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MEMBER(S) OF THE PUBLIC

MEMBER(S) OF THE PUBLIC shall include all persons who are not occupationally associated with the plant. This category does not include employees of the utility, its contractors, or its vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries.

OFFSITE DOSE CALCULATION MANUAL (ODCM)

The OFFSITE DOSE CALCULATION MANUAL shall contain the current methodology and parameters used in the calculation of offsite doses due to radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip set points, and in the conduct of the Radiological Environmental Monitoring Program. The ODCM shall also contain the (1) Radiological Effluent Controls and Radiological Environmental Monitoring Program required by Specification 6.8.4 and (2) descriptions of the information to be included in the Radiological Environmental Operating Report and the Radiological Effluent Release Report required by Specification 6.9.3.

PROCESS CONTROL PROGRAM

The PROCESS CONTROL PROGRAM shall contain the current formula, sampling, analyses, tests, and determinations to be made to ensure that the processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR 20, 10 CFR 71, Federal and State regulations, and other requirements governing the disposal of the radioactive waste.

SITE BOUNDARY

The SITE BOUNDARY shall be that line beyond which the land is neither owned nor otherwise controlled by the licensee.

UNRESTRICTED AREA

An UNRESTRICTED AREA shall be any area at or beyond the SITE BOUNDARY access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials or, any area within the SITE BOUNDARY used for residential quarters or for industrial, commercial, institutional, or recreational purposes.

POWER DISTRIBUTION LIMITS

3.23.3 QUADRANT POWER TILT - T_q

LIMITING CONDITION FOR OPERATION

References

(1) FSAR, Section 7.4.2.2

(2) FSAR, Section 7.6.2.4

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TABLE 4.1.3

Minimum Frequencies for Checks, Calibrations and Testing of Miscellaneous Instrumentation and Controls (Cont'd)

Channel Description	Surveillance Function	Frequency	Surveillance Method
1. Source Range Neutron Monitors	a. Check	S	a. Comparison of both channel count rate indications when in service.
	b. Test	P	b. Internal test signals.
	c. Calibrate	R	c. Channel alignment through measurement/adjustment of internal test points.
2. Primary Rod Position Indication System	a. Check	S	a. Comparison of output data with secondary RPIS.
	b. Check	M	b. Check of power dependent insertion limits monitoring system.
	c. Calibrate	R	c. Physically measured rod drive position used to verify system accuracy. Check rod position interlocks.
3. Secondary Rod Position Indication System	a. Check	S	a. Comparison of output data with primary RPIS.
	b. Check	M	b. Same as 2(b) above.
	c. Calibrate	R	c. Same as 2(c) above, including out-of-sequence alarm function.
4. Area Monitors	a. Check	D	a. Normal readings observed and internal test signals used to verify instrument operation.
	b. Calibrate	R	b. Exposure to known external radiation source.
	c. Test	M	c. Detector exposed to remote operated radiation check source or integral electronic check source.
5. Emergency Plan Radiation Instruments	a. Calibrate	A	a. Exposure to known radiation source.
	b. Test	M	b. Battery check.
6. (Deleted)			
7. Pressurizer Level Instruments	a. Check	S	a. Comparison of two wide and two narrow range independent level readings.
	b. Calibrate	R	b. Known differential pressure applied to sensor.
	c. Test	M	c. Signal to meter relay adjusted with test device.

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4.10 REACTIVITY ANOMALIES

Applicability

Applies to potential reactivity anomalies.

Objective

To require evaluation of reactivity anomalies within the reactor.

Specifications

Following a normalization of the computed boron concentration as a function of burnup, the actual boron concentration of the primary coolant shall be periodically compared with the predicted value. If the difference between the observed and predicted steady-state concentrations reaches the equivalent of 1% in reactivity, the Atomic Energy Commission shall be notified within 24 hours and an evaluation as to the cause of the discrepancy shall be made and reported to the Atomic Energy Commission within 30 days.

Basis

To eliminate possible errors in the calculations of the initial reactivity of the core and the reactivity depletion rate, the predicted relation between fuel burnup and the boron concentration, necessary to maintain adequate control characteristics, must be adjusted (normalized) to accurately reflect actual core conditions. When rated power is reached initially, and with the control rod groups in the desired positions, the boron concentration is measured and the predicted curve is adjusted to this point. As power operation proceeds, the measured boron concentration is compared with the predicted concentration and the slope of the curve relating burnup and reactivity is compared with that predicted. This process of normalization shall be completed after about 10% of the total core burnup. Thereafter, actual boron concentration can be compared with prediction and the reactivity status of the core can be continuously evaluated. Any reactivity anomaly greater than 1% would be unexpected, and its occurrence would be thoroughly investigated and evaluated. The methods employed in calculating the reactivity of the core vs burnup and the reactivity worth of boron vs burnup are given in the FSAR.

The value of 1% is considered a safe limit since a shutdown margin of at least 2% with the most reactive rod in the fully withdrawn position is always maintained.[1]

References

(1) FSAR, Section 3.3.2

4.11 (Deleted)

(Next page is 4-60)

6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33 Quality Assurance Program Requirements, as endorsed by CPC-2A, Quality Program Description.

b. Refueling operations.

c. Surveillance and test activities of safety-related equipment.

d. Site Security Plan implementation.

e. Site Emergency Plan implementation.

f. Site Fire Protection Program implementation.

6.8.2 Procedures and changes shall be approved prior to implementation by the appropriate* senior department manager predesignated by the Plant General Manager subject to the reviews per Specifications 6.5.1.6 and 6.5.3.

