



Risk Assessment and Mitigation Phase Cross-Functional Factor

(SDG&E-CFF-3)

**Emergency Preparedness and
Response and Pandemic**

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CROSS-FUNCTIONAL FACTOR: EMERGENCY PREPAREDNESS AND RESPONSE AND PANDEMIC

I. INTRODUCTION

This Emergency Preparedness and Response (EP&R) and Pandemic Cross-Functional Factor (CFF) Chapter describes how EP&R activities impact the risks described in SDG&E's Risk Assessment Mitigation Phase (RAMP) Chapters and describes the activities initiated in 2020 in response to the COVID-19 pandemic.

SDG&E presents CFF information in this RAMP Report to provide the Commission and parties additional information regarding the risks and mitigations described in its RAMP Chapters. CFFs are not in and of themselves RAMP risks. Rather, CFFs are drivers, triggers, activities, or programs that may impact multiple RAMP risks. CFFs are also generally foundational in nature. Therefore, SDG&E's CFF presentation differs from its RAMP risk chapters (*e.g.*, no risk spend efficiency calculations or alternatives are provided).

As described below, EP&R provides a standardized approach for managing risk and safety across assets and activities. The EP&R CFF spans multiple lines of business and helps to mitigate several RAMP risks in this Report. Also discussed below are the temporary and permanent activities SDG&E implemented in 2020 to address safety and health related issues associated with the COVID-19 pandemic and, as applicable, future public health issues.

II. OVERVIEW

A. Emergency Preparedness and Response

The Emergency Management Department (EM) facilitates SDG&E's EP&R activities. EM's programs and processes include planning, training, exercising, and supporting responses and recovery efforts related to incidents, emergencies, disasters, and catastrophes.

B. Pandemic

While SDG&E has taken an all-hazards approach to emergency management, the significance and impacts associated with the COVID-19 pandemic warranted a strategic approach to emergency preparedness. As new information has become available, SDG&E has modified and created mitigation strategies, internal policies, and workforce engagement efforts to remain compliant with the local, state, and federal guidelines.

A cross-functional return to workplace team was established with representatives from across the Company to align and coordinate mitigation activities and employee engagement.

SDG&E will continue to monitor the COVID-19 situation, adjust mitigation strategies, workforce communication, and other policies and procedures to ensure alignment with industry-leading practices and mandated activities.

This section of the chapter provides a brief overview of the ongoing actions and activities taken to directly mitigate the risks associated with COVID-19. These activities have and will continue to apply to future public health risks based on the lessons learned from COVID-19.

III. ASSOCIATED RISK EVENTS

A. Emergency Preparedness and Response

Emergency Preparedness and Response is a CFF affecting all nine of SDG&E's 2021 RAMP risks: Wildfire Involving SDG&E Equipment, Incident Related to the Medium Pressure System, Incident Related to the High-Pressure System, Excavation Damage (Dig-In) on Gas System, Incident Involving an Employee, Incident Involving a Contractor, Customer and Public Safety - Contact with Electric Facilities, Electric Infrastructure Integrity, and Cybersecurity. EP&R is a factor in protecting operational reliability, ensuring the safety of employees and the public, and maintaining compliance with government regulations or guidelines.

B. Pandemic

SDG&E has implemented various policies and programs to address and mitigate health and safety concerns of the Company's employees and customers associated with the COVID-19 pandemic while continuing to provide safe and reliable energy services. These measures have provided continued safe working environments for SDG&E's office and field employees and have been modified as applicable based on federal and state guidelines as well as feedback from employees, management, and union representation. The level and duration of these programs and activities will be adjusted to align with the warranted level of risk mitigation.

IV. 2020 PROGRAMS AND PROJECTS

A. EP&R: Emergency Operations Center (EOC) Activations

The Emergency Operations Center (EOC) plays a substantial role in driving forward SDG&E's longstanding commitment to safety, reliability, and security risk mitigation. The EOC's strong safety culture contributes towards these goals through safety-focused information sharing and strategic collaboration. The EOC serves as a critical support function to ensure that SDG&E can respond effectively and efficiently to any hazard encountered, thereby safeguarding

SDG&E's employees, stakeholders, customers, the public, contractors, and other resources or individuals within the service territory.

