ENCLOSURE

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT (SQN)
UNITS 1 AND 2

TECHNICAL SPECIFICATION (TS) CHANGE NO. 95-19
"SECTION 6 - ADMINISTRATIVE CONTROLS DELETIONS"

TYPED PAGES

UNIT 1	UNIT 2
Index page XVII	Index page XVII
1-5	1-5
6-1	6-1
6-2	6-2
6-3	6-3
6-4	6-4
6-5	6-5
6-6	6-6
6-7	6-7
6-8	6-8
6-9	6-9
6-10	6-10
6-10a	6-11
6-11	6-12
6-12	6-13
6-13	6-14
6-13a	6-15
6-14	6-16
6-15	6-17
6-16	6-18
6-17	

INDEX

ADMINISTRATIVE CONTROLS

PRESSURE BOUNDARY LEAKAGE

1.22 PRESSURE BOUNDARY LEAKAGE shall be leakage (except steam generator tube leakage) through a non-isolable fault in a Reactor Coolant System component body, pipe wall or vessel wall.

PROCESS CONTROL PROGRAM (PCP)

1.23 DELETED

PURGE - PURGING

1.24 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

QUADRANT POWER TILT RATIO

1.25 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. R205

RATED THERMAL POWER (RTP)

1.26 RATED THERMAL POWER (RTP) shall be a total reactor core heat transfer rate to the reactor coolant of 3411 MWt. R145

REACTOR TRIP SYSTEM RESPONSE TIME

1.27 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until loss of stationary gripper coil voltage.

REPORTABLE EVENT

1.28 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.

6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence. R62

6.1.2 The Shift Operations Supervisor (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function. R182

6.1.3 The Chief Nuclear Officer is responsible for the safe operation of all TVA Nuclear Power Plants.

6.2 ORGANIZATION

6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

An onsite and an offsite organization shall be established for unit operation and corporate management. The onsite and offsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the Nuclear Power Organization Topical Report (TVA-NPOD89-A). R78

b. The Chief Nuclear Officer shall have corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support in the plant so that continued nuclear safety is assured. R216

c. The Plant Manager shall be responsible for overall unit safe operation and shall have control over those onsite resources necessary for safe operation and maintenance of the plant. R78

d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

6.2.2 FACILITY STAFF

a. Each on-duty unit shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.

b. At least one licensed Reactor Operator shall be in the unit Control Room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, 3 or 4, at least one licensed Senior Reactor Operator shall be in the Control Room.

c. A Radiological Control technician# shall be onsite when fuel is in the reactor. R62

d. DELETED

e. DELETED R231

f. The Operations Superintendent shall hold a Senior Reactor Operator license. R160

g. Administrative procedures shall be developed and implemented to limit the working hours of unit staff who perform safety-related functions (i.e., senior reactor operators, reactor operators, assistant unit operators, Radiological Control, and key maintenance personnel).

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a normal 8-hour day, 40-hour week while the unit is operating. However, in the event that unforseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed:

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.
2. An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time. R156
3. A break of at least 8 hours should be allowed between work periods, including shift turnover time.
4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Any deviation from the above guidelines shall be authorized in advance by the Plant Manager or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. R182

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the Plant Manager or his designee to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized.

#The Radiological Control technician may be offsite for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions. R231

Table 6.2-1
MINIMUM SHIFT CREW COMPOSITION
WITH UNIT 2 IN MODE 5 OR 6 OR DE-FUELED

Position	Number of individuals required to fill position		
	Modes 1, 2, 3, & 4	Modes 5 & 6	R16
SOS	1[a]	1[a]	R182
SRO	1	None	
RO	2	1	
AO	2	2[b]	R16
STA	1	None	

WITH UNIT 2 IN MODES 1, 2, 3, or 4

Position	Number of individuals required to fill position		
	Modes 1, 2, 3, & 4	Modes 5 & 6	
SOS	1[a]	1[a]	R182
SRO	1[a]	None	
RO	2[b]	1	R16
AO	2[b]	1	
STA	1[a]	None	

[a] Individual may fill the same position on Unit 2.

[b] One of the two required individuals may fill the same position on Unit 2.

TABLE 6.2-1 (Continued)

TABLE NOTATION

SOS - Shift Operations Supervisor with a Senior Reactor Operators License on Unit 1 R182
SRO - Individual with a Senior Reactor Operators License on Unit 1
RO - Individual with a Reactor Operators License on Unit 1 R16
AO - Auxiliary Operator
STA - Shift Technical Advisor

Except for the Shift Operations Supervisor, the Shift Crew Composition may be one less than the minimum requirements of Table 6.2-1 for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the Shift Crew Composition to within the minimum requirements of Table 6.2-1. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent. R182 R16

