MEMORANDUM

TO: Bishop Creek Technical Work Group Members

FROM: Bishop Creek Relicensing Team

DATE: August 8, 2018

RE: Fire Suppression Plan – June Action Item

During the June Technical Working Group (TWG) meetings for the Bishop Creek Hydroelectric Project (Project), a request was made to provide stakeholders with a copy of Southern California Electric's (SCE) fire suppression plan (Plan). SCE staff reviewed relevant plans, and determined that they are part of SCE's Emergency Action Plan (EAP) which are considered critical energy infrastructure (CEII) information. Areas of concern include specific information about the SCE infrastructure and detailed personnel procedures, which are not public information.

Therefore, the Relicensing Team is summarizing the parts of the Plan that we believe are going to be of greatest interest to our stakeholders, without disclosing confidential information. The principle documents excerpted here are 1) the Bishop-Mono Wildfire Mitigation Plan and 2) the Wildfire Emergency Management Plan. Redacted versions of these plans are included as Attachments 1 and 2, respectively.

The elements of each plan are summarized in the attachments; items that have been excluded are also identified. Stakeholders who would like additional information on any of these removed items should contact Matthew Woodhall (matthew.woodhall@sce.com; (626) 302-9596).

ATTACHMENT 1: BISHOP-MONO EMERGENCY MANAGEMENT PLAN

Bishop-Mono Emergency Management Plan - Wildfire Section
11-22-2016 Revision

5. Wildfires

Response to wildfire incidents was added to this emergency plan to address employee and management safety concerns at the Bishop-Mono Basin Hydroelectric Project. This emergency plan also helps generation work with Bishop Service Center and IT during times of wildfire emergencies, to ensure that all SCE employees are accounted for.

The Bishop-Mono project area is where two great ecosystems meet. The mixed conifer forest of the Sierra Nevada and the western edge of the Great Basin ecosystem. The forest in this area is mostly fire adapted Jeffrey pine forests which are mixed with vast expanses of sagebrush as the mountain vegetation gives way to desert.

5.1 Recent Fire History. Recently the trend towards larger fires has been observed in the area. In both 2015 and 2016, wildfires damaged distribution systems managed by SCE's Bishop Service Center.

Table 1. Recent Bishop-Mono Fire History

Year	Fire Name	Situation
Feb 2015	Round	Destroyed 43 homes, covered 8,000 acres, and SCE had to replace 202 poles as a result of damage to SCE distribution system.
June 2016	Marina	Started on west side of US Highway 395. Controlled at 654 acres on June 28. Distribution system damaged. SCE powered the community of Bridgeport directly from Lundy Powerhouse during the week that poles and lines were replaced near Lee Vining.
Aug 2016	Rock Creek	Started near US Highway 395 near the community of Tom's Place. Fire was controlled at 122 acres on August 6.
Aug 2016	Clark	This fire burned to the NE of Mammoth Mountain Ski Area. Fire was controlled at 2,810 acres on August 10. No SCE distribution system in area.
Aug 2016	Horseshoe	This fire burned west of the community of Lone Pine and was controlled at 122 acres on August 9. Not located in SCE service area
Sep 2016	Owen's River	This fire burned 5,443 acres and was controlled on September 24. This fire burned in the upper Owens River watershed east of Crestview and NE of the community of Mammoth Lakes. Fire burned well to the east of US. Highway 395. No SCE distribution system in area.

Except for the Round Fire, the wildfires listed above all occurred on the Inyo National Forest in Inyo and Mono counties. These fires burn in remote areas where the electrical grid does not provide a great deal of redundancy. Consequently, the SCE powerhouses play a special role in this environment, as per the recent Marina Fire and other historical fires, where communities are powered directly from SCE powerhouses, while lines in the other direction are being replaced or repaired.

The increasing trend towards larger fires is not due to a dead or dying forest, as observed in other SCE locations in the Sierra Nevada Range. Extraordinary dryness from successive drought years is thought to be the cause, thus causing increased fire behavior in the Jeffrey pine forest and sage brush adjacent to SCE facilities.

A survey of SCE owned facilities, by retired firefighters with expertise in predicting wildfire behavior, indicates that all Bishop-Mono Generation facilities can be designated Shelter-In-Place for SCE employees. The SCE Service Center on Line Street in Bishop is also a designated Shelter-In-Place location.

