

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of

SACRAMENTO MUNICIPAL UTILITY DISTRICT

(Rancho Seco Nuclear Generating
Station)

Docket No. 50-312

EXEMPTION

I.

The Sacramento Municipal Utility District (the licensee, SMUD) is the holder of Facility Operating License No. DPR-54 which authorizes the operation of the Rancho Seco Nuclear Generating Station. The facility is a pressurized water reactor located at the licensee's site in Sacramento County, California. It is currently defueled and, by Confirmatory Order dated May 2, 1990, "the licensee is prohibited from placing any nuclear fuel into the Rancho Seco reactor building without prior approval from the NRC." This license provides, among other things, that it is subject to all rules, regulations and orders of the Commission now or hereafter in effect.

II.

Pursuant to 10 CFR 50.54(w), each commercial power reactor licensee shall, by June 29, 1982, take reasonable steps to obtain onsite property damage insurance available at reasonable costs and on reasonable terms from private sources or to demonstrate to the satisfaction of the Nuclear Regulatory Commission (the Commission) that it possesses an equivalent amount of protection covering the facility, provided, among other things, that this insurance must have a minimum coverage limit no less than the combined total of (i) that offered by either American Nuclear Insurers (ANI) and Mutual Atomic Energy

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Reinsurance Pool (MAERP) jointly or Nuclear Mutual Limited (NML); plus (ii) that offered by Nuclear Electric Insurance Limited (NEIL), the Edison Electric Institute (EEI), ANI and MAERP jointly, or NML as excess property insurance. On August 5, 1987, the Commission amended this regulation to require a minimum coverage limit for the reactor station site of either \$1.06 billion or whatever amount of insurance is generally available from private sources, whichever is less (52 FR 28963).

III.

The licensee, prior to this change, was required to carry the full amount of onsite primary property damage insurance coverage (\$1.06 billion). By letter dated March 5, 1990, as amended October 22, 1990, the licensee requested an exemption to reduce the amount of property damage insurance from the full amount of \$1.06 billion to \$30 million. The licensee states that the requirement to fully comply with the regulation represents an undue financial hardship and burden. In the letter dated October 22, 1990, the licensee provided its justification that \$30 million of primary property damage insurance provides an adequate level of coverage to stabilize, clean up or decontaminate the Rancho Seco facility based on the limited and much less severe accidents that could occur given the defueled condition.

The NRC may grant exemptions from the requirements of the regulations which, pursuant to 10 CFR 50.12(a) are (1) authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security, and (2) present special circumstances. Pursuant to 10 CFR 50.12(a)(2)(ii) special circumstances exist when compliance with a rule would not serve the purpose of or is not necessary to achieve the

underlying purpose of the rule. Pursuant to 10 CFR 50.12(a)(2)(iii) special circumstances exist if compliance would result in undue hardship or costs in excess of those contemplated when the regulation was adopted, or costs that are significantly in excess of those incurred by others similarly situated.

By letter dated March 5, 1990, as amended October 22, 1990, the licensee requested an exemption from one of the requirements of 10 CFR 50.54(w)(1). The licensee has requested that it not be required to carry the full amount (\$1.06 billion) of the required onsite property insurance. This limit is based on the Rancho Seco's current defueled condition.

SMUD contends that exemption from the requirement for the full amount of onsite damage insurance while in the prolonged defueled condition is justified by the following:

1. Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve its underlying purpose, 10 CFR 50.12(a)(2)(ii), and
2. Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted or that are significantly in excess of those incurred by others similarly situated, 10 CFR 50.12(a)(2)(iii).

SMUD has requested, that in lieu of the current required coverage, that it be allowed to carry \$30 million of onsite insurance. SMUD calculated this amount based on an accident analysis that takes into account the maximum credible accident that could occur given Rancho Seco's current defueled status.

IV.

The staff has reviewed the licensee's request for exemption and finds that requiring the licensee to carry the full amount of onsite property damage insurance coverage, \$1.06 billion, as required by 10 CFR 50.54(w)(1), would result in undue hardship, costs in excess of those contemplated when the

regulation was adopted and costs in excess of those incurred by others similarly situated.

Further, the staff has concluded that requiring a full amount of onsite primary property damage insurance coverage of \$1.06 billion, rather than a lesser amount of \$30 million, is not necessary to serve or achieve the underlying purpose of 10 CFR 50.54(w)(1), as the plant is in a defueled, shutdown condition and the costs of onsite damage from any credible accident with the plant in such a condition would not exceed \$30 million.

The staff also concludes that issuance of this exemption will have no significant effect on the safety of the public or the plant. Further, the licensee has shown special circumstances as described in the staff's supporting safety evaluation to support the exemption.

Pursuant to 10 CFR 51.32, the Commission has determined that the issuance of this exemption will have no significant impact on the environment.