During any absence of the Shift Operations Supervisor from the Control Room while the unit is in MODE 1, 2, 3 or 4, an individual (other than the Shift Technical Advisor) with a valid SRO license shall be designated to assume the Control Room command function. During any absence of the Shift Operations Supervisor from the Control Room while the Unit is in Mode 5 or 6, an individual with a valid SRO or RO license (other than the Shift Technical Advisor) shall be designated to assume the Control Room command function. R182 R182 R16

6.2.3 INDEPENDENT SAFETY ENGINEERING (ISE) (DELETED)

6.2.4 SHIFT TECHNICAL ADVISOR (STA)

6.2.4.1 The STA shall serve in an advisory capacity to the Shift Operations Supervisor on matters pertaining to the engineering aspects of assuring safe operation of the unit. R182 R16

6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications referenced for comparable positions in Regulatory Guide 1.8, Revision 2 (April 1987) for all new personnel qualifying on positions identified in Regulatory Position C.1 after January 1, 1990. Personnel qualified on these positions prior to this date will still meet the requirements of Regulatory Guide 1.8, Revision 1-R (May 1977). R167

6.4 TRAINING

6.4.1 DELETED

6.5 REVIEW AND AUDIT

6.5.0 DELETED

6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC) (DELETED)

6.5.1A TECHNICAL REVIEW AND CONTROL (DELETED)

6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB) (DELETED)

6.5.3 THIS SPECIFICATION IS DELETED R182

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS: R40

a. The Commission shall be notified and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of this review shall be submitted to the NSRB and the Site Vice President. R156

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

a. The unit shall be placed in at least HOT STANDBY within one hour.

b. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within one hour. The Site Vice President and the NSRB shall be notified within 24 hours. R156

c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.

d. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB and the Site Vice President within 14 days of the violation. R156

6.8 PROCEDURES & 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, Revision 2, February 1978.

b. Refueling operations.

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

d. DELETED

e. DELETED

f. Fire Protection Program implementation.

g. DELETED

h. Quality Assurance Program for effluent and environmental monitoring, using the guidance contained in Regulatory Guide 4.15, December 1977, or Regulatory Guide 1.21, Rev. 1, 1974 and Regulatory Guide 4.1, Rev. 1, 1975. R182 R40

i. OFFSITE DOSE CALCULATION MANUAL implementation. R182

6.8.2 DELETED

6.8.3 DELETED

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

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the safety injection system, residual heat removal system, chemical and volume control system, containment spray system, and RCS sampling system. The program shall include the following: R78

(i) Preventive maintenance and periodic visual inspection requirements, and

(ii) Integrated leak test requirements for each system at refueling cycle intervals or less.

b. <u>In-Plant Radiation Monitoring</u> (DELETED)

c. <u>Secondary Water Chemistry</u>

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

(i) Identification of a sampling schedule for the critical variables and control points for these variables,

(ii) Identification of the procedures used to measure the values of the critical variables,

(iii) Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage, R182

(iv) Procedures for the recording and management of data,

(v) Procedures defining corrective actions for off-control point chemistry conditions,

(vi) Procedures identifying (a) the authority responsible for the interpretation of the data; and (b) the sequence and timing of administrative events required to initiate corrective action.

R182

d. DELETED R163

e. Postaccident Sampling

A program which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following: R16

(i) Training of personnel,
(ii) Procedures for sampling and analysis,
(iii) Provisions for maintenance of sampling and analysis equipment.

f. 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: R152

1) Limitations on the operability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and set-point 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 ten times the concentrations stated in 10 CFR 20.1001-20.2401, Appendix B, Table 2, Column 2, R178

3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM, R178

4) Limitations 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 Part 50, R152

5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days,

6) Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50, R152

7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY SHALL BE LIMITED to the following: R178

   1. For noble gases: Less than or equal to a dose rate of 500 mrem/yr to the total body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and

   2. For Iodine-131, Iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrem/year to any organ.

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

9) 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 Part 50, and

10) 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 Part 190. R152

g. <u>Radiological Environmental Monitoring Program</u> (DELETED)

R221

h. Containment Leakage Rate Testing Program

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50 Appendix J, Option B, as modified by approved exemptions. Visual examination and testing, including test intervals and extensions, shall be in accordance with Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995 with exceptions provided in the site implementing instructions.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 12.0 psig.

The maximum allowable containment leakage rate, L_a, at P_a, is 0.25% of the primary containment air weight per day.

Leakage rate acceptance criteria are:

a. Containment overall leakage rate acceptance criteria is $\leq$ 1.0 L_a. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq$ 0.60 L_a for the combined Type B and Type C tests, and $\leq$ 0.75 L_a for Type A tests;

b. Air lock testing acceptance criteria are:

1) Overall air lock leakage rate is $\leq$ 0.05 L_a when tested at $\geq$ P_a.

2) For each door, leakage rate is $\leq$ 0.01 L_a when pressurized to $\geq$ 6 psig for at least two minutes.