The EOC response interconnects cross-functional teams representing every primary business line within the Company, functioning within a utility-compatible Incident Command System (ICS) framework. During an EOC activation, over 50 subject matter experts with various training and certification levels may be brought into the EOC from across the Company to provide strategic direction, coordination, and facilitate emergency response aspects through an event duration. Over four dozen external emergency management partners, such as the County Office of Emergency Services (OES) and Cal OES, are also folded into the response. These partners are embedded within SDG&E's EOC during emergency conditions. When activated, primary EOC responsibilities include:

- Acquiring and allocating critical resources;
- Providing consistent and aligned internal and external communications;
- Managing crisis information;
- Facilitating strategic and policy-level decision-making; and
- Providing centralized coordination of all aspects of the emergency.

SDG&E's EOC has four levels of activations, which have the following triggers and levels of response:

- **Level 1 (Catastrophic):** Requires a full complement of trained response teams. Activation triggers are severe events impacting Company services, requiring outside assistance. Catastrophic earthquakes and weather disasters that damage Company capabilities, compromise public or Company safety, or cause impacts to SDG&E private/public property.
- **Level 2 (Severe):** Requires a full cadre of trained responders. Activation triggers include Public Safety Power Shutoff (PSPS) events, moderate earthquakes, severe weather disasters, and gas/electric emergencies requiring significant company resources in the response.
- **Level 3 (Serious):** Limited to key responders based on incident requirements. Triggers include small events/incidents involving moderate Company impacts.

- **Level 4 (Active Monitoring):** On-duty call list actively monitoring changes to current conditions. Triggers include localized events with minimal disruption to services.

Depending upon the activation triggers (*e.g.*, PSPS, wildfire, earthquake), response personnel will report either physically or virtually to the EOC. As needed, SDG&E continues to evaluate and revise both the virtual and in-person EOC activation plans, processes, equipment, and communications protocols. This ongoing evaluation process ensures safe, effective, and efficient EOC operations and support.

B. EP&R: Training and Exercise Division

SDG&E's Training and Exercise Division develops and implements strategies and curriculum that complement SDG&E's utility-focused approach to ICS, which is designed to strengthen emergency response and recovery practices enterprise-wide. To establish a cohesive response across all risk factors, experienced staff will:

- Model training and exercises off the Competency-Based Training approach to focus on utility-specific outcomes and learning;
- Focus on training development, delivery, and evaluation;
- Meet or exceed current regulatory compliance training and adjust to newly implemented requirements, as needed;
- Develop, conduct, and evaluate iterative exercises based on policies, plans, and procedures;
- Leverage innovative virtual tools to ensure competency-based outcomes and certifications; and
- Maintain centralized training records and access to completion certificates.

C. EP&R: First Responder Outreach

SDG&E's First Responder Outreach Program provides safety-related information about SDG&E's operations and facilities as they relate to first responder activities. Specific activities include:

- Sharing well-researched and relevant information to first responders regarding natural gas safety and foundational operations information on SDG&E's facilities;
- Completing needs assessments for first responder agencies to enhance and develop appropriate and relevant training to meet target audience needs; and

- Partnering with Fire Coordinators to develop and deliver natural gas safety training and contingency planning to both internal and external stakeholders.

D. EP&R: EOC Training (Student Costs)

SDG&E provides both instructor-led ICS response structure training and instructor-facilitated ICS response structure exercises. With an annual EOC responder attrition rate of 40%, achieving certification and training targets is an ongoing focus area. The following activities help provide safe and effective EOC responses across all risk factors:

- Develop instructor-led ICS response structure training with competency elements;
- Mature facilitated ICS response structure exercises with competency elements;
- Leverage web-based proficiency and training;
- Coordinate and manage requirements from the Cal OES for up to 15 certifications tailored for each EOC position;
- Complete position-dependent certification training over three years for all EOC responders; and
- Enhance risk factor planning to include the review and revision cycle by building an appropriate planning unit staffing level.

