



Department of  
Toxic Substances  
Control

*The Mission of the  
Department of  
Toxic Substances  
Control is to  
provide the highest  
level of safety, and  
to protect public  
health and the  
environment from  
toxic harm.*



State of California



California  
Environmental  
Protection Agency

Fact Sheet, May 2010

## Draft Variance Available for Public Review for San Onofre Nuclear Generating Station

*Si prefiere hablar con alguien en español acerca de ésta información, favor de llamar a Ricardo Gonzalez, Departamento de Control de Sustancias Tóxicas. El número de teléfono es (818) 717-6693.*



View of Waste Neutralization Tank

A proposed Variance for the Waste Neutralization Tank (WNT) at the San Onofre Nuclear Generating Station (SONGS) facility is available for public review and comment. **This Variance does not apply to any spent fuel rods from the nuclear reactors or any radioactive material.**

### PUBLIC COMMENT PERIOD AND MEETING

The public comment period for the draft Variance begins on **May 8** and ends on **June 14, 2010**. Copies of the draft Variance, California Environmental Quality Act (CEQA) Initial Study and supporting documents can be viewed at the information repositories listed on page 3 in this fact sheet. Written and e-mailed comments must be postmarked by **June 14, 2010**, and sent to:

Alejandro Galdamez, Project Manager  
700 Heinz Avenue, Suite 300  
Berkeley, CA 94710-2721

Please e-mail comments to: [AGaldame@dtsc.ca.gov](mailto:AGaldame@dtsc.ca.gov)

### Public Meeting: Thursday, May 27, 2010 at 6:00 p.m.

DTSC will hold a public meeting on May 27, 2010 in the Fireside Room of the San Clemente Community Center located at 100 N. Calle Seville, San Clemente, to explain the draft Variance, address your questions, and accept your verbal and written comments.

For information on accessibility or to request reasonable accommodations, please contact Jeanne Matsumoto toll-free at 1 (866) 495-5651, press "4" then "6" or (714) 484-5338 or by e-mail to [JMatsumo@dtsc.ca.gov](mailto:JMatsumo@dtsc.ca.gov) no later than May 11, 2010.

## Facility Location and Description

SONGS, operated by Southern California Edison (SCE), is a nuclear power generating station with two operating reactors. Each of these is rated to generate 1,150 megawatts of electrical power. The 84-acre site is in San Diego County, two miles south of San Clemente, just west of Interstate Highway 5 at 5000 Pacific Coast Highway in San Clemente, California. The facility is entirely within the United States Marine Corps Base, Camp Pendleton. The property is a federal easement from the Department of the Navy to SCE.

## The Demineralization Process

SCE operates three demineralization units within the SONGS facility:

- 2 Full Flow Condensate Polishing Demineralizer units
- 1 High Flow-Make-up Demineralization (HFMUD) unit

Each of these units produces high purity demineralized water. The thermal energy of the two 1,100-megawatt nuclear reactors converts this water into steam, which is then used to drive turbines to generate electricity for the local power grid.

The HFMUD unit uses an ion exchange resin as a purification medium. Potable or drinking water passes through beds (tanks) containing beads of cationic and anionic ion exchange resin. Ionic impurities in water, such as minerals, are attracted to and bond with the ion exchange resin. The resulting water is, thereby, demineralized and purified.

The ion exchange resins have a limited capacity to bond impurities. Periodically the resins must be regenerated. The regeneration process begins with the resin being immersed in liquids called corrosive aqueous solutions that dislodge the accumulated impurities. A series of immersions and rinsings with varying concentrations of corrosive aqueous solutions and finally with previously demineralized water complete the regeneration process.

During the regeneration process, remaining liquids or spent corrosive aqueous solutions, now considered to be a waste, are collected in a system of tanks, sumps, and ancillary equipment. Because of the varying chemical components and concentrations of those chemicals (primarily

sulfuric acid, sodium hydroxide, and ammonia), the spent solution has a range of pH that, depending on location and extent of completion, varies from 1, very acidic, to more than 12.5, very caustic. The pH and temperature vary in relation to the rate at which the reactive chemicals of the neutralization process are mixed in the neutralization tanks. At the completion of the regeneration process, the accumulated spent aqueous solution is typically acidic with a pH of less than 2.

Once the regeneration process has completed, the accumulated spent aqueous waste is adjusted to a non-hazardous pH level by the addition of neutralizing reagent. This neutralization occurs in the WNT. The neutralized solution is no longer considered a hazardous waste and is discharged as authorized by the San Diego Regional Water Quality Control Board in accordance with their National Pollution Discharge Elimination System (NPDES) permit.

## What the Variance Will Do

The proposed Variance will allow SONGS to operate the WNT without fully complying with the secondary containment requirements specified in California Code of Regulations, title 22, section 66265.193(j) because we find that elementary neutralization in the WNT of the aqueous demineralization regeneration waste from the HFMUD unit is insignificant as a potential hazard to human health and safety and the environment when managed in accordance with the conditions, limitations and other requirements specified in section 9 of the Variance.

