

**APPENDIX I:
DRAFT FIRE PREVENTION PLAN**



**Preliminary Draft Fire Plan
(Subject to Change)**

SX - PQ
(Sycamore Canyon - Peñasquitos)

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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 assigned responsibility and accountability for fire prevention, risk mitigation, early detection of fires, and rapid extinguishment should one occur. 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, Pulaski, and 5 gallon backpack pump. These tools are commonly required on project vehicles and work sites. Additional requirements maybe identified which increase that 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

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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:

The Proposed Project is located within the Cities of San Diego and Poway, California and on the extreme northern portion of Marine Corps Air Station (MCAS) Miramar. The project begins at the Sycamore Canyon Substation located on the extreme northern portion of MCAS Miramar. The project route travels westerly through residential, commercial, and wildland areas to the Peñasquitos Substation located in the Torrey Hills Community at Carmel Mountain Road near Interstate-5. The Proposed Project will result in a new 230 kV transmission line that will connect the existing Sycamore Canyon and Peñasquitos Substations through utilization of existing SDG&E facilities, ROWs and City of San Diego franchise position. From the Sycamore Canyon Substation up to Pomerado Road (1.5 miles) the Proposed Project is within the FTZ and classified as very high fire danger. Additionally, from Laurentian Drive to Carmel Valley Road (.8 miles) is also within the FTZ and classified as very high fire danger. The remaining 14 miles is outside the FTZ but does traverse areas of wildland fuel with a very high fire danger.

Table 1: Fire jurisdiction & land ownership

Ownership	Fire Suppression Responsibility	Approximate Miles in Project Area	Emergency Contact
LRA	San Diego Fire Department	16.5 miles	911
LRA	Poway Fire Department	800 feet	911

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

Scope and Intent of Proposed Project:

The Proposed Project includes the construction and operation of a new, approximately 16.7 mile 230 kV transmission line. The Proposed Project is comprised of four segments based upon the type and location of proposed facilities. The Proposed Project segments are listed below in Table 2, Proposed Project Transmission Line Segments.

Table 2: Proposed Project Transmission Line Segments

Segment No.¹	Length (miles)	Description of Work
A	8.31	Construction of approximately 36 new double-circuit 230 kV and two 138 kV tubular steel poles between the existing Sycamore Canyon Substation and Carmel Valley Road and two new 230 kV tubular steel poles for TL 23041 connection at the Sycamore Canyon Substation. All new poles to be installed are located within existing SDG&E ROW. Install new 230 kV conductor on new double-circuit 230 kV tubular steel poles. Remove approximately 42 wood H-frame structures, two tubular steel poles, one double-circuit cable pole, and two single-circuit wood mono poles. Relocate existing TL 13820 and TL 13825 ² to second position on the new double-circuit 230 kV tubular steel poles. Existing TL 13820 would be installed in an underground position as it enters the Sycamore Canyon Substation, allowing for the removal of two existing 138 kV structures.
B	2.84	Construction of underground transmission line, including trenching and trenchless techniques, within Carmel Valley Road (existing franchise position). Construction of 230 kV tubular steel cable pole structures at two locations. Remove one double-circuit steel lattice tower at the western end.
C	2.19	Installation of new 230 kV conductor on vacated position on existing double-circuit 230 kV steel structures (10 steel lattice towers) and on one new tubular steel pole that would replace an existing steel lattice tower at the Peñasquitos Junction. All structures are located within existing SDG&E ROW between Carmel Valley Road and the Peñasquitos Junction. Existing TL 23001 and TL 23004 would be reconducted and bundled on the east side of the existing structures and would remain designated as TL 23004.
D	3.34	Installation of new 230 kV conductor on vacated position on existing double-circuit 230 kV steel structures (15 steel lattice towers and one tubular steel pole) located between the Peñasquitos Junction and the Peñasquitos Substation. Existing 69 kV power lines (TL 675 and TL 6906) would be consolidated onto approximately 17 new 69 kV, double-circuit tubular steel poles that would replace 16 existing 69 kV wood H-frame structures and five wood monopole structures that currently support TL 675 and TL 6906. Construction of two new 69 kV tubular steel cable poles that would replace existing wood 69 kV cable poles located immediately outside of the Peñasquitos Substation.
<p>Notes:</p> <p>Table contents based upon preliminary engineering and are subject to change. ² TL 13825 was recently renumbered to 13811 independent of the Proposed Project. All references to TL 13825 refer to TL 13811.</p>		

Project Timeframes: The project is scheduled to begin June 2016 and end in May 2017. 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 therefor the fire prevention measures for each activity on the Project.