E. EP&R: After-Action Review Program

SDG&E's After-Action Review (AAR) program involves conducting a comprehensive review with key stakeholders after tabletop exercises, EOC activations, and field incidents, where there are opportunities for continuous quality assurance and quality improvement. Findings and lessons learned from the AAR process are documented, communicated, assessed, and referenced to reduce the risk of reoccurrence. The following actions summarize the AAR programmatic response following an incident:

- Facilitating a comprehensive incident de-brief with key stakeholders, both internal and external, where appropriate;
- Documenting and storing lessons learned and/or findings in a shared and approved repository, made available to employees, as appropriate;
- Assigning findings and/or lessons learned to the responsible department(s), where accountability and timelines are then established; and
- Incorporating and or considering lessons learned gleaned from this process in designing and developing EOC-related skills training and exercises.

F. EP&R: Aviation Firefighting Program

SDG&E utilizes aviation assets for several business purposes. The main reasons are assisting in fire suppression activities in partnership with Cal Fire, inspecting SDG&E equipment, and assisting in construction activities. The Aviation Services Division (AS Division) provides the following services:

- Identifying and mitigating hazards using the Aviation Safety Management System (ASMS) approach. ASMS is a systematic, process-oriented approach to increasing safety and reducing accidents or incidents by improving the environment, work culture and proactive measures. By establishing methods to analyze the overall system and operations, accidents are prevented.
- Providing exceptional fire suppression capabilities through procured aerial firefighting resources to SDG&E's service territory, enhancing the Company's service reliability and reducing infrastructure damage.
- Providing standardized procedures in the Aviation operations manual regarding the performance of flight operations conducted on SDG&E's behalf. This manual outlines protocols to enable all aviation contractor personnel to carry out their assigned duties and responsibilities in accordance with AS Division policies, applicable laws, and Federal Aviation Administration regulations.
- Assisting in dispatching and coordinating fire assets on our flight operations base 365 days per year, using highly trained personnel. Activities include pre-flight planning assistance, assessment of conditions and personnel involved, coordination with line and maintenance personnel, aircraft assignment, following flights, communicating by radio for possible issue assistance and aircraft status, conducting post-flight activities, collecting lessons learned, and producing reports for actual conditions.

G. EP&R: Emergency Operations Center (EOC)

SDG&E's primary EOC serves as the location from which centralized emergency management is coordinated. An EOC activation assembles internal subject matter experts to assess and provide situational awareness to internal and external stakeholders and establish overarching incident objectives, planning, anticipation, response, communications, and coordination. There is a continued need for a virtual EOC response model and a back-up

location to support information-sharing, decision-making, and turn-key availability if access to the primary EOC location is hampered. The availability and utilization of the back-up EOC has enabled SDG&E to maintain an effectively operating EOC in situations as needed.

H. EP&R: Human Factors Engineering

In partnership with the Department of Energy and Pacific Science & Engineering Group, Inc. (via a Small Business Innovation Research (SBIR) grant and a Master Services Agreement (MSA)), SDG&E developed a Human-Machine Interface (HMI) and decision support concepts for real-time risk management and decision-making, called Human Factors Engineering. Human Factors Engineering is the process in which information such as behaviors, abilities, limitations, and working knowledge is used to design tools for increased safety, effectiveness, and productivity. The MSA continues to incorporate Human Factors Engineering in SDG&E's PSPS process by utilizing the science of HMI to evaluate and improve the PSPS Dashboard. These enhancements improve consistency and timeliness of safe and effective de-energization and re-energization decisions.

I. EP&R: Information Technology (IT) Support for EOC

The following programs provide ongoing support to various IT solutions that complement the EOC and offer 7/24/365 functionality:

- Technology solution support for IT applications and processes that improve information capturing, storage, and reporting.
- Noggin, SDG&E's multi-year, companywide situational awareness software tool, improves the ability to collect and disseminate information event-wide in near real-time through user input and system integrations. This tool also manages and stores incident-specific information by event for later reporting and analytics to streamline after-action reporting.

