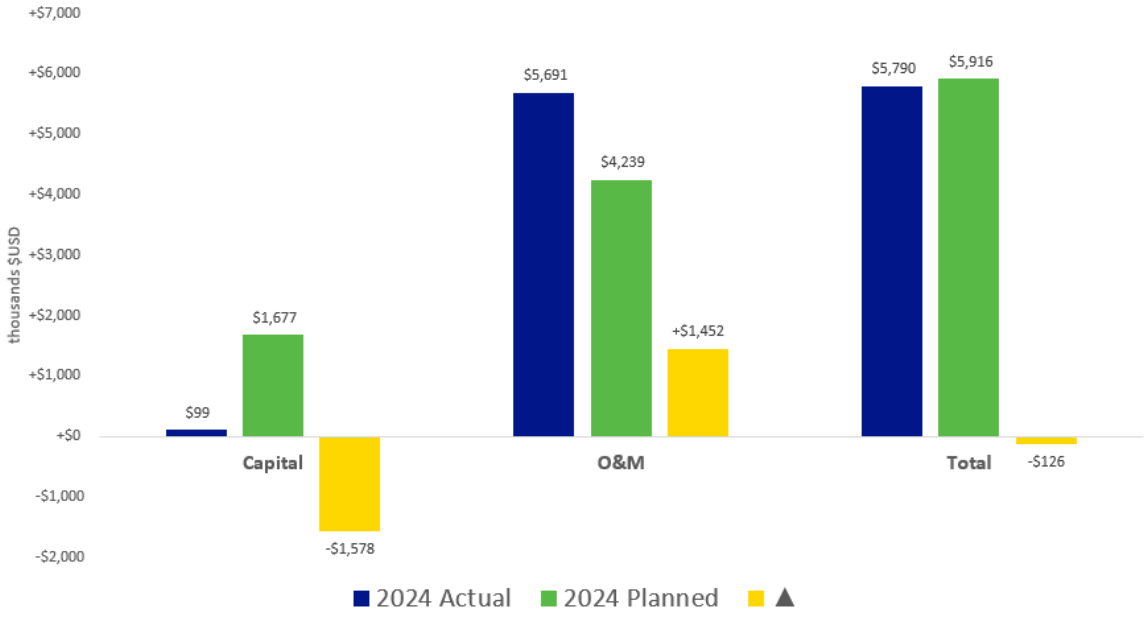
Figure 5-9 is a financial summary for programs and initiatives within the Situational Awareness and Forecasting category of the 2023-2025 Base WMP.

Figure 5-8: Situational Awareness and Forecasting: 2024 Program Status



[20] SDG&E 2023-2025 Base WMP at Section 8.3. https://www.sdge.com/2023-wildfire-mitigation-plan

Figure 5-9: Situational Awareness and Forecasting: 2024 Expenditures



5.4.1 Fire Potential Index (WMP.450)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

Capital was less than planned by 100% and O&M expenditures exceeded planned by 33% because planned capital expenditures were realized as O&M costs.

5.4.2 Environmental monitoring systems, Advanced weather monitoring (WMP.447)

There is no target for this program.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

No variance explanations are needed for program expenditures.

5.4.3 High-Performance Computing Infrastructure (WMP.541)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

No variance explanations are needed for program expenditures

5.4.4 Air Quality Index (WMP.970)

In 2024, 0% of the projected targets for Air Quality Index were completed because all installations were completed in 2023.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

Capital and O&M expenditures exceeded planned by 41% and 134%, respectively. O&M expenditures were exceeded due to maintenance and calibration of sensors charged to the same budget code as the installation of sensors.

5.4.5 Weather Forecasting (WMP.447)

There are no targets for this initiative.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

Capital expenditure was 100% lower than planned due to fewer weather station installation requirements than anticipated.

5.4.6 Ignition Detection Systems (WMP.558)

There are no targets for this initiative.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

No variance explanations are needed for program expenditures.

