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

SACRAMENTO MUNICIPAL UTILITY DISTRICT

DOCKET NO. 50-312

RANCHO SECO NUCLEAR GENERATING STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 39
License No. DPR-54

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Sacramento Municipal Utility District (the licensee) dated May 21, 1975, as revised November 28, 1975, February 9, 1977, and June 21, 1979, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, Facility Operating License No. DPR-54 is hereby amended by revising paragraph 2.C.(2) as follows and by changing the Technical Specifications as indicated in the attachment to this license amendment:

Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 39, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

John F. Stolz

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 13, 1982

ATTACHMENT TO LICENSE AMENDMENT NO. 39

FACILITY OPERATING LICENSE NO. DPR-54

DOCKET NO. 50-312

Replace the following pages of the Appendix "A" Technical Specifications with the enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

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iii
iv
3-52
4-41
4-41a (new page)
4-41b (new page)
4-42
4-42a (new page)
4-42b (new page)
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4-43a (new page)
4-43b (new page)
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*No change on this page. Included for pagination purposes only.

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3.13 AIR FILTER SYSTEMS

Applicability

This specification applies to the operability of the emergency control room filtering system, the Auxiliary and Spent Fuel Building filter systems, and the Reactor Building Purge Exhaust filter system.

Objective

To assure that these systems will be able to perform their design functions.

Specification

3.13.1 The emergency control room filter system and the Reactor Building Purge Exhaust filter system shall be operable at all times when containment integrity is required, except as noted in 3.13.3 and 3.13.4 below.

3.13.2 One Auxiliary and Spent Fuel Building filter unit must be operable. The reactor shall be placed in a hot shutdown condition within twelve (12) hours any time both units become inoperable. One Auxiliary and Spent Fuel Building filter system must be operating whenever spent fuel movement is being made unless the spent fuel has decayed for a continuous 30-day period. If no Auxiliary or Spent Fuel Building filter system is operable, then all fuel handling operations involving movement of fuel within the storage pool or crane operations with loads over the storage pool shall be suspended until at least one Auxiliary and Spent Fuel Building filter system is restored to the operable status.

3.13.3 With the emergency control room filter system inoperable, restore the system to operable status within 3.5 days or be in at least hot standby within the next six (6) hours and in cold shutdown within the following thirty (30) hours.

3.13.4 If at any time the Reactor Building Purge Exhaust filter system is determined to be inoperable, continued reactor operation, at power, is allowable only if the inner and outer Reactor Building Purge Exhaust isolation valves and the Reactor Building Equalizing Line isolation valves are closed.

Bases

See Sections 4.10, 4.11 and 4.12.

4.10 EMERGENCY CONTROL ROOM FILTERING SYSTEM

Applicability

Applies to the emergency control room filtering system components.

Objective

To verify that this system and its components will be able to perform their design functions.

Specification

4.10.1 The Control Room Emergency Ventilation System shall be:

A. Demonstrated operable at least once per 31 days by initiating flow through the HEPA filters and charcoal adsorbers.

B. Demonstrated operable at least once per refueling interval, or once every 18 months, whichever occurs first, or after each partial or complete replacement of the HEPA filter bank or charcoal adsorber bank, or following painting, fire, or chemical release in the operating air makeup system, or after any structural maintenance on the HEPA filter or charcoal adsorber housings, by:

1. Verifying that the charcoal adsorbers remove $\geq$99.5 percent of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate of 40 cfm $\pm$ 20 percent.

2. Verifying that the HEPA filter banks remove $\geq$99.9 percent of the DOP when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate of 40 cfm $\pm$ 20 percent.

3. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or carbon sample removed from one of the charcoal adsorbers demonstrates a removal efficiency of $>$95% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803 (30°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared by either:

(a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

Specification (Continued)

4.10.1 B. 3. (b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

4. Verifying that the pressure drop across the combined HEPA filters, and charcoal adsorber banks is <6 inches Water Gauge while operating the ventilation makeup system at a flow rate of 40 cfm ± 20 percent.

5. Verifying that on a high radiation signal, the normal system automatically is isolated and that the Emergency System operates.

6. Verifying the air makeup system maintains the room at a positive pressure of ≥0.005 inches W.G. relative to the outside atmosphere with a flow of 40 cfm ± 20 percent.