J. Pandemic: Safety Consultant Support for Pandemic Exposure Safety at Customer Homes

To maintain a high level of safety and reliability with live customer interactions, SDG&E modified several processes and procedures to mitigate the exposure to COVID-19 when entering customer homes. If there is potential COVID-19 exposure, a third-party safety consultant is brought onsite to the customer order location and assists the field technician(s) with donning/doffing additional personal protection equipment (PPE).

K. Pandemic: Procure Additional Supplies

SDG&E is continuously monitoring federal, state, and local guidance to assess and purchase the necessary supplies and PPE to combat and minimize the spread and impacts of the pandemic. Supplies include air filtration systems, disinfectant cleaning supplies, face coverings, hand sanitizer, respirators, nitrile gloves, shoe coverings, and coveralls.

L. Pandemic: Temperature and pandemic symptom screening of employees/contractors/visitors by vendor

SDG&E coordinated with a vendor to conduct onsite temperature and pandemic symptom screening of employees, contractors, and visitors at critical company locations every day. This process is essential to reducing the risk of transmission in the workplace and can also be used as a tool to prompt employees to seek treatment and begin quarantine sooner.

M. Pandemic: Polymerase Chain Reaction (PCR) Testing

SDG&E arranged for a contractor to facilitate offsite polymerase chain reaction (PCR) nasal swab testing of sequestered employees and onsite antigen testing of select employee groups, as needed. PCR testing can determine if someone currently has COVID-19 or other similar infection by detecting ribonucleic acid, or genetic material, specific to the virus. It can detect the virus within days of infection, even for those who have no symptoms. Direct access to testing helps to mitigate workplace exposure.

N. Pandemic: Advanced/Enhanced Cleaning Protocols for Facilities

SDG&E Facilities Operations Department has implemented a progressive multi-tier protocol for addressing increased disinfection requirements due to a pandemic event.

- **Tier Zero** provides employees with cleaning supplies to clean their personal workspace. Each organization/department is responsible for obtaining and making available the necessary cleaning products through the Company's supply process.
- **Tier One** provides the cleaning and disinfecting on a proactive and preventive basis. Facilities Operations will disinfect specific areas of concern by utilizing specific products to eliminate viral and biological pathogens. Protocols include twice-daily cleaning of common surfaces.
- **Tier Two** is referred to as a "suspected COVID-19 exposure" and requires (in addition to Tier 1 protocols), cleaning and disinfecting personal workstations including desktops, drawers, overhead cabinets, chairs, and armrests. Carpeted

floors will be cleaned with a HEPA vacuum and hard surface floors will be mopped.

- **Tier Three** engages a specialized cleaning crew after a confirmed COVID-19 case has been identified. Depending on the situation, the crew will spray a liquid disinfectant via an electrostatic process in exposed areas of the facility.

O. Pandemic: Enhanced Mechanical Systems

SDG&E Facilities Operations Department has implemented various enhancements to its heating, ventilation, and air conditioning (HVAC) systems to mitigate the potential for pathogen propagation due to a pandemic event. Specifically, superior commercial air filters that capture a vast majority of airborne pathogens as small as .03 microns were installed throughout the Company's HVAC systems. Where applicable, the maximum amount of outside air was increased to improve indoor air quality and sequences of operations have been changed to increase the amount of fresh air into spaces. Bi-polar ionization units have been installed in our major air handling systems to electrically charge ions that neutralize airborne particles in the ductwork, making them heavier and easier to trap in filters and cleaning the air stream.

In certain areas, SDG&E installed mobile air purification systems for 24/7 cleaning. Mobile Ultra-Violet (UV) air purification systems were deployed to be used for areas with larger populations that must remain on-site and operational during the pandemic event (*e.g.*, Customer Care Centers and the EOC). Specific HVAC systems are operated on a 24-hour basis to continuously circulate fresh air throughout the facility and maintain indoor air quality.