The provisions of SR 4.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

The provisions of SR 4.0.3 are applicable to the Containment Leakage Rate Testing Program.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted in accordance with 10 CFR 50.4. R78

STARTUP REPORT

6.9.1.1 DELETED

6.9.1.2 DELETED

6.9.1.3 DELETED

ANNUAL REPORTS[1/]

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5 Reports required on an annual basis shall include a tabulation on an annual basis for the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions,[2/] e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance

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1/ A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

2/ This tabulation supplements the requirements of § 20.2206 of 10 CFR Part 20. R178 (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 totalling 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.

If the results of specific activity analysis in which the primary coolant exceeded the limits of specification 3.4.8.a, then the following information shall be included along with the results of specific activity analysis results in which the primary coolant exceeded the limits of the specifications: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while the limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than the limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up system flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit. R121

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT[1/]

6.9.1.6 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted prior to 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 Part 50. R152

6.9.1.7 (Relocated to the ODCM.)

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT[1/]

6.9.1.8 The Annual Radioactive Effluent Release Report covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year. 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 PCP and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR Part 50. R173 R152

6.9.1.9 (Relocated to the ODCM or PCP.)

1/ A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

MONTHLY REACTOR OPERATING REPORT

6.9.1.10 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORVs or Safety Valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report. R76

CORE OPERATING LIMITS REPORT

R159

6.9.1.14 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle for the following:

1. $f_1(\Delta I)$ limits for Overtemperature Delta T Trip Setpoints and $f_2(\Delta I)$ limits for Overpower Delta T Trip Setpoints for Specification 2.2.1.

2. Moderator Temperature Coefficient BOL and EOL limits and 300 ppm surveillance limit for Specification 3/4.1.1.3, R227

3. Shutdown Bank Insertion Limit for Specification 3/4.1.3.5,

4. Control Bank Insertion Limits for Specification 3/4.1.3.6,

5. AXIAL FLUX DIFFERENCE Limits for Specification 3/4.2.1,

6. Heat Flux Hot Channel Factor and K(z) for Specification 3/4.2.2, and

7. Nuclear Enthalpy Rise Hot Channel Factor for Specification 3/4.2.3.

6.9.1.14.a The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by NRC in: R159

1. BAW-10180P-A, Rev. 1, "NEMO - NODAL EXPANSION METHOD OPTIMIZED", March 1993. (FCF Proprietary)
   (Methodology for Specification 3.1.1.3-Moderator Temperature Coefficient)

2. BAW-10169P-A, "RSG PLANT SAFETY ANALYSIS - B&W SAFETY ANALYSIS METHODOLOGY FOR RECIRCULATING STEAM GENERATOR PLANTS", October 1989. (FCF Proprietary)
   (Methodology for Specification 3.1.1.3-Moderator Temperature Coefficient) R227

3. BAW-10163P-A, Core Operating Limit Methodology for Westinghouse-Designed PWRs, June 1989. (FCF Proprietary)
   (Methodology for Specification 2.2.1, - Limiting Safety System Settings [$f_1(\Delta I)$, $f_2(\Delta I)$ limits], 3.1.3.5 - Shutdown Bank Insertion Limits, 3.1.3.6 - Control Bank Insertion Limits, 3/4.2.1 - Axial Flux Difference, 3/4.2.2 - Heat Flux Hot Channel Factor, 3/4.2.3 - Nuclear Enthalpy Rise Hot Channel Factor)

4. BAW-10168P-A, Rev. 2, RSG LOCA - B&W Loss of Coolant Accident Evaluation Model for Recirculating Steam Generator Plants, (FCF Proprietary)
   (Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)

5. BAW-10168P-A, Rev 3, RSG LOCA - B&W Loss of Coolant Accident Evaluation Model for Recirculating Steam Generator Plants, (FCF Proprietary)
   (Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)

CORE OPERATING LIMITS REPORT (continued)

6. WCAP-10054-P-A, Westinghouse Small Break ECCS Evaluation Model Using the NOTRUMP Code, August 1985, (W Proprietary)
   (Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)
7. WCAP-10266-P-A, Rev. 2, "THE 1981 REVISION OF WESTINGHOUSE EVALUATION MODEL USING BASH CODE", March 1987, (W Proprietary). R227
   (Methodology for Specification 3.2.2 - Heat Flux Hot Channel Factor).

