



SACRAMENTO MUNICIPAL UTILITY DISTRICT □ P. O. Box 15830, Sacramento CA 95852-1830, (916) 452-3211  
 AN ELECTRIC SYSTEM SERVING THE HEART OF CALIFORNIA

AGM/NUC 90-046

February 13, 1990

U. S. Nuclear Regulatory Commission  
 Attn: Document Control Desk  
 Washington, DC 20555

Docket No. 50-312  
 Rancho Seco Nuclear Generating Station  
 License No. DPR-54  
**RANCHO SECO PLANT-REFERENCED SIMULATOR/SIMULATOR TRAINING (REVISION 1)**

- References:
- (1) SMUD (Dan R. Keuter) letter to NRC (George Knighton) dated December 12, 1989, (AGM/NUC 89-176); Subject: "Rancho Seco Plant-Referenced Simulator/Simulator Training"
  - (2) NRC (Thomas E. Murley) letter to SMUD (David Boggs) dated January 18, 1990; Subject: "Enforcement Discretion Regarding Rancho Seco and 10 CFR Part 26, Fitness for Duty Programs (TAC No. 75067)"

Attention: George Knighton

Based on a discussion with Mr. Steve Reynolds, NRC Rancho Seco Project Manager, and my staff, the District is revising its exemption request (reference 1) concerning requirements for a simulation facility and simulator training.

Pursuant to 10 CFR 55.11, the District is requesting an exemption from 10 CFR 55.45(b) in its entirety, which requires either a simulation facility which the Commission has approved for use or a simulation facility consisting solely of a plant-referenced simulator which has been certified to the Commission by the licensee. In addition, the District requests exemption from various portions of 10 CFR 55 "Operators' Licenses," detailed in Attachment 1, to the extent that the regulations require a simulation facility to grant or maintain operators' licenses.

In view of the justifications in the attachment and due to the defueled condition and continued closure of Rancho Seco, requiring a simulation facility would not serve the underlying purpose of the rule to provide for improved nuclear power plant operations through appropriate operator training and examination.

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The requested exemptions are commensurate with the nuclear safety requirements with Rancho Seco in a defueled condition. As acknowledged by the NRC in reference 2:

1. Rancho Seco is defueled with all fuel in the spent fuel pool building.
2. SMUD does not intend to resume power operations at Rancho Seco.
3. Design basis accidents for a nuclear facility in a defueled condition are all associated with loss of fuel pool water inventory or with fuel handling.

These exemptions will not place Rancho Seco in a degraded plant condition. While these exemptions represent a reduction from compliance with 10 CFR 55 as required for an operating nuclear power plant, the training which remains ensures protection of the public health and safety and is consistent with potential safety hazards associated with a defueled reactor.

Members of your staff with questions requiring additional information or clarification may contact Steve Crunk at (209) 333-2935, extension 4913.

Sincerely,



Dan R. Keuter  
Assistant General Manager  
Nuclear

Attachment

cc w/atch: A. D'Angelo, NRC, Rancho Seco  
G. Kalman, NRC, Washington DC  
J. B. Martin, NRC, Walnut Creek  
L. Miller, NRC, Walnut Creek  
S. Reynolds, NRC, Washington DC

ATTACHMENT 1

EXEMPTION REQUESTS FROM A SIMULATION FACILITY AND  
SIMULATOR TRAINING AND TESTING

Due to the current defueled plant conditions and long term layup activities at Rancho Seco, the District hereby requests exemptions from the following sections of 10 CFR 55 related to the requirements for a simulation facility or the use of (training and testing on) a simulation facility to grant or maintain operators' licenses.

CODE OF FEDERAL REGULATIONS:

10 CFR 55.45(b)(1)

"Implementation - (1) Administration" This section requires that: "The operating test will be administered in a plant walkthrough and in either:

- (1) A simulation facility which the Commission has approved for use after application has been made by the facility licensee, or
- (ii) A simulation facility consisting solely of a plant-referenced simulator which has been certified to the Commission by the facility licensee."

