

**ENCLOSURE 2**

**Current SONGS Synchronous Condenser  
Cross Contamination Prevention Monitoring Program**

# SONGS Synchronous Condenser Cross Contamination Prevention Monitoring Plan (CCPMP)


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## 1.0 INTRODUCTION

Southern California Edison (SCE) is proceeding with the installation of a 225 MVAR synchronous condenser on the San Onofre Nuclear Generating Station (SONGS) site. The SONGS site is currently in the early stages of decommissioning planning. Installation of the synchronous condenser will occur prior to the submittal of the site License Termination Plan (LTP) to the Nuclear Regulatory Commission (NRC). The synchronous condenser will be located in the switchyard area of the site licensed area.

Because the synchronous condenser is scheduled to remain in use after NRC license termination, surveys of the land areas beneath the condenser will not be available for Final Status Survey (FSS) when the LTP is approved. In order to ensure that the land encompassed by the condenser can be released from the NRC license, in conjunction with the other SONGS footprint, a survey plan is being established to meet NRC requirements for FSS.

Radiation Safety and Control Services, Inc. (RSCS) has developed a Synchronous Condenser Cross Contamination Prevention and Monitoring Plan (CCPMP) for SONGS to augment existing site contamination control practices for the surveyed footprint of the condenser. The purpose of this plan is to provide administrative controls and periodic monitoring to ensure that the area is not radiologically impacted by current or future decommissioning activities of SONGS Units 2 and 3.

## 2.0 BACKGROUND AND OPERATIONAL EXPERIENCE

The implementation of a phased decommissioning/FSS approach is common within large complex sites such as commercial nuclear power plants. Often, class 2 or class 3 areas will be isolated, controlled and have release surveys performed while decommissioning/remediation activities are in process in other class 1 or class 2 areas. The phased approach requires the execution of isolation and control of the areas being surveyed to prevent re-contamination of the surveyed area. Additionally, periodic monitoring of the surveyed areas and documentation of the results is performed to satisfy assumptions of controls for the Owners and Regulators. Some examples of decommissioned power plants that utilized the phased approach are as follows:

- Yankee Nuclear Power Station (YNPS), described in the License Termination Plan (LTP)
- Haddam Neck Plant (HNP), described in the LTP
- Humboldt Bay Power Plant, described in Cross Contamination Prevention and Monitoring Plan, HBAP C-220 Rev 1A

To ensure that FSS data is not compromised, it is required that licensees evaluate the potential for recontamination of clean areas and establish appropriate isolation and controls to these areas during and after FSS activities. NRC *Regulatory Guide 1.179, Standard Format and Content of License Termination Plans for Nuclear Power Reactors*, also requires that such measures are incorporated into a sites LTP when written. This CCPMP has been developed to describe isolation and control requirements for the synchronous condenser footprint area. If implemented properly, isolation and control measures will eliminate the future need to disturb the Synchronous Condenser slab and the sub-slab soils to obtain additional FSS data to support release of that site.

Prior to transitioning an area to isolation and control, an evaluation should be performed to identify access requirements to the area and to specify the required isolation and control measures. The physical condition of the area also should be assessed, with any conditions that could interfere with isolation and control activities identified and addressed. If equipment is needed to support future planned work activities in the area (such as ladders, scaffolding, and machinery) the equipment should be evaluated prior to use in the area to ensure that it does not pose the potential for introducing radioactive material into the area.

Industrial safety and work practice issues should also be identified during the isolation and control evaluation. Operational health physics or decontamination support data, if available, will be reviewed to identify any potential areas where additional decontamination may be required prior to implementing isolation and controls. In some instances where the potential for cross contamination is high, turnover surveys may be performed to verify that an area is ready for isolation and control.

### **3.0 RESPONSIBILITIES**

Key positions and responsibilities for implementing the requirements of CCPMP are described below. The responsibilities listed are not all encompassing. Additional responsibilities will most likely be added depending upon the needs of the project as decommissioning proceeds. Similar protocols as described in this CCPMP may also be implemented in other areas of the site where FSS activities take place prior to completion of remediation activities.

The Plant Manager & Decommissioning Project Manager provides the overall management and direction of the site specific activities in their related disciplines. They assume and maintain high work expectations, communications,

and overall balance to the work projects inclusive of Health Physics (HP), Safety and Environmental aspects.

The Radiation Protection (RP) and Chemistry Manager reports to the Plant Manager, and is responsible for developing, implementing, and managing RP programs for normal and emergency conditions for the site in accordance with as low as reasonably achievable (ALARA) and applicable standards and regulations.

The General Supervisor, RP Operations, reports to the RP Manager and is responsible for implementing the responsibilities of the RP Operations, Radwaste and Dosimetry section.

SONGS Operations personnel are responsible for approving personnel and heavy equipment entering the switchyard for switchyard protection purposes.

The Workforce is responsible for complying with all active regulations, procedures and Plans.

