

APPENDIX E

Construction Fire Prevention Plan



TL 695/6971 Reconductor Project Construction Fire Prevention Plan

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1. CONSTRUCTION FIRE PREVENTION PLAN DEFINITIONS

- 1. ESP 113.1 SDG&E Wildland Fire Prevention & Fire Safety Plan (SDG&E ESP 113.1):**
This is an internal San Diego Gas & Electric (SDG&E) standard practice or procedure outlining fire suppression tools and equipment required for its employees and contractors, fire prevention requirements, and fire related training. It serves as an attachment to this Plan.
- 2. Fire Coordinator (FC):** An SDG&E employee who serves as liaison or agency representative to the fire agencies and other emergency services during an emergency and with other fire related activities in non-emergency situations.
- 3. Fire Patrol:** Fire patrol(s) are personnel who are assigned the responsibility and accountability for fire prevention, risk management, early detection of fires, and rapid extinguishment.

A “**designated**” Fire Patrol is a member of a work crew who is assigned the responsibility and accountability for fire prevention, risk management, early detection of fires, and rapid extinguishment. This can be accomplished co-laterally with other work duties but must be ready to respond with appropriate fire equipment.

A “**dedicated**” Fire Patrol is a person(s) assigned duties associated with fire prevention and fire safety for a specific job or location, with appropriate training and equipment equivalent to the risk presented. This would be their sole duty while serving as a dedicated Fire Patrol, and are typically assigned to a fire engine or water tender, but not necessarily.
- 4. Fire Tools:** References to “fire tools” pertains to firefighting tools which include: shovel (round point – min. 46” handle), Pulaski, and 5 gallon backpack pump (metal or rubber). These tools are commonly required on project vehicles and work sites. Additional requirements may be identified which increase the number of fire tools above what is found on the vehicles.
- 5. Fire Threat Zone (FTZ):** An area within the SDG&E service territory which identifies the wildland fire threat on a scale of low to extreme. This is a rating based on a combination of potential fire behavior (wildland fuel) and expected fire frequency. SDG&E has established practices within the FTZ on how it will construct facilities and identifies certain wildland fire safety practices.
- 6. At Risk Activity:** Project activities that present a risk of igniting a wildfire.
- 7. Fire Potential Index (FPI):** This is a comprehensive assessment of fire risk, used as a tool for making operation & maintenance decisions related to fire prevention. The tool converts environmental, statistical, and scientific data into an easily understood forecast of short-term fire threat. The index is generated for a seven day forecast period for an assortment of geographic areas within the service territory. The 7-day forecast is used for planning purposes while the daily FPI is also used for work activities. The FPI is used to determine the operating condition for each day (Normal, Elevated, or Extreme), definitions of each to follow.

- 8. Normal Operating Condition:** It is considered “Normal” operating condition when the FPI is in any shade of green (*very low, low, or moderate*). All O&M activities can take place in the wildland areas of the service territory without additional fire risk management, as long as baseline fire equipment is available as prescribed in this plan. Note: the baseline fire equipment requirements meet or exceed all local, state, & federal requirements for working in the wildland areas
- 9. Elevated Operating Condition:** It is considered “Elevated” operating level when the FPI is either yellow or orange (high or very high). Certain “at risk” O&M activities (as identified in the matrix, attachment 2) will require additional risk management (as prescribed in the matrix, see attachment 2) to perform those work activities.
- 10. Extreme Operating Condition:** It is considered “Extreme” operating level when the FPI is red (extreme). No “at risk” activities should be conducted except for those activities which if, left undone, present a greater risk than that involved with their accomplishment. Consultation with the On-duty Fire Coordinator is required to help make that determination and identify additional fire prevention measures required to reduce risk.
- 11. Red Flag Warning (RFW):** A Red Flag Warning is issued for a stated period of time by the National Weather Service (NWS) using pre-determined criteria to identify particularly critical danger in a particular geographic area. All construction and maintenance activities shall cease during RFWs, as discussed in the plan.
- 12. Major Operation Worksite (MOW):** These work sites are typically large in size and include but are not limited to construction yards, tower construction sites, substation pads and any other area where construction work will be concentrated. The criteria for identifying MOW is the number of people, type of work, and duration occupied.
- 13. Construction Fire Prevention Plan:** Sometimes referred to as the Fire Plan. The plan will be developed and implemented by SDG&E to provide fire prevention guidance for a specific construction project.
- 14. Project:** “Project” may be used interchangeably in place of the formal name of the project in the construction fire prevention plan.