5.2 Risk to Bishop-Mono Personnel and Infrastructure

Each Powerhouse and water conveyance system was assessed as well as the Lee Vining Substation, Bishop Service Center and Mammoth Lakes Service Center for vulnerability to wildfire.

- Low Fire Risk Zone
  - Generally okay for employees to shelter in place
  - Flammable vegetation generally not enough for a fire to actively spread (e.g., small patches of grass, thin layers of pine needles)
  - Typically, construction noted as fire resistant
  - Lundy Powerhouse and Bishop Service Center are in the Low Fire Risk Zone
  - Bishop Powerhouses and Division Office/Warehouse are in the Low Risk Fire Zone.
- Moderate Fire Risk Zone
  - Generally okay to shelter in place under normal fire weather conditions
  - Flammable vegetation includes enough fuel volume to actively spread with 3 foot flames (pine needles, small tree limbs, and leaf litter)
  - Fire will actively burn low fuel volumes that exist on moderate slopes near some existing structures
  - Typically construction was noted as fire resistant
  - The Mammoth Lakes Service Center is in a moderate fire risk zone. Employees should move to one of three nearby Safety Sites as all three schools are good and a designated Safety Zone.
- High Fire Risk Zone
  - Not ok to shelter in place and evacuation required
  - This zone is best depicted by the two railways on steep slopes in the vicinity of the Rush Creek Powerhouse or the stand of trees adjacent to the historic apartment complex near the Poole Powerhouse
  - Fire will actively burn heavy fuel volumes that may spread quickly and damage structures
  - Employees not at powerhouses, must evacuate from other positions such as flumes, diversion dams, walkways and access roads, most of which are in in High Fire Risk Zones

Table 2. Facility Fire Risk Zone Summary

Facility	Fire Risk Zone	Shelter In Place
Bishop Creek PH 2	Low Risk	Yes
Bishop Creek PH 3	Low Risk	Yes
Bishop Hydro Division Office	Low Risk	Yes, Shelter in Office ok
Bishop Residences Plant 4	Low Risk	Yes
Bishop Creek PH 4	Low Risk	Yes
Bishop Creek PH 5	Low Risk	Yes
Bishop Control Room	Low Risk	Yes
Bishop Creek PH 6	Low Risk	Yes
Bishop Service Center	Low Risk	Yes
Other improvements such as railways, dams, penstocks diversions, roads, trails where flammable vegetation is present	High Risk	No

5.3 Prevention – Wildfire Threats

The rural communities of eastern California are facing an increased risk of wildfire spreading to community boundaries. Preventative measures focused on threat to employees and facilities include vegetative management, inspection of facilities, and mitigation of potential wildfire hazards that could impact business operations, employees and SCE infrastructure.

Prevention Measures for Wildfire Threats	
Vegetation Management	• Annually inspect and remove vegetation threats to o Communications Sites o Evacuation Routes o Powerhouses and Buildings o Substations and Switching Yards o SCE Residential Units
Inspections	• Conduct annual updates of the wildfire threat at Bishop/Mono Hydroelectric Operations • Conduct annual inspections of the firehouse boxes

Items redacted from this plan are as follows:

- Additional protective measures that relate specifically to SCE personnel command and control and preparedness procedures
- Measures related to other SCE facilities in Table 2
- Evacuation and emergency locations
- An emergency response process flow chart along with roles and responsibilities
- Methods for evaluating incidences, notification, and escalation of response
- An infrastructure hazards checklist
- Follow up and after-action procedures

ATTACHMENT 2: BISHOP-MONO WILDFIRE MITIGATION PLAN

2 RISK ASSESSMENT (HAZARD IDENTIFICATION AND VULNERABILITY)

2.1 HAZARD IDENTIFICATION

Due to the years of extended drought, the intensity of a wildfire in the area will be greater due to the unusually low levels of moisture in both the living and dead vegetation. This will result in wildland fires spreading closer to SCE facilities, as fires continue to burn to larger sizes.

Recent Fire History
There have been six large fires in the Bishop and Mono Basin areas in the past 2 years. Two of these, the Round Fire near Bishop in February 2015 and the Marina Fire at Mono Lake in June 2016 caused significant damage to the SCE distribution system.