10 CFR 55.45(b)(2)

"Schedule for facility licensees" Subsections (i) through (iv) detail the scheduler requirements for implementation of 10 CFR 55.45(b)(1)(i) and (ii).

10 CFR 55.45(b)(3)

"Schedule for facility applicants" applies to licensee applications after March 1987, and therefore, is not applicable.

10 CFR 55.45(b)(4)

"Application for and approval of simulation facilities" identifies the application requirements for those licensees which propose, in accordance with paragraph (b)(1)(i) of this section, to use a simulation facility that is other than solely a plant-referenced simulator as defined in 10 CFR 55.4.



10 CFR 55.45(b)(5)

"Certification of simulation facilities" identifies the certification requirements for those licensees which propose, in accordance with paragraph (b)(1)(ii) of this section, to use a simulation facility consisting solely of a plant-referenced simulator as defined in 10 CFR 55.4.

10 CFR 55.59(a)(2)

"Requalification Requirements" states, "Each licensee shall...(2) Pass a comprehensive requalification written examination and an annual operating test."

10 CFR 55.59 (c)(3)

"On-the-job training" states, in part, "The requalification program must include on-the-job training so that . . . For reactor operators and senior operators these manipulations must consist of the following control manipulations. . . Those control manipulations which are not performed at the plant may be performed on a simulator. . ."

10 CFR 55.33(a)(2)

"Written examination and operating test" states, "The applicant has passed the requisite written examination and operating test in accordance with 55.41 and 55.45 or 55.43 and 55.45."

**REQUESTED EXEMPTIONS:**

1. The District requests exemption from 10 CFR 55.45(b)(1), 10 CFR 55.45(b)(2), 10 CFR 55.45(b)(4), and 10 CFR 55.45(b)(5).
2. Since 10 CFR 55.45(b)(1) requires that a simulation facility be used in the performance of the operating test, the District requests an exemption from the requirement to use a simulation facility in satisfying the requirements of 10 CFR 55.59(a)(2) and 10 CFR 55.33(a)(2).
3. The District requests an exemption from the requirement to use a simulation facility in satisfying the requirements of 10 CFR 55.59(c)(3).

To the extent that the regulations require a simulation facility or the use of (training and testing on) a simulation facility to grant or maintain operators' licenses, an exemption is requested.

### JUSTIFICATION FOR EXEMPTION

The requirements of 10 CFR 55 for a simulation facility are designed for operating power reactors. In contrast, Rancho Seco is in a static, long-term defueled condition. There are no plant-referenced simulator or simulator devices that reflect the current defueled condition of the District's Rancho Seco facility.

Contemporaneous to this exemption request, the District has taken steps to restrict the movement of fuel from the Spent Fuel Storage Facility to the Reactor Pressure Vessel per District Letter AGM/NUC 89-128 dated November 29, 1989. Thus, the principal operator activity will be to monitor and maintain the spent fuel pool storage facility to assure the continued safe storage of special nuclear material to ensure that risk to public health and safety is not compromised.

In the defueled condition, the spectrum of analyzed accidents for Rancho Seco consists of "Fuel Handling Accident" and "Complete Loss of All Unit A-C Power." Therefore, controls required to protect the spent fuel are predicated upon the level of decay heat in the spent fuel pool and the actions to mitigate the consequences should a fuel handling accident occur or spent fuel pool cooling be lost due to a loss of all unit a-c power.