2. PROJECT DESCRIPTION

General location:

This Project begins at SDG&E's Talega Substation in southwestern Orange County and runs south and west to the Basilone Substation which is in northwest corner of Marine Corps Base (MCB) Camp Pendleton, San Diego County. The fire protection responsibility is within two separate jurisdictions; MCB Camp Pendleton Fire Department and Orange County Fire Authority. The project is within high to very high areas of the Fire Threat Zone.

Table 1- Fire jurisdiction & land ownership

Ownership	Fire Suppression Responsibility	Approximate Miles in Project Area	Emergency Contact
FRA	Camp Pendleton Fire Department	5.3 miles	911 (760-725-3376)
SRA	Orange County Fire Authority	.5 mile	911

(DPA, Direct Protection Area, SRA, State Responsibility Area; FRA, Federal Responsibility Area; LRA, Local Responsibility Area)

Scope and Intent of Proposed Project:

In an effort to eliminate a North American Electric Reliability Corporation Category B violation and to improve service reliability, SDG&E proposes to replace existing conductor, removing existing wood pole structures, and install new steel pole structures along an approximately 10-mile-long 69 kilovolt (kV) power line in northern San Diego County and southern Orange County. The power line is located primarily on federal military lands in the western portion of Marine Corps Base (MCB) Camp Pendleton. The reconductoring, pole structure removal, and pole structure installation will occur within areas devoted to electric utilities. Reconductoring will also take place at existing substations. The new dull galvanized steel pole structures will consist of both direct bury and foundation pole structures. New pole structures will be placed in new holes and/or set in existing holes. The Proposed Project will also involve removing existing conductor; topping existing pole structures above distribution and communication lines; stringing new conductor onto existing structures; installing new cable pole structures; and placing conductor in a new underground alignment. Construction activities will be facilitated through the use of various temporary facilities, including stringing sites, guard structures, work/staging/turnaround areas, helicopter Incidental Landing Areas (ILAs), and staging

yards. Access for construction activities will be provided by existing dirt access roads, overland travel routes, and footpaths. One new dirt access road segment, approximately 50 feet in length, will be required to access a proposed pole structure. Helicopters will also be used for construction, and will land as needed at ILAs and/or staging yards.

Project Timeframes: The project is scheduled to begin in January 2018 and end in September 2018. The actual construction schedule is dependent upon licensing and permitting for the Project. Once construction is initiated, construction will continue until the Project is complete. Work on the Project will take place during all seasons within the proposed time frames. The FPI will determine the fire risk level and therefore the fire prevention measures for each activity on the Project.

Work activities that will take place in the FTZ: The following work activities will take place in areas considered to be wildland as referenced by the FTZ;

- Grading for road maintenance and pole foundations
- Hazard reduction; mowers & weed eaters
- Existing wood pole removal
- Excavation for new foundation steel pole placement
- Digging & setting direct bury new steel pole
- Operation of generators, compressors, and other internal combustion engines.
- Operation of backhoes, drills, & other rock striking equipment
- Welding/cutting/grinding of steel and other metals.
- Helicopter operations.
- Construction meetings at the staging yard
- Environmental monitoring
- Reconductoring; energized/de-energized

3. PROJECT FIRE RISKS AND FIRE PREVENTION MEASURES:

During the construction phase of the Project, SDG&E will implement the fire prevention measures listed in the Project Fire Prevention Matrix (Attachment 1) which describes activities creating fire risks that will occur within the FTZ (Defined in ESP113.1). The Project Fire Prevention Matrix is based on the **Fire Risk & Mitigation Matrix (ESP113.1)** and may contain additional fire prevention measures based on project specific risks. Activity Risks identified after Project initiation shall be added to the Project Fire Prevention Matrix with appropriate fire prevention measures determined by the Contract Administrator and Fire Coordinator and/or the appropriate fire agency with jurisdictional responsibility.

4. MAJOR OPERATION WORK (MOW) SITES:

List all major operations work sites within Project right of way and are located in the SDG&E Wildland Fire Area:

Name	Fire Agency with Jurisdiction	Lat/Long/Address	Acreage
Talega	ORFA	33.4583 x -117.5723	1.5
San Mateo	ORFA	33.4099 x -117.5903	.75
SONGS Mesa	CMP	33.4099 x -117.5903	80
Basilone Road	CMP	33.3881 x -117.5626	1.0
SDG&E Lot 4	CMP	33.3743 x -117.5647	1.0
Lemon Grove	CMP	33.2275 x -117.3948	1.5

The following precautions will take place at each major operations work area:

- MOW will be assessed by the contract administrator for wildland fire risk prior to beginning operations at the site.
- Hazard reduction inside and around the perimeter of the MOW will be performed according to environmental specifications.
- Other fire prevention measures may include regular watering to reduce fire potential.
- Smoking, welding and fueling of equipment will be done only in designated areas with appropriate fire protection measures in place.
- Each site will have a minimum of one fire box with tools for 5 personnel (i.e. 3 shovels & 2 Pulaski's). Additional tools and equipment may be required as determined by the CA in addition to what is carried on vehicles.
- Additional tools, equipment, and requirements identified during inspections will be documented in this fire plan and posted at the project field office.

