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1.0 DEFINITIONS (Continued)

QUADRANT POWER TILT RATIO

1.23 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. With one excore detector inoperable, the remaining three detectors shall be used for computing the average.

RATED THERMAL POWER

1.24 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 2775 MWt.

REACTOR TRIP SYSTEM RESPONSE TIME

1.25 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

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

SHUTDOWN MARGIN

1.27 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

SITE BOUNDARY

1.28 The SITE BOUNDARY shall be that line beyond which the land is not owned, leased or otherwise controlled by the licensee.

SOLIDIFICATION

1.29 SOLIDIFICATION shall be the conversion of wet wastes into a solid form that meets shipping and burial ground requirements.

SOURCE CHECK

1.30 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to radiation. This applies to installed radiation monitoring systems.

3/4.2 POWER DISTRIBUTION LIMITS

AXIAL FLUX DIFFERENCE (AFD)

LIMITING CONDITION FOR OPERATION

3.2.1 The indicated AXIAL FLUX DIFFERENCE (AFD) shall be maintained within a $\pm 5\%$ target band (flux difference units) about the target flux difference.

APPLICABILITY: MODE 1 ABOVE 50% RATED THERMAL POWER*

ACTION:

- a. With the indicated AXIAL FLUX DIFFERENCE outside of the $\pm 5\%$ target band about the target flux difference and with THERMAL POWER:
 1. Above $P_f\%$ of RATED THERMAL POWER, within 15 minutes, where $P_f = (0.9 \times P_m)$; the value for P_m is established in the Core Surveillance Report per Technical Specification 6.9.1.7.
 - a) Either restore the indicated AFD to within the target band limits, or
 - b) Reduce THERMAL POWER to less than $P_f\%$ of RATED THERMAL POWER.
 2. Between 50% and $P_f\%$ of RATED THERMAL POWER:
 - a) POWER OPERATION may continue provided:
 - 1) The indicated AFD has not been outside of the $\pm 5\%$ target band for more than 1 hour penalty deviation cumulative during the previous 24 hours, and
 - 2) The indicated AFD is within the limits shown on Figure 3.2-1. Otherwise, reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 30 minutes and reduce the Power Range Neutron Flux-High Trip Setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.
 - b) Surveillance testing of the Power Range Neutron Flux Channels may be performed pursuant to Specification 4.3.1.1.1 provided the indicated AFD is maintained within the limits of Figure 3.2-1. A total of 16 hours of operation may be accumulated with the AFD outside of the target band during this testing without penalty deviation.

*See Special Test Exception 3.10.2.

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS (Continued)

- (b) At least once per 31 EFPD, whichever occurs first.
2. When the F_{xy}^C is less than or equal to the F_{xy}^{RTP} limit for the appropriate measured core plane, additional power distribution maps shall be taken and F_{xy}^C compared to F_{xy}^{RTP} and F_{xy}^L at least once per 31 EFPD.
- e. The F_{xy} limits for Rated Thermal Power (F_{xy}^{RTP}) shall be provided for all core planes containing Bank "D" control rods and all unrodded core planes, in a Core Surveillance Report per Technical Specification 6.9.1.7.
- f. The F_{xy} limits of e, above, are not applicable in the following core plane regions as measured in percent of core height from the bottom of the fuel:
1. Lower core region from 0 to 15%, inclusive.
 2. Upper core region from 85 to 100%, inclusive.
 3. Grid plane regions at $17.8 \pm 2\%$, $32.1 \pm 2\%$, $46.4 \pm 2\%$, $60.6 \pm 2\%$ and $74.9 \pm 2\%$, inclusive (17 x 17 fuel elements).
 4. Core plane regions within $\pm 2\%$ of core height (± 2.88 inches) about the bank demand position of the bank "D" control rods.
- g. With F_{xy}^C exceeding F_{xy}^L the effects of F_{xy} on $F_Q(Z)$ shall be evaluated to determine if $F_Q(Z)$ is within its limit.
- 4.2.2.3 When $F_Q(Z)$ is measured for other than F_{xy} determination, an overall measured $F_Q(Z)$ shall be obtained from a power distribution map and increased by 3% to account for manufacturing tolerances and further increased by 5% to account for measurement uncertainty.

POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION (Continued)

- e. σ_j is the standard deviation associated with thimble j, expressed as a fraction or percentage of R_j , and is derived from n flux maps from the relationship below, or 0.02, (2%) whichever is greater.

$$\sigma_j = \frac{\left[\frac{1}{n-1} \sum_{i=1}^n (\bar{R}_j - R_{ij})^2 \right]^{1/2}}{\bar{R}_j}$$

- f. The factor 1.07 is comprised of 1.02 and 1.05 to account for the axial power distribution instrumentation accuracy and the measurement uncertainty associated with F_Q using the movable detector system, respectively.
- g. The factor 1.03 is the engineering uncertainty factor.

APPLICABILITY: MODE 1 ABOVE P_m % OF RATED THERMAL POWER[#], where the value for P_m is established in the Core Surveillance Report per Technical Specification 6.9.1.7.

ACTION:

- a. With a $F_j(Z)$ factor exceeding $[F_j(Z)]_S$ by less than or equal to 4 percent, reduce THERMAL POWER one percent for every percent by which the $F_j(Z)$ factor exceeds its limit within 15 minutes and within the next two hours either reduce the $F_j(Z)$ factor to within its limit or reduce THERMAL POWER to P_m % or less of RATED THERMAL POWER.
- b. With a $F_j(Z)$ factor exceeding $[F_j(Z)]_S$ by greater than 4 percent, reduce THERMAL POWER to P_m % or less of RATED THERMAL POWER within 15 minutes.

[#] The APDMS may be out of service when surveillance for determining power distribution maps is being performed.

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment in that fire detection zone is required to be OPERABLE.

ACTION:

With one or more of the fire detection instrument(s) shown in Table 3.3-11 inoperable:

- a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, and
- b. Restore the inoperable instrument(s) to OPERABLE status within 14 days or, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST.

4.3.3.7.2 The NFPA Code 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

4.3.3.7.3 The non-supervised circuits between the local panels in Specification 4.3.3.7.2 and the control room shall be demonstrated OPERABLE at least once per 31 days.

INSTRUMENTATION

LOOSE PARTS MONITORING SYSTEMS

LIMITING CONDITIONS FOR OPERATION

3.3.3.9 The loose parts monitoring system instrumentation identified in Table 3.3-12 shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTION

If all channels of one or more collection regions are inoperable, restore the instrument(s) to OPERABLE status within 30 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channels to OPERABLE status.

SURVEILLANCE REQUIREMENTS

4.3.3.9 Each channel of the loose parts monitoring system identified in Table 3.3-12 shall be demonstrated OPERABLE by the performance of:

- a. A CHANNEL CHECK at least once per 24 hours.
- b. A CHANNEL FUNCTIONAL TEST at least once per 31 days.
- c. A CHANNEL CALIBRATION at least once per 18 months.

INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.10 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded. The alarm/trip setpoints of these channels shall be determined and adjusted in accordance with the OFFSITE DOSE CALCULATION MANUAL (ODCM).

APPLICABILITY: At all times.

ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above Specification, without delay suspend the release of radioactive liquid effluents monitored by the affected channel or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, for reasons other than a above, take the ACTION shown in Table 3.3-13. Exert best efforts to return the instruments to OPERABLE status within 30 days and, if unsuccessful, explain in the next Seminannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.
- c. The provisions of Specifications 3.0.3, and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-13.

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.11 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3-14 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.11.2.1 are not exceeded. The alarm/trip setpoints of these channels shall be determined and adjusted in accordance with the ODCM.

APPLICABILITY: As shown in Table 3.3-14.

ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above Specification, without delay suspend the release of radioactive gaseous effluents monitored by the affected channel or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, for reasons other than a above, take the ACTION shown in Table 3.3-14. Exert best efforts to return the instruments to OPERABLE status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.11 Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-14.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

9. Preservice Inspection means an inspection of the full length of each tube in each steam generator performed by eddy current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed after the field hydrostatic test and prior to initial POWER OPERATION using the equipment and techniques expected to be used during subsequent inservice inspection.
- b. The steam generator shall be determined OPERABLE after completing the corresponding actions (plug all tubes exceeding the plugging limit and all tubes containing through-wall cracks) required by Table 4.4-2.

4.4.5.5 Reports

- a. Following each inservice inspection of steam generator tubes, the number of tubes plugged in each steam generator shall be reported to the Commission within 15 days.
- b. The complete results of the steam generator tube inservice inspection shall be reported on an annual basis for the period in which this inspection was completed. This report shall include:
1. Number and extent of tubes inspected.
 2. Location and percent of wall-thickness penetration for each indication of an imperfection.
 3. Identification of tubes plugged.
- c. Results of steam generator tube inspections which fall into Category C-3 require prompt notification of the Commission pursuant to Section 50.72 to 10 CFR Part 50. A Licensee Event Report shall be submitted pursuant to Section 50.73 to 10 CFR Part 50 and shall provide a description of investigations conducted to determine cause of the tube degradation and corrective measures taken to prevent recurrence.

PLANT SYSTEMS

3/4.7.14 FIRE SUPPRESSION SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.14.1 The fire suppression water system shall be OPERABLE with;

- a. Two high pressure pumps, each with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,
- b. Separate water supplies from the North Anna Reservoir and the Service Water Reservoir, and
- c. An OPERABLE flow path capable of taking suction from the North Anna Reservoir and the Service Water Reservoir and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves and the valve at each hose standpipe as required to be OPERABLE per Specification 3.7.14.5.

APPLICABILITY: At all times.

ACTION:

- a. With one pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the plans and procedures to be used to provide the loss of redundancy in this system. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.
- b. With the fire suppression water system otherwise inoperable:
 1. Establish a backup fire suppression water system within 24 hours, and
 2. Submit a Special Report in accordance with Specification 6.9.2;
 - a) By telephone within 24 hours,
 - b) Confirmed by telegraph, mailgram or facsimile transmission no later than the first working day following the event, and

PLANT SYSTEMS

LOW PRESSURE CO₂ SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.14.2 The following low pressure CO₂ systems shall be OPERABLE with a minimum of 3.5 tons in the storage tank at a minimum pressure of 275 psig.

- a. Cable tunnels and vaults
- b. Charcoal filters
- c. Emergency diesel generator rooms

APPLICABILITY: Whenever equipment in the low pressure CO₂ protected areas is required to be OPERABLE.