5.5 Emergency Preparedness

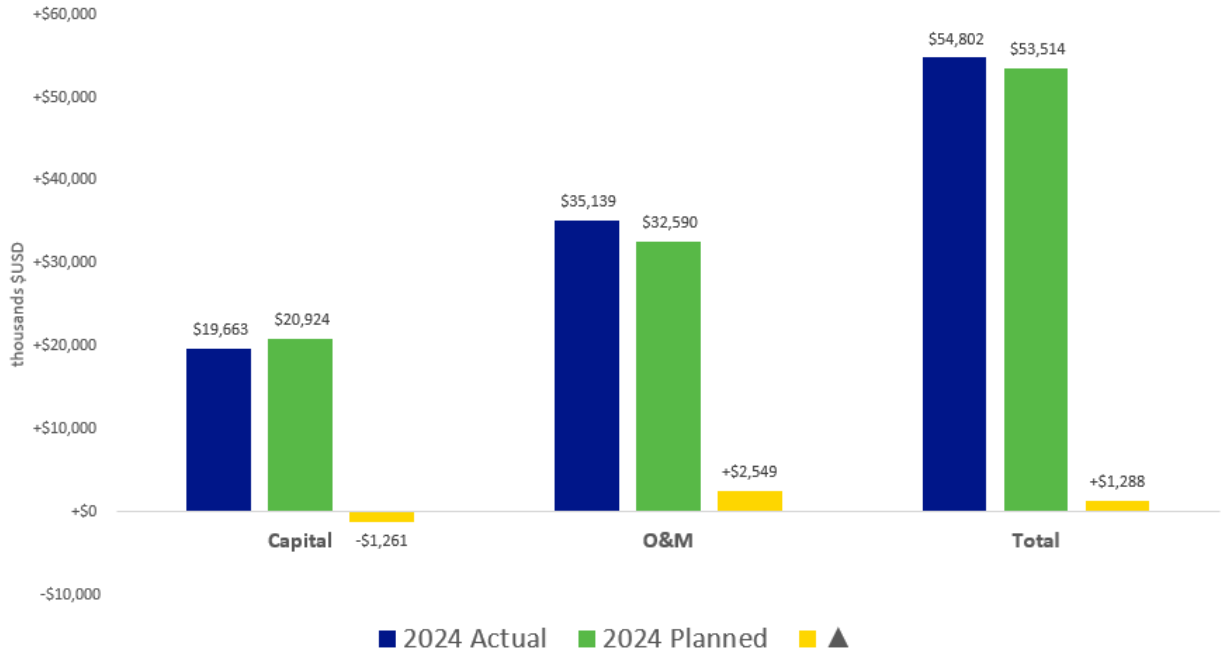
The mission of Emergency Management is to coordinate safe and effective emergency preparedness for the Company, customers, and emergency response personnel. This includes safely and efficiently preparing for, responding to, and recovering from all threats and hazards through strategic planning and training and utilizing a sustained Quality Assurance and Improvement process.

Appendix A lists projected and actual expenditures for each initiative within the Emergency Preparedness category of the 2023-2025 Base WMP.[21] Narrative is provided in this section if actual spend was greater or less than 10% of planned.

Figure 5-10 is a financial summary for initiatives within the Emergency Preparedness category of the 2023-2025 Base WMP.

[21] SDG&E 2023-2025 Base WMP at Section 8.4. https://www.sdge.com/2023-wildfire-mitigation-plan

Figure 5-10: Emergency Preparedness: 2024 Expenditures



5.5.1 Other, Suppression Resources and Services (WMP.514)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

O&M expenditures exceeded planned by 29% due to the requirement of a dedicated fire patrol for specific at-risk activities near wildland fuels during periods where the FPI rating is Elevated. The intensity and duration of fire conditions in 2024 significantly impacted the total spending in this area. Typically, the period where the FPI is consistently Elevated is from June to mid-November. However, in 2024, this period extended through the end of the year and into 2025**.**

5.5.2 Other, Aviation (WMP.557)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

Capital expenditures were less than planned by 48% due to manufacturer delays in delivery of aerial firefighting resources (Firehawk).

5.5.3 Public Emergency Communication Strategy (WMP.563)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

O&M expenditures were less than planned by 12% due to reallocating funds from the Wildfire Communications budget to the PSPS in-activation budget, which covers charges incurred during a PSPS activation. Additionally, spend was optimized in the Wildfire Communications category, contributing to the overall savings.

5.5.4 Emergency Preparedness Plan (WMP.1008)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

Capital and O&M expenditures exceeded planned by 19% and 15% respectively, due to higher than planned EOC and DOC-E activations, field response to PSPS, and increased IT vendor support for the new customer notification system.