#### **4.0 ISOLATION AND CONTROL REQUIREMENTS**

The following isolation and control measures will be implemented through approved plant procedures. They will remain in force throughout final survey activities and until there is no risk of recontamination from decommissioning or until the survey area has been released from the license. In the event that isolation and control measures are compromised, evaluations will be performed and documented to confirm that no radioactive material was introduced into the area that would affect the results of the Final Status Survey performed in the excavation footprint for the synchronous condenser.

##### **4.1 ISOLATION AND CONTROL AREA PREPARATION**

After surveys of the synchronous condenser area is complete, the following items shall be verified prior to the implementation of isolation and control measures:

- All planned pre-construction activities and excavations in the area are complete;
- All decommissioning or plant related activities in areas either adjacent to or in close proximity to the area to be isolated or that could otherwise affect it are controlled using isolation and controls techniques as described in this document, or are deemed not to have any reasonable potential to spread plant-related radioactive material to the area.

- All tools and equipment (except for those needed for electricity transmission or Synchronous Condenser installation) are removed; OR evaluated to ensure they do not pose the potential for introducing plant-related radioactive material into the area;
- Where practical, transit paths to or through the area (except those required to support electricity transmission or Synchronous Condenser installation) are eliminated or re-routed; and
- Site personnel have been notified or trained, as appropriate, on the proper access control and communication methods employed to maintain isolation and control.

Once the switchyard meets the isolation and control criteria, the access gates shall be posted with plant-accepted signage stating that the switchyard is an Isolation and Control Area (the contiguous fence and welded shut gates do not require posting). The signs shall also contain information related to contacting persons to assist in evaluating access to the area.

#### **4.2 ACCESS REQUIREMENTS FOR ENTRY TO AREA**

Access to the switchyard will be obtained through the SONGS Operations department. SONGS access control measures will be implemented through programs and processes to ensure that:

- Individuals who have been in radiological areas with the potential for removal contamination have been appropriately surveyed and released prior to accessing the isolation and control area.
- All tools and equipment which have been in radiological areas with the potential for removal contamination have been free-released by RP prior to allowing into the isolation control area.
- Heavy equipment used for future switchyard area activities will be evaluated and deemed to be free from radioactive contamination by the RP group prior to access to the isolation and control area to avoid potential cross contamination.

#### **4.3 WORK CONTROL REQUIREMENTS**

All future decommissioning or plant related activities in areas either adjacent to or in close proximity to the controlled area or that could otherwise affect it, will be isolated or controlled to the extent practical to minimize the potential to spread plant related radioactive material to the area.

#### **4.4 PERIODIC AND INVESTIGATIVE MONITORING**

If remediation activities have occurred in areas adjacent to the Switchyard (as required to meet the site release criteria) or where operational events (e.g., airborne radioactivity excursions) may have impacted the Switchyard area, a re-survey of the affected Switchyard area will be conducted. This re-survey will involve judgmental sampling of boundary and/or potential access points to the Switchyard area. Survey locations and methods will be primarily designed to detect the migration of contamination from decommissioning activities taking place in adjacent and other areas in close proximity which could cause a potential change in conditions.

If the results of the re-surveys indicate that contamination is statistically different than the initial FSS results ( $> 2$  standard deviations from the mean), then an investigation survey will be conducted of the area. The investigation survey will include a larger physical area than the re-survey. If the results of the investigation survey are statistically different than the FSS survey results, then a full FSS survey of the affected units will be performed in accordance with the Site Characterization Plan (SCP). The results of re-surveys and investigation surveys will be documented and maintained in FSS files for the affected survey units. Additionally, for any area that has completed FSS activities, any soil, sediment, or equipment relocated to that area will require demonstration that the material introduced does not result in residual radioactivity that is statistically different than that in the FSS.

To provide additional assurance that the isolation and control area remains unchanged until final site release, the area will be surveyed periodically. Table 5.1 below provides the survey frequency and investigation criteria for the Switchyard and other areas requiring isolation and control.



**Table 5.1**  
**Survey Frequency and Investigation Criteria**

<b>Unit Type</b>	<b>Unit Class</b>	<b>Adjoining Unit Class</b>	<b>Minimum Survey Frequency</b>	<b>Investigation Criteria</b>
Land	3	3	Annual Soil/Media Samples at access points.	>10%DCGL
Land	3	2	Annual Soil/Media Samples along boundary.	>10%DCGL
Land	3	1	Semi-Annual Soil/Media Samples along boundary.	>10%DCGL

## **5.0 REFERENCES**

1. NUREG 1575, "Multi-Agency Radiation Site Survey and Site Investigation Manual (MARSSIM)", Revision 01, August 2000.
2. Yankee Nuclear Power Station License Termination Plan
3. Haddam Neck Plant License Termination Plan
4. HBAP C-220 Rev 1A, Humboldt Bay Power Plant, described in Cross Contamination Prevention and Monitoring Plan
5. NRC Regulatory Guide 1.179, Revision 1, 2011