P. Pandemic: Clean and Disinfect Company Owned and Operated Fleet Vehicles

Safety and Fleet Services partnered to develop a comprehensive pandemic protocol for the cleaning and disinfection of company-owned and operated vehicles and trucks. The protocols also address situations when a single vehicle needs to be shared by multiple occupants. To the extent feasible, vehicles are only occupied by a single individual.

Q. Pandemic: Pandemic-Related Applications

Pandemic-related application tools enable Employee Care Services (ECS) employees to quickly assess the risk of potential COVID-19 exposures to other employees, facilities, vehicles, or customers. They reduce the time it takes ECS staff to research and identify employee interactions, initiate appropriate follow-up, assist ECS employees in managing and tracking

COVID-19 related cases and interactions with employees, and empower ECS employees to proactively set relevant touchpoints, to reduce the risk of exposure and enhance employee safety.

For instance, there is a Pandemic Dashboard and a Pandemic Analytics tool that provide leadership oversight of the current pandemic environment and identify trends to support decisions and policies. This dashboard tracks the impact of the pandemic within SDG&E's service territory and in California, the U.S., and the world. At the company level, the tools track the impact the pandemic is having on SDG&E employees, including confirmed and recovered cases.

The Company has also used additional tools to enhance employee safety during the pandemic, such as the Pandemic Case Management System, and Business Objects Contact Tracing Report.

R. Pandemic: Contact Tracing

Complementary to other COVID-19 countermeasures, SDG&E uses a contact tracing process to identify and notify employees and contractors who may have been in close contact with a suspected or confirmed COVID-19 case while at work. Contracted resources have been secured in this effort to conduct and deliver timely exposure notifications. These notifications, along with mandated quarantines, reduce the risk of COVID-19 transmission in the workplace.

S. Pandemic: Pandemic Management Plan

SDG&E created a template to help develop management plans for future pandemics, should the need arise. Based on a pandemic's characteristics, SDG&E would rapidly create an initial Pandemic Management Plan that would be updated in real-time, as possible, to reflect new information and/or evolution of the pandemic. Key staff will be trained on the plan and provide ongoing support and updates based on situational changes.

T. Pandemic: Remote Work Enablement

To reduce the risk of COVID-19 transmission in the workplace, SDG&E has established a new work-from-home (WFH) policy and companion resources. For example, employees have been offered reimbursement for home office supplies and a remote-work stipend to cover home expenses incurred to facilitate WFH. Increased access to and use of technologies has been implemented, such as virtual conferencing, cloud-based file sharing, and remote access to secure systems and databases. These policies, resources, and technologies to enable WFH has reduced the risks of employees contributing to the spread of infections.

U. Pandemic: IT Systems and Licenses

To establish adequate remote access for employees and contractors, SDG&E has purchased, set up, and implemented support IT systems and software. For example, SDG&E's IT Department has enhanced SDG&E's Virtual Private Network software and has secured associated equipment and licenses to facilitate the increased WFH traffic.

V. Pandemic: Alternate Work Sites

SDG&E Facilities Operations implemented two different initiatives for sequestered employees to provide social distancing and to minimize the spread of the COVID-19 virus. The first initiative established various geographic reporting locations for some of the Company's essential field employees. The locations consist of 11 separate sites that are spread throughout the Company's service territory, providing an area for reporting in the mornings and for dropping off vehicles, equipment, and materials in the evening, as needed. Physical fences, security guards, cameras, and other security applications secure the sites. The sites also provide temporary power (generators), temporary offices, lighting, water, ice, restrooms, hand sanitation facilities, and trash services.

The second initiative involves renting recreational vehicles (RV) to house the Company's essential transmission grid operations staff at the Mission Control Critical Facility. The operators are sequestered on-site for two-week assignments and do not leave the premises. The RVs include all utilities (electric, water, sewer) and housekeeping once a week.

W. Pandemic: Facilities Enhancements

SDG&E's Facilities Operations Department has implemented various enhancements to provide additional safety measures to help maintain a healthy work environment. The measures include equipment, signage, procedures, protocols, and communications.