5.5.5 Preparedness and Planning for Service Restoration (WMP.1009)

There are no targets for this initiative.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

Expenditures for this program are embedded within Emergency Preparedness Plan and are not exclusively reported within the WMP.

5.5.6 External Collaboration and Communication (WMP.1201)

There are no targets for this initiative.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

Expenditures for this program are embedded within Emergency Preparedness Plan and are not exclusively reported within the WMP.

5.5.7 Customer Support in Wildfire and PSPS Emergencies (WMP.1007)

There are no targets for this initiative.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

Expenditures for this program are embedded within Public Emergency Communication Strategy and are not exclusively reported within the WMP.

5.5.8 Personnel Work Procedures and Training in Conditions of Elevated Fire Risk (WMP.515)

There are no targets for this initiative.

This program does not provide direct risk reduction.

There is no QA/QC associated with this program.

Expenditures for this program are embedded within Section 5.5.1, Suppression Resources and Services (WMP.514).

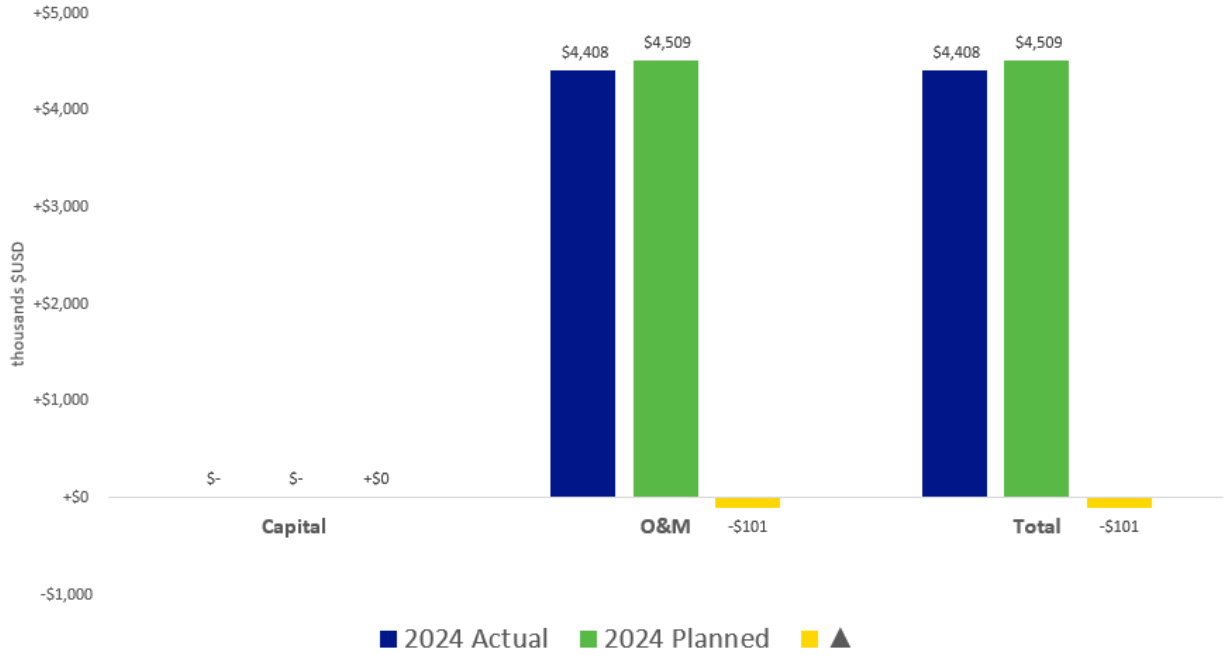
5.6 Community Outreach and Engagement

Community Outreach and Engagement provides all stakeholders up-front awareness and information, using available channels to educate the public on wildfire preparedness and PSPS de-energizations. This robust, external communication strategy includes thoughtful education campaigns and strategic partnerships and is continuously analyzed to identify areas of improvement.

Appendix A lists projected and actual expenditures for each initiative within the Community Outreach and Engagement category of the 2023-2025 Base WMP.[22] Narrative is provided in this section if actual spend was greater or less than 10% of planned.

Figure 5-11 is a financial summary for initiatives within the Community Outreach and Engagement category of the 2023-2025 Base WMP.