6.9.1.14.b The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

6.9.1.14.c THE CORE OPERATING LIMITS REPORT shall be provided within 30 days after cycle start-up (Mode 2) for each reload cycle or within 30 days of issuance of any midcycle revision of the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector. R159

SPECIAL REPORTS

6.9.2.1 Special reports shall be submitted within the time period specified for each report, in accordance with 10 CFR 50.4. R76

6.9.2.2 Diesel Generator Reliability Improvement Program

As a minimum the Reliability Improvement Program report for NRC audit, required by LCO 3.8.1.1, Table 4.8-1, shall include:

(a) a summary of all tests (valid and invalid) that occurred within the time period over which the last 20/100 valid tests were performed R56

(b) analysis of failures and determination of root causes of failures

(c) evaluation of each of the recommendations of NUREG/CR-0660, "Enhancement of Onsite Emergency Diesel Generator Reliability in Operating Reactors," with respect to their application to the Plant

(d) identification of all actions taken or to be taken to 1) correct the root causes of failures defined in b) above and 2) achieve a general improvement of diesel generator reliability

(e) the schedule for implementation of each action from d) above

(f) an assessment of the existing reliability of electric power to engineered-safety-feature equipment

Diesel Generator Reliability Improvement Program (Continued)

A supplemental report shall be prepared within 30 days after each subsequent failure during a valid demand for so long as the affected diesel generator unit continues to violate the criteria (3/20 or 6/100) for the reliability improvement program remedial action. The supplemental report need only update the failure/demand history for the affected diesel generator unit since the last report for that diesel generator. The supplemental report shall also present an analysis of the failure(s) with a root cause determination, if possible, and shall delineate any further procedural, hardware or operational changes to be incorporated into the diesel generator improvement program and the schedule for implementation of those changes.

In addition to the above, submit a yearly data report on the diesel generator reliability. R56

6.10 RECORD RETENTION (DELETED)

6.11 RADIATION PROTECTION PROGRAM (DELETED)

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.1601(a) of 10 CFR 20, 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* (RWP). Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following: R178 R178

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.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility RADCON/Chemistry Control Manager in the RWP. R216

6.12.2 The requirements of 6.12.1, above, shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of the Shift Operations Supervisor on duty and/or the RADCON/Chemistry Control Manager. R216

R152

*Radiological Control personnel or personnel escorted by Radiological Control personnel in accordance with approved emergency procedures, 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. R62

6.13 PROCESS CONTROL PROGRAM (PCP) (DELETED)

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 Changes to the ODCM:

1. Shall be documented and records of reviews performed shall be retained in a manner convenient for review. This documentation shall contain: R152

   a. Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and R152

   b. A determination that the change will maintain the level of radioactive effluent control pursuant to 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations. R178 R152

2. Shall become effective after review and acceptance by the process described in TVA-NQA-PLN89-A.

3. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual 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. R173 R152

6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous and Solid)

6.15.1 Licensee initiated major changes to the radioactive waste systems (liquid, gaseous and solid):**

1. Shall be reported to the Commission in the Annual Radioactive Effluent Release Report for the period in which the evaluation was reviewed in accordance with TVA-NQA-PLN89-A. The discussion of each change shall contain: |R173

   a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;

   b. sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;

   c. a detailed description of the equipment, components and processes involved and the interfaces with other plant systems;

   d. an evaluation for the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto; |R62

   e. an evaluation of the change which shows the expected maximum exposures to individual in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;

   f. a comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;

   g. an estimate of the exposure to plant operating personnel as a result of the change; and

   h. documentation of the fact that the change was reviewed and found acceptable in accordance with TVA-NQA-PLN89-A. |R62

2. Shall become effective upon review and acceptance in accordance with TVA-NQA-PLN89-A. |R62

**Submittal of information required by this section may be made as part of the annual FSAR update. |R178

ADMINISTRATIVE CONTROLS

OPERATIONAL MODE - MODE

1.20 An OPERATIONAL MODE (i.e., MODE) shall correspond to any one inclusive combination of core reactivity condition, power level and average reactor coolant temperature specified in Table 1.1.

PHYSICS TESTS

1.21 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 14.0 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

PRESSURE BOUNDARY LEAKAGE

1.22 PRESSURE BOUNDARY LEAKAGE shall be leakage (except steam generator tube leakage) through a non-isolable fault in a Reactor Coolant System component body, pipe wall or vessel wall.

PROCESS CONTROL PROGRAM (PCP)

1.23 DELETED

PURGE - PURGING

1.24 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

QUADRANT POWER TILT RATIO

1.25 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. R191

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence. R50

6.1.2 The Shift Operations Supervisor (or during his absence from the Control Room, a designated individual) shall be responsible for the Control Room command function. R169

6.1.3 The Chief Nuclear Officer is responsible for the safe operation of all TVA Nuclear Power Plants.

6.2 ORGANIZATION

6.2.1 OFFSITE AND ONSITE ORGANIZATIONS

An onsite and an offsite organization shall be established for unit operation and corporate management. The onsite and offsite organization shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be established and defined from the highest management levels through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the Nuclear Power Organization Topical Report (TVA-NPOD89-A). R66

b. The Chief Nuclear Officer shall have corporate responsibility for overall plant nuclear safety. This individual shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support in the plant so that continued nuclear safety is assured. R202

c. The Plant Manager shall be responsible for overall unit safe operation, and shall have control over those onsite resources necessary for safe operation and maintenance of the plant. R66

d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

6.2.2 FACILITY STAFF

a. Each on duty unit shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1.