## Regulatory Oversight

The Department of Toxic Substances Control (DTSC) regulates the generation, storage, and treatment of hazardous waste. DTSC also regulates the design and operation of hazardous waste management units such as those at SONGS.

The Nuclear Regulatory Commission regulates radioactive materials and wastes including the commercial uses of radioactive materials, such as the operation of nuclear power plants, and regulate the handling of nuclear materials (reactor fuels, radioactive nuclear by products, etc.).

The San Diego Regional Water Quality Control Board regulates the disposal of aqueous solutions.

## Compliance History

DTSC conducted the following periodic inspections of the SONGS facility, to ensure the facility is in compliance with California laws, regulations and permit conditions.

*June 26, 2006* - no violations cited

*May 13, 2008* - no violations cited

*March 23, 2010* - no violations cited

## California Environmental Quality Act

An Initial Study was conducted pursuant to the California Environmental Quality Act (CEQA) to assess the potential environmental effect of the proposed Variance. In this Initial Study we examined environmental resource categories that could potentially be affected by the granting of this Variance. These include air quality, biological resources, hydrology and water quality, hazards, and hazardous materials.

Based on this Initial Study, DTSC determined that the operation of the WNT without secondary containment will not have a significant impact on the environment. This determination is documented in the Draft Negative Declaration that is available for public review and comment along with the Draft Variance.

## We assessed potential hazards

DTSC considered the unlikely “worst-case” possibility of tank failure to determine whether the operation of the WNT without secondary containment could be a hazard to human health or the environment. Environmental impacts of the project would occur only in the unlikely event of catastrophic tank failure.

We reviewed the specifications for monitoring, handling, and the neutralization process at the generating station. The impact of a catastrophic tank failure would be limited to a brief (5 minute) duration that would extend over a small area several thousand yards offshore from the facility. We determined that even if there was a catastrophic failure of the WNT unit, the solution would rapidly be neutralized or buffered by the sea water. The transient nature of a small, localized pH aberration in ocean water makes the possibility of a cumulative effect unlikely.

## Where to Find the Documents

The draft Variance and Draft Negative Declaration, along with the Initial Study (the environmental study which was the basis for the Negative Declaration), are available for public review at the following locations:

San Clemente Public Library  
242 Avenida Del Mar  
San Clemente, California 92672  
(949) 492-3493

Department of Toxic Substances Control  
Berkeley Regional Office  
700 Heinz Avenue,  
Berkeley, California 94170  
Please call for an appointment: (510) 540-3800

The draft Variance and Draft Negative Declaration documents are also available on our web site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov). Click on “Managing Hazardous Waste,” then on “Hazardous Waste Management Project Documents,” then on “San Onofre Nuclear Generating Station.”

## Who to Contact for Information

For questions regarding the draft Variance and Draft Negative Declaration, please contact: Alejandro Galdamez, DTSC Project Manager (510) 540-3933 or e-mail [AGaldame@dtsc.ca.gov](mailto:AGaldame@dtsc.ca.gov).

For questions regarding Public Participation, please contact: Jeanne Matsumoto, Public Participation Specialist toll-free (866)495-5651, press “4” then “6” or (714) 484-5338 or e-mail [JMatsumo@dtsc.ca.gov](mailto:JMatsumo@dtsc.ca.gov).

For questions from the media, please contact: Jeanne Garcia, DTSC Public Information Officer (916) 255-6578 or e-mail [JGarcia1@dtsc.ca.gov](mailto:JGarcia1@dtsc.ca.gov).

Notice to Hearing-Impaired Individuals: TDD users can obtain information about the SONGS facility by using the California State Relay Service at (888) 877-5378. Please ask to speak to Jeanne Matsumoto at (714) 484-5338.

**Comment Form for the San Onofre Nuclear Generating Station  
Draft Variance**

If you use this form to send us your comments, please include your name and address. All written comments must be postmarked no later than **June 14, 2010**. Please send this form to:

Alejandro Galdmaez, DTSC Project Manager  
700 Heinz Avenue, Suite 300  
Berkeley, California 94710-2721

You may also email this same information to: [AGaldame@dtsc.ca.gov](mailto:AGaldame@dtsc.ca.gov)

**Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Affiliation (if any):** \_\_\_\_\_

**Telephone Number (optional):** \_\_\_\_\_

**Comment:** (If you need more space, please feel free to use another sheet of paper)

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**San Onofre Nuclear Generating Station Facility**

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Return this coupon to Jeanne Matsumoto, 5796 Corporate Avenue, Cypress CA, 90630. You can e-mail your mailing list request by sending a message to [JMatsumo@dtsc.ca.gov](mailto:JMatsumo@dtsc.ca.gov).

*Note: While this mailing list is solely for DTSC use, the list is considered a public record.*