2.2 VULNERABILITY ASSESSMENT

Each Powerhouse and water conveyance system was assessed as well as the Lee Vining Substation, Bishop Service Center and Mammoth Lakes Service Center for vulnerability to wildfire.

- Low Fire Risk Zone
  - Generally okay for employees to shelter in place
  - Flammable vegetation generally not enough for a fire to actively spread (e.g., small patches of grass, thin layers of pine needles)
  - Typically, construction noted as fire resistant
  - Lundy Powerhouse and Bishop Service Center are in the Low Fire Risk Zone
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  - Employees not at powerhouses, must evacuate from other positions such as flumes, diversion dams, walkways and access roads, most of which are in in High Fire Risk Zones.

3. WILDFIRE MITIGATION STRATEGY

Goal: Reduce Wildfire Risk to Bishop-Mono Hydroelectric Project Personnel and Infrastructure

Objective 1: Prioritize vegetation management to mitigate wildfire hazard

Remove high-risk vegetation identified by Vulnerability Assessment and maintain vegetated areas to meet or exceed the requirements of the California State Fire Law (PRC 4291). This includes a 30-foot zone where all flammable vegetation is removed and an additional 70-foot wide zone of fuel modification. This includes thinning or reducing the height of brush and removal of tree limbs that serve as fuel ladders for fires to climb up into oaks and other tree species.

These standards apply to all powerhouses, SCE buildings, equipment storage yards and communication sites. Some Bishop-Mono facilities currently meet PRC 4291 requirements and some do not. Table 1 indicates vegetation management needs to reduce the wildfire threat, at SCE owned facilities.

Table 1. SCE Vegetation Management Needs Bishop-Mono

Bishop Powerhouse 2	Need to remove 50-foot strip of Rabbit brush along the backside of the powerhouse to reduce heat inside during a Shelter-In-Place scenario

Most communication sites are on mountain tops not owned by SCE. Many of the sites near the Owens Valley are in desert like settings where the vegetation is sparse enough there is no or little fire hazard. Sites at June Mountain and Mammoth Mountain are part of the SCE “Backbone Radio and Data System”.

Objective 2: Ensure essential personnel can safely operate Bishop-Mono Hydroelectric Projects

1. Define coordinated evacuation routes and procedures. Emergency transportation routes for evacuation are available in the Bishop-Mono Wildfire Plan element of the Emergency Management Plan as is the specific discussion about shelter in place locations and procedures.
2. Define and develop shelter-in-place procedures and supplies
    a. Food/logistics cache at Bishop Control Room and Lee Vining Substation/office.
    b. Additional Logistics cache to be defined by SCE manager for the area.
3. Define essential personnel to coordinate evacuation access with Sheriff
4. Consider changing employee tours of duty on especially hot, dry and/or windy summer days to avoid being in high risk fire zones during the afternoon hours.

Objective 3: Ensure operational communications methods support a safe and coordinated response to a wildfire for SCE personnel

1. Assess operational communications strategy to improve communications throughout the Project, including;
    a. Satellite phone communications for powerhouses, intakes, and for employee use along water conveyance systems

Table 1 – Powerhouse / Facility Sheltering Procedures and Emergency Supply / Equipment

Location	Wildfire Procedure/Sheltering Procedure	Supplies Needed
Bishop Powerhouses 2-5 Control Room Division Office Residences	Shelter-In-Place location. Maintain phone contact w/manager. Cell phones work here. Sites have PAX phones as well. Manager may evacuate the employees if safe to do so.	Bishop Hydro has a large supply cache for sheltering located at the control room.