b. At least one licensed Reactor Operator shall be in the unit Control Room when fuel is in the reactor. In addition, while the unit is in MODE 1, 2, 3 or 4, at least one licensed Senior Reactor Operator shall be in the Control Room.

c. A Radiological Control technician# shall be onsite when fuel is in the reactor. R50

d. DELETED

e. DELETED R218

f. The Operations Superintendent shall hold a Senior Reactor Operator license. R145

g. Administrative procedures shall be developed and implemented to limit the working hours of unit staff who perform safety-related functions (i.e., senior reactor operators, reactor operators, assistant unit operators, Radiological Control, and key maintenance personnel).

Adequate shift coverage shall be maintained without routine heavy use of overtime. The objective shall be to have operating personnel work a normal 8-hour day, 40-hour week while the unit is operating. However, in the event that unforseen problems require substantial amounts of overtime to be used, or during extended periods of shutdown for refueling, major maintenance, or major plant modification, on a temporary basis the following guidelines shall be followed: R142

1. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time.

2. An individual should not be permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any 7-day period, all excluding shift turnover time.

3. A break of at least 8 hours should be allowed between work periods, including shift turnover time.

4. Except during extended shutdown periods, the use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Any deviation from the above guidelines shall be authorized in advance by the Plant Manager or his designee, in accordance with approved administrative procedures, or by higher levels of management, in accordance with established procedures and with documentation of the basis for granting the deviation. R169

Controls shall be included in the procedures such that individual overtime shall be reviewed monthly by the Plant Manager or his designee to assure that excessive hours have not been assigned. Routine deviation from the above guidelines is not authorized. R142

#The Radiological Control technician may be offsite for a period of time not to exceed 2 hours in order to accommodate unexpected absence provided immediate action is taken to fill the required positions. R218

TABLE 6.2-1

MINIMUM SHIFT CREW COMPOSITION

WITH UNIT 1 IN MODE 5 OR 6 OR DE-FUELED

POSITION	NUMBER OF INDIVIDUALS REQUIRED TO FILL POSITION		
	MODES 1, 2, 3 & 4	MODES 5 & 6	
SOS	1[a]	1[a]	R169
SRO	1	None	
RO	2	1	
AO	2	2[b]	
STA	1	None	

WITH UNIT 1 IN MODES 1, 2, 3 OR 4

POSITION	NUMBER OF INDIVIDUALS REQUIRED TO FILL POSITION		
	MODES 1, 2, 3 & 4	MODES 5 & 6	
SOS	1[a]	1[a]	R169
SRO	1[a]	None	
RO	2[b]	1	
AO	2[b]	1	
STA	1[a]	None	

[a]Individual may fill the same position on Unit 1.

[b]One of the two required individuals may fill the same position on Unit 1.

TABLE 6.2-1 (Continued)

TABLE NOTATION

SOS	-	Shift Supervisor with a Senior Reactor Operators License on Unit 2	R169
SRO	-	Individual with a Senior Reactor Operators License on Unit 2	
RO	-	Individual with a Reactor Operators License on Unit 2	
AO	-	Auxiliary Operator	
STA	-	Shift Technical Advisor	

Except for the Shift Operations Supervisor, the Shift Crew Composition may be one less than the minimum requirements of Table 6.2-1 for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the Shift Crew Composition to within the minimum requirements of Table 6.2-1. This provision does not permit any shift crew position to be unmanned upon shift change due to an oncoming shift crewman being late or absent. |R169

During any absence of the Shift Operations Supervisor from the Control Room while the unit is in MODES 1, 2, 3 or 4, an individual (other than the Shift Technical Advisor) with a valid SRO license shall be designated to assume the Control Room command function. |R169 During an absence of the Shift Operations Supervisor from the Control Room while the unit is in MODE 5 or 6, an individual with a valid SRO or RO license (other than the Shift Technical Advisor) shall be designated to assume the Control Room command function. |R169

6.2.3 INDEPENDENT SAFETY ENGINEERING (ISE) (DELETED)

6.2.4 SHIFT TECHNICAL ADVISOR (STA)

6.2.4.1 The STA shall serve in an advisory capacity to the Shift Operations Supervisor on matters pertaining to the engineering aspects of assuring safe operation of the unit. R169 R66

6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications referenced for comparable positions in Regulatory Guide 1.8, Revision 2 (April 1987) for all new personnel qualifying on positions identified in Regulatory Position C.1 after January 1, 1990. Personnel qualified on these positions prior to this date will still meet the requirements of Regulatory Guide 1.8, Revision 1-R (May 1977).

