U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION V

Report No. 50-312/78-20

Docket No. 50-312 License No. DPR-54 Safeguard Group

Licensee: Sacramento Municipal Utility District

P. O. Box 15830

Sacramento, California 95813

Facility Name: Rancho Seco

Inspection At: Clay Station, California

Inspection Conducted: November 16, 28, 29, 30 & December 6, 15 & 18, 1978

Inspectors:

Woessner for — A. D. Johnson, Reactor Inspector — 12/27/78 Date Signed

Woessner for — L. F. Miller, Reactor Inspector — 12/27/78 Date Signed

Woessner for — G. W. Johnston, Reactor Inspector — 12/27/78 Date Signed

Woessner — J. D. Woessner, Reactor Inspector — 12/27/78 Date Signed

Other Accompanying Personnel:

B. H. Faulkenberry — B. H. Faulkenberry, Section Chief — 12/27/78 Date Signed

Approved By:

B. H. Faulkenberry — B. H. Faulkenberry, Chief, Reactor Projects Section #2, Reactor Operations and Nuclear Support Branch — 12/27/78 Date Signed

Summary:

Inspection November 16, 28, 29, 30 & December 6, 15 & 18, 1978
(Report No. 50-312/78-20)

Areas Inspected: Routine, unannounced inspection of refueling activities, maintenance, pipe support and restraint systems, followup on previous inspection findings, followup on licensee event reports, refueling outage surveillance, and plant operations. The inspection involved 113 inspector hours onsite by four NRC inspectors.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

R. Rodriguez, Manager, Nuclear Operations
*P. Oubré, Plant Superintendent
*R. Colombo, Technical Assistant
*J. Sullivan, QA Engineer
*G. Schwieger, QA Director
*W. Ford, Supervisor Nuclear Operations
*M. Carter, Shift Supervisor
*G. Coward, Maintenance Supervisor
*H. Heckert, Nuclear Engineering Technician
*J. Field, Plant Mechanical Engineer
D. Comstock, Shift Supervisor
W. Wilson, Senior Chemical and Radiation Assistant
A. Anderson, Maintenance Foreman
R. Lawrence, Plant Engineer

The inspectors also interviewed several other licensee employees, including members of the engineering staff, shift supervisors, reactor operators and maintenance personnel.

*Denotes those present at the exit interview.

2. Refueling Operations

Inspectors examined the master copy of STP-214, "Refueling Rancho Seco for Cycle 3." All changes between this procedure and the draft copy examined on a previous inspection (see IE Inspection Report No. 50-312/78-18) were found to be consistent with the procedure intent, regulatory guidelines, and industry standards. The final procedure had been reviewed and approved by the Plant Review Committee.

Completed portions of the refueling procedure, STP-214, and OPOP B.8, "Refueling," revealed that the following pre-fuel handling activities had been satisfied or completed, as required: technical specification requirements, refueling equipment checks and interlocks, ventilation and cooling system requirements, communication system tests, and radiation monitor checks.

Approximately six hours of activity on the refueling floor was observed by the inspectors. A senior licensed operator was present, as required by technical specifications, and was directing the movement of fuel. A procedure was present for fuel movement and communications were established between control room,

refueling floor, and the fuel storage building. Observations on the refueling floor and control room disclosed that core monitoring, reactor mode (power to CRD systems), and fuel accountability (both assemblies and core components) were as required by technical specifications and procedures. Core internals, leads, vessel studs, and closure bolts were observed to be adequately stored to protect against damage. Housekeeping on the refueling deck appeared satisfactory. Records indicated that containment integrity during refueling, vessel water level, and the boron concentrations in the refueling cavity and spent fuel pool were in accordance with the technical specifications.

No items of noncompliance or deviations were identified.

3. Plant Operations

An examination of OPOP B.1, "Plant Precritical Checks," and discussions with licensee representatives disclosed that plans exist to test all safety-related systems which underwent maintenance, or were disturbed during the refueling outage.

Facility tours were conducted on November 15 and 29. Radiation controls were established for the outage and contaminated and high radiation areas were posted. Housekeeping of the facility was in order throughout the areas toured. A control operator queried by an inspector on the annunciator panel was cognizant of the indications and equipment out of service. Shift supervisor logs, control operator logs, the refueling outage log, and trouble report log were reviewed by the inspectors from the period of November 15 through November 29. A review of temperature and pressure recordings showed that the reactor cooldown was consistent with technical specifications requirements.

No items of noncompliance or deviations were identified.

4. Refueling Outage Surveillance

Licensee procedures for refueling outage surveillance tests required by the facility technical specifications were reviewed for proper licensee approvals and content. The procedural content was found to be consistent with regulatory requirements, licensee commitments, and administrative controls.

The inservice reactor coolant system leakage test, including test manning, prerequisites, and use of the approved test procedures by qualified personnel, was observed.