ACTION:

- a. With one or more of the above required low pressure CO₂ systems inoperable, establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s) within 1 hour; restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.14.2 Each of the above required low pressure CO₂ systems shall be demonstrated OPERABLE:

- a. At least once per 7 days by verifying CO₂ storage tank level and pressure, and
- b. At least once per 18 months by verifying:
 - 1. The system valves and associated ventilation dampers actuate manually and automatically, upon receipt of a simulated actuation signal, and
 - 2. Flow from each nozzle during a "Puff Test."

PLANT SYSTEMS

HIGH PRESSURE CO₂ SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.14.3 The following high pressure CO₂ systems shall be OPERABLE with the storage tanks having at least 90% of full charge weight.

- a. Fuel oil pump rooms

APPLICABILITY: Whenever equipment in the high pressure CO₂ protected areas is required to be OPERABLE.

ACTION:

- a. With one or more of the above required high pressure CO₂ systems inoperable, establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s) within 1 hour; restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.14.3 Each of the above required high pressure CO₂ systems shall be demonstrated OPERABLE:

- a. At least once per 6 months by verifying CO₂ storage tank weight.
- b. At least once per 18 months by:
 - 1. Verifying the system, including associated ventilation dampers, actuates manually and automatically, upon receipt of a simulated test signal, and
 - 2. Performance of a flow test through headers and nozzles to assure no blockage.

PLANT SYSTEMS

HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.14.4 The following Halon systems shall be OPERABLE with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure.

- a. Control Room

APPLICABILITY: Whenever equipment in the Halon protected areas is required to be OPERABLE.

ACTION:

- a. With one or more of the above required Halon systems inoperable, establish a continuous fire watch with backup fire suppression equipment for the unprotected area(s) within 1 hour; restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.14.4 Each of the above required Halon systems shall be demonstrated OPERABLE:

- a. At least once per 6 months by verifying Halon storage tank weight and pressure.
- b. At least once per 18 months by:
 - 1. Verifying the system, including associated ventilation dampers, actuates manually and automatically, upon receipt of a simulated test signal, and
 - 2. Performance of a flow test through headers and nozzles to assure no blockage.

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID EFFLUENTS

CONCENTRATION

LIMITING CONDITION FOR OPERATION

3.11.1.1 The concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS (see Figure 5.1-1) shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} microcuries/ml.

APPLICABILITY: At all times.

ACTION:

With the concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS exceeding the above limits, without delay restore the concentration to within the above limits.

SURVEILLANCE REQUIREMENTS

4.11.1.1.1 Radioactive liquid wastes shall be sampled and analyzed according to the sampling and analysis program of Table 4.11-1.

4.11.1.1.2 The results of the radioactivity analyses shall be used in accordance with the methods in the ODCM to assure that the concentrations at the point of release are maintained within the limits of Specification 3.11.1.1.

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

DOSE RATE

LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate due to radioactive materials released in gaseous effluents from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1-1) shall be limited to the following:

- a. For noble gases: Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin, and
- b. For iodine-131, for tritium, and for all radionuclides in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrem/yr to the critical organ.*

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, without delay restore the release rate to within the above limit(s).

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The dose rate due to noble gases in gaseous effluents shall be determined continuously to be within the above limits in accordance with the methods and procedures of the ODCM.

4.11.2.1.2 The dose rate due to iodine-131, tritium, and all radionuclides in particulate form with half lives greater than 8 days, in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.11-2.

*The critical organ is defined in the ODCM.

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTE

LIMITING CONDITION FOR OPERATION

3.11.3 SOLIDIFICATION shall be conducted in accordance with a PROCESS CONTROL PROGRAM.

APPLICABILITY: At all times.

ACTION:

- a. With the provisions of the PROCESS CONTROL PROGRAM not satisfied, suspend shipments of defectively processed or defectively packaged solid radioactive wastes from the site.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.3.1 The PROCESS CONTROL PROGRAM shall be used to verify the SOLIDIFICATION of at least one representative test specimen from at least every tenth batch of each type of wet radioactive waste (e.g., filter sludges, spent resins, evaporator bottoms, boric acid solutions, and sodium sulfate solutions).

- a. If any test specimen fails to verify SOLIDIFICATION, the SOLIDIFICATION of the batch under test shall be suspended until such time as additional test specimens can be obtained, alternate SOLIDIFICATION parameters can be determined in accordance with the PROCESS CONTROL PROGRAM, and a subsequent test verifies SOLIDIFICATION. SOLIDIFICATION of the batch may then be resumed using the alternative SOLIDIFICATION parameters determined by the PROCESS CONTROL PROGRAM.
- b. If the initial test specimen from a batch of waste fails to verify SOLIDIFICATION, the PROCESS CONTROL PROGRAM shall provide for the collection and testing of representative test specimens from each consecutive batch of the same type of wet waste until at least 3 consecutive initial test specimens demonstrate SOLIDIFICATION. The PROCESS CONTROL PROGRAM shall be modified as required, as provided in Specification 6.13, to assure SOLIDIFICATION of subsequent batches of waste.

3/4.12 RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.1 MONITORING PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.1 The radiological environmental monitoring program shall be conducted as specified in Table 4.12-1.

APPLICABILITY: At all times.

ACTION:

- a. With the radiological environmental monitoring program not being conducted as specified in Table 4.12-1, in lieu of a Licensee Event Report, prepare and submit to the Commission, in the Annual Radiological Environmental Operating Report required by Specification 6.9.1.8, a description of the reasons for not conducting the program as required and the plans for preventing a recurrence.
- b. With the level of radioactivity as the result of plant effluents in an environmental sampling medium at a specified location exceeding the reporting levels of Table 4.12-2 when averaged over any calendar quarter, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce radioactive effluents so that the potential annual dose to A MEMBER OF THE PUBLIC is less than the calendar year limits of Specifications 3.11.1.2, 3.11.2.2, and 3.11.2.3. When more than one of the radionuclides in Table 4.12-2 are detected in the sampling medium, this report shall be submitted if:

$$\frac{\text{concentration (1)}}{\text{reporting level (1)}} + \frac{\text{concentration (2)}}{\text{reporting level (2)}} + \dots \geq 1.0$$

When radionuclides other than those in Table 4.12-2 are detected and are the result of plant effluents, this report shall be submitted if the potential annual dose to a MEMBER OF THE PUBLIC is equal to or greater than the calendar year limits of Specifications 3.11.1.2, 3.11.2.2 and 3.11.2.3. This report is not required if the measured level of radioactivity was not the result of plant effluents; however, in such an event, the condition shall be reported and described in the Annual Radiological Environmental Operating Report.

- c. With milk or fresh leafy vegetable samples unavailable from one or more of the sample locations required by Table 4.12-1, identify locations for obtaining replacement samples and add them to the radiological environmental monitoring program within 30 days. The specific locations from which samples were unavailable may then be

RADIOLOGICAL ENVIRONMENTAL MONITORING

deleted from the monitoring program. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.9, identify the cause of the unavailability of samples and identify the new location(s) for obtaining replacement samples in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).

- d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.1.1 The radiological environmental monitoring samples shall be collected pursuant to Table 4.12-1 from the specific locations given in the table and figure(s) in the ODCM and shall be analyzed pursuant to the requirements of Table 4.12-1, the detection capabilities required by Table 4.12-3, and the guidance of the Radiological Assessment Branch Technical Position on Environmental Monitoring dated November, 1979, Revision No. 1.

TABLE 4.12-1 (Continued)

TABLE NOTATION

- ^a Specific parameters of distance and direction sector from the centerline of one reactor, and additional description where pertinent, shall be provided for each and every sample location in Table 4.12-1 in a table and figure(s) in the ODCM. Refer to NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants," October 1978, and to Radiological Assessment Branch Technical Positions, Revision 1, November 1979. Deviations are permitted from the required sampling schedule if specimens are unobtainable due to hazardous conditions, seasonal unavailability, malfunction of automatic sampling equipment and other legitimate reasons. If specimens are unobtainable due to sampling equipment malfunction, every effort shall be made to complete corrective action prior to the end of the next sampling period. All deviations from the sampling schedule shall be documented in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8. It is recognized that, at times, it may not be possible or practicable to continue to obtain samples of the media of choice at the most desired location or time. In these instances suitable alternative media and locations may be chosen for the particular pathway in question and appropriate substitutions made within 30 days in the radiological environmental monitoring program. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.9, identify the cause of the unavailability of samples for that pathway and identify the new location(s) for obtaining replacement samples in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).
- ^b One or more instruments, such as a pressurized ion chamber, for measuring and recording dose rate continuously may be used in place of, or in addition to, integrating dosimeters. For the purposes of this table, a thermoluminescent dosimeter (TLD) is considered to be one phosphor; two or more phosphors in a packet are considered as two or more dosimeters. Film badges shall not be used as dosimeters for measuring direct radiation. The 40 stations is not an absolute number. The number of direct radiation monitoring stations may be reduced according to geographical limitations; e.g., at an ocean site, some sectors will be over water so that the number of dosimeters may be reduced accordingly. The frequency of analysis or readout for TLD systems will depend upon the characteristics of the specific system used and should be selected to obtain optimum dose information with minimal fading.

TABLE 4.12-3 (Continued)

TABLE NOTATION

^aThis list does not mean that only these nuclides are to be considered. Other peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8.

^bThe LLD is defined, for purposes of these Specifications, as the smallest concentration of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system, which may include radiochemical separation):

$$LLD = \frac{4.66 s_b}{E \cdot V \cdot 2.22 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the "a priori" lower limit of detection as defined above, as picocuries per unit mass or volume,

s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate, as counts per minute,

E is the counting efficiency, as counts per disintegration,

V is the sample size in units of mass or volume,

2.22 is the number of disintegrations per minute per picocurie,

Y is the fractional radiochemical yield, when applicable,

λ is the radioactive decay constant for the particular radionuclide, and

Δt for environmental samples is the elapsed time between sample collection, or end of the sample collection period, and time of counting

Typical values of E, V, Y and Δt should be used in the calculation.