6.4 TRAINING

6.4.1 DELETED

6.5 REVIEW AND AUDIT

6.5.0 DELETED

6.5.1 PLANT OPERATIONS REVIEW COMMITTEE (PORC) (DELETED)

6.5.1A TECHNICAL REVIEW AND CONTROL (DELETED)

6.5.2 NUCLEAR SAFETY REVIEW BOARD (NSRB) (DELETED)

6.5.3 RADIOLOGICAL ASSESSMENT REVIEW COMMITTEE (RARC) (DELETED) R169

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS: R28

a. The Commission shall be notified and/or a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of this review shall be submitted to the NSRB and the Site Vice President. R142

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

a. The unit shall be placed in at least HOT STANDBY within one hour.

b. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within one hour. The Site Vice President and the NSRB shall be notified within 24 hours. R142

c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon facility components, systems or structures, and (3) corrective action taken to prevent recurrence.

d. The Safety Limit Violation Report shall be submitted to the Commission, the NSRB and the Site Vice President within 14 days of the violation. R142

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, Revision 2, February 1978.

b. Refueling operations.

c. Surveillance and test activities of safety related equipment.

d. DELETED

e. DELETED

f. Fire Protection Program implementation.

g. DELETED

h. Quality Assurance Program for effluent and environmental monitoring, using the guidance contained in Regulatory Guide 4.15, December 1977 or Regulatory Guide 1.21, Rev. 1, 1974 and Regulatory Guide 4.1, Rev. 1, 1975. R169 R34

i. OFFSITE DOSE CALCULATION MANUAL implementation. R169

6.8.2 DELETED

6.8.3 DELETED

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

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the safety injection system, residual heat removal system, chemical and volume control system, containment spray system, and RCS sampling system. The program shall include the following:

(i) Preventive maintenance and periodic visual inspection requirements, and

(ii) Integrated leak test requirements for each system at refueling cycle intervals or less.

b. In-Plant Radiation Monitoring (DELETED)

c. Secondary Water Chemistry

A program for monitoring of secondary water chemistry to inhibit steam generator tube degradation. This program shall include:

(i) Identification of a sampling schedule for the critical variables and control points for these variables,

(ii) Identification of the procedures used to measure the values of the critical variables,

(iii) Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in-leakage R169

(iv) Procedures for the recording and management of data,

(v) Procedures defining corrective actions for off-control point chemistry conditions,

(vi) Procedures identifying (a) the authority responsible for the interpretation of the data; and (b) the sequence and timing of administrative events required to initiate corrective action.

d. Deleted R169

R149

e. Postaccident Sampling

A program which will ensure the capability to obtain and analyze reactor coolant, radioactive iodines and particulates in plant gaseous effluents, and containment atmosphere samples under accident conditions. The program shall include the following:

(i) Training of personnel,
(ii) Procedures for sampling and analysis,
(iii) Provisions for maintenance of sampling and analysis equipment.

f. 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,

R134

2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to ten times the concentrations stated in 10 CFR Part 20.1001 - 20.2401, Appendix B, Table 2, Column 2, R165

3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM,

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

R134

5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days,

6) Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases

6.8.4 f. Radioactive Effluent Controls Program (Cont.) R202

of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50, R134

7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents from the site to areas at or beyond the SITE BOUNDARY SHALL BE LIMITED to the following: R165

1. For noble gases: Less than or equal to a dose rate of 500 mrem/yr to the total body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and

2. For Iodine-131, Iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrem/year to any organ.

8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50, R134

9) 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 Part 50, and

10) 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 Part 190.

g. Radiological Environmental Monitoring Program (DELETED)

h. Containment Leakage Rate Testing Program

R207

A program shall be established to implement the leakage rate testing of the containment as required by 10 CFR 50.54(o) and 10 CFR 50 Appendix J, Option B, as modified by approved exemptions. Visual examination and testing, including test intervals and extensions, shall be in accordance with Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995 with exceptions provided in the site implementing instructions.

The peak calculated containment internal pressure for the design basis loss of coolant accident, P_a, is 12.0 psig.

The maximum allowable containment leakage rate, L_a, at P_a, is 0.25% of the primary containment air weight per day.

Leakage rate acceptance criteria are:

a. Containment overall leakage rate acceptance criteria is $\leq 1.0\ L_a$. During the first unit startup following testing in accordance with this program, the leakage rate acceptance criteria are $\leq 0.60\ L_a$ for the combined Type B and Type C tests, and $\leq 0.75\ L_a$ for Type A tests;

b. Air lock testing acceptance criteria are:

1) Overall air lock leakage rate is ≤ 0.05 L_a when tested at ≥ P_a.

2) For each door, leakage rate is ≤ 0.01 L_a when pressurized to ≥ 6 psig for at least two minutes. R207

The provisions of SR 4.0.2 do not apply to the test frequencies specified in the Containment Leakage Rate Testing Program.

The provisions of SR 4.0.3 are applicable to the Containment Leakage Rate Testing Program.