Accordingly, the Commission has determined that pursuant to 10 CFR 50.12(a)(1) the exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. As indicated above, compliance with 10 CFR 50.54(w)(1) would result in undue costs considering the current operational restrictions placed on the Rancho Seco facility, and costs that are significantly in excess of the cost incurred for similar insurance by the other facilities in similar circumstances. Thus, special circumstances as described in both 10 CFR 50.12(a)(2)(ii) and (iii) exist. Consequently, the exemption falls within each of these special circumstances determined by the Commission to be sufficient to support the exemption. Therefore, the Commission hereby approves the following exemption:

The licensee is exempt from the requirement to carry onsite property damage insurance coverage in the full amount called for by 10 CFR 50.54(w)(1) until such time that SMUD places nuclear fuel into the Rancho Seco reactor building, provided that the licensee maintain such onsite property damage insurance in an amount not less than \$30 million.

The applicants's letters dated March 5, 1990, and October 22, 1990, and the NRC staff's letter and Safety Evaluation related to this action are available for public inspection at the Commission's Public Document Room, 2120 L Street, N.W., Washington, D.C. 20555, and the Martin Luther King Regional Library, 7340 24th Street Bypass, Sacramento, California 95822.

The exemption is effective 10 working days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Dennis M. Crutchfield, Director
Division of Advanced Reactors
and Special Projects
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland
this 16 day of January 1991



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE NUCLEAR REACTOR REGULATION

RELATING TO PRIMARY PROPERTY DAMAGE INSURANCE EXEMPTION

SACRAMENTO MUNICIPAL UTILITY DISTRICT

RANCHO SECO NUCLEAR GENERATING STATION

DOCKET NO. 50-312

1.0 INTRODUCTION

By letter dated March 5, 1990, as amended October 22, 1990, the Sacramento Municipal Utility District (SMUD, the licensee), operator of the Rancho Seco Nuclear Generating Station, requested an exemption from certain of the property/accident recovery insurance requirements of 10 CFR 50.54(w). Section 50.54(w) requires, in part, that each electric utility licensee take reasonable steps to obtain onsite property damage/accident recovery insurance with a minimum coverage limit for each reactor station site of either \$1.06 billion or whatever amount of insurance is generally available from private sources, whichever is less.

SMUD's request for this exemption was made pursuant to the provisions of 10 CFR 50.12, which, in part, states that the Commission may, upon application, grant exemptions from the requirements of the regulations of this part, which are: "(1) Authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. (2) The Commission will not consider granting an exemption unless special circumstances are present. Special circumstances are present whenever --...(ii) Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule; or (iii) compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated..."

2.0 DISCUSSION

The property/accident recovery insurance requirements of 10 CFR 50.54(w) are intended to provide an assured source of funds to pay for stabilizing and decontaminating a power reactor suffering an accident. The amount of insurance required is \$1.06 billion, which was based on an analysis developed by Pacific Northwest Laboratory (PNL). The PNL analysis was published as NUREG/CR-2601, "Technology, Safety and Costs of Decommissioning Reference Light Water Reactors Following Postulated Accidents." This study evaluated three accidents of different severity that could occur while a facility was operating at full power. For the worst-case accident from which the insurance coverage limits were derived, the study assumed a major loss-of-coolant accident in which

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emergency core cooling is delayed, resulting in 100 percent fuel cladding failure and significant fuel melting and core damage. The postulated consequences included severe radioactive contamination of the containment structure, moderate radioactive contamination of supporting buildings, and major physical damage to structures and equipment.

The study determined that it would cost \$404.5 million for a large pressurized water reactor (PWR) and \$420.9 million for a large boiling water reactor (BWR) operating at full power at the time of the accident. In addition to these basic cleanup costs, adjustments were made for base operations and maintenance, design differences in comparison to Three Mile Island 2 (TMI-2), cost escalation during cleanup, additional reactor building cleanup, and net stabilization cost. From these basic costs plus adjustments, the \$1.06 billion insurance requirement was derived.

Pursuant to 10 CFR 50.12, under special circumstances the Commission may grant exemption from its regulations in 10 CFR Part 50 provided that the exemption is authorized by law, does not result in an undue risk to the public health and safety and is consistent with the common defense and security. SMUD's request for exemption is based on special circumstances relating to the status of Rancho Seco and the cost of the required insurance.

With respect to the status of Rancho Seco, SMUD states,

"Because of a public vote on June 6, 1989, the District shutdown Rancho Seco Nuclear Generating Station and completed defueling operations on December 8, 1989. As discussed in the granting of partial exemption from 10 CFR 55..., there are no longer any credible design basis accidents except loss of offsite power and a fuel handling accident. The permanently defueled condition combined with administrative controls result in minimal fuel movement further reducing the possibility of an accident. Moreover, the NRC has issued a confirmatory order modifying the Rancho Seco license to prohibit the movement of fuel from the Spent Fuel Pool into the Reactor Building without prior Commission approval."

