

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

REGION V

Report No. 50-312/79-10
Docket No. 50-312 License No. DPR-54 Safeguards Group _____
Licensee: Sacramento Municipal Utility District
P. O. Box 15830
Sacramento, California 95813
Facility Name: Rancho Seco
Inspection at: Clay Station, California
Inspection conducted: May 7, 8, 14, 17, 22, 29-31, June 1, 2, 4-8 and 10-11, 1979
Inspectors: *A. Johnson* 6/15/79
for A. Johnson, Reactor Inspector Date Signed
P. Johnson 6/15/79
P. Johnson, Reactor Inspector Date Signed
J. Carlson 6/15/79
for J. Carlson, Reactor Inspector Date Signed
A. Horn 6/15/79
for A. Horn, Reactor Inspector Date Signed
Approved by: *B. H. Faulkenberry* 6/19/79
B. H. Faulkenberry, Chief, Reactor Projects Section 2, Date Signed
Reactor Operations and Nuclear Support Branch

Summary: Inspection between May 7 and June 11, 1979 (Report No. 50-312/79-10)

Areas Inspected: Inspection of plant operations, IE Bulletins, and operator retraining pertaining to the "Three Mile Island" incident. The inspection involved 160 inspector hours onsite by four NRC inspectors.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

- *R. Rodriguez, Manager, Nuclear Operations
- *P. Oubre, Plant Superintendent
- W. Ford, Operations Supervisor
- *J. McColligan, Supervisor, Engineering and Quality Control
- *R. Colombo, Technical Assistant
- R. Wichert, Plant Mechanical Engineer
- T. Tucker, Shift Supervisor
- J. Mau, Training Supervisor
- H. Heckert, Engineering Technician
- R. Low, Electrical Engineer
- M. Young, Electrical Engineer
- *J. Sullivan, Quality Assurance Engineer

The inspectors also interviewed several other licensee employees, including members of the engineering and reactor operations staffs.

*Denotes those attending exit interview.

2. Licensee Actions to IE Bulletin 78-05B

The inspector examined pertinent licensee documents including administrative orders; standard operating, surveillance, alarm response and emergency procedures; test data; and minutes of the Plant Review Committee. In addition, the inspectors witnessed certain testing of related components and systems addressed in the bulletin. Based on the foregoing, the inspectors verified the information provided in the licensee's response to the Director, IE:V, dated May 2, 1972, as follows:

- a. Procedures related to the natural circulation mode of operation had been developed, approved and implemented.
- b. Licensed operating personnel had been instructed in the new procedures.
- c. The operations personnel were found to understand the technique for determining the degree of subcooling of the reactor coolant system.
- d. The natural circulation cooldown procedures caution operating personnel to maintain pressurizer level between 150 ± 50 " while raising OTSG levels.
- e. The natural circulation cooldown procedures provide direction in the event of loss of all feedwater flow while in the natural circulation mode of operation.

- f. The operating procedure and standing orders prescribe requirements to assure that vessel pressure/temperature limitations are not violated by operation of the high pressure injection pumps.
- g. The reactor high pressure trip setpoint and the PORV initiation setpoint were changed on April 22, 1979 (see IE Report No. 50-312/79-07).
- h. The licensee's casualty and alarm response procedures provide guidance on anticipated instrument response and annunciation for each of the transients listed in IE Bulletin 79-05B.
- i. Plant operators and supervisory personnel had been instructed in the requirements, provisions and directives for early notification of serious events.
- j. In response to IEB 79-05B, the licensee installed a speaker phone in the control room. This has been connected to the NRC's dedicated telephone line, and was tested on 6/14/79. The licensee does not plan to provide an additional man on each shift to communicate with NRC in the event of an accident, but, rather intends to call in personnel as needed. The speaker phone will enable control room operators to keep NRC informed until additional personnel arrive at the site.
- k. The licensee response to items 5 and 7 of IE Bulletin 79-05B were submitted within the time period specified.
- l. Procedures examined during the inspection included the following:
 - A.46, Rev. 6 - Main Turbine System
 - A.51, Rev. 5 - Auxiliary Feed System
 - A.64, Rev. 5 - Generator and Exciter System
 - B.2, Rev. 11 - Plant Heatup and Startup
 - B.4, Rev. 9 - Plant Shutdown and Cooldown
 - D.1, Rev. 3 - Load Reject
 - D.2, Rev. 2 - Turbine Trip
 - D.3, Rev. 6 - Reactor Trip
 - D.5, Rev. 10 - Loss of Coolant/RCS Pressure
 - D.10, Rev. 4 - Loss of RCS Flow/RCP Trip
 - D.4, Rev. 2 - Loss of Makeup/Letdown
 - D.14, Rev. 5 - Loss of Steam Generator Level
 - H2YSA, Rev. 2 - Turbine and Secondary System Panel A
 - SP 210.01A - Quarterly Turbine/Motor Driven Auxiliary Feed Pump Surveillance Test
 - SP 210.01B - Quarterly Moter Driven Auxiliary Feed Pump Surveillance Test