6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted in accordance with 10 CFR 50.4. R64

STARTUP REPORT

6.9.1.1 DELETED

6.9.1.2 DELETED

6.9.1.3 DELETED

ANNUAL REPORTS[1]

6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted prior to March 1 of each year. The initial report shall be submitted prior to March 1 of the year following initial criticality.

6.9.1.5 Reports required on an annual basis shall include a tabulation on an annual basis for the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions,[2] e.g., 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 totalling 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.

If the results of specific activity analysis in which the primary coolant exceeded the limits of specification 3.4.8.a, then the following information shall be included along with the results of specific activity analysis results in which the primary coolant exceeded the limits of the specifications: (1) Reactor power history starting 48 hours prior to the first sample in which the limit was exceeded; (2) Results of the last isotopic analysis for radioiodine performed prior to exceeding the limit, results of analysis while the limit was exceeded and results of one analysis after the radioiodine activity was reduced to less than the limit. Each result should include date and time of sampling and the radioiodine concentrations; (3) Clean-up system flow history starting 48 hours prior to the first sample in which the limit was exceeded; (4) Graph of the I-131 concentration and one other radioiodine isotope concentration in microcuries per gram as a function of time for the duration of the specific activity above the steady-state level; and (5) The time duration when the specific activity of the primary coolant exceeded the radioiodine limit. R107

1/A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

2/This tabulation supplements the requirements of § 20.2206 of 10 CFR Part 20. R165

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT[1/]

6.9.1.6 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted prior to 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 Part 50. R134

6.9.1.7 (Relocated to the ODCM.)

ANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT R159

6.9.1.8 The Semiannual Radioactive Effluent Release Report covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year. 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 PCP and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR Part 50. R134

6.9.1.9 (Relocated to the ODCM or PCP.)

[1/] A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material from each unit.

MONTHLY REACTOR OPERATING REPORT

6.9.1.10 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the PORVs or Safety Valves, shall be submitted on a monthly basis no later than the 15th of each month following the calendar month covered by the report. R64

CORE OPERATING LIMITS REPORT R146

6.9.1.14 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle for the following:

1. $f_1(\Delta I)$ limits for Overtemperature Delta T Trip Setpoints and $f_2(\Delta I)$ limits for Overpower Delta T Trip Setpoints for Specification 2.2.1.

2. Moderator Temperature Coefficient BOL and EOL limits and 300 ppm surveillance limit for Specification 3/4.1.1.3, R214

3. Shutdown Bank Insertion Limit for Specification 3/4.1.3.5,

4. Control Bank Insertion Limits for Specification 3/4.1.3.6,

5. AXIAL FLUX DIFFERENCE Limits for Specification 3/4.2.1,

6. Heat Flux Hot Channel Factor and K(z) for Specification 3/4.2.2, and

7. Nuclear Enthalpy Rise Hot Channel Factor for Specification 3/4.2.3.

6.9.1.14.a The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by NRC in: R146

1. BAW-10180P-A, Rev. 1, "NEMO - NODAL EXPANSION METHOD OPTIMIZED", March 1993. (FCF Proprietary)
   (Methodology for Specification 3.1.1.3-Moderator Temperature Coefficient)

2. BAW-10169P-A, "RSG PLANT SAFETY ANALYSIS - B&W SAFETY ANALYSIS METHODOLOGY FOR RECIRCULATING STEAM GENERATOR PLANTS", October 1989. (FCF Proprietary) R214
   (Methodology for Specification 3.1.1.3-Moderator Temperature Coefficient)

3. BAW-10163P-A, Core Operating Limit Methodology for Westinghouse-Designed PWRs, June 1989. (FCF Proprietary)
   (Methodology for Specification 2.2.1, - Limiting Safety System Settings [$f_1(\Delta I)$, $f_2(\Delta I)$ limits], 3.1.3.5 - Shutdown Bank Insertion Limits, 3.1.3.6 - Control Bank Insertion Limits, 3/4.2.1 - Axial Flux Difference, 3/4.2.2 - Heat Flux Hot Channel Factor, 3/4.2.3 - Nuclear Enthalpy Rise Hot Channel Factor)

4. BAW-10168P-A, Rev. 2, RSG LOCA - B&W Loss of Coolant Accident Evaluation Model for Recirculating Steam Generator Plants, (FCF Proprietary)
   (Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)

5. BAW-10168P-A, Rev 3, RSG LOCA - B&W Loss of Coolant Accident Evaluation Model for Recirculating Steam Generator Plants, (FCF Proprietary)
   (Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor)

CORE OPERATING LIMITS REPORT (continued)

6. WCAP-10054-P-A, Westinghouse Small Break ECCS Evaluation Model Using the NOTRUMP Code, August 1985, (W Proprietary)
   (Methodology for Specification 3/4.2.2 - Heat Flux Hot Channel Factor) R214
7. WCAP-10266-P-A, Rev. 2, "THE 1981 REVISION OF WESTINGHOUSE EVALUATION MODEL USING BASH CODE", March 1987, (W Proprietary).
   (Methodology for Specification 3.2.2 - Heat Flux Hot Channel Factor).