7. Verifying a system flow rate of 40 cfm ± 20 percent during system operation when tested in accordance with ANSI N510.

C. Demonstrated operable after every 720 hours of charcoal adsorber operation by:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or carbon sample removed from one of the charcoal adsorbers demonstrates a removal efficiency of ≥95% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803 (30°C, 95%R.H.). The carbon samples not obtained from test canisters shall be prepared by either:

(a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed or,

(b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

2. After reinstallation of the sampled adsorber tray, per C.1:

(a) Verify that the charcoal adsorbers remove ≥99.5 percent of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate of 40 cfm ± 20 percent.

Specification (Continued)

4.10.1 C. 2. (b) Verify that the HEPA filter bank removes ≥99.9 percent of the DOP when tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate of 40 cfm ± 20 percent.

D. Started on a manual signal and operated for 15 minutes in each 31-day period.

Bases

The purpose of the emergency control room filtering system is to limit the particulate and gaseous fission products to which the control room area would be subjected during an accidental radioactive release in or near the Auxiliary Building. The system is designed with a filter train which consists of a prefilter and charcoal filter ahead of a high efficiency particulate filter, and charcoal filter with a booster fan to pressurize the control room with outside air.

Since this system is not normally operated, a periodic test is required to ensure its operability when needed. Monthly testing of this system will show that the system is available for its safety action. During this test the system will be observed for unusual or excessive noise or vibration when the fan motors are running. The flow of 40 cfm was selected to limit the maximum radiation dose to occupants of the control room in an accident. For this analysis, both charcoal filter banks were assumed to provide DF's of 10, while the HEPA filter DF is assumed to be 100. The laboratory analysis to show ≥95% removal of methyl radioiodine is necessary to receive credit for a DF of 10.

Refueling interval testing will verify the methyl iodide removal efficiency of the charcoal and the amount of leakage past the charcoal and absolute filters are at least equal to the design values.

The system is automatically started, and the normal system isolated, when the radiation level in the control room increases, or manually whenever desired by the operator.

The testing required after painting, fire or chemical release, is not to be interpreted to include minor touch-up painting, lighted cigarettes, housekeeping chemicals and detergents, or other similar activities common to the normal routine.

4.11 REACTOR BUILDING PURGE EXHAUST FILTERING SYSTEM

Applicability

Applies to the Reactor Building Purge Exhaust filter system.

Objective

To verify that the Reactor Building purge exhaust filter system and its components will be able to perform their design functions.

Specification

4.11.1 Proper operation of this exhaust ventilation system shall be:

A. Verified within 30 days prior to start of fuel handling in the Reactor Building, by observing flow through the HEPA filter and charcoal adsorber train and verifying that the train operates with at least two, but less than six, inches water gauge pressure drop across the combined HEPA and Charcoal filter banks.

1. Air flow rate through the filter train shall be adjusted to maintain 66,700 cfm ± 10% during the observation.

B. Verified at least once per refueling interval, or once every 18 months, whichever occurs first, or after each partial or complete replacement of the HEPA filter bank or charcoal adsorber bank, or following painting, fire, or chemical release in the operating air makeup system, or after any structural maintenance on the HEPA filter or charcoal adsorber housings, by:

1. Verifying that the charcoal adsorbers remove ≥99.5% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate of 66,700 cfm ± 10%.

2. Verifying that the HEPA filter banks removed ≥99.9% of the DOP when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate of 66,700 cfm ± 10%.

3. Verifying within 31 days after removal, that a lab analysis of a carbon sample from at least one test canister or carbon sample removed from one of the charcoal adsorbers demonstrates a removal efficiency of ≥95% for radioactive methyl iodide when the sample is tested as used charcoal in accordance with ASTM D3803 (30°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared from either:

Specification (Continued)

4.11.1 B. 3. (a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly and obtaining samples at least 2 inches in diameter with a length equal to the thickness of the bed, or

(b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorber thoroughly, and obtaining samples at least 2 inches in diameter with a length equal to the thickness of the bed.

4. Verifying system flow rate of 66,700 cfm ± 10% during system operation when tested in accordance with ANSI N510.

C. Verified by determining that the air distribution across the filter banks is uniform per ANSI N510 following original installation, modification or repair.