Figure 5-11: Community Outreach and Engagement: 2024 Expenditures



[22] SDG&E 2023-2025 Base WMP at Section 8.5. https://www.sdge.com/2023-wildfire-mitigation-plan

5.6.1 Community Engagement (WMP.1337)

There is no target for this initiative.

This initiative does not provide direct risk reduction.

There is no QA/QC associated with this initiative.

O&M expenditures were less than planned by 28% due to optimized spending for community events such as the Wildfire Safety Fairs. SDG&E reduced the number of fairs by one and cut costs on hand-outs and giveaway items while still achieving the goal of educating communities on wildfire and PSPS preparedness. Additionally, the resiliency survey budget was underspent due to contract amendments with the vendor, leading to delays in performing additional site assessments in Q4 of 2024.

6 Change Orders

Table 6-1: Change Orders

Description of Change Order	Date Requested	Date Approved	Date Rejected
Covered Conductor (WMP.455); p. 152, SDG&E 2023-2025 Base WMP. SGE&E proposed a reduction in the target for Covered Conductor in 2024 from 60 miles to 40 miles.	November 1, 2023	n/a	May 13, 2024
Strategic Pole Replacement (WMP.1189); p. 174, SDG&E 2023-2025 Base WMP. SDG&E proposed an increase in the target for Strategic Pole Replacement in 2024 due to a change in approach, which resulted in a target increase from 200 to 267.	November 1, 2023	May 13, 2024	n/a
Distribution Infrared Inspections (WMP.481); p. 189, SDG&E 2023-2025 Base WMP. SDG&E proposed a change in target and approach for Distribution Infrared Inspections for 2024, reducing the target from approximately 9,500 structures to 300 structures.	November 1, 2023	n/a	May 13, 2024
Wireless Fault Indicators (WMP.449); p. 304, SDG&E 2023-2025 Base WMP. SDG&E proposed to reduce the target for Wireless Fault Indicators for 2024 from 300 to 0 installations.	November 1, 2023	n/a	May 13, 2024
Distribution Communications Reliability Improvements (WMP.549); p. 171, SDG&E 2023- 2025 Base WMP. SDG&E proposed to reduce the target for this program from 60 to 15 base stations.	November 1, 2023	n/a	May 13, 2024
Air Quality Index (WMP.970); p. 301, SDG&E 2023-2025 Base WMP. SDG&E proposed to change the 2024 target for this program to zero due to a decrease in program scale.	November 1, 2023	n/a	May 13, 2024
Standby Power Program (Fixed Backup Power) (WMP.468); p. 176, SDG&E 2023-2025 Base WMP. SDG&E proposed a change in approach to Fixed Backup Power in 2024, reducing the target from 300 to 58.	November 1, 2023	n/a	May 13, 2024
Microgrids (WMP.462); p. 162, SDG&E 2023-2025 Base WMP. SDG&E proposed a target change to the Microgrid program in 2024, reducing the target from 3 to 1.	November 1, 2023	n/a	May 13, 2024
Weather Station Maintenance and Calibration (WMP.447); p. 300, SDG&E 2023-2025 Base WMP. SDG&E is reinstating WMP.447 (formerly Advanced Weather Monitoring and Weather Stations) as Weather Station Maintenance and Calibration in 2024 and therefore proposed an increase in the target to 222.	November 1, 2023	n/a	May 13, 2024