5. PROJECT TOOLS & EQUIPMENT REQUIREMENTS:

In addition to the standard fire tools or otherwise listed in the Fire Prevention Matrix, the following equipment **may be required** to be staged as proximate as possible to on-going project activities as determined by the CA. These items should be strategically placed to afford the best opportunity to help to prevent ignitions and expeditiously extinguish any fire resulting from Project activities.

- Fire engine with minimum of 150 gallons water and a firefighter.
- Water tender, with at least 50' hose, and nozzle.
- Water tank (water buffalo) with at least 50 gallons of water, for filling back pumps.
- When water source (fire engine, tender or tank) is used for fire stand-by, it must have

enough hose to reach worksite.

6. AGENCY SPECIFIC REQUIREMENTS: (Refer to Table #1)

Orange County Fire Authority (SRA): The Project activities must comply with Title 14 of the California Code of Regulations; California Forest Practice Rules, in its entirety for the duration of the Project with particular attention to Chapter 4, Subchapter 4, 5, & 6 Article 8 Fire Protection. In addition the Project must comply with Public Resource Codes (PRC) 4427 Operation of Fire Causing Equipment, PRC 4431, Gasoline Powered Saws and Equipment, and PRC 4442, Spark Arrestors. This plan meets all CCR regulations.

MCB Camp Pendleton Fire Department (FRA): This plan meets all federal regulations and guidelines.

7. RED FLAG WARNINGS (RFW) AND OTHER CRITICAL FIRE DECLARATIONS:

When there is a notice of a Red Flag Warning, the FPI will default to “Extreme” condition. This applies for the specific weather zone involved and lasts for the entire duration of the RFW. Project managers, CA’s, and supervisors will be responsible for exchanging their contact information with Grid Operations, to insure they are notified of these events. It is the responsibility of supervisors and crew members to know and communicate the details of a RFW before work begins to minimize the risks associated with the RFW. At the end of the RFW, confirmation should be obtained from the on-call Fire Coordinator (858-503-5152) that work can begin again and if restrictions are imposed.

At times, other fire danger declarations can be made by any jurisdictional fire department for a given period of time. As soon as these declarations are shared with the Project Manager and CA, they will be communicated to project personnel. Restrictions and fire prevention measures will apply until the declarations are lifted.

8. FIRE PREVENTION TRAINING

Prior to the initiation of construction activities, it is recommended that all construction personnel (*SDG&E & Contractors*) receive training on Wildland Fire Prevention and Safety (*ref. SDG&E ESP113.1*). This training should be provided by a qualified instructor. Training shall include:

- Fire prevention
- Fire detection & reporting
- Extinguishment tools and methods.

Prior to start of construction, all project personnel will receive a presentation on the contents

of the Fire Plan along with additional fire safety and fire prevention information. Construction personnel will receive an annual refresher as needed.

9. TAILBOARDS, INSPECTIONS, & COMPLIANCE

Construction supervisors will be responsible for sharing the contents of the Fire Plan with construction personnel throughout the duration of the project. A review of the content of this Plan will take place at a formal safety meeting. Daily safety tailboard session should include an assessment of the day's FPI level and discussion of the fire risk for the day.

The CA shall perform periodic inspection of equipment and worksites to verify compliance with this plan. Compliance with the Fire Prevention Plan is mandatory. Monitoring compliance with this Plan is everyone's responsibility. Project management should identify who has authority to shut down any operation that presents an inappropriate amount of fire risk or hazard until it can be properly addressed.

Violations of the requirements of this Plan will be addressed immediately. Appropriate consequences for repeated or negligence in respect to this Plan will be forwarded to the appropriate management for action.

All project-related vegetation fires, regardless of size, shall be promptly reported to the agency having jurisdiction. The project manager, CA, and fire coordinator shall also be immediately notified.