D. Demonstrated operable after every 720 hours of charcoal adsorber operation by:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from at least one test canister or carbon sample removed from one of the charcoal adsorbers demonstrates a removal efficiency of ≥95% for radioactive methyl iodide when the sample is tested as used charcoal in accordance with ASTM D3803 (30°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared from either:

(a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly and obtaining samples at least 2 inches in diameter and with a length equal to the thickness of the bed, or

(b) Emptying a longitudinal sample from an adsorber tray mixing the adsorber thoroughly and obtaining samples at least 2 inches in diameter with a length equal to the thickness of the bed.

2. If an adsorber tray is removed in obtaining the charcoal sample per D.1:

(a) Verify that the charcoal adsorbers remove ≥99.5% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate of 66,700 cfm ± 10%.

Specification (Continued)

Bases

The Reactor Building Purge Exhaust filter system consists of prefilter, HEPA filter, and Type II Charcoal Filter Banks arranged in series. Provisions are made to ventilate the building at two basic rates: 16,670 cfm in "Winter" and 66,700 cfm in "Summer". There is no restriction as to which is used. Comfort dictates usage. Dampers are provided downstream of the filter train which allow outside ambient air to be drawn into the fan such that it operates at a constant 74,000 cfm. The fan discharge is routed, via two ducts, to vent to atmosphere near the top of the Reactor Building.

The Reactor Building Equalizing line allows relieving excess building pressure accumulated during operation to be vented into the purge exhaust filters, even if the fan is shutdown. This ensures that the relatively small volume of vented gas will be filtered prior to dispersion.

The purpose of the filter train is to assure as low as reasonably achievable doses would result from a dropped fuel assembly, or if a LOCA were to occur during purging.

4.12 AUXILIARY AND SPENT FUEL BUILDING FILTER SYSTEMS

Applicability

Applies to the Auxiliary Building exhaust filter system and to the Spent Fuel Pool Building when irradiated fuel which has decayed less than 90 days is being moved or is stored in it.

Objective

To verify that the Auxiliary Building exhaust filter system and components will be able to perform their design functions.

Specification

4.12.1 When irradiated fuel which has decayed less than 90 days is in the spent fuel storage pool:

A. The spent fuel storage pool building exhaust ventilation system shall be verified to be operating with all spent fuel building doors closed (excepting intermittent personnel use) prior to fuel movement and at least once per 8 hours during either fuel movement within the spent fuel storage pool or crane operation with loads over the spent fuel storage pool.

4.12.2 Proper operation of the ventilation system shall be:

A. Verified at least once per 31 days by observing flow through the operating HEPA filter and charcoal adsorber train and verifying that the train operates with <6 inches Water Gauge pressure drop across the combined HEPA and Charcoal filter banks and verifying system operation for at least 15 minutes.

B. Verified at least once per refueling interval, or once every 18 months, whichever occurs first, or after each partial or complete replacement of the HEPA filter bank or charcoal adsorber bank, or following painting, fire, or chemical release in the operating air makeup system, or after any structural maintenance on the HEPA filter or charcoal adsorber housings, by:

1. Verifying that the charcoal adsorbers remove $\geq$99.5 percent of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate not exceeding 43,400 cfm $\pm$ 10 percent.

2. Verifying that the HEPA filter banks remove $\geq$99.9% of the DOP when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate not exceeding 43,400 cfm $\pm$ 10%.

Specification (Continued)

4.12.2 B. 3. Verifying that a negative pressure of ≥0.01 inches W.G. is maintained in the spent fuel building, with the Auxiliary Building exhaust system operating at a flow rate 1) not exceeding 43,400 cfm ± 10 percent and exhausting through the HEPA filters and charcoal adsorbers to the facility vent, and 2) not exceeding 10,800 cfm ± 10 percent exhaust from the spent fuel pool area.

4. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from at least one test canister or carbon sample removed from one of the charcoal adsorbers demonstrates a removal efficiency of >95% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803 (30°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared by either:

(a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed or,

(b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

5. Verifying a system flow rate of 43,400 cfm ± 10 percent during system operation when tested in accordance with ANSI N510.

C. Verified by determining that the air distribution across the adsorber section is uniform, per ANSI N510, following original installation, modification or major repair.