Appendix A: SDG&E 2024 ARC Summary Targets and Expenditures

SDG&E 2024 ARC Summary Targets and Expenditures

Targets and Expenditures

Category	Initiative Name	Tracking ID	Units	Target	Actual	% Complete	Capital Planned	Capital Actual	% Capital Change	O&M Planned	O&M Actual	% O&M Change	Status
Wildfire Mitigation Strategy Development	A summarized risk map that shows the overall ignition probability and estimated wildfire consequence along the electric lines and equipment	WMP.442	n/a	n/a	n/a	n/a	$-	$-	-%	$3,336	$4,573	37%	n/a
Wildfire Mitigation Strategy Development	Allocation methodology development and application	WMP.523	n/a	n/a	n/a	n/a	$2,720	$2,303	-15%	$5,363	$3,476	-35%	n/a
Wildfire Mitigation Strategy Development	Documentation and disclosure of wildfire-related data and algorithms	WMP.521	n/a	n/a	n/a	n/a	$59	$-	-100%	$-	$-	-%	n/a
Grid Design, Operations, & Maintenance	Additional Inspections (69kV TLs in Tier 3)	WMP.555	Structures	1,632	1,605.0	98%	$-	$-	-%	$-	$-	-%	Completed
Grid Design, Operations, & Maintenance	Advanced Protection	WMP.463	Circuits	8	5.0	63%	$15,613	$10,985	-30%	$197	$145	-26%	Delayed
Grid Design, Operations, & Maintenance	Avian Protection	WMP.972	Poles	200	774.0	387%	$1,103	$1,078	-2%	$10	30	200%	Exceeded
Grid Design, Operations, & Maintenance	Centralized repository for data	WMP.519	n/a	n/a	n/a	n/a	$9,028	$7,759	-14%	$1,639	$1,284	-22%	n/a
Grid Design, Operations, & Maintenance	CNF (Distribution Overhead)	WMP.1017	n/a	n/a	n/a	n/a	$589	$1,031	75%	$150	$226	51%	n/a
Grid Design, Operations, & Maintenance	DIST OH Hardening - Covered Conductor	WMP.455	Miles	60	35.9	60%	$76,890	$75,355	-2%	$3,000	$3,287	10%	Delayed
Grid Design, Operations, & Maintenance	DIST OH Hardening - Traditional Hardening	WMP.475	Miles	0	0.5	100%	$2,346	$3,711	58%	$935	$2,748	194%	Completed
Grid Design, Operations, & Maintenance	Distribution Drone Assessments	WMP.552	Poles Assessed	13,500	6,529.0	48%	$64,920	$73,386	13%	$30,573	$32,879	8%	Delayed

Category	Initiative Name	Tracking ID	Units	Target	Actual	% Complete	Capital Planned	Capital Actual	% Capital Change	O&M Planned	O&M Actual	% O&M Change	Status
Grid Design, Operations, & Maintenance	Distribution Infrared	WMP.481	Structures	9,532	6,398.0	67%	$-	$-	-%	$10	$145	1327%	Delayed
Grid Design, Operations, & Maintenance	Distribution OH Detailed	WMP.478	Structures	15,450	16,503.0	107%	$6,041	$8,070	34%	$800	$480	-40%	Exceeded
Grid Design, Operations, & Maintenance	Distribution OH Patrols	WMP.488	Inspections	86,197	86,140.0	100%	$553	$2,408	336%	$304	$300	-1%	Completed
Grid Design, Operations, & Maintenance	Distribution Woodpole Intrusive	WMP.483	Structures	0	2,225.0	100%	$924	$225	-76%	$101	$71	-29%	Completed
Grid Design, Operations, & Maintenance	Early Fault Detection	WMP.1195	Nodes	60	62.0	103%	$4,166	$3,477	-17%	$4	$123	2975%	Exceeded
Grid Design, Operations, & Maintenance	Expulsion Fuse Replacement	WMP.459	Fuses	0	188.0	100%	$1,463	$207	-86%	$-	$-	-%	Exceeded
Grid Design, Operations, & Maintenance	Fixed Power Backup	WMP.468	Generators	300	54.0	18%	$-	$-	-%	$5,377	$5,207	-3%	Delayed
Grid Design, Operations, & Maintenance	Generator Assistance Program	WMP.467	Generators	n/a	n/a	n/a	$-	$-	-%	$486	$478	-2%	n/a
Grid Design, Operations, & Maintenance	Generator Grant Program	WMP.466	Generators	n/a	n/a	n/a	$-	$-	-%	$3,139	$927	-70%	n/a
Grid Design, Operations, & Maintenance	HFTD Tier 3 Distribution Pole Inspections	WMP.551	n/a	n/a	n/a	n/a	$-	$-	-%	$-	$-	-%	n/a
Grid Design, Operations, & Maintenance	Hotline Clamps	WMP.464	HLCs	250	678.0	271%	$1,652	$695	-58%	$50	$107	113%	Exceeded
Grid Design, Operations, & Maintenance	Lightning Arrestor Replacement	WMP.550	Arrestors	1,848	1,654.0	90%	$2,983	$2,719	-9%	$-	$-	-%	Completed
Grid Design, Operations, & Maintenance	LTE Communication Network (DCRI)	WMP.549	Base Stations	60	3.0	5%	$30,716	$21,005	-32%	$970	$1,501	55%	Delayed
Grid Design, Operations, & Maintenance	Microgrids	WMP.462	Microgrid	4	-	0%	$6,312	$6,508	3%	$1,403	$888	-37%	Delayed
Grid Design, Operations, & Maintenance	QA/QC Distribution Detailed	WMP.491	Inspections	77	440.0	571%	$-	$-	-%	$-	$-	-%	Exceeded