Work activities that will take place in the FTZ and areas of high fire danger fuels may include:

- Grading for road maintenance and structure foundations
- Hazard reduction; mowers & weed eaters
- Existing wood structure removal
- Excavation for new foundation steel pole/tower placement
- Blasting for excavation
- Digging & setting direct bury new steel structures
- Erection of new structures
- Micro-pile foundations
- Operation of generators, compressors, and other internal combustion engines.
- Operation of backhoes, augers, & other rock striking equipment
- Welding, grinding, & cutting of steel.
- Conductor stringing
- Re-conductoring
- Cable pull operations
- Helicopter operations
- Construction meetings at the staging yard
- Environmental monitoring

3. PROJECT FIRE RISKS AND FIRE PREVENTION MEASURES:

During the construction phase of the Project, SDG&E and its contractors will implement the fire prevention measures listed in the Project Fire Prevention Matrix (Attachment 1) which describes activities creating fire risks. Those activities may take place both inside and outside the FTZ (Defined in ESP113.1) where areas of wildland fuels exist. The Project Fire Prevention Matrix is based on the Fire Risk & Fire Prevention 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 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:

Major operations work sites which are located in the SDG&E Wildland Fire Area:

Table 3: Major Operations Work Sites

Name	Fire Agency with Jurisdiction	Lat/Long/TB	Acreage
Stonebridge	San Diego City	32.9220 x -117.0319	4
Stowe Road	San Diego City	32.9346 x -117.0293	
Torrey Santa Fe	San Diego City	32.9580 x -117.1550	
Carmel Valley Rd.	San Diego City	32.9764 x -117.1402	
Carmel Mtn. Rd.	San Diego City	32.9218 x -117.2284	

(general locations)

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 measure may include regular watering to reduce fire potential danger.
- 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/cache with tools for 5 personnel (i.e. 3 shovels & 2 Pulaski's). Additional tools and equipment may be required as determined by the contract administrator (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. OTHER PROJECT TOOLS & EQUIPMENT REQUIREMENTS:

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.

6. AGENCY SPECIFIC REQUIREMENTS:

(Refer to Section 2 for Agencies involved)

San Diego and Poway Fire Departments: 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.

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

When there is a notice of a Red Flag Warning, the FPI will default to “FPI - Extreme”. This applies for the specific weather zone involved and lasts for the entire duration of the RFW/CFD. 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/CFD before work begins to minimize the risks associated with the RFW/CFD. At the end of the RFW/CFD, 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, 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.

During periods of FPI - Extreme, work restrictions may be in place (see Project Fire Prevention Matrix). Unfinished work, repairs, or other activities may be allowed during this period if the facility/equipment poses a greater fire risk if left in its current state. The CA will consult with the FC in these situations.

8. TRAINING REQUIREMENTS FOR SDG&E & CONTRACT PERSONNEL

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

Training should include:

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

Additionally, prior to start of construction, all project personnel will receive a presentation on the contents of the Fire Plan. Construction personnel will receive an annual refresher as necessary.

10. TAILBOARDS, INSPECTIONS, REVIEW & COMPLIANCE

Construction supervisors will be responsible for reviewing 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 fire agency having jurisdiction. The project manager, CA, and fire coordinator shall also be immediately notified.

11. 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.

12. REFERENCES:

SDG&E ESP113.1

13. ATTACHMENTS:

- **Attachment 1:** Project Fire Prevention Matrix

14. PLAN REVIEW AND APPROVAL:

The signatory reviewers 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 employees or contractors' interpretation or implementation of this plan during the construction of the Project, or for any resulting actions associated with these activities.

Prepared by:

Bill Molumby
SDG&E Fire Coordinator

June 30, 2014
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.	No Work
Pole & Tower Foundation including Micropile & pier.	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.	No Work
Welding, cutting and/or grinding of 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
Reconductoring & new conductor stringing (adjacent to de-energized).	Pull & travel equipment.	1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump within 50' of pull and feed site.	Same and post lookouts at strategic locations.	No Work
Reconductoring & new conductor stringing (adjacent to energized equipment).	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. Dedicated fire patrol.	No Work

*variances may be approved if unfinished work poses a greater fire risk.

		Operating Level Conditions (FPI)		
Activity	Tools & Equip	NORMAL	ELEVATED	EXTREME*
Energizing equipment, segments, & circuits.		1 round point shovel, 1 pulaski, 1 (5) gallon backpack pump. Post observers at strategic locations with communication. Patrol energized segment.	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
Helicopter Operations including picking and setting equipment/poles/towers in high risk wildland areas.		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
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

*variances may be approved if unfinished work poses a greater fire risk.