

August 24, 2007

Mr. James Woolford, Director
Office of Superfund Remediation
and Technology Innovation
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 5201P
Washington, DC 20460

SUBJECT: CONSULTATION ON THE DECOMMISSIONING OF THE RANCHO SECO
NUCLEAR GENERATING STATION IN HERALD, CALIFORNIA

Dear Mr. Woolford:

This letter notifies you of the decommissioning oversight actions that the U.S. Nuclear Regulatory Commission (NRC) has taken and intends to take, for the Rancho Seco Nuclear Generating Station in Herald, California.

On October 9, 2002, the NRC and the U.S. Environmental Protection Agency (EPA) entered into a Memorandum of Understanding (MOU) on "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites." Under the MOU, EPA agreed to continue its Comprehensive Environmental Response, Compensation, and Liability Act deferral policy of not listing sites on the National Priorities List that are subject to NRC's licensing authority. The MOU provides that, unless an NRC-licensed site exceeds any of three trigger criteria contained in the MOU, EPA agrees to a policy of deferral to NRC decision-making on decommissioning without the need for consultation.

For sites that trigger the criteria in the MOU, NRC will consult with EPA at two points in the decommissioning process: (1) prior to NRC approval of the license termination plan (LTP) or decommissioning plan, which NRC terms Level 1 consultation; and (2) following completion of the Final Status Survey (FSS), which NRC terms Level 2 consultation.

We are sending this letter as our Level 1 consultation for the Rancho Seco site, because the licensee's proposed derived concentration guideline levels (DCGLs) for certain radionuclides for this site exceed the soil concentration values in Table 1 of the MOU.

Rancho Seco has a deactivated pressurized-water nuclear reactor and is located on a 2480-acre Sacramento Municipal Utility District (SMUD) site in Sacramento County at 14440 Twin Cities Road, Herald, California. Rancho Seco was constructed between 1968 and 1974, and in August 1974, the NRC licensed the reactor to operate commercially at 2772 megawatts thermal. After passage of a nonbinding referendum by the voters of Sacramento County in 1989, SMUD decided to permanently shut down Rancho Seco. In an August 1989 public meeting, SMUD formally informed the NRC that the plant was shut down permanently and notified the NRC of its intent to seek amendments to the Rancho Seco operating license and decommission the facility. In February 1997, SMUD began active decommissioning of the site.

In August 2002, SMUD completed the transfer of all spent nuclear fuel to its independent spent fuel storage installation (ISFSI) licensed under 10 CFR Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste, and Reactor-Related Greater Than Class C Waste." In April 2006, SMUD submitted its LTP.

SMUD is proposing to decontaminate the Rancho Seco site to meet the requirements in Title 10 of the Code of Federal Regulations (CFR), Part 20.1402 for unrestricted use under an industrial use scenario. The licensee chose an industrial use scenario since gas fired and solar generating facilities exist on two sides of the former nuclear generating station. Bounding calculations performed by the licensee indicated that the 10 CFR 20.1402 requirements for a resident farmer would be met by July 2038. SMUD currently plans to leave in place at the site multiple permanent buildings and structures, as well as paved areas and 11 concrete pads of removed structures in place at the site after license termination.

No plant-generated radionuclides have been observed in the groundwater beneath the Rancho Seco site. Also, no plant-generated radionuclides have been observed in the soil or rock materials beneath the industrial area at a depth greater than 25 feet. The shallowest water-bearing unit is the water table at approximately 165 feet below ground surface. Therefore, it is unlikely that plant-generated radionuclides will reach the groundwater or migrate offsite in the future.

The DCGLs, which the staff plans to approve, are provided in the enclosure. Five of the six radionuclides exceed the MOU soil concentration levels for the industrial land use scenario. Before the NRC license is terminated, the dose to the average member of the critical group at the Rancho Seco site will be in compliance with NRC's criteria in 10 CFR Part 20, Subpart E that provides an all-pathways dose criteria of 0.25 millisieverts per year (25 millirem per year to an average member of the critical group) and are as low as is reasonably achievable (ALARA). The dose criteria in 10 CFR Part 20, Subpart E are fully protective of the public health and safety, and were the result of a comprehensive rulemaking, including an accompanying generic environmental impact statement. Individuals at a decommissioned site are expected to receive doses substantially below the constraint level because of the application of the ALARA principal, conservative dose modeling assumptions, and the nature of the cleanup process itself, which often reduces residual contamination levels significantly below site DCGLs. Additionally, the residual radioactivity at the site is expected to be much lower than the approved DCGL values because meeting the 25 millirem per year criteria must be demonstrated using an all pathways, sum of the fractions approach. The DCGLs in the LTP represent the maximum levels for each radionuclide without considering the existence of other radionuclides. Thus, in applying the sum of the fraction requirement, the actual cleanup values will be reduced to ensure that the potential dose from all residual radioactivity at the site from all media is less than 25 millirem per year.

However, in view of the extent to which the proposed cleanup values exceed the MOU trigger levels, and based on NRC's decommissioning experience, a Level 2 consultation may be necessary because the levels of residual radioactivity remaining after remediation may still exceed the MOU trigger levels. If this is the case, NRC will consult with the EPA in accordance with the MOU.

As part of the LTP review and approval process, the NRC staff will prepare an environmental assessment (EA) to document how the remediation at the Rancho Seco site would ensure

protection of the public health and safety and the environment. The EA will be published in the *Federal Register*.

Following your staff's review of Enclosure 1 and other relevant information, as specified in Section V.D.1 of the MOU, please send us your views on the Rancho Seco site within 90 days of receiving this notification.

The staff anticipates approving the LTP at the conclusion of the consultation process. Following site remediation activities, the site will submit a FSS. NRC staff will review information contained in this survey report and will compare the remaining levels of residual radioactivity to the MOU trigger levels. If the FSS measurements trigger the MOU, a consultation between the agencies will occur under the MOU to identify and resolve any remaining issues. In the meantime, if you have any questions regarding this letter or the remediation activities at the Rancho Seco site please contact Mr. Keith I. McConnell, Deputy Director, Decommissioning and Uranium Recovery Licensing Directorate, at (301) 415-7295.

Sincerely,

/RA/

Larry W. Camper, Director
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Enclosure:
Rancho Seco Proposed Cleanup Values

cc: Rancho Seco Service List

Docket No.: 50-312
License No.: DPR-54

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Following your staff's review of Enclosure 1 and other relevant information, as specified in Section V.D.1 of the MOU, please send us your views on the Rancho Seco site within 90 days of receiving this notification.

The staff plans to approve the LTP at the conclusion of the consultation process. Following site remediation activities, the site will submit a FSS. NRC staff will review information contained in this survey report and will compare the remaining levels of residual radioactivity to the MOU trigger levels. If the FSS measurements trigger the MOU, a consultation between the agencies will occur under the MOU to identify and resolve any remaining issues. In the meantime, if you have any questions regarding this letter or the remediation activities at the Rancho Seco site please contact Mr. Keith I. McConnell, Deputy Director, Decommissioning and Uranium Recovery Licensing Directorate, at (301) 415-7295.

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Larry W. Camper, Director
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Rancho Seco Proposed Cleanup Values (pCi/g)

Radionuclide	Cleanup Value	EPA MOU*
C-14	833,0000	123,000
Co-60	12.6	6
Ni-63	15,200,000	555,000
Sr-90	6,490	1,070
Cs-134	22.4	26
Cs-137	52.8	11

*Industrial/Commercial land use scenario

Rancho Seco Nuclear Generating Station Service List

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