3. Commission Order 7590-01

The Nuclear Regulatory Commission (NRC) issued Order 7590-01 to the Sacramento Municipal Utility District (licensee) on May 7, 1979. The

Order directed that the Rancho Seco Nuclear Power Plant remain shutdown until certain actions had been taken by the licensee. The licensee by letter dated May 14, 1979, provided the Commission the status of the actions required by the order. Based on examination of the licensee's procedures, pertinent records, observation of equipment tests and discussions with licensee representatives, the inspectors confirmed the following:

- a. Plant Procedure A.51, Auxiliary Feedwater System, has been changed to provide instructions to the operators for operation of the Auxiliary Feedwater System Independent of ICS controls. In connection with this procedure, the inspector witnessed a functional test of the "A" SFAS bypass valve to verify that the valve operator will sustain the additional starting current resulting from a number of short jogs. The "A" bypass valve (SFV-20577) operated properly for two complete cycles and over 40 short jogs in close succession.
- b. A hard-wired reactor trip circuit that will actuate on loss of main feed water and/or turbine trip, has been installed as described in the licensee letter dated May 14, 1979.
- c. Operating procedures prescribing action in the event of a small break have been developed and implemented. The analysis for potential small breaks has been submitted to NRC by the NSS supplier, Babcock and Wilcox Company.
- d. Licensed operators were being provided Three Mile Island training at the Lynchburg simulator. On May 14, 1979, a sufficient number (8) of licensed operators had received the prescribed training to assure that at least one Senior Licensed Operator with TMI-2 training will be available and assigned to the Control Room as required by the Commission's Order.
- e. The timeliness and reliability of delivery from the Auxiliary Feedwater System has been upgraded by the actions identified in Enclosure 1 of the licensee's letter of April 27, 1979, as reported in the licensee's letter to the Director, Office of Nuclear Reactor Regulation, dated May 14, 1979. The inspectors verified that auxiliary feedwater flow rate indicators (reading in GPM) had been installed in the control room and functionally tested. An additional alarm at the 3-foot level in the condensate storage tank was also installed by the licensee (as requested by NRR).
- f. In addition to the procedures listed in the preceding paragraph, the inspectors examined the following procedures:

STP-827 - Test Reactor Trip From Generator/Turbine Trips
and/or Loss of Main Feedwater

STP-611 - Auxiliary Feedwater Control Valve Failure Mode Test

SP 214.03, Rev. 10 - Locked Valve List

STP-612 - Auxiliary Feedwater Flow Indicator Functional Test

STP-070 - Auxiliary Feedwater Flow Verification Test

No items of noncompliance were identified. However, the inspectors observed that the reactor trips from the generator/turbine and loss of main feedwater utilize a non-fail-safe design; i.e., the trip relays are required to energize to initiate a reactor trip. This condition was described in the licensee's letter to the Commission dated May 14, 1979, and had been accepted by NRR TMI-2 task force personnel.

4. Operator Retraining

In company with an operator licensing examiner from NRR, the inspectors verified that the licensee had completed operator training activities as prescribed by Commission Order No. 7590-01, dated May 7, 1979. This determination was based upon an examination of pertinent training records and interviews with a representative number of licensed operators. However, additional training was deemed advisable and had been scheduled by the licensee for completion during the week of June 11, 1979. The effectiveness of the additional training will be determined prior to the resumption of power operation.

The inspectors established the following from an examination of the training records.

- a. Twenty-two individuals hold a valid NRC license to operate the Rancho Seco nuclear power plant.
- b. Fourteen of the licensed personnel had received TMI-2 simulator training at Lynchburg, Virginia. The remaining eight operators were scheduled to complete this required training by June 23, 1979.
- c. Licensed operators and Senior Licensed operators that had completed TMI-2 training at Lynchburg were assigned to each shift consistent with the Commission's Order and licensee commitments.
- d. All licensed operators had completed the special post-TMI-2 training program conducted by the licensee.

No deviations or items of noncompliance were identified.

5. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) on June 11, 1979, to discuss the scope and findings of the inspection. The licensee indicated that all changes to procedures had been submitted to NRR for approval and that the additional training of operators requested by NRR would commence on June 11 and be completed by June 13, 1979. The inspectors informed the licensee that no deviations or items of noncompliance were identified during the inspection.