TABLE 4.12-2 (Continued)

TABLE NOTATION

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement. Analysis shall be performed in such a manner that the stated LLDs will be achieved under routine conditions. Occasionally background fluctuations, unavoidably small sample sizes, the presence of interfering nuclides, or other uncontrollable circumstances may render these LLDs unachievable. In such cases, the contributing factors will be identified and described in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.2 LAND USE CENSUS

LIMITING CONDITION FOR OPERATION

3.12.2 A land use census shall be conducted and shall identify within a distance of 8 km (5 miles) the location in each of the 16 meteorological sectors of the nearest milk animal, the nearest residence and the nearest garden* of greater than 50 m² (500 ft²) producing broad leaf vegetation.

APPLICABILITY: At all times.

ACTION:

- a. With a land use census identifying a location(s) that yields a calculated dose or dose commitment greater than the values currently being calculated in Specification 4.11.2.3, in lieu of a Licensee Event Report, identify the new location(s) in the next Semiannual Radioactive Effluent Release Report, pursuant to Specification 6.9.1.9.
- b. With a land use census identifying a location(s) that yields a calculated dose or dose commitment (via the same exposure pathway) 25 percent greater than at a location from which samples are currently being obtained in accordance with Specification 3.12.1, add the new location(s) to the radiological environmental monitoring program within 30 days. The sampling location(s), excluding the control station location, having the lowest calculated dose or dose commitment(s), via the same exposure pathway, may be deleted from this monitoring program after (October 31) of the year in which this land use census was conducted. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.9, identify the new location(s) in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.2 The land use census shall be conducted during the growing season at least once per 12 months using that information that will provide the best results, such as by a door-to-door survey, aerial survey, or by consulting local agriculture authorities. The results of the land use census shall be included in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8.

*Broad leaf vegetation sampling of at least three different kinds of vegetation may be performed at the site boundary in each of two different direction sectors with the highest predicted D/Qs in lieu of the garden census. Specifications for broad leaf vegetation sampling in Table 4.12-1.4c shall be followed, including analysis of control samples.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.3 INTERLABORATORY COMPARISON PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.3 Analyses shall be performed on radioactive materials (which contain nuclides produced at nuclear power stations) supplied as part of an Interlaboratory Comparison Program, described in the ODCM, that has been approved by the Commission.

APPLICABILITY: At all times.

ACTION:

- a. With analyses not being performed as required above, report the corrective actions taken to prevent a recurrence to the Commission in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.3 A summary of the results obtained as part of the above required Interlaboratory Comparison Program shall be maintained as described in the ODCM.

3/4.4 REACTOR COOLANT SYSTEM

BASES

3/4.4.5 STEAM GENERATORS

The Surveillance Requirements for inspection of the steam generator tubes ensure that the structural integrity of this portion of the RCS will be maintained. The program for inservice inspection of steam generator tubes is based on a modification of Regulatory Guide 1.83, Revision 1. Inservice inspection of steam generator tubing is essential in order to maintain surveillance of the conditions of the tubes in the event that there is evidence of mechanical damage or progressive degradation due to design, manufacturing errors, or inservice conditions that lead to corrosion. Inservice inspection of steam generator tubing also provides a means of characterizing the nature and cause of any tube degradation so that corrective measures can be taken.

The plant is expected to be operated in a manner such that the secondary coolant will be maintained within those parameter limits found to result in negligible corrosion of the steam generator tubes. If the secondary coolant chemistry is not maintained within these parameter limits, localized corrosion may likely result in stress corrosion cracking. The extent of cracking during plant operation would be limited by the limitation of steam generator tube leakage between the primary coolant system and the secondary coolant system (primary-to-secondary leakage = 500 gallons per day per steam generator). Cracks having a primary-to-secondary leakage less than this limit during operation will have an adequate margin of safety to withstand the loads imposed during normal operation and by postulated accidents. Operating plants have demonstrated that primary-to-secondary leakage of 500 gallons per day per steam generator can readily be detected by radiation monitors of steam generator blowdown. Leakage in excess of this limit will require plant shutdown and an unscheduled inspection, during which the leaking tubes will be located and plugged.

Wastage-type defects are unlikely with the all volatile treatment (AVT) of secondary coolant. However, even if a defect of similar type should develop in service, it will be found during scheduled inservice steam generator tube examinations. Plugging will be required of all tubes with imperfections exceeding the plugging limit which, by the definition of Specification 4.4.5.4.a is 40% of the tube nominal wall thickness. Steam generator tube inspections of operating plants have demonstrated the capability to reliably detect degradation that has penetrated 20% of the original tube wall thickness.

Whenever the results of any steam generator tubing inservice inspection fall into Category C-3, these results will be promptly reported to the Commission pursuant to Section 50.72 to 10 CFR Part 50 with a followup report pursuant to Section 50.73 to 10 CFR Part 50. Such cases will be considered by the Commission on a case-by-case basis and may result in a requirement for analysis, laboratory examinations, tests, additional eddy-current inspection, and revision of the Technical Specifications, if necessary.

ADMINISTRATIVE CONTROLS (Continued)

MEETING FREQUENCY

6.5.1.4 The SNSOC shall meet at least once per calendar month and as convened by the SNSOC Chairman or his designated alternate.

QUORUM

6.5.1.5 A quorum of the SNSOC consists of the Chairman or Vice-Chairman and two members including alternates.

RESPONSIBILITIES

6.5.1.6 The SNSOC shall be responsible for:

- a. Review of 1) all procedures required by Specifications 6.8.1, 6.8.2 and 6.8.3 and changes thereto, 2) all programs required by Specification 6.8.4 and changes thereto, 3) any other proposed procedures or changes thereto as determined by the Station Manager to affect nuclear safety.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Appendix "A" Technical Specifications.
- d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.
- e. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Manager - Nuclear Operations Support and the Director-Safety Evaluation and Control.
- f. Review of all REPORTABLE EVENTS and Special Reports.
- g. Review of facility operations to detect potential nuclear safety hazards.
- h. Performance of special reviews, investigations or analyses and reports thereon as requested by the Chairman of the Station Nuclear Safety and Operating Committee.
- i. Review of the Plant Security Plan and implementing procedures and shall submit recommended changes to the Chairman of the Station Nuclear Safety and Operating Committee.
- j. Review of the Emergency Plan and implementing procedures and shall submit recommended changes to the Chairman of the Station Nuclear Safety and Operating Committee.

*This change was previously submitted in Vepco letter dated July 1, 1983 (Serial No. 264A).

ADMINISTRATIVE CONTROLS

d. Violations, REPORTABLE EVENTS and Special Reports such as:

1. Violations of applicable codes, regulations, orders, Technical Specifications, license requirements or internal procedures or instructions having safety significance;
2. Significant operating abnormalities or deviations from normal or expected performance of station safety-related structures, systems, or components; and
3. All REPORTABLE EVENTS submitted in accordance with Section 50.73 to 10 CFR Part 50 and Special Reports required by Specification 6.9.2.

Review of events covered under this paragraph shall include the results of any investigations made and recommendations resulting from such investigations to prevent or reduce the probability of recurrence of the event.

- e. The Quality Assurance Department audit program at least once per 12 months and audit reports.
- f. Any other matter involving safe operation of the nuclear power stations which is referred to the Director-Safety Evaluation and Control by the Station Nuclear Safety and Operating Committee.
- g. Reports and meeting minutes of the Station Nuclear Safety and Operating Committee.

AUTHORITY

6.5.2.9 The Director-Safety Evaluation and Control shall report to and advise the Manager-Nuclear Operations Support, who shall advise the Vice President-Nuclear Operations on those areas of responsibility specified in Section 6.5.2.7. *

RECORDS

6.5.2.10 Records of SEC activities required by Section 6.5.2.7 shall be prepared and maintained in the SEC files and a summary shall be disseminated as indicated below each calendar month.

1. Vice President-Nuclear Operations
2. Nuclear Power Station Managers
3. Manager-Nuclear Operations Support
4. Executive Manager-Quality Assurance
5. Others that the Director-Safety Evaluation and Control may designate. *

*These changes were previously submitted in Vepco letter dated July 1, 1983 (Serial No. 264A).

ADMINISTRATIVE CONTROLS (Continued)

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

- 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 SNSOC and the results of this review shall be submitted to the Director-Safety Evaluation and Control and the Vice President - Nuclear Operations.

6.7 SAFETY LIMIT VIOLATION

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

- a. The facility 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 Vice President-Nuclear Operations, and the Director-Safety Evaluation and Control shall be notified within 24 hours.
- c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the SNSOC. 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 Director-Safety Evaluation and Control and the Vice President - Nuclear Operations within 14 days of the violation.

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.

*These changes were previously submitted in Vepco letter dated July 1, 1983 (Serial No. 264A).

ADMINISTRATIVE CONTROLS

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 to the Director of the Regional Office of Inspection and Enforcement unless otherwise noted.

STARTUP REPORTS

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (a) 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.

6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall 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 requested in license conditions based on other commitments shall be included in this report.

6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup 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 Startup Report does not cover all three events (i.e., initial criticality, completion of startup 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.

ADMINISTRATIVE CONTROLS (Continued)

MONTHLY OPERATING REPORT

6.9.1.6 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the Reactor Coolant System PORVs or safety valves, shall be submitted on a monthly basis to the Director, Office of Management and Program Analysis, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Office of Inspection and Enforcement, no later than the 15th of each month following the calendar month covered by the report.

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*This change was previously submitted in Vepco letter dated November 30, 1983 (Serial No. 688).

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CORE SURVEILLANCE REPORT

- 6.9.1.7 The F_{xy} limit for Rated Thermal Power (F_{RTP}^{xy}) in all core planes containing Bank "D" control rods and in all unrodded core planes, the surveillance power level, P , for Technical Specifications 3.2.1 and 3.2.6, and the F_Q flyspeck basis as determined using the definitions and methodology in WCAP 8385 and Westinghouse letter to NRC dated April 6, 1978, Serial No. NS-CE-1749 shall be provided to the Regional Administrator, Region II, with a copy to;

Director, Office of Nuclear Reactor Regulation
Attention: Chief, Core Performance Branch
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

at least 60 days prior to cycle initial criticality. In the event that the limits would be submitted at some other time during core life, they shall be submitted 60 days prior to the date the limits would become effective unless otherwise approved by the Commission.

Any additional information needed to support the F_{xy}^{RTP} and P_m submittal will be by request from the NRC and need not be included in this report.

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT*

6.9.1.8 Routine Radiological Environmental Operating Reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year. The initial report shall be submitted prior to May 1 of the year following initial criticality.

The Annual Radiological Environmental Operating Reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison (as appropriate) with preoperational studies, operational controls, and previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by Specification 3.12.2.