- Specific equipment, including mitigating pathogen applications such as ultraviolet light and bipolar ionization units installed in HVAC systems, has been procured.
- As necessary, spaces have been reconfigured to physically separate workers by at least six feet using measures such as physical partitions or visual cues (*e.g.*, floor markings, colored tape, or signs to indicate where workers should stand).
- Specific paths of travel (egress/ingress) have been developed, to reduce the cross-contamination potential.
- Elevator occupancy has been limited to no more than two passengers at a time.

- Signage has been created to remind employees, the public, and customers of physical distancing and face coverings at all entrances and strategically throughout SDG&E facilities.
- Facilities will continue to have daily touchpoints to discuss the latest events, issues, and concerns and increase coordination during the event.

X. Pandemic: Advisory Services and Expert Medical Consulting

SDG&E identifies and retains infectious disease medical experts in an advisory capacity to discuss mitigation strategies and workforce concerns and to interpret evolving federal, state, and local guidance.

Y. Pandemic: Adherence to Official Guidance

SDG&E actively monitors county, state, and federal guidance to align mitigation activities with leading industry and science-based information. As new information becomes available, SDG&E modifies its mitigation strategies, internal policies, and workforce engagement to remain compliant with local, state, and federal requirements and recommendations.

Z. Pandemic: Monitor Local Trends

SDG&E monitors key indicators and local infection rates to better understand local and regional risks across SDG&E's service territory. Key indicators include seven-day averages, case rate, positivity rate, local intensive care unit bed availability, and the vaccine distribution plan. We also partner with and receive guidance from local health experts. These indicators help inform decision-making to extend WFH requirements and adjust PPE requirements for field crews working in higher-risk areas or entering customer homes.

V. 2022 – 2024 PROJECTS AND PROGRAMS

The following section provides an overview of planned new and expanded programs and projects that have been identified in part by EM's ongoing review of the applicability and effectiveness of existing programs and projects.

A. EP&R: Human Factors Engineering Expansion

Human Factors Engineering will be expanded from its current application of only PSPS activities to include projects with the following departments: Electric Distribution Operations, Electric Regional Operations, Mission Control Grid Operations, and the Safety Management

System. This expansion will enhance efficiencies and effectiveness in event and emergency operations by incorporating HMI interface with the Company's technology tools and systems.

B. EP&R: Training and Exercise Division and ICS Companywide Program Expansion

This program expansion will develop and deliver training and exercises to meet an ambitious year-round, all-risk schedule and planning program. Centralized under EM, the Training and Exercise Division will launch a companywide initiative to expand ICS protocols into all aspects of the Company's business, including routine and regularly scheduled work. By doing so, all field workgroups will be unified under one response structure for more effective and efficient emergency responses.

Benefits to integrating ICS as a standard companywide practice include:

- Aligning the Company with other gas and electric service providers and external response agencies by sharing common terminology and hierarchy during a response;
- Formalizing position-specific training and certification;
- Defining in-house ICS training with a utility-based focus and incident escalation triggers;
- Bringing consistency to the Company's response across all field crews from multiple districts; and
- Improving on-scene safety by formalizing resources request processes, how responders communicate up the chain, and how to assign authority at the appropriate level for the response.

C. EP&R: EOC Activation Capabilities Expansion

The newly formed virtual EOC response model was implemented by EM as a direct result of the COVID-19 pandemic. The initial transition to a virtual platform focused on meeting the Company's immediate need to minimize the spread of the COVID-19 virus. The virtual EOC is a tested and viable response solution, as deemed by executive leadership, but needs resources to identify gaps in equipment, technology, integration, and communications. EOC staff will need standardized equipment at home and IT support to ensure strong communications, information flow, and stable connectivity to support decision-making for all-risks, all-hazards. Also, SDG&E anticipates an increased demand for varied communications modes, support

software, and technology to seamlessly tie together the virtual EOC with the in-person EOC response.