Category	Initiative Name	Tracking ID	Units	Target	Actual	% Complete	Capital Planned	Capital Actual	% Capital Change	O&M Planned	O&M Actual	% O&M Change	Status
Grid Design, Operations, & Maintenance	QA/QC Distribution Drone	WMP.1192	Inspections	13,500	6,529.0	100%	$-	$-	-%	$-	$-	-%	Completed
Grid Design, Operations, & Maintenance	QA/QC Substations	WMP.1194	Inspections	18	22.0	122%	$-	$-	-%	$-	$-	-%	Exceeded
Grid Design, Operations, & Maintenance	QA/QC Wood Pole Intrusive (Dist & Trans)	WMP.1193	Inspections	0	150.0	100%	$-	$-	-%	$-	$-	-%	Exceeded
Grid Design, Operations, & Maintenance	SCADA Capacitors	WMP.453	Capacitors	0	1.0	100%	$287	$204	-29%	$-	$-	-%	Exceeded
Grid Design, Operations, & Maintenance	Secondary Inspections of Transmission (QA/QC)	WMP.1191	Structures	100%	1.0	100%	$-	$-	-%	$-	$-	-%	Completed
Grid Design, Operations, & Maintenance	Sectionalizing Devices	WMP.461	Switches	10	18.0	180%	$1,786	$2,135	20%	$-	$-	-%	Exceeded
Grid Design, Operations, & Maintenance	Strategic Pole Replacement	WMP.1189	Poles	267	40.0	15%	$7,015	$2,452	-65%	$4	$153	3725%	Delayed
Grid Design, Operations, & Maintenance	Strategic Undergrounding	WMP.473	Miles	125	112.0	90%	$300,458	$214,827	-29%	$1,271	$2,313	82%	Completed
Grid Design, Operations, & Maintenance	Substation Inspections	WMP.492	Inspections	384	379.0	99%	$-	$-	-%	$-	$-	-%	Completed
Grid Design, Operations, & Maintenance	Transmission Infrared Inspections	WMP.482	Structures	6,179	7,161.0	116%	$-	$-	-%	$-	$-	-%	Exceeded
Grid Design, Operations, & Maintenance	Transmission OH Hardening	WMP.543	Miles	10	9.2	90%	$-	$-	-%	$-	$-	-%	Completed
Grid Design, Operations, & Maintenance	Transmission OH Hardening - DUB	WMP.545	Miles	1	7.0	700%	$12,460	$12,170	-2%	$4	$(131)	-3375%	Exceeded
Grid Design, Operations, & Maintenance	Transmission OH Inspections (visual - helo patrol)	WMP.489	Structures	6,337	7,366.0	116%	$-	$-	-%	$-	$-	-%	Exceeded
Grid Design, Operations, & Maintenance	Transmission Wood Pole Intrusive Inspections	WMP.1190	Structures	0	164.0	100%	$-	$-	-%	$-	$-	-%	Exceeded
Grid Design, Operations, & Maintenance	Transmisson OH Detailed Inspections	WMP.479	Structures	1,960	2,940.0	150%	$1,707	$1,024	-40%	$36	$6	-84%	Exceeded