SMUD has performed an accident analysis that takes into account the maximum credible accident that could occur given Rancho Seco's current status. SMUD estimates that this accident would involve the rupture of the Borated Water Storage Tank. SMUD concludes that this accident would dump up to 450,000 gallons of radioactively contaminated water into the Reactor Yard area. Gravel, soil and storm drains would become contaminated. All gravel, two feet of soil, and the storm drains would have to be removed for disposal. SMUD estimates that total decontamination and disposal costs resulting from such an accident would amount to slightly over \$28 million.

SMUD did not indicate the insurance premiums it is currently paying for \$1.06 billion coverage nor projected premiums for \$30 million coverage. However, SMUD states in its application for exemption that costs for such coverage would result in undue hardship for its ratepayers. Based on premium reductions from exemptions from full coverage granted to licenses of other shutdown plants, SMUD could expect to save approximately \$1 million annually in insurance premiums.

3.0 EVALUATION

3.1 The Exemption Is Authorized by Law

SMUD does not explicitly state that it believes that the exemption is fully authorized by law. However, it cites the examples of previously granted exemptions for facilities in similar circumstances (i.e., PG&E's Humboldt Bay and LILCO's Shoreham plants).

Based on the cited examples as well as other exemptions granted, the staff believes that SMUD's requested exemption is authorized by law.

3.2 The Exemption Would Present No Undue Risk to the Public Health and Safety

SMUD asserts that their requested exemption would present no undue risk to the public health and safety because of Rancho Seco's defueled condition. SMUD also cites (1) plant closure and layup activities; (2) an NRC-issued license condition which prevents the movement of fuel into the reactor building without prior NRC approval; (3) a pending "Possession Only License;" (4) minimal potential consequences for accidents considered credible in the defueled condition; and (5) SMUD's intention to decommission Rancho Seco.

The staff has reviewed SMUD's accident analysis and has determined that the maximum credible accident (as far as cost to stabilize and decontaminate a facility in the event of the accident) that could occur given Rancho Seco's current status would involve the rupture of the Borated Water Storage Tank that would dump up to 450,000 gallons of radioactively contaminated water into the Reactor Yard area.

The staff agrees with SMUD's conclusion that the defueled condition of Rancho Seco coupled with the minimal consequences of the postulated worst-case accident presents no undue risk to the public health and safety.

3.3 The Exemption Would Be Consistent With the Common Defense and Security

Although not explicitly addressed by SMUD, the NRC staff believes that the requested exemption is consistent with the common defense and security and no proposed action would adversely impact those considerations. SMUD has proposed no changes to the NRC-approved Rancho Seco physical security or fire protection programs that could compromise the safeguarding of the spent fuel.

3.4 Application of the Requirement for the Full \$1.06 Billion of Insurance Coverage is not Necessary to Achieve the Underlying Purpose of the Rule

SMUD interprets the purpose of the property/accident recovery insurance rule to be a means of ensuring that sufficient funds will be available to stabilize and decontaminate a facility in the event of an accident. The requirement for \$1.06 billion was established to cover accidents at large light water reactors operating at full power. Because Rancho Seco is shut down and the reactor is in a defueled condition, the possibility of a major credible accident with potential for significant property damage no longer exists. The staff has

determined that SMUD's proposed insurance limit of \$30 million is sufficient to cover stabilization and decontamination expenses for any remaining credible accident and thus meets the underlying purpose of the rule.

The staff agrees that the purpose of the rule is to provide an assured source of funds to cover post-accident stabilization and decontamination expenses. If such expenses can be met by a lower level of insurance than that required in 10 CFR 50.54(w), the underlying purpose of the rule will be satisfied.

3.5 Compliance Would Result in Undue Hardship or Other Costs ... That Are Significantly in Excess of those Incurred by Others Similarly Situated

SMUD contends that literal compliance with the requirements for \$1.06 billion in property insurance coverage would result in undue hardship and costs to SMUD's ratepayers and costs to maintain onsite decontamination coverage are significantly in excess of those contemplated when the rule was adopted.

The NRC staff concurs with SMUD's contentions and believes that undue hardship would result if the requested exemption were not granted.

4.0 CONCLUSION

Rancho Seco has been shutdown and completely defueled since December 8, 1989. Based on an analysis of a worst-case accident for Rancho Seco in this condition, SMUD has determined and the NRC staff concurs that \$30 million in insurance would be sufficient to cover any credible accident stabilization and cleanup costs at Rancho Seco.

Therefore, the NRC staff concludes that the special circumstances of 10 CFR 50.12(a)(2)(ii) and (iii) exist. The staff further concludes that granting an exemption is authorized by law, would present no undue risk to the public health and safety, and is consistent with the common defense and security. Thus, the staff finds that SMUD's request for an exemption from certain requirements of 10 CFR 50.54(w)(1) by reducing onsite property damage insurance from \$1.06 billion to \$30 million should be granted.

Principal Contributor: Robert Wood

Dated: January 16, 1991