Test data sheets were evaluated for results in comparison with acceptance criteria, and were found to be within those criteria. Reviews of the data sheets were done by the cognizant engineer and appropriate management personnel, and were signed off in accorddance with procedures. Changes to test procedures were duly noted in the data packages and a form attached for later Plant Review Committee review and approval.

No items of noncompliance or deviations were identified.

5. Surveillance of Pipe Support and Restraint Systems

The licensee's functional testing of safety-related hydraulic shock suppressors (snubbers) was reviewed, and selected tests of the snubbers were witnessed.

a. Discussions with cognizant licensee staff revealed that eight out of 53 safety-related Bergen-Patterson snubbers failed to lockup during functional testing due to scored poppet-valve seats (referenced in SMUD Reportable Occurrence No. 78-15). Seven of the inoperative snubbers, which were all Model HSSA, would not lockup in the retract direction, while one would not lockup in the extend direction. Five of the failed units were found to still have the poppet spring entrapped between the poppet and seat of the valve block. The licensee postulated that when its personnel forcibly shortened the snubbers by slamming them against a floor or wall, sufficient offset thrust was executed on the poppet spring to wedge it between the poppet-valve seats. Reportedly, the snubbers were slammed by licensee personnel to shorten them to the correct installation length following functional testing on a test stand. This model snubber grows in length when unrestrained. Consequently, some allowance for this growth after testing must be made. Typically, a temporary locking device may be installed on the snubber, or the snubber may be taken off the test stand somewhat shorter than needed for installation.

The licensee stated that the problem has been corrected by instructing maintenance personnel not to slam the snubbers, by installing a temporary locking nut on the snubber from the time it is removed from the test stand until it is reinstalled, and by adding written precautions against abusive handling during all phases of snubber maintenance, particularly reinstallation.

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A conference was subsequently held with the licensee to develop a clear understanding of the licensee's proposed corrective actions for this occurrence. The licensee was informed that this occurrence was being examined by IE Headquarters personnel for its possible generic applicability. Pending the conclusion of that review, the licensee has agreed to take certain actions which are being specified in an Immediate Action Letter to the licensee.

b. The licensee's informal lubrication of ball bushings on the ends of safety-related ITT Grinnel Snubbers was discussed with licensee and vendor representatives. The bushings are self-aligning and permit the snubber to accomodate $\pm 5^{\circ}$ of misalignment due to angular motion of the snubber. The vendor's verbal recommmendation was that the bushings not be greased so long as the bonded molybdenum disulphide dry-film lubricant was adequate to lubricate the bearing. The vendor's experience was that no greasing of the snubber bushings has been necessary. However, the vendor recommended that if greasing of a bushing was begun, it should be repeated at each annual major outage to ensure continued lubrication of the bushing. Greasing vitiates the dry-film lubricant. The licensee representative stated that the vendor's recommendations covering the ball bushings of safety-related ITT Grinnel snubbers would be evaluated. This item remains open, and the licensee's evaluation will be examined in a subsequent inspection.

No items of noncompliance or deviations were identified.

6. Maintenance - Refueling

Several maintenance activities scheduled for completion during the refueling outage were examined, including; hydraulic shock suppressor funtional testing, pressurizer code safety replacement, and reactor coolant pump seal leakoff drain line modifications. The system clearance procedures, preoperational testing requirements, and maintenance inspections by licensee and contractor personnel were reviewed. The qualifications of the personnel who performed and inspected the hydraulic shock suppressor functional testing were examined. Selected testing was witnessed.

The modifications to the reactor coolant pump seal leakoff drainline, done under Engineering Change Notice (ECN) 1840, changed the systems described in Figures 11.1-4 and 4.2-1 of

the Rancho Seco FSAR. These modifications were begun during the refueling outage and the ECN indicated that no written safety evaluation of this modification to determine whether or not it constituted an unreviewed safety question was required. When the inspector queried the licensee about this, the licensee stated that a written safety evaluation would be completed for the modification, as required by 10 CFR 50.59b, prior to reactor startup. This item remains open pending an examination of the licensee's written safety evaluation.

No items of noncompliance or deviations were identified.

7. Fire Protection Equipment Modifications

The inspector examined the status of modifications to the facility fire protection system prescribed in Amendment No. 19 to the NRC Operating License for Ranch Seco. The examination included the following:

a. Engineering and construction schedule and the modifications completion status.

b. Construction inspection data reports.

c. Nonconformance reports.

d. Quality assurance audit records.

e. Installed firedoors, instrumentation, smoke detectors, insulation,revised lighting and ceiling in computer room, and relocated fire hydrant and transformer.

With the exception of providing for radio communication inside the containment building and accomplishing the full 50% of fire stop installations, all items required to be completed during the current outage have been or were scheduled to be completed prior to returning the reactor to routine operation. The licensee has requested relief from the above two requirements from NRR with the intent to have the items completed during the 1979 refueling outage.

No items of noncompliance or deviations were identified.

8. Exit Interview

The inspectors met with the licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection. The scope and findings of the inspection were summarized. No items of noncompliance or deviations had been identified by the inspectors.