Beyond technical enhancements, there is a continued need to develop and implement policies and protocols that govern activating the EOC in an entirely virtual setting or partial virtual and in-person (hybrid) setting.

Albeit convenient and effective, the virtual EOC model will not permanently replace the primary or back-up EOC. Specific risks and incidents (*e.g.*, a telecommunications outage) necessitate an in-person EOC response. If the primary EOC is inaccessible or an incident response requires additional space for planning and coordination, the back-up EOC facility must duplicate capabilities, capacity, and function. As such, the office space must adequately support the growing complexity of EOC responses and support technology and appropriately house the required number of EOC responders for a full EOC activation. Each varied EOC response model should reflect the commitment to public safety on which SDG&E prides itself and provide a fully functional EOC as well as a place to showcase that commitment.

The current EOC is an approximately 6,500 square-foot facility constructed over 20 years ago to serve as SDG&E's central command post in a natural disaster or significant incident impacting the region's electric and natural gas systems. Over time, the EOC has evolved to serve as the central hub to support the growing demands of emergency-based events, *e.g.*, SDG&E's wildfire mitigation, situational awareness, and outreach and collaboration initiatives. Although the EOC refresh is fully funded, construction has paused. During these unprecedented times, EM continues to monitor, evaluate, and adjust on an ongoing basis to establish best emergency response practices.

D. EP&R: First Responder Outreach Program

As a complement to the ICS expansion projects under the Training and Exercise division, a core Incident Support Team (IST) will be established to support the Field Incident Commander and other on-scene operational crews and personnel. Formalizing deployable resources and roles will enable the Incident Commander to focus on the operational response while the IST supports the overall safety and scene management, including effective and efficient on-scene coordination between SDG&E and first responder agencies for all risk responses. The 24/7 Watch Command Desk will tie directly into both the IST and ICS programs by serving as a critical resource for situational awareness when an incident threatens to escalate or intensify.

E. EP&R: Expanding IT Support for EOC

EOC's Technology Solutions Division will be responsible for maintenance, continued growth, and the enhancement of disaster recovery communications maintained by the Company. Should the widespread loss of power due to either a natural or human-made disaster occur, an alternative communications/messaging system will be critical to initiate and maintain the response and recovery efforts. This disaster recovery communications system will provide back-up capabilities to critical situational awareness and notification applications that are used during emergencies.

This division will partner with the IT department to identify and integrate the required communications resources in an emergency to ensure that SDG&E has interface capabilities to recover from these events and restore services to customers. Core duties include:

- Developing, supporting, and maintaining the expanded and enhanced IT functionality for all virtual, primary, and back-up equipment in the Rancho Bernardo back-up EOC.
- Maintaining and overseeing all EOC technical equipment, including displays, computers, network infrastructure, and communications tools.
- Analyzing workflows and employing technology (*e.g.*, automated tools) in business processes to allow for faster decision-making and response times.

F. EP&R: Aviation Firefighting Program Expansion

In 2022, SDG&E will take ownership of a new S-70M Firehawk helicopter. The helicopter will increase SDG&E's overall level of situational awareness and safety due to its increased maneuverability, heavier lifting capacity, and other upgrades relative to the currently leased Blackhawk helicopter. Enhanced night operations capability will also aid in future Cal Fire night firefighting capacity.

SDG&E continues to assess its aviation firefighting program's effectiveness and to develop opportunities or enhancements for improvements. The AS Division will incorporate helicopter video streaming capabilities into SDG&E's helicopter fleet to support this objective. Cameras mounted on the H145 helicopter will enable live streaming to applicable public safety entities, and ground stations connected to the helicopter live video down link can access imagery, video, or infrared video displayed by the cameras.

G. EP&R: Establishing a 24/7 Watch Command Desk Division

Implementing a 24-hour, 7 day-a-week Watch Command Desk Division within the EOC will ensure consistent and timely information gathering through increased monitoring of all risks. This group will perform real-time assessments of risk impacts to SDG&E's assets, customers, and employees.