6.8.3 Temporary changes to procedures of Specification 6.8.1 above may be made provided:

a. The intent of the original procedure is not altered.

b. The change is approved by two members (or designated alternates) of the PRC, at least one of whom holds a Senior Reactor Operator License.

c. The change is documented, subsequently reviewed by Plant Safety and Licensing within 30 days of issuance and approved by the appropriate* senior department manager predesignated by the Plant General Manager.

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* The determination of the appropriate senior department manager is based on the activities addressed by the specific procedure and will be predesignated in writing by the Plant General Manager.

6.8.4 The following programs shall be established, implemented, and maintained:

a. Radioactive Effluent Controls Program

A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program (1) shall be contained in the ODCM, (2) shall be implemented by operating procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

1) Limitations on the operability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM,

2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR 20, Appendix B, Table II, Column 2.

3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.106 and with the methodology and parameters in the ODCM,

4) Limitation on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR 50,

5) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the SITE BOUNDARY conforming to the doses associated with 10 CFR 20, Appendix B, Table II, Column 1.

6) Limitations on the annual and quarterly air doses resulting from noble gaseous released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR 50,

7) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR 50,

8) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR 190.

6.8.4 (continued)

b. Radiological Environmental Monitoring Program

A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verifications of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR 50, and (3) including the following:

1) Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM.

2) A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and

3) Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.

6.9 Reporting Requirements

Reports and other written communications shall be submitted to the NRC in accordance with the requirements of 10 CFR 50.4. &

6.9.1 Routine Reports

a. Start-Up Report - A summary report of plant start-up and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier and, (4) modifications that may have significantly altered the nuclear, thermal or hydraulic performance of the plant. The report shall address each of the required tests and shall, in general, include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.

Start-up reports shall be submitted within (1) 90 days following completion of the start-up test program, (2) 90 days following resumption or commencement of commercial power operation or, (3) 9 months following initial criticality, whichever is earliest. If the Start-Up Report does not cover all three events (i.e., initial criticality, completion of start-up test program and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.

b. Annual Report - An annual report covering occupational exposure during the current calendar year to supplement requirements of 10 CFR 20.407 should be submitted prior to March 1 of each year.

This annual report shall include:

A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mRem/year and their associated man Rem exposure according to work and job functions, eg, reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD or film badge measurements. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.

&Incorporated 10/21/87 per 51 FR 40303

6.9.1 Routine Reports (continued)

c. Monthly Operating Report - Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the NRC to arrive no later than the fifteenth of each month following the calendar month covered by the report. &

d. Radioactive Effluent Release Report

The Radioactive Effluent Release Report shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be (1) consistent with the objectives outlined in the ODCM and PROCESS CONTROL PROGRAM and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR 50.

e. Radiological Environmental Operating Report

The Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted before May 1 of each year. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in (1) the ODCM and (2) Sections IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR 50.

6.9.2 Reportable Events

The Commission shall be notified of Reportable Events and a report submitted pursuant to the requirements of 10 CFR 50.73.

6.9.3 Nonroutine Reports

A report shall be submitted in the event that (a) the Radiological Environmental Monitoring Programs are not substantially conducted as described in the ODCM or (b) an unusual or important event occurs from plant operation that causes a significant environmental impact or affects a potential environmental impact. Reports shall be submitted within 30 days.

(Next page is 6-26)

&Incorporated 10/21/87 per 51 FR 40303

6.9 Reporting Requirements (continued)

6.9.4 Special Reports

a. Special Reports shall be submitted to the NRC covering the activities identified below pursuant to the requirements of the applicable referenced specifications:

Area	Specification Reference	Reporting Due
Prestressing, Anchorage, Liner and Penetration Tests	4.5.4 4.5.5	90 Days After Completion of the Test*

*A test is considered to be complete after all associated mechanical, chemical, etc., tests have been completed.

b. Special reports shall be submitted in accordance with 10 CFR 50.4, within the time period specified for each report.

6.10 RECORD RETENTION

In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated:

6.10.1 The following records shall be retained for at least five years:

a. Records and logs of facility operation covering time interval at each power level.

b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.

c. All reportable events as defined in Section 6.9.2.

d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.

k. Records of secondary water sampling and quality.

l. Records of the service lives of all hydraulic and mechanical snubbers covered by Specification 3.20. This shall include the date at which the service life commences and associated installation and maintenance records.

m. Records of training and qualifications for members of the plant staff.

n. Records of reactor tests and experiments.

o. Records if reviews performed for changes made to the OFFSITE DOSE CALCULATION MANUAL and the PROCESS CONTROL PROGRAM.

6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR 20, and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by 10 CFR 20.203(c)(2), each high radiation area in which the intensity of radiation is greater than 100 mRem/hr but less than 1000 mRem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit.* Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made knowledgeable of them.

*Health Physics personnel or personnel escorted by Health Physics personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties provided they comply with approved radiation protection procedures for entry into high radiation areas.

6.18 OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to ODCM:

a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2o. This documentation shall contain:

1) Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and

2) A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.106, 4 CFR 190, 10 CFR 50.36a, and Appendix I to 10 CFR 50 and not adversely impact the accuracy or reliability off effluent, dose, or setpoint calculations.

b. Shall become effective after the review and acceptance by the PRC and the approval of the Plant General Manager.

c. Shall be submitted to the Commission in the form of a compete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

6.19 PROCESS CONTROL PROGRAM

Changes to the PROCESS CONTROL PROGRAM:

a. Shall be documented and records of reviews performed shall be retained as required by Specification 6.10.2o. This documentation shall contain:

1) Sufficient information to support the change together with the appropriate analyses or evaluation justifying the change(s) and

2) A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.

b. Shall become effective after review and acceptance by the PRC and approval of the Plant General Manager.

6.20 (Deleted)