The Annual Radiological Environmental Operating Reports shall include the results of analysis of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the Table and Figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the radiological environmental monitoring program; at least two legible maps** covering all sampling locations keyed to a table giving distances and directions from the centerline of one reactor; the results of licensee participation in the Interlaboratory Comparison Program, required by Specification 3.12.3; discussion of all deviations from the sampling schedule of Table 4.12-1 and discussion of all analyses in which the ILD required by Table 4.12-3 was not achievable.

*A single submittal may be made for a multiple unit station.

**One map shall cover stations near the SITE BOUNDARY; a second shall include the more distant stations.

ADMINISTRATIVE CONTROLS (CONTINUED)

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT*

6.9.1.9 Routine Radioactive Effluent Release Reports covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. The period of the first report shall begin with the date of initial criticality.

The Radioactive Effluent Release Reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof.

The Radioactive Effluent Release Report shall be submitted within 60 days after January 1 of each year. This report shall include an assessment of the radiation doses to the maximum exposed MEMBERS OF THE PUBLIC due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. Annual meteorological data collected over the previous year shall be in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability. This meteorological data shall be retained in a file on site and shall be made available to the NRC upon request. All assumptions used in making these assessments (i.e., specific activity, exposure time and location) shall be included in the OFFSITE DOSE CALCULATION MANUAL (ODCM). Concurrent meteorological conditions or historical annual average atmospheric dispersion conditions shall be used for determining the gaseous pathway doses. The assessment of radiation doses shall be performed in accordance with the OFFSITE DOSE CALCULATION MANUAL (ODCM).

If the dose to the maximum exposed MEMBER OF THE PUBLIC due to the radioactive liquid and gaseous effluents from the station during the previous calendar year exceeds twice the limits of Specification 3.11.1.2a, 3.11.1.2.b, 3.11.2.2.a, 3.11.2.2.b, 3.11.2.3.a, or 3.11.2.3.b the dose assessment shall include the contribution from direct radiation. The dose to the maximum exposed MEMBER OF THE PUBLIC shall show conformance with 40 CFR Part 190, Environmental Radiation Protection Standards for Nuclear Power Operation.

The Radioactive Effluent Release Reports shall include a list of unplanned releases as required to be reported in Section 50.73 to 10 CFR Part 50 from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The Radioactive Effluent Release Reports shall include any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) and to the OFFSITE DOSE CALCULATION MANUAL (ODCM), as well as a listing of new locations for dose calculations and/or environmental monitoring identified by the land use census pursuant to Specification 3.12.2.

*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.

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator, Region II, within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirement of the applicable reference specification:

- a. Inservice Inspection Program Reviews shall be reported within 90 days of completion. Specification 4.0.5
- b. ECCS Actuation shall be reported within 90 days of the occurrence. The report shall describe the circumstances of the actuation and the total accumulated cycles to date. Specification 3.5.2 and 3.5.3.
- c. With Seismic Monitoring Instrumentation inoperable for more than 30 days, submit a special report within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrumentation to operable status. Specification 3.3.3.3.
- d. For all seismic events actuating a seismic monitoring instrument, submit a special report within 10 days describing the magnitude, frequency spectrum and resultant effects upon features important to safety. Specification 4.3.3.3.2.
- e. With Meteorological Instrumentation inoperable for more than 7 days, submit a special report within the next 10 days, outlining the cause of the malfunction and the plans for restoring the instrumentation to operable status. Specification 3.3.3.4.
- f. With the primary coolant specific activity $>1.0 \mu\text{Ci}/\text{gram DOSE EQUIVALENT I-131}$ or $> 100/\bar{E} \mu\text{Ci}/\text{gram}$, a specific activity analysis shall be included in the Special Report. The information requested in Specification 3.4.8 shall also be included in that report.
- g. With sealed source or fission detector leakage tests revealing the presence of ≥ 0.005 microcuries of removable contamination submit a special report on an annual basis outlining the corrective actions taken to prevent the spread of contamination. Specification 4.7.11.1.3.
- h. With the MTC more positive than $0 \Delta k/k/^{\circ}\text{F}$ submit a special report within the next 10 days describing the value of the measured MTC, the interim control rod withdrawal limits and the predicted average core burnup necessary for restoring the positive MTC to within its limit for the all rods withdrawn condition. Specification 3.1.1.4.

ADMINISTRATIVE CONTROLS (Continued)

- i. For any abnormal degradation of the structural integrity of the reactor vessel or the Reactor Coolant System pressure boundary detected during the performance of Specification 4.4.10, an initial report shall be submitted within 10 days after detection and a detailed report submitted within 90 days after the completion of Specification 4.4.10.
- j. For any abnormal degradation of the containment structure detected during the performance of Specification 4.6.1.6, an initial report shall be submitted within 10 days after completion of Specification 4.6.1.6. A final report, which includes (1) a description of the condition of the liner plate and concrete, (2) inspection procedure, (3) the tolerance on cracking and (4) the corrective actions taken, shall be submitted within 90 days after the completion of Specification 4.6.1.6.
- k. Inoperable Fire Detection Instrumentation, Specification 3.3.3.7.
- l. Inoperable Fire Suppression Systems, Specifications 3.7.14.1, 3.7.14.2, 3.7.14.3, 3.7.14.4 and 3.7.14.5.

6.10 RECORD RETENTION

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 and Special Reports.
- d. Records of surveillance activities, inspections and calibrations required by the Technical Specifications.
- e. Records of changes made to Operating Procedures.
- f. Records of radioactive shipments.
- g. Records of sealed source leak tests and results.
- h. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

ATTACHMENT 2

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1.0 DEFINITIONS (Continued)

QUADRANT POWER TILT RATIO

1.23 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. With one excore detector inoperable, the remaining three detectors shall be used for computing the average.

RATED THERMAL POWER

1.24 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 2775 MWt.

REACTOR TRIP SYSTEM RESPONSE TIME

1.25 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

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

SHUTDOWN MARGIN

1.27 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn.

SITE BOUNDARY

1.28 The SITE BOUNDARY shall be that line beyond which the land is not owned, leased or otherwise controlled by the licensee.

SOLIDIFICATION

1.29 SOLIDIFICATION shall be the conversion of wet wastes into a solid form that meets shipping and burial ground requirements.

SOURCE CHECK

1.30 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to radiation. This applies to installed radiation monitoring systems.

REACTIVITY CONTROL SYSTEMS

MODERATOR TEMPERATURE COEFFICIENT

LIMITING CONDITION FOR OPERATION

3.1.1.4 The moderator temperature coefficient (MTC) shall be:

- a. Less positive than 0 delta k/k/°F for the all rods withdraw, beginning of core life, hot zero THERMAL POWER condition, and
- b. Less negative than -4.0×10^{-4} delta k/k/°F for the all rods withdrawn, end of core life at RATED THERMAL POWER.

APPLICABILITY: Specification 3.1.1.4.a. - MODES 1 and 2* only#.
Specification 3.1.1.4.b. - MODES 1, 2 and 3 only#.

ACTION:

- a. With the MTC more positive than the limit of 3.1.1.4.a. above, operations in MODES 1 and 2 may proceed provided:
 1. Control rod withdrawal limits are established and maintained sufficient to restore the MTC to less positive than 0 delta k/k/°F within 24 hours or be in HOT STANDBY within the next 6 hours. These withdrawal limits shall be in addition to the insertion limits of Specification 3.1.3.6.
 2. The control rods are maintained within the withdrawal limits established above until subsequent measurement verifies that the MTC has been restored to within its limit for the all rods withdrawn condition.
 3. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 10 days, describing the value of the measured MTC, the interim control rod withdrawal limits and the predicted average core burnup necessary for restoring the positive MTC to within its limit for the all rods withdrawn condition.
- b. With the MTC more negative than the limit of 3.1.1.4.b. above, be in HOT SHUTDOWN within 12 hours.

*With K_{eff} greater than or equal to 1.0

#See Special Test Exception 3.10.3

3/4.2 POWER DISTRIBUTION LIMITS

AXIAL FLUX DIFFERENCE (AFD)

LIMITING CONDITION FOR OPERATION

3.2.1 The indicated AXIAL FLUX DIFFERENCE (AFD) shall be maintained within a $\pm 5\%$ target band (flux difference units) about the target flux difference.

APPLICABILITY: MODE 1 ABOVE 50% RATED THERMAL POWER*

ACTION:

- a. With the indicated AXIAL FLUX DIFFERENCE outside of the $\pm 5\%$ target band about the target flux difference and with THERMAL POWER:
 1. Above $P_f\%$ of RATED THERMAL POWER, within 15 minutes, where $P_f = (0.9 \times P_m)$; the value for P_m is established in the Core Surveillance Report per Technical Specification 6.9.1.7.
 - a) Either restore the indicated AFD to within the target band limits, or
 - b) Reduce THERMAL POWER to less than $P_f\%$ of RATED THERMAL POWER.
 2. Between 50% and $P_f\%$ of RATED THERMAL POWER:
 - a) POWER OPERATION may continue provided:
 - 1) The indicated AFD has not been outside of the $\pm 5\%$ target band for more than 1 hour penalty deviation cumulative during the previous 24 hours, and
 - 2) The indicated AFD is within the limits shown on Figure 3.2-1. Otherwise, reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 30 minutes and reduce the Power Range Neutron Flux-High Trip Setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.
 - b) Surveillance testing of the Power Range Neutron Flux Channels may be performed pursuant to Specification 4.3.1.1.1 provided the indicated AFD is maintained within the limits of Figure 3.2-1. A total of 16 hours of operation may be accumulated with the AFD outside of the target band during this testing without penalty deviation.

*See Special Test Exception 3.10.2.