Previous evaluation determined that the probability of a "complete loss of all unit a-c power" is less than once per 20 years when evaluated in accordance with the guidelines of Regulatory Guide 1.155. However, as a conservative measure, the Bruce GM diesel generator and related buses associated with the available Decay Heat Removal (DHR) train will be maintained available. The Bruce GM diesel generator provides emergency power to the major loads associated with DHR (DHR, Nuclear Service Cooling Water (NSW), and Nuclear Service Raw Water (NRW) pump motors). In addition, through the use of the 480-volt cross-tie breakers the Bruce GM diesel generator can supply the remaining loads required to maintain this conservative diesel generator backup ability. These remaining loads are primarily environmental control loads such as the Nuclear Service Electrical Building (NSEB) and Control Room/Technical Support Center (CR/TSC) Heating Ventilation and Air Conditioning (HVAC) systems. The cross-tie breakers connect the two 480-volt buses within a train, and do not effect the independence of trains. Use of the 480-volt cross-tie breakers was previously analyzed and approved by the Commission as detailed in Technical Specification Amendment Number 68.

ATTACHMENT 1 (Continued)

A fuel handling accident, as analyzed in the Updated Safety Analysis Report, Chapter 14, considers mechanical damage to fuel assemblies during transfer operations as possible but improbable. Because of the geometric storage arrangement of the fuel assemblies underwater, a criticality accident is not considered credible. In addition, because all fuel is removed from the reactor and placed in long term storage in the spent fuel pool, the possibility for a fuel handling accident is further diminished. The District anticipates only limited fuel movement within the spent fuel pool until permanent disposition of the fuel is determined. With these plant conditions analyzed, the requirement for a simulation facility or a plant-referenced simulator is not justifiable for the defueled condition.

10 CFR 55.59(c)(4)(iv) states in part: "The requalification program must include - (iv) Simulation of emergency or abnormal conditions that may be accomplished by using the control panel of the facility involved or by using a simulator. Where the control panel of the facility is used for simulation, the actions taken or to be taken for the emergency or abnormal condition shall be discussed; actual manipulation of the plant controls is not required." This regulation provides additional justification that there is no valid need for a simulation facility or plant-referenced simulator other than use of the actual plant as appropriate.

As described within the Statements of Consideration, Part 55, I, Background and [A] General Comments, the purpose of the proposed revisions to 10 CFR Part 55 is to achieve and "improve the safety of nuclear power plant operations by improving the operator licensing process and examination process," and for "older plants without access to plant-referenced simulators where manipulations of the plant, to the extent, consistent with plant conditions, might be used to demonstrate familiarity with the plant for which the candidate could be licensed." These elements are essential to granting this exemption to the District, because these requirements were promulgated on the assumption that the operators would be controlling an operating facility which would experience transients and malfunctions from start-up through full power operations. Under defueled plant conditions, transients and malfunctions from start-up through full power operations are not credible. A simulation facility or plant-referenced simulator will not significantly enhance or increase the capability of licensed operators to perform their normal duties or mitigate the consequences of an accident or malfunction over a more suitable examination process conducted within the facility itself.



ATTACHMENT 1 (Concluded)

Consistent with the principals of 10 CFR 50.12 "Specific Exemptions" (a)(1), it is the District's position that exemptions to the aforementioned requirements of 10 CFR 55 for simulator and simulator training will not present an undue risk to the public health and safety, and are consistent with the common defense and security. In addition, special circumstances as defined in 10 CFR 50.12(a)(2) are present in that application of the regulation in these particular circumstances would not serve the underlying intent of the rule. Finally, compliance would result in unique hardships to the District, which would experience additional costs to complete design, testing, and installation of a plant-referenced simulator. As acknowledged by the NRC in reference 2:

1. Rancho Seco is defueled with all fuel in the spent fuel pool building.
2. SMUD does not intend to resume power operations at Rancho Seco.
3. Design basis accidents for a nuclear facility in a defueled condition are all associated with loss of fuel pool water inventory or with fuel handling.

While these exemptions represent a reduction from compliance with 10 CFR 55 as required for an operating nuclear power plant, the training which remains ensures protection of the public health and safety and is consistent with potential safety hazards associated with a defueled reactor.