Category	Initiative Name	Tracking ID	Units	Target	Actual	% Complete	Capital Planned	Capital Actual	% Capital Change	O&M Planned	O&M Actual	% O&M Change	Status
Grid Design, Operations, & Maintenance	Wireless Fault Indicators	WMP.449	WFIs	300	0	0%	$-	$-	-%	$-	$-	-%	Delayed
Vegetation Management & Inspection	Clearance (enhanced trim or remove)	WMP.501	Trees	11,200	11,788.0	105%	$-	$-	-%	$10,235	$-	-100%	Exceeded
Vegetation Management & Inspection	Detailed Inspections	WMP.494	Trees	485,400	523,949.0	108%	$-	$-	-%	$60,084	$76,305	27%	Exceeded
Vegetation Management & Inspection	Fuels Management Program	WMP.497	Poles Cleared	500	147.0	29%	$-	$-	-%	$5,833	$3,159	-46%	Delayed
Vegetation Management & Inspection	Pole Clearing (brushing)	WMP.512	Poles Brushed	33,010	36,500.0	111%	$-	$-	-%	$7,893	$7,097	-10%	Exceeded
Vegetation Management & Inspection	QA/QC Vegetation Management	WMP.505	Inspections	15%	37%	247%	$-	$-	-%	$-	$-	-%	Exceeded
Vegetation Management & Inspection	Right Tree Right Place	WMP.1325	n/a	n/a	n/a	n/a	$-	$-	-%	$1,000	$922	-8%	n/a
Vegetation Management & Inspection	Vegetation management enterprise system	WMP.511	n/a	n/a	n/a	n/a	$353	$488	38%	$-	$-	-%	n/a
Vegetation Management & Inspection	VM Off-Cycle Patrol (strike potential)	WMP.508	VMAs	106	106.0	100%	$-	$-	-%	$-	$-	-%	Completed
Situational Awareness & Forecasting	Air Quality Index	WMP.970	Sensors	6	-	0%	$-	$-	-%	$-	$45	100%	Delayed
Situational Awareness & Forecasting	Environmental monitoring systems (Advanced weather monitoring)	WMP.447	n/a	n/a	n/a	n/a	$-	$99	100%	$-	$-	-%	n/a
Situational Awareness & Forecasting	Fire potential index	WMP.450	n/a	n/a	n/a	n/a	$1,677	$-	-100%	$4,239	$5,646	33%	n/a
Situational Awareness & Forecasting	High-performance computing infrastructure	WMP.541	n/a	n/a	n/a	n/a	$-	$-	-%	$-	$-	-%	n/a
Emergency Preparedness	Aviation Firefighting Program	WMP.557	n/a	n/a	n/a	n/a	$4,944	$2,580	-48%	$8,122	$7,853	-3%	n/a
Emergency Preparedness	Crew-accompanying ignition prevention and suppression resources and services	WMP.514	n/a	n/a	n/a	n/a	$-	$-	-%	$3,724	$4,819	29%	n/a

Category	Initiative Name	Tracking ID	Units	Target	Actual	% Complete	Capital Planned	Capital Actual	% Capital Change	O&M Planned	O&M Actual	% O&M Change	Status
Emergency Preparedness	Emergency preparedness plan	WMP.1008	n/a	n/a	n/a	n/a	$2,629	$3,122	19%	$15,677	$18,019	15%	n/a
Emergency Preparedness	Public emergency communication strategy	WMP.563	n/a	n/a	n/a	n/a	$13,351	$13,961	5%	$5,067	$4,448	-12%	n/a
Community Outreach and Engagement	Community engagement	WMP.1337	n/a	n/a	n/a	n/a	$-	$-	-%	$622	$450	-28%	n/a
Community Outreach and Engagement	Public outreach and education awareness program	WMP.527	n/a	n/a	n/a	n/a	$-	$-	-%	$3,887	$3,958	2%	n/a
TOTAL							**$574,744**	**$473,986**	**-18%**	**$185,545**	**$193,937**	**5%**	

Planned and Actual Expenditures by Category

Category	# of Programs and Initiatives	2024 Planned Expenditures ($ thousands)	% of 2024 Planned Expenditures	2024 Actual Expenditures ($ thousands)	% of 2024 Actual Expenditures
Grid Design, Operations, & Maintenance	39	$599,474	78.85%	$504,600	75.55%
Vegetation Management & Inspection	8	$85,398	11.23%	$87,971	13.17%
Emergency Preparedness	4	$53,514	7.04%	$54,802	8.20%
Wildfire Mitigation Strategy Development	3	$11,478	1.51%	$10,352	1.55%
Situational Awareness & Forecasting	4	$5,916	0.78%	$5,790	0.87%
Community Outreach and Engagement	2	$4,509	0.59%	$4,408	0.66%
Total	**61**	**$760,289**	**100.00%**	**$667,923**	**100.00%**