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS (Continued)

- (b) At least once per 31 EFPD, whichever occurs first.
2. When the F_{xy}^C is less than or equal to the F_{xy}^{RTP} limit for the appropriate measured core plane, additional power distribution maps shall be taken and F_{xy}^C compared to F_{xy}^{RTP} and F_{xy}^L at least once per 31 EFPD.
- e. The F_{xy} limits for Rated Thermal Power (F_{xy}^{RTP}) shall be provided for all core planes containing Bank "D" control rods and all unrodded core planes, in a Core Surveillance Report per Technical Specification 6.9.1.7.
- f. The F_{xy} limits of e, above, are not applicable in the following core plane regions as measured in percent of core height from the bottom of the fuel:
1. Lower core region from 0 to 15%, inclusive.
 2. Upper core region from 85 to 100%, inclusive.
 3. Grid plane regions at $17.8 \pm 2\%$, $32.1 \pm 2\%$, $46.4 \pm 2\%$, $60.6 \pm 2\%$ and $74.9 \pm 2\%$, inclusive (17 x 17 fuel elements).
 4. Core plane regions within $\pm 2\%$ of core height (± 2.88 inches) about the bank demand position of the bank "D" control rods.
- g. With F_{xy}^C exceeding F_{xy}^L :
1. The effects of F_{xy}^C on $F_Q(Z)$ shall be evaluated to determine if $F_Q(Z)$ is within its limit.
- 4.2.2.3 When $F_Q(Z)$ is measured for other than F_{xy} determination, an overall measured $F_Q(Z)$ shall be obtained from a power distribution map and increased by 3% to account for manufacturing tolerances and further increased by 5% to account for measurement uncertainty.

POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION (Continued)

which had a measured peaking factor without uncertainties or densification allowances of $F_{Q \text{ Meas.}}$

- e. σ_j is the standard deviation associated with thimble j, expressed as a fraction or percentage of R_j , and is derived from n flux maps from the relationship below, or 0.02, (2%) whichever is greater.

$$\sigma_j = \frac{\left[\frac{1}{n-1} \sum_{i=1}^n (\bar{R}_j - R_{ij})^2 \right]^{1/2}}{\bar{R}_j}$$

- f. The factor 1.07 is comprised of 1.02 and 1.05 to account for the axial power distribution instrumentation accuracy and the measurement uncertainty associated with F_Q using the movable detector system, respectively.
- g. The factor 1.03 is the engineering uncertainty factor.

APPLICABILITY: MODE 1 ABOVE P_m % OF RATED THERMAL POWER[#], where the value for P_m is established in the Core Surveillance Report per Technical Specification 6.9.1.7.

ACTION:

- a. With a $F_j(Z)$ factor exceeding $F_j(Z)_S$ by less than or equal to 4 percent, reduce THERMAL POWER one percent for every percent by which

[#] The APDMS may be out of service when surveillance for determining power distribution maps is being performed.

INSTRUMENTATION

FIRE DETECTION INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.7 As a minimum, the fire detection instrumentation for each fire detection zone shown in Table 3.3-11 shall be OPERABLE.

APPLICABILITY: Whenever equipment in that fire detection zone is required to be OPERABLE.

ACTION:

With one or more of the fire detection instrument(s) shown in Table 3.3-11 inoperable:

- a. Within 1 hour establish a fire watch patrol to inspect the zone(s) with the inoperable instrument(s) at least once per hour, and
- b. Restore the inoperable instrument(s) to OPERABLE status within 14 days or, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.7.1 Each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months by performance of a CHANNEL FUNCTIONAL TEST.

4.3.3.7.2 The NFPA Code 72D supervised circuits supervision associated with the detector alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at least once per 6 months.

4.3.3.7.3 The non-supervised circuits between the local panels in Specification 4.3.3.7.2 and the control room shall be demonstrated OPERABLE at least once per 31 days.

INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.9 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.11.1.1 are not exceeded. The alarm/trip setpoints of these channels shall be determined and adjusted in accordance with the OFFSITE DOSE CALCULATION MANUAL (ODCM).

APPLICABILITY: At all times.

ACTION:

- a. With a radioactive liquid effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above Specification, without delay suspend the release of radioactive liquid effluents monitored by the affected channel or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, for reasons other than a above, take the ACTION shown in Table 3.3-12. Exert best efforts to return the instruments to OPERABLE status within 30 days and, if unsuccessful, explain in the next Seminannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.
- c. The provisions of Specifications 3.0.3, and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.9 Each radioactive liquid effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-12.

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.10 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3-13 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.10.2.1 are not exceeded. The alarm/trip setpoints of these channels shall be determined and adjusted in accordance with the ODCM.

APPLICABILITY: As whown in Table 3.3-13

ACTION:

- a. With a radioactive gaseous effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above Specification, without delay suspend the release of radioactive gaseous effluents monitored by the affected channel or declare the channel inoperable, or change the setpoint so it is acceptably conservative.
- b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, for reasons other than a above, take the ACTION shown in Table 3.3-13. Exert best efforts to return the instruments to OPERABLE status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner.
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.10 Each radioactive gaseous effluent monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, SOURCE CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-13.

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

9. Preservice Inspection means an inspection of the full length of each tube in each steam generator performed by eddy current techniques prior to service to establish a baseline condition of the tubing. This inspection shall be performed after the field hydrostatic test and prior to initial POWER OPERATION using the equipment and techniques expected to be used during subsequent inservice inspection.
- b. The steam generator shall be determined OPERABLE after completing the corresponding actions (plug all tubes exceeding the plugging limit and all tubes containing through-wall cracks) required by Table 4.4-2.

4.4.5.5 Reports

- a. Following each inservice inspection of steam generator tubes, the number of tubes plugged in each steam generator shall be reported to the Commission within 15 days.
- b. The complete results of the steam generator tube inservice inspection shall be reported on an annual basis for the period in which this inspection was completed. This report shall include:
1. Number and extent of tubes inspected.
 2. Location and percent of wall-thickness penetration for each indication of an imperfection.
 3. Identification of tubes plugged.
- c. Results of steam generator tube inspections which fall into Category C-3 require prompt notification of the Commission pursuant to Section 50.72 to 10 CFR Part 50. A Licensee Event Report shall be submitted pursuant to Section 50.73 to 10 CFR Part 50 and shall provide a description of investigations conducted to determine cause of the tube degradation and corrective measures taken to prevent recurrence.

CONTAINMENT SYSTEMS

CONTAINMENT STRUCTURAL INTEGRITY

LIMITING CONDITIONS FOR OPERATION

3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6.1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the structural integrity of the containment not conforming to the above requirements, restore the structural integrity to within the limits within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.6.1 Containment Surfaces The structural integrity of the exposed accessible interior and exterior surfaces of the containment, including the liner plate, shall be determined during the shutdown for each Type A containment leakage rate test (reference Specification 4.6.1.2) by a visual inspection of these surfaces. This inspection shall be performed prior to the Type A containment leakage rate test to verify no apparent changes in appearance or other abnormal degradation.

4.6.1.6.2 Reports Any abnormal degradation of the containment structure detected during the above required tests and inspections shall be reported to the Commission pursuant to Specification 6.9.2. This report shall include a description of the condition of the concrete and liner, the inspection procedure, the tolerances on cracking, and the corrective actions taken.

PLANT SYSTEMS

3/4.7.14 FIRE SUPPRESSION SYSTEMS

FIRE SUPPRESSION WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.14.1 The fire suppression water system shall be OPERABLE with;

- a. Two fire suppression pumps, each with a capacity of 2500 gpm, with their discharge aligned to the fire suppression header,
- b. Separate water supplies from the North Anna Reservoir and the Service Water Reservoir, and
- c. An OPERABLE flow path capable of taking suction from the North Anna Reservoir and the Service Water Reservoir and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves and the valve at each hose standpipe as required to be OPERABLE per Specification 3.7.14.5.

APPLICABILITY: At all times.

ACTION:

- a. With one pump and/or one water supply inoperable, restore the inoperable equipment to OPERABLE status with 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the plans and procedures to be used to provide the loss of redundancy in this system. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.
- b. With the fire suppression water system otherwise inoperable:
 1. Establish a backup fire suppression water system within 24 hours, and
 2. Submit a Special Report in accordance with Specification 6.9.2;
 - a) By telephone within 24 hours,
 - b) Confirmed by telegraph, mailgram or facsimile transmission no later than the first working day following the event, and

PLANT SYSTEMS

LOW PRESSURE CO₂ SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.14.2 The following low pressure CO₂ systems shall be OPERABLE with a minimum of 3.5 tons in the storage tank (common to Units 1 and 2) at a minimum pressure of 275 psig.

- a. Cable tunnels and vaults
- b. Charcoal filters
- c. Emergency diesel generator rooms

APPLICABILITY: Whenever equipment in the low pressure CO₂ protected areas is required to be OPERABLE.

ACTION:

- a. With one or more of the above required low pressure CO₂ systems inoperable, within one hour, establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.14.2 Each of the above required low pressure CO₂ systems shall be demonstrated OPERABLE:

PLANT SYSTEMS

HIGH PRESSURE CO₂ SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.14.3 The following high pressure CO₂ systems shall be OPERABLE with the storage tanks having at least 90% of full² charge weight.

- a. Fuel oil pump rooms

APPLICABILITY: Whenever equipment protected by the high pressure CO₂ system is required to be OPERABLE.

ACTION:

- a. With one or more of the above required high pressure CO₂ systems inoperable, within one hour, establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.14.3 Each of the above required high pressure CO₂ systems shall be demonstrated OPERABLE:

PLANT SYSTEMS

HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

3.7.14.4 The following Halon systems shall be OPERABLE with the storage tanks having at least 95% of full charge weight and 90% of full charge pressure.

- a. Control Room

APPLICABILITY: Whenever equipment protected by the Halon System is required to be OPERABLE.

ACTION:

- a. With one or more of the above required Halon systems inoperable, within one hour, establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged; for other areas, establish an hourly fire watch patrol. Restore the system to OPERABLE status within 14 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.14.4 Each of the above required Halon systems shall be demonstrated OPERABLE:

- a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path is in its correct position.
- b. At least once per 6 months by verifying Halon storage tank weight and pressure.
- c. At least once per 18 months by:
 - 1. Verifying the system, including associated ventilation dampers, actuates manually and automatically, upon receipt of a simulated test signal, and
 - 2. Performance of a flow test through headers and nozzles to assure no blockage.

PLANT SYSTEMS

FIRE HOSE STATIONS

LIMITING CONDITIONS FOR OPERATION

3.7.14.5 The fire hose stations shown in Table 3.7-7 shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE.

ACTION:

- a. With one or more of the fire hose stations shown in Table 3.7-7 inoperable, route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose station with 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise route the additional hose within 24 hours. Restore the fire hose station to OPERABLE status within 14 days or prepare and submit to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the fire hose station to OPERABLE status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.14.5 Each of the fire hose stations shown in Table 3.7-7 shall be demonstrated OPERABLE:

- a. At least once per 31 days by visual inspection of the station to assure all required equipment is at the station.
- b. At least once per 18 months by:
 1. Removing the hose for inspection and re-racking, and
 2. Replacement of all degraded gaskets in couplings.
- c. At least once per 3 years by:
 1. Partially opening each hose station valve to verify valve OPERABILITY and no flow blockage.
 2. Conducting a hose hydrostatic test at a pressure at least 50 psig greater than the maximum pressure available at that hose station.