10. COMMUNICATIONS PLAN

The ability to communicate with all Project personnel working within the project right of way and to contact emergency first responders is critical for fire and personnel safety. Cell phone, satellite phone, and/or radios are all acceptable. Daily communication checks should be performed. All personnel must know emergency communication procedures while on the project. 911 is the primary first responder contact number for all incidents. All fires will be reported to the fire agencies with jurisdiction in the project area immediately upon discovery.

11. REFERENCES:

SDG&E ESP113.1

12. REVIEW AND APPROVAL:

The signatory reviewing officials are acknowledging that SDG&E has a Construction Fire Prevention Plan that is necessary to manage fire hazard and risk for the project construction activities. They do not accept any responsibility for SDG&E or its contractor's interpretation

or implementation of this plan during the construction of the project or for any resulting actions associated with these activities.

Prepared by:

SDG&E Fire Coordinator

Date

Approved by:

SDG&E Project Manager

Date

Attachment 1 – Project Fire Prevention Matrix

		Operating Level Conditions (FPI)		
ACTIVITY	TOOLS & EQUIP	NORMAL	ELEVATED	EXTREME
A designated fire patrol must be assigned at all levels and jobs unless otherwise noted.				
Vehicles, Roads & Pads				
Privately owned vehicle (POV).	A privately own vehicle used as transportation to a yard and parking in a POV area.	No tools required when parked in designated area (If the vehicle is brought out to sites it must have the same tools as other project vehicles).	Same	Same
Project vehicles	Company owned vehicles	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump. Never park on top of vegetation.	Same	Same
Road & pad construction, grading, & maintenance.	Grader, bulldozer, & other steel bladed/tracked equipment.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank. Dedicated fire patrol.	No Work
Vegetation Management				
Chain saw use & fueling.	Chain saw	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50', The shovel must be within 25' or a fire extinguisher in the operators immediate possession.	Same	No Work
Chipping vegetation off paved roads.	Chippers	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank.	No Work
Fire Hazard Reduction.	No Mechanical equipment.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'.	Same	No Work
Fire Hazard Reduction (mechanized equipment).	Weed eater and mower.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank.	No Work

		Operating Level Conditions (FPI)		
Activity	Tools & Equip	NORMAL	ELEVATED	EXTREME
Equipment Repair, Replacement, & Installation				
Pole Removal/Replacement (direct bury).	Hand tools, augers, jack hammers, compressors, etc.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'. Must have 5' of clearance on all sides and no combustible material underneath; approved spark arrestors on exhaust.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank. Dedicated fire patrol tank.	No Work
Pole & Tower Foundation including Micropile.	Drill, compressor, backhoe, etc.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'. Must have 5' of clearance on all sides and no combustible material underneath; approved spark arrestors on exhaust.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank. Dedicated fire patrol tank.	No Work
Welding, cutting and/or grinding wood or steel.	Welder, grinder, saw, tec., gas, air or electric powered.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'; 10' of clearance on all sides, wet down surrounding vegetation. Use asbestos curtain/apron. Fire patrol site at least 30 minutes after work completed.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank. Dedicated fire patrol site 1 hour after work completed.	No Work
Working on or in proximity to energized equipment & facilities, including removal & replacement and new installations.	Conductor, transformers, switches, etc.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank. Dedicated fire patrol.	No Work
Re-conductoring (de-energized).	Pull & travel equipment.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50' of pull and feed site.	Same	No Work
Re-conductoring (energized).	Pull & travel equipment.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'. Post lookouts at strategic locations.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank.	No Work

		Operating Level Conditions (FPI)		
Activity	Tools & Equip	NORMAL	ELEVATED	EXTREME
Re-energizing equipment, segments, & circuits.		1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump. Post observers at strategic locations with communication.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank. Dedicated fire patrol.	No Work
Internal combustion engines, equipment & machinery - off paved roads.	Generators, Compressors, and any piece of equipment with a combustion engine.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50'; must have 5' of clearance on all sides and no combustible material underneath; approved spark arrestors on exhaust.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank. Dedicated fire patrol.	No Work
Smoking.	Cigarettes & Cigars (Electronic Cigarettes can be used anywhere).	When permitted smoking will be in designated areas only, 10' cleared circle, with ash can and no butts left on the ground.	Same	Never
Rock drilling & splitting	Rock drills, breakers, and blasting systems	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50' of each worksite or as permitted. Blasting operations permits and protocols.	Same and 150 gallons (minimum) of water with pump, hose, & nozzle. Water tender, water buffalo or other water tank at each worksite. Dedicated fire patrol	No Work

Attachment 2 – Project map