The Watch Command Desk Division will replace the current coverage system, which rotates the monitoring responsibilities among on-duty department staff who concurrently perform regular work duties and coordinate critical tasks during sleeping hours. The following actions will improve this process by:

- Allowing for around-the-clock surveillance of potential risks based on real-time monitoring of regional, national, and global information.
- Enabling more effective and efficient situational awareness report preparations.
- Sharing information to aid in efficient senior management decision-making and reduce the reflex time for response actions.
- Increasing personnel efficiency by reducing or eliminating the potential for redundant information-gathering or issues being missed.
- Provides daily situational updates and analysis.
- Increases EM capacity by assisting in technical writing during administrative shifts.

This program further bolsters our effectiveness as a world-class emergency management program and promotes employee and customer safety.

H. EP&R: After-Action Review Program Enhancement

The AAR program will expand to include additional coverage to meet increasing demands for continuous quality improvement projects and stakeholder assessments. The Company has seen a steady increase over the years of post-incident discussions and evaluations, and we expect that trend to continue into 2021. In 2020, EM completed 50 AARs, which reflects the maturation of our continuous quality improvement efforts relative to years prior. The Company has set an aggressive training and exercise schedule for 2021, which will heavily involve the AAR process to ensure continuous improvement and consistency in our skills training. The enhanced program will include:

- Increased partnership and activity around operations-centric incidents (*e.g.*, Electric Regional Operations);
- Corrective actions bridged to core capabilities and collaboration with the Training and Exercise Division; and
- High-level reports of outcomes, capabilities, and progress to directors and managers.

VI. COSTS

A. EP&R

Table 1 contains the 2020 recorded and forecast dollars for the programs and projects discussed in this CFF. These dollars duplicate amounts that are also reflected in SDG&E's Wildfire Risk Chapter (SDG&E-Risk-1).

Table 1: Costs (Direct After Allocations, in 2020 \$000)¹

Line No.	Description	Recorded		Forecast			
		2020 Capital	2020 O&M	2022-2024 Capital (Low)	2022-2024 Capital (High)	TY 2024 O&M (Low)	TY 2024 O&M (High)
1	Emergency Operations Center (EOC) Activations	0	4,294	0	0	3,865	4,724
2	Training and Exercise Division	0	4,782	0	0	4,445	5,433
3	First Responder Outreach	0	883	0	0	858	1,048
4	EOC Training (Student Costs)	0	Included in Line 2	0	0	Included in Line 2	Included in Line 2
5	After-Action Review Program	0	294	0	0	265	324
6	Aviation Firefighting Program	7,175	6,791	0	0	9,288	11,350
7	Emergency Operations Center (EOC)	2,638	0	9,423	11,520	225	275
8	Human Factors Engineering	0	0	0	0	126	153
9	IT Support for EOC	0	60	0	0	105	129
10	Human Factors Engineering Expansion	0	0	0	0	Included in Line 8	Included in Line 8
11	Training and Exercise Division and ICS Companywide Program Expansion	0	0	0	0	Included in Line 2	Included in Line 2
12	EOC Activation Capabilities Expansion	0	0	Included in Line 7	Included in Line 7	Included in Line 7	Included in Line 7
13	First Responder Outreach Program	0	0	0	0	Included in Line 3	Included in Line 3
14	Expanding IT Support for EOC	0	0	Included in Line 9	Included in Line 9	Included in Line 9	Included in Line 9
15	Aviation Firefighting Program Expansion	0	0	0	0	Included in Line 6	Included in Line 6
16	Establishing a 24/7 Watch Command Desk Division	0	0	0	0	810	990
17	After-Action Review Program Enhancement	0	0	0	0	Included in Line 5	Included in Line 5

¹ Costs presented in the workpapers may differ from this table due to rounding. The figures provided are direct charges and do not include company loaders, with the exception of vacation and sick. The costs are also in 2020 dollars and have not been escalated in forecasts beyond 2020.

B. Pandemic

Because of the uniqueness of the current and any future pandemics, SDG&E has not included forecasted pandemic-related costs.