PLANT SYSTEMS

3/4.7.15 PENETRATION FIRE BARRIERS

LIMITING CONDITIONS FOR OPERATION

3.7.15 All fire barrier penetrations (including cable penetration barriers, fire doors and fire dampers), in fire zone boundaries, protecting safety related areas shall be functional.

APPLICABILITY: At all times.

ACTION:

- a. With one or more of the above required fire barrier penetrations non-functional, within one hour, either establish a continuous fire watch on at least one side of the affected penetration, or verify the OPERABILITY of fire detectors on at least one side of the non-functional fire barrier and establish an hourly fire watch patrol. Restore the non-functional fire barrier penetration(s) to functional status within 7 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.2.2 within the next 30 days outlining the action taken, the cause of the non-functional penetration and plans and schedule for restoring the fire barrier penetration(s) to functional status.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.15 Each of the above required penetration fire barriers shall be verified to be functional:

- a. At least once per 18 months, by a visual inspection, and
- b. Prior to declaring a penetration fire barrier functional following repairs or maintenance by a visual inspection of the affected penetration fire barrier(s).

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. The overall battery voltage is greater than or equal to 125 volts.
- b. At least once per 92 days by verifying that:
 1. The voltage of each connected cell is greater than or equal to 2.08 volts under float charge and has not decreased more than 0.05 volts from the value observed during the previous test,
 2. The specific gravity, corrected to 77°F and full electrolyte level, of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.08 from the value observed during the previous test, and
 3. The electrolyte level of each connected cell is between the minimum and maximum level indication marks.
- c. At least once per 18 months by verifying that:
 1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration.
 2. The cell-to-cell and terminal connections are clean, tight and coated with anti-corrosion material.
 3. The resistance of each cell-to-cell and terminal connection is less than or equal to 0.01 ohms.
 4. The battery charger will supply at least ten amperes at 125 volts for at least 4 hours.
- d. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test.

3/4.11 RADIOACTIVE EFFLUENTS

3/4.11.1 LIQUID EFFLUENTS

LIMITING CONDITION FOR OPERATION

3.11.1.1 The concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS (see Figure 5.1-3) shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} microcuries/ml.

APPLICABILITY: At all times.

ACTION:

With the concentration of radioactive material released in liquid effluents to UNRESTRICTED AREAS exceeding the above limits, without delay restore the concentration to within the above limits.

SURVEILLANCE REQUIREMENTS

4.11.1.1.1 Radioactive liquid wastes shall be sampled and analyzed according to the sampling and analysis program of Table 4.11-1.

4.11.1.1.2 The results of the radioactivity analyses shall be used in accordance with the methods in the ODCM to assure that the concentrations at the point of release are maintained within the limits of Specification 3.11.1.1.

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

DOSE RATE

LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate due to radioactive materials released in gaseous effluents from the site to areas at and beyond the SITE BOUNDARY (see Figure 5.1-1) shall be limited to the following:

- a. For noble gases: Less than or equal to 500 mrem/yr to the total body and less than or equal to 3000 mrem/yr to the skin, and
- b. For iodine-131, for tritium, and for all radionuclides in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrem/yr to the critical organ.*

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, without delay restore the release rate to within the above limit(s).

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The dose rate due to noble gases in gaseous effluents shall be determined continuously to be within the above limits in accordance with the methods and procedures of the ODCM.

4.11.2.1.2 The dose rate due to iodine-131, tritium, and all radionuclides in particulate form with half lives greater than 8 days, in gaseous effluents shall be determined to be within the above limits in accordance with the methods and procedures of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.11-2.

*The critical organ is defined in the ODCM.

RADIOACTIVE EFFLUENTS

3/4.11.3 SOLID RADIOACTIVE WASTE

LIMITING CONDITION FOR OPERATION

3.11.3 SOLIDIFICATION shall be conducted in accordance with a PROCESS CONTROL PROGRAM.

APPLICABILITY: At all times.

ACTION:

- a. With the provisions of the PROCESS CONTROL PROGRAM not satisfied, suspend shipments of defectively processed or defectively packaged solid radioactive wastes from the site.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.3.1 The PROCESS CONTROL PROGRAM shall be used to verify the SOLIDIFICATION of at least one representative test specimen from at least every tenth batch of each type of wet radioactive waste (e.g., filter sludges, spent resins, evaporator bottoms, boric acid solutions, and sodium sulfate solutions).

- a. If any test specimen fails to verify SOLIDIFICATION, the SOLIDIFICATION of the batch under test shall be suspended until such time as additional test specimens can be obtained, alternate SOLIDIFICATION parameters can be determined in accordance with the PROCESS CONTROL PROGRAM, and a subsequent test verifies SOLIDIFICATION. SOLIDIFICATION of the batch may then be resumed using the alternative SOLIDIFICATION parameters determined by the PROCESS CONTROL PROGRAM.
- b. If the initial test specimen from a batch of waste fails to verify SOLIDIFICATION, the PROCESS CONTROL PROGRAM shall provide for the collection and testing of representative test specimens from each consecutive batch of the same type of wet waste until at least 3 consecutive initial test specimens demonstrate SOLIDIFICATION. The PROCESS CONTROL PROGRAM shall be modified as required, as provided in Specification 6.13, to assure SOLIDIFICATION of subsequent batches of waste.

3/4.12 RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.1 MONITORING PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.1 The radiological environmental monitoring program shall be conducted as specified in Table 4.12-1.

APPLICABILITY: At all times.

ACTION:

- a. With the radiological environmental monitoring program not being conducted as specified in Table 4.12-1, in lieu of a Licensee Event Report, prepare and submit to the Commission, in the Annual Radiological Environmental Operating Report required by Specification 6.9.1.8, a description of the reasons for not conducting the program as required and the plans for preventing a recurrence.
- b. With the level of radioactivity as the result of plant effluents in an environmental sampling medium at a specified location exceeding the reporting levels of Table 4.12-2 when averaged over any calendar quarter, in lieu of a Licensee Event Report, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report that identifies the cause(s) for exceeding the limit(s) and defines the corrective actions to be taken to reduce radioactive effluents so that the potential annual dose to A MEMBER OF THE PUBLIC is less than the calendar year limits of Specifications 3.11.1.2, 3.11.2.2, and 3.11.2.3. When more than one of the radionuclides in Table 4.12-2 are detected in the sampling medium, this report shall be submitted if:

$$\frac{\text{concentration (1)}}{\text{reporting level (1)}} + \frac{\text{concentration (2)}}{\text{reporting level (2)}} + \dots \geq 1.0$$

When radionuclides other than those in Table 4.12-2 are detected and are the result of plant effluents, this report shall be submitted if the potential annual dose to a MEMBER OF THE PUBLIC is equal to or greater than the calendar year limits of Specifications 3.11.1.2, 3.11.2.2 and 3.11.2.3. This report is not required if the measured level of radioactivity was not the result of plant effluents; however, in such an event, the condition shall be reported and described in the Annual Radiological Environmental Operating Report.

- c. With milk or fresh leafy vegetable samples unavailable from one or more of the sample locations required by Table 4.12-1, identify locations for obtaining replacement samples and add them to the radiological environmental monitoring program within 30 days. The specific locations from which samples were unavailable may then be

RADIOLOGICAL ENVIRONMENTAL MONITORING

deleted from the monitoring program. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.9, identify the cause of the unavailability of samples and identify the new location(s) for obtaining replacement samples in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).

- d. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.1.1 The radiological environmental monitoring samples shall be collected pursuant to Table 4.12-1 from the specific locations given in the table and figure(s) in the ODCM and shall be analyzed pursuant to the requirements of Table 4.12-1, the detection capabilities required by Table 4.12-3, and the guidance of the Radiological Assessment Branch Technical Position on Environmental Monitoring dated November, 1979, Revision No. 1.

TABLE 4.12-1 (Continued)TABLE NOTATION

^a Specific parameters of distance and direction sector from the centerline of one reactor, and additional description where pertinent, shall be provided for each and every sample location in Table 4.12-1 in a table and figure(s) in the ODCM. Refer to NUREG-0133, "Preparation of Radiological Effluent Technical Specifications for Nuclear Power Plants, "October 1978, and to Radiological Assessment Branch Technical Positions, Revision 1, November 1979. Deviations are permitted from the required sampling schedule if specimens are unobtainable due to hazardous conditions, seasonal unavailability, malfunction of automatic sampling equipment and other legitimate reasons. If specimens are unobtainable due to sampling equipment malfunction, every effort shall be made to complete corrective action prior to the end of the next sampling period. All deviations from the sampling schedule shall be documented in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8. It is recognized that, at times, it may not be possible or practicable to continue to obtain samples of the media of choice at the most desired location or time. In these instances suitable alternative media and locations may be chosen for the particular pathway in question and appropriate substitutions made within 30 days in the radiological environmental monitoring program. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.9, identify the cause of the unavailability of samples for that pathway and identify the new location(s) for obtaining replacement samples in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).

^b One or more instruments, such as a pressurized ion chamber, for measuring and recording dose rate continuously may be used in place of, or in addition to, integrating dosimeters. For the purposes of this table, a thermoluminescent dosimeter (TLD) is considered to be one phosphor; two or more phosphors in a packet are considered as two or more dosimeters. Film badges shall not be used as dosimeters for measuring direct radiation. The 40 stations is not an absolute number. The number of direct radiation monitoring stations may be reduced according to geographical limitations; e.g., at an ocean site, some sectors will be over water so that the number of dosimeters may be reduced accordingly. The frequency of analysis or readout for TLD systems will depend upon the characteristics of the specific system used and should be selected to obtain optimum dose information with minimal fading.

TABLE 4.12-3 (Continued)

TABLE NOTATION

^a This list does not mean that only these nuclides are to be considered. Other peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8.