Table 2. Communication Methods by Location

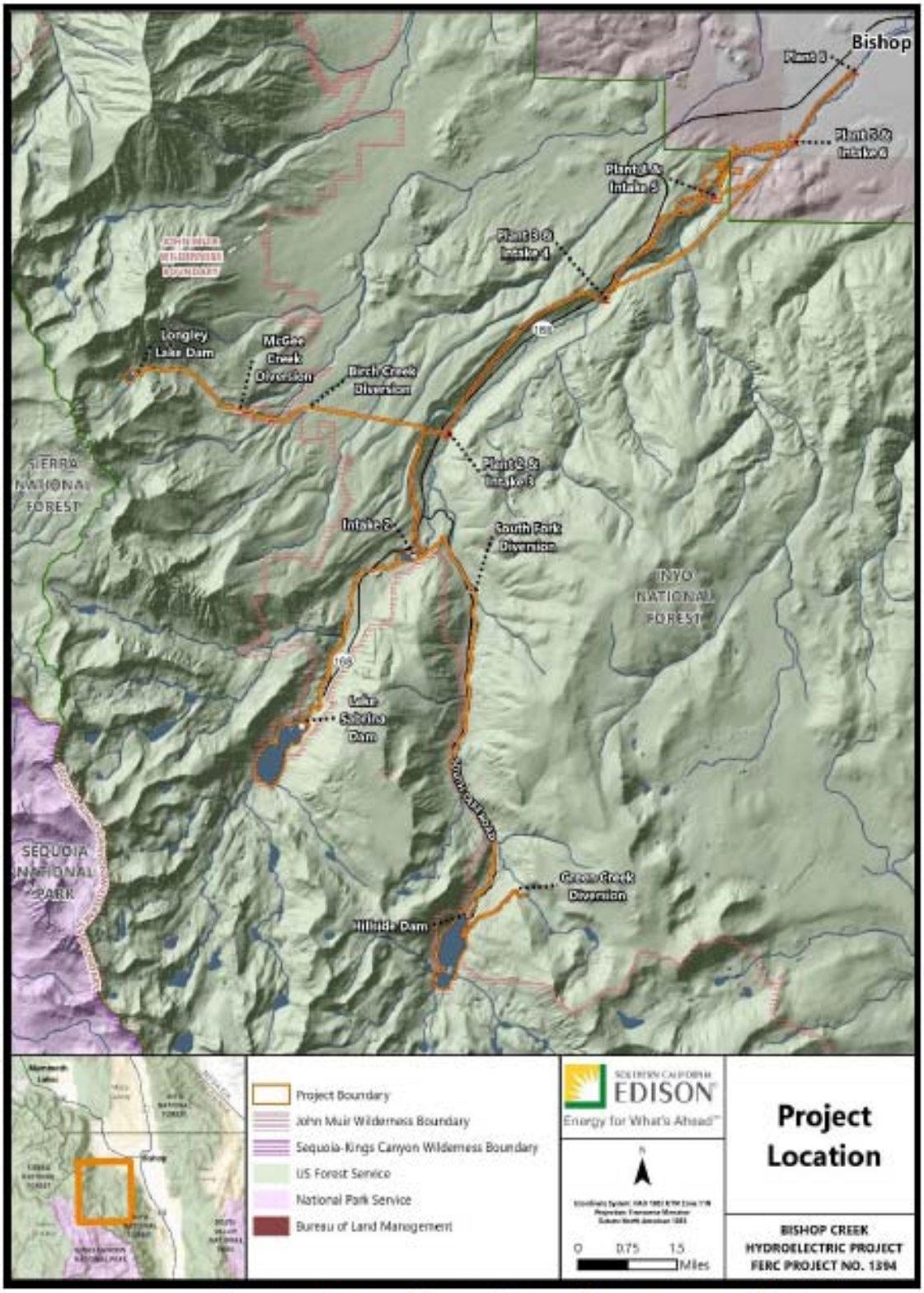
Site	Phone		Cell Phone	Digital Radio	Sat Phone
	Analog	VOIP			
Bishop Creek PH 2	Yes	Yes	Yes	spotty	Yes
Bishop Creek PH 3 Complex	Yes	Yes	Yes	Yes	Yes
Bishop Creek PH4 Residences, Warehouse Division Office	Yes	Yes	Yes	Yes	Yes
Bishop Creek PH 5 Control Room	Yes	Yes	Yes	Yes	Yes

Bishop Creek PH6	Yes	Yes	Yes	Yes	Yes
Bishop Service Center	No	Yes	Yes	Yes	Yes

Radio coverage in the Bishop-Mono area is generally good. In most cases cell phones are used for day to day communications.

Items Redacted from this plan are as follows:

- Facility specific information from SCE facilities outside the Bishop Creek Hydroelectric Project area, including communication methods
- Personnel and family procedures
- Appendix A maps



LOCATION OF THE BISHOP CREEK HYDROELECTRIC PROJECT