6.9.1.14.b The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met. R146

6.9.1.14.c THE CORE OPERATING LIMITS REPORT shall be provided within 30 days after cycle start-up (Mode 2) for each reload cycle or within 30 days of issuance of any midcycle revision of the NRC Document Control Desk with copies to the Regional Administrator and Resident Inspector.

SPECIAL REPORTS

6.9.2.1 Special reports shall be submitted within the time period specified for each report, in accordance with 10 CFR 50.4. R64

6.9.2.2 Diesel Generator Reliability Improvement Program

As a minimum the Reliability Improvement Program report for NRC audit, required by LCO 3.8.1.1, Table 4.8-1, shall include: R44

(a) a summary of all tests (valid and invalid) that occurred within the time period over which the last 20/100 valid tests were performed

(b) analysis of failures and determination of root causes of failures

(c) evaluation of each of the recommendations of NUREG/CR-0660, "Enhancement of Onsite Emergency Diesel Generator Reliability in Operating Reactors," with respect to their application to the Plant

(d) identification of all actions taken or to be taken to 1) correct the root causes of failures defined in b) above and 2) achieve a general improvement of diesel generator reliability

(e) the schedule for implementation of each action from d) above

(f) an assessment of the existing reliability of electric power to engineered-safety-feature equipment

Diesel Generator Reliability Improvement Program (Continued) R44

A supplemental report shall be prepared within 30 days after each subsequent failure during a valid demand for so long as the affected diesel generator unit continues to violate the criteria (3/20 or 6/100) for the reliability improvement program remedial action. The supplemental report need only update the failure/demand history for the affected diesel generator unit since the last report for that diesel generator. The supplemental report shall also present an analysis of the failure(s) with a root cause determination, if possible, and shall delineate any further procedural, hardware or operational changes to be incorporated into the diesel generator improvement program and the schedule for implementation of those changes.

In addition to the above, submit a yearly data report on the diesel generator reliability.

6.10 RECORD RETENTION (DELETED)

6.11 RADIATION PROTECTION PROGRAM (DELETED)

6.12 HIGH RADIATION AREA

6.12.1 In lieu of the "control device" or "alarm signal" required by paragraph 20.1601(a) (2) of 10 CFR 20, 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* (RWP). Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following: R165 R165

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.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the facility RADCON/Chemistry Control Manager RWP. R202

6.12.2 The requirements of 6.12.1, above, shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mrem/hr. In addition, locked doors shall be provided to prevent unauthorized entry into such areas and the keys shall be maintained under the administrative control of the Shift Operations Supervisor on duty and/or the RADCON/Chemistry Control Manager. R202

*Radiological Control personnel or personnel escorted by Radiological Control personnel in accordance with approved emergency procedures, 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. R142 R165

6.13 PROCESS CONTROL PROGRAM (PCP) (DELETED)

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 Changes to the ODCM:

1. Shall be documented and records of reviews performed shall be retained in a manner convenient for review. This documentation shall contain: R134

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

   b. A determination that the change will maintain the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations. R134

2. Shall become effective after review and acceptance by the process described in TVA-NQA-PLN89-A.

3. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual 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. R159 R134

6.15 MAJOR CHANGES TO RADIOACTIVE WASTE TREATMENT SYSTEMS (Liquid, Gaseous and Solid)

6.15.1 Licensee initiated major changes to the radioactive waste systems (liquid, gaseous and solid):* R34

1. Shall be reported to the Commission in the Annual Radioactive Effluent Report for the period in which the evaluation was reviewed in accordance with TVA-NQA-PLN89-A. The discussion of each change shall contain: R159

   a. A summary of the evaluation that led to the determination that the change could be made in accordance with 10 CFR 50.59;

   b. sufficient detailed information to totally support the reason for the change without benefit of additional or supplemental information;

   c. a detailed description of the equipment, components and processes involved and the interfaces with other plant systems;

   d. an evaluation for the change which shows the predicted releases of radioactive materials in liquid and gaseous effluents and/or quantity of solid waste that differ from those previously predicted in the license application and amendments thereto;

   e. an evaluation of the change which shows the expected maximum exposures to individual in the unrestricted area and to the general population that differ from those previously estimated in the license application and amendments thereto;

   f. a comparison of the predicted releases of radioactive materials, in liquid and gaseous effluents and in solid waste, to the actual releases for the period prior to when the changes are to be made;

   g. an estimate of the exposure to plant operating personnel as a result of the change; and

   h. documentation of the fact that the change was reviewed and found acceptable in accordance with TVA-NQA-PLN89-A. R50

2. Shall become effective upon review and acceptance in accordance with TVA-NQA-PLN89-A. R50

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*Submittal of information required by this section may be made as part of the FSAR update. R165