D. Demonstrated operable after every 720 hours of charcoal adsorber operation by:

1. Verifying within 30 days after removal that a laboratory analysis of a carbon sample from at least one test canister or carbon sample removed from one of the charcoal adsorbers demonstrates a removal efficiency of >95% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803 (30°C, 95% R.H.). The carbon samples not obtained from test canisters shall be prepared by either:

(a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

(b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

Specification (Continued)

4.12.2 D. 2. After reinstallation of the sampled adsorber tray per D.1:

(a) Verify that the charcoal adsorbers removed ≥99.5% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate not exceeding 43,400 cfm ± 10 percent.

(b) Verify that the HEPA filter bank removes ≥99.9% of the DOP when tested in-place in accordance with ANSI N510 while operating the filter train at a flow rate not exceeding 43,400 cfm ± 10%.

E. Started on a manual signal and operated for 15 minutes in each 31-day period, if not already operating.

Bases

The Auxiliary Building exhaust system consists of two full capacity units arranged to take suction from a common plenum, draw the air through HEPA and charcoal filter banks and discharge it into the plant vent. Only one unit is operated at a time, allowing the other to be serviced or held in reserve.

This system draws all of the potentially radioactively contaminated air in the plant, external to the Reactor Building, through it. The following major areas are served:

1) Spent Fuel Building
2) Radio-Chemical Lab Hoods and Service Area
3) Radwaste Area
4) Waste Gas Discharge
5) Condenser Air Ejector Exhaust
6) Various Instrumentation and Sampling Discharges

While providing service to these areas the filters are credited with a minimum DF of 10 for radioactive iodine and a DF of 100 for particulate matter which may be released in the following:

1) Letdown Line rupture outside the Reactor Building
2) Post LOCA Decay Heat Removal Leakage
3) Dropped Fuel Assembly in Spent Fuel Pool
4) OTSG Tube Rupture
5) Makeup Tank Rupture

Releases of radioactive materials, and the resulting dosage from these accidents, are based on the maximum flow rate from the plant vent. Reduced flow rates are conservative as to the effect of plant releases. Shutdown of the entire system in response to a specific occurrence is likewise allowable at the operator's discretion. The negative pressure requirement for the Spent Fuel Building is to ensure that all potential releases following a dropped fuel assembly accident are drawn into the exhaust system, filtered, and monitored prior to release.

Bases (Continued)

In-place leakage testing of the filters demonstrates their integrity and the DF of the HEPA bank. The laboratory testing of charcoal will demonstrate the suitability for a bank to remain in service as well as provide an estimate of its remaining service life.

The testing required after painting, fire or chemical release, is not to be interpreted to include minor touch-up painting, lighted cigarettes, housekeeping chemicals and detergents, or other similar activities common to the normal routine.

Refueling interval testing will verify the methyl iodide removal efficiency of the charcoal and the amount of leakage past the charcoal and absolute filters are at least equal to the design values.

4.13 AUGMENTED INSERVICE INSPECTION PROGRAM FOR HIGH ENERGY LINES OUTSIDE OF CONTAINMENT

Applicability

Applies to welds in piping systems or portions of systems located outside of containment where protection from the consequences of postulated ruptures is not provided by a system of pipe whip restraints, jet impingement barriers, protective enclosures and/or other measures designed specifically to cope with such ruptures.

For Rancho Seco Unit 1 this specification applies to welds in the main steam and main feedwater lines within the region outlined in figures 4.13-1, 4.13-2 and 4.13-3.

Objective

To provide assurance of the continued integrity of the piping systems over their service lifetime.

Specifications

A. For the 41 welds identified on figures 4.13-1, 4.13-2 and 4.13-3:

1. Prior to initial power operation (greater than 5 percent) a volumetric examination will be performed with 100 percent inspection of welds in accordance with the requirement of ASME Section XI Code, Inservice Inspection of Nuclear Power Plant Components, to establish system integrity and baseline data.

2. The inservice inspection at each weld will be performed in accordance with the requirements of ASME Section XI Code, Inservice Inspection of Nuclear Power Plant Components, with the following schedule: (The inspection intervals identified below sequentially follow the baseline examination of 4.13 A 1 above):

First 10 Year
Inspection Program Intervals

a.	First 3-1/3 years (or nearest refueling outage)	100 percent volumetric inspection of all welds
b.	Second 3-1/3 years (or nearest refueling outage)	100 percent volumetric inspection of all welds
c.	Third 3-1/3 years (or nearest refueling outage)	100 percent volumetric inspection of all welds.