^b The LLD is defined, for purposes of these Specifications, as the smallest concentration of radioactive material in a sample that will yield a net count, above system background, that will be detected with 95% probability with only 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement system, which may include radiochemical separation :

$$LLD = \frac{4.66 s_b}{\bar{E} \cdot V \cdot 2.22 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the "a priori" lower limit of detection as defined above, as picocuries per unit mass or volume,

s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate, as counts per minute,

\bar{E} is the counting efficiency, as counts per disintegration,

V is the sample size in units of mass or volume,

2.22 is the number of disintegrations per minute per picocurie,

Y is the fractional radiochemical yield, when applicable,

λ is the radioactive decay constant for the particular radionuclide, and

Δt for environmental samples is the elapsed time between sample collection, or end of the sample collection period, and time of counting

Typical values of E, V, Y and Δt should be used in the calculation.

TABLE 4.12-2 (Continued)

TABLE NOTATION

It should be recognized that the LLD is defined as an a priori (before the fact) limit representing the capability of a measurement system and not as an a posteriori (after the fact) limit for a particular measurement. Analysis shall be performed in such a manner that the stated LLDs will be achieved under routine conditions. Occasionally background fluctuations, unavoidably small sample sizes, the presence of interfering nuclides, or other uncontrollable circumstances may render these LLDs unachievable. In such cases, the contributing factors will be identified and described in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.2 LAND USE CENSUS

LIMITING CONDITION FOR OPERATION

3.12.2 A land use census shall be conducted and shall identify within a distance of 8 km (5 miles) the location in each of the 16 meteorological sectors of the nearest milk animal, the nearest residence and the nearest garden* of greater than 50 m² (500 ft²) producing broad leaf vegetation.

APPLICABILITY: At all times.

ACTION:

- a. With a land use census identifying a location(s) that yields a calculated dose or dose commitment greater than the values currently being calculated in Specification 4.11.2.3, in lieu of a Licensee Event Report, identify the new location(s) in the next Semiannual Radioactive Effluent Release Report, pursuant to Specification 6.9.1.9.
- b. With a land use census identifying a location(s) that yields a calculated dose or dose commitment (via the same exposure pathway) 25 percent greater than at a location from which samples are currently being obtained in accordance with Specification 3.12.1, add the new location(s) to the radiological environmental monitoring program within 30 days. The sampling location(s), excluding the control station location, having the lowest calculated dose or dose commitment(s), via the same exposure pathway, may be deleted from this monitoring program after (October 31) of the year in which this land use census was conducted. In lieu of a Licensee Event Report and pursuant to Specification 6.9.1.9, identify the new location(s) in the next Semiannual Radioactive Effluent Release Report and also include in the report a revised figure(s) and table for the ODCM reflecting the new location(s).
- c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.2 The land use census shall be conducted during the growing season at least once per 12 months using that information that will provide the best results, such as by a door-to-door survey, aerial survey, or by consulting local agriculture authorities. The results of the land use census shall be included in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8.

*Broad leaf vegetation sampling of at least three different kinds of vegetation may be performed at the site boundary in each of two different direction sectors with the highest predicted D/Qs in lieu of the garden census. Specifications for broad leaf vegetation sampling in Table 4.12-1.4c shall be followed, including analysis of control samples.

RADIOLOGICAL ENVIRONMENTAL MONITORING

3/4.12.3 INTERLABORATORY COMPARISON PROGRAM

LIMITING CONDITION FOR OPERATION

3.12.3 Analyses shall be performed on radioactive materials (which contain nuclides produced at nuclear power stations) supplied as part of an Interlaboratory Comparison Program, described in the ODCM, that has been approved by the Commission.

APPLICABILITY: At all times.

ACTION:

- a. With analyses not being performed as required above, report the corrective actions taken to prevent a recurrence to the Commission in the Annual Radiological Environmental Operating Report pursuant to Specification 6.9.1.8.
- b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.12.3 A summary of the results obtained as part of the above required Interlaboratory Comparison Program shall be maintained as described in the ODCM.

3/4.4 REACTOR COOLANT SYSTEM

BASES

3/4.4.5 STEAM GENERATORS

The Surveillance Requirements for inspection of the steam generator tubes ensure that the structural integrity of this portion of the RCS will be maintained. The program for inservice inspection of steam generator tubes is based on a modification of Regulatory Guide 1.83, Revision 1. Inservice inspection of steam generator tubing is essential in order to maintain surveillance of the conditions of the tubes in the event that there is evidence of mechanical damage or progressive degradation due to design, manufacturing errors, or inservice conditions that lead to corrosion. Inservice inspection of steam generator tubing also provides a means of characterizing the nature and cause of any tube degradation so that corrective measures can be taken.

The plant is expected to be operated in a manner such that the secondary coolant will be maintained within those parameter limits found to result in negligible corrosion of the steam generator tubes. If the secondary coolant chemistry is not maintained within these parameter limits, localized corrosion may likely result in stress corrosion cracking. The extent of cracking during plant operation would be limited by the limitation of steam generator tube leakage between the primary coolant system and the secondary coolant system (primary-to-secondary leakage = 500 gallons per day per steam generator). Cracks having a primary-to-secondary leakage less than this limit during operation will have an adequate margin of safety to withstand the loads imposed during normal operation and by postulated accidents. Operating plants have demonstrated that primary-to-secondary leakage of 500 gallons per day per steam generator can readily be detected by radiation monitors of steam generator blowdown. Leakage in excess of this limit will require plant shutdown and an unscheduled inspection, during which the leaking tubes will be located and plugged.

Wastage-type defects are unlikely with the all volatile treatment (AVT) of secondary coolant. However, even if a defect of similar type should develop in service, it will be found during scheduled inservice steam generator tube examinations. Plugging will be required of all tubes with imperfections exceeding the plugging limit which, by the definition of Specification 4.4.5.4.a is 40% of the tube nominal wall thickness. Steam generator tube inspections of operating plants have demonstrated the capability to reliably detect degradation that has penetrated 20% of the original tube wall thickness.

Whenever the results of any steam generator tubing inservice inspection fall into Category C-3, these results will be promptly reported to the Commission pursuant to Section 50.72 to 10 CFR Part 50 with a followup report pursuant to Section 50.73 to 10 CFR Part 50. Such cases will be considered by the Commission on a case-by-case basis and may result in a requirement for analysis, laboratory examinations, tests, additional eddy-current inspection, and revision of the Technical Specifications, if necessary.

ADMINISTRATIVE CONTROLS

MEETING FREQUENCY

6.5.1.4 The SNSOC shall meet at least once per calendar month and as convened by the SNSOC Chairman or his designated alternate.

QUORUM

6.5.1.5 A quorum of the SNSOC shall consist of the Chairman or Vice-Chairman and two members including alternates.

RESPONSIBILITIES

6.5.1.6 The SNSOC shall be responsible for:

- a. Review of 1) all procedures required by Specifications 6.8.1, 6.8.2 and 6.8.3 and changes thereto, 2) all programs required by Specification 6.8.4 and changes thereto, 3) any other proposed procedures or changes thereto as determined by the Station Manager to affect nuclear safety.
- b. Review of all proposed tests and experiments that affect nuclear safety.
- c. Review of all proposed changes to Appendix "A" Technical Specifications.
- d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.
- e. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Manager - Nuclear Operations Support and the Director-Safety Evaluation and Control.
- f. Review of all REPORTABLE EVENTS and Special Reports.
- g. Review of facility operations to detect potential nuclear safety hazards.
- h. Performance of special reviews, investigations or analyses and reports thereon as requested by the Chairman of the Station Nuclear Safety and Operating Committee.
- i. Review of the Plant Security Plan and implementing procedures and shall submit recommended changes to the Chairman of the Station Nuclear Safety and Operating Committee.
- j. Review of the Emergency Plan and implementing procedures and shall submit recommended changes to the Chairman of the Station Nuclear Safety and Operating Committee.

*This change was previously submitted in Vepco letter dated July 1, 1983 (Serial No. 264A).

ADMINISTRATIVE CONTROLS

REVIEW (Cont'd)

- d. Violations, REPORTABLE EVENTS and Special Reports such as:
 - 1. Violations of applicable codes, regulations, orders, Technical Specifications, license requirements or internal procedures or instructions having safety significance;
 - 2. Significant operating abnormalities or deviations from normal or expected performance of station safety-related structures, systems, or components; and
 - 3. All REPORTABLE EVENTS submitted in accordance with Section 50.73 to 10 CFR Part 50 and Special Reports required by Specification 6.9.2.

Review of events covered under this paragraph shall include the results of any investigations made and recommendations resulting from such investigations to prevent or reduce the probability of recurrence of the event.

- e. The Quality Assurance Department audit program at least once per 12 months and audit reports.
- f. Any other matter involving safe operation of the nuclear power stations which a duly appointed subcommittee or committee member deems appropriate for consideration, or which is referred to the Director-Safety Evaluation and Control by the Station Nuclear Safety and Operating Committee.
- g. Reports and meeting minutes of the Station Nuclear Safety and Operating Committee.

AUTHORITY

6.5.2.9 The Director-Safety Evaluation and Control shall report to and advise the Manager-Nuclear Operations Support, who shall advise the Vice President-Nuclear Operations on those areas of responsibility specified in Section 6.5.2.7. *

RECORDS

6.5.2.10 Records of SEC activities required by Section 6.5.2.7 shall be prepared and maintained in the SEC files and a summary shall be disseminated as indicated below each calendar month.

- 1. Vice President-Nuclear Operations
- 2. Nuclear Power Station Managers
- 3. Manager-Nuclear Operations Support *

*These changes were previously submitted in Vepco letter dated July 1, 1983 (Serial No. 264A).

ADMINISTRATIVE CONTROLS

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

- 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 SNSOC and the results of this review shall be submitted to the Director-Safety Evaluation and Control and the Vice President - Nuclear Operations.

6.7 SAFETY LIMIT VIOLATION

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

- a. The facility 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 Vice President-Nuclear Operations, and the Director-Safety Evaluation and Control shall be notified within 24 hours.
- c. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the SNSOC. 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 Director-Safety Evaluation and Control and the Vice President - Nuclear Operations within 14 days of the violation.

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.

*These changes were previously submitted in Vepco letter dated July 1, 1983 (Serial No. 264A).

ADMINISTRATIVE CONTROLS

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 to the Director of the Regional Office of Inspection and Enforcement unless otherwise noted.

STARTUP REPORTS

6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (a) 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.

ADMINISTRATIVE CONTROLS

- b. The complete results of the steam generator tube inservice inspections performed during the report period (Reference Specification 4.4.5.5.b.).

MONTHLY OPERATING REPORT

6.9.1.6 Routine reports of operating statistics and shutdown experience, including documentation of all challenges to the Reactor Coolant System PORVs or safety valves, shall be submitted on a monthly basis to the Director, Office of Management and Program Analysis, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the Regional Office of Inspection and Enforcement, no later than the 15th of each month following the calendar month covered by the report.

*

DELETED

*This change was previously submitted in Vepco letter dated November 30, 1984 (Serial No. 688).

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CORE SURVEILLANCE REPORT

6.9.1.7 The F_{xy} limit for Rated Thermal Power (F_{xy}^{RTP}) in all core planes containing Bank "D" control rods and in all unrodded core planes, the surveillance power level, P_m , for Technical Specifications 3.2.1 and 3.2.6, and the F_Q flyspeck basis as determined using the definitions and methodology in WCAP- 8385 and Westinghouse letter to NRC dated April 6, 1978 Serial No. NS-CE-1749 shall be provided to the Regional Administrator, Region II, with a copy to;

Director, Office of Nuclear Reactor Regulation
Attention: Chief of Core Performance Branch
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

at least 60 days prior to cycle initial criticality. In the event that the limits would be submitted at some other time during core life, they shall be submitted 60 days prior to the date the limits would become effective unless otherwise exempted by the Commission.

ADMINISTRATIVE CONTROLS (Continued)

Any additional information needed to support the F_{xy}^{RTP} and P_m submittal will be by request from the NRC and need not be included in this report.

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT*

6.9.1.8 Routine Radiological Environmental Operating Reports covering the operation of the unit during the previous calendar year shall be submitted prior to May 1 of each year. The initial report shall be submitted prior to May 1 of the year following initial criticality.

The Annual Radiological Environmental Operating Reports shall include summaries, interpretations, and an analysis of trends of the results of the radiological environmental surveillance activities for the report period, including a comparison (as appropriate) with preoperational studies, operational controls, and previous environmental surveillance reports, and an assessment of the observed impacts of the plant operation on the environment. The reports shall also include the results of land use censuses required by Specification 3.12.2.

The Annual Radiological Environmental Operating Reports shall include the results of analysis of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the Table and Figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

The reports shall also include the following: a summary description of the radiological environmental monitoring program; at least two legible maps** covering all sampling locations keyed to a table giving distances and directions from the centerline of one reactor; the results of licensee participation in the Interlaboratory Comparison Program, required by Specification 3.12.3; discussion of all deviations from the sampling schedule of Table 4.12-1 and discussion of all analyses in which the LLD required by Table 4.12-3 was not achievable.

*A single submittal may be made for a multiple unit station.

**One map shall cover stations near the SITE BOUNDARY; a second shall include the more distant stations.

ADMINISTRATIVE CONTROLS (CONTINUED)

SEMIANNUAL RADIOACTIVE EFFLUENT RELEASE REPORT*

6.9.1.9 Routine Radioactive Effluent Release Reports covering the operation of the unit during the previous 6 months of operation shall be submitted within 60 days after January 1 and July 1 of each year. The period of the first report shall begin with the date of initial criticality.

The Radioactive Effluent Release Reports shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit as outlined in Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water-Cooled Nuclear Power Plants," Revision 1, June 1974, with data summarized on a quarterly basis following the format of Appendix B thereof.

The Radioactive Effluent Release Report shall be submitted within 60 days after January 1 of each year. This report shall include an assessment of the radiation doses to the maximum exposed MEMBERS OF THE PUBLIC due to the radioactive liquid and gaseous effluents released from the unit or station during the previous calendar year. Annual meteorological data collected over the previous year shall be in the form of joint frequency distributions of wind speed, wind direction, and atmospheric stability. This meteorological data shall be retained in a file on site and shall be made available to the NRC upon request. All assumptions used in making these assessments (i.e., specific activity, exposure time and location) shall be included in the OFFSITE DOSE CALCULATION MANUAL (ODCM). Concurrent meteorological conditions or historical annual average atmospheric dispersion conditions shall be used for determining the gaseous pathway doses. The assessment of radiation doses shall be performed in accordance with the OFFSITE DOSE CALCULATION MANUAL (ODCM).

If the dose to the maximum exposed MEMBER OF THE PUBLIC due to the radioactive liquid and gaseous effluents from the station during the previous calendar year exceeds twice the limits of Specification 3.11.1.2a, 3.11.1.2.b, 3.11.2.2.a, 3.11.2.2.b, 3.11.2.3.a, or 3.11.2.3.b the dose assessment shall include the contribution from direct radiation. The dose to the maximum exposed MEMBER OF THE PUBLIC shall show conformance with 40 CFR Part 190, Environmental Radiation Protection Standards for Nuclear Power Operation.

The Radioactive Effluent Release Reports shall include a list of unplanned releases as required to be reported in Section 50.73 to 10 CFR Part 50 from the site to UNRESTRICTED AREAS of radioactive materials in gaseous and liquid effluents made during the reporting period.

The Radioactive Effluent Release Reports shall include any changes made during the reporting period to the PROCESS CONTROL PROGRAM (PCP) and to the OFFSITE DOSE CALCULATION MANUAL (ODCM), as well as a listing of new locations for dose calculations and/or environmental monitoring identified by the land use census pursuant to Specification 3.12.2.

*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.

ADMINISTRATIVE CONTROLS (Continued)

SPECIAL REPORTS

6.9.2 Special reports shall be submitted to the Regional Administrator, Region II, within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirement of the applicable reference specification:

- a. Inservice Inspection Program Reviews shall be reported within 90 days of completion. Specification 4.0.5
- b. ECCS Actuation shall be reported within 90 days of the occurrence. The report shall describe the circumstances of the actuation and the total accumulated cycles to date. Specification 3.5.2 and 3.5.3.
- c. With the primary coolant specific activity $>1.0 \mu\text{Ci/gram}$ DOSE EQUIVALENT I-131 or $>100/E \mu\text{Ci/gram}$, a specific activity analysis shall be included in the Special Report. The information requested in Specification 3.4.8 shall also be included in that report.
- d. With sealed source or fission detector leakage tests revealing the presence of ≥ 0.005 microcuries of removable contamination submit a special report on an annual basis outlining the corrective actions taken to prevent the spread of contamination. Specification 4.7.11.1.3.
- e. With the MTC more positive than $0 \Delta k/k/^{\circ}\text{F}$ submit a special report within the next 10 days describing the value of the measured MTC, the interim control rod withdrawal limits and the predicted average core burnup necessary for restoring the positive MTC to within its limit for the all rods withdrawn condition. Specification 3.1.1.4.
- f. For any abnormal degradation of the structural integrity of the reactor vessel or the Reactor Coolant System pressure boundary detected during the performance of Specification 4.4.10.1, an initial report shall be submitted within 10 days after detection and a detailed report submitted within 90 days after the completion of Specification 4.4.10.1.
- g. For any abnormal degradation of the containment structure detected during the performance of Specification 4.6.1.6.2, an initial report shall be submitted within 10 days after completion of Specification 4.6.1.6.2. A final report, which includes (1) a description of the condition of the liner plate and concrete, (2) inspection procedure, (3) the tolerance on cracking and (4) the corrective actions taken, shall be submitted within 90 days after the completion of Specification 4.6.1.6.2.
- h. Inoperable Fire Detection Instrumentation, Specification 3.3.3.7.
- i. Inoperable Fire Suppression Systems, Specifications 3.7.14.1, 3.7.14.2, 3.7.14.3, 3.7.14.4 and 3.7.14.5.

ADMINISTRATIVE CONTROLS (Continued)

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 and Special Reports.
- d. Records of surveillance activities, inspections and calibrations required by these Technical Specifications.
- e. Records of changes made to Operating Procedures.
- f. Records of radioactive shipments.
- g. Records of sealed source leak tests and results.
- h. Records of annual physical inventory of all sealed source material of record.

6.10.2 The following records shall be retained for the duration of the Facility Operating License:

- a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.
- b. Records of new and irradiated fuel inventory, fuel transfers and assembly burnup histories.
- c. Records of facility radiation and contamination surveys.
- d. Records of radiation exposure for all individuals entering radiation control areas.
- e. Records of gaseous and liquid radioactive material release to the environs.
- f. Records of transient or operational cycles for those facility components identified in Table 5.7-1.

ATTACHMENT 3

DISCUSSION OF PROPOSED TECHNICAL SPECIFICATION CHANGES

Generic Letter No. 83-43 requested all licensees to revise their Technical Specifications to come into conformance with 10CFR50.72 and 50.73. 10CFR50.72 has been revised to indicate the immediate notification requirements for operating nuclear power reactors. 10CFR50.73 is new and provides for a revised Licensee Event Report (LER) System.

The following changes to the North Anna 1 and 2 Technical Specification should be made to come in conformance with the new rules:

1. Throughout the Technical Specifications, revise the term REPORTABLE OCCURRENCE to become REPORTABLE EVENT,
2. The definition of REPORTABLE EVENT shall read, "A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10CFR Part 50.",
3. Delete Technical Specifications 6.9.1.7, 6.9.1.8 and 6.9.1.9,
4. Throughout the Technical Specifications, delete the references to Technical Specifications 6.9.1.7, 6.9.1.8 and 6.9.1.9,
5. Insert where applicable, the reference to Section 50.73 to 10CFR Part 50,
6. Revise the Technical Specifications 6.9.1.10, 6.9.1.11 and 6.9.1.12 to become 6.9.1.7, 6.9.1.8 and 6.9.1.9 because the original Technical Specifications 6.9.1.7, 6.9.1.8 and 6.9.1.9 have been deleted,
7. Throughout the Technical Specifications, revise the references to Technical Specifications 6.9.1.10, 6.9.1.11 and 6.9.1.12 to become 6.9.1.7, 6.9.1.8 and 6.9.1.9, respectively, and
8. Revise the page numbers on Index Page xx, for North Anna 1, and Index Page xvii, for North Anna 2, to reflect the deletion of Technical Specifications 6.9.1.7, 6.9.1.8 and 6.9.1.9 in Section 6.

In addition, Specification 6.5.1.6a is revised to have the Station Nuclear Safety and Operating Committee (SNSOC) review all procedures required in Specifications 6.8.1, 6.8.2 and 6.8.3. Specifications 6.8.2 and 6.8.3 were inadvertently left out of Specification 6.5.1.6a. SNSOC was reviewing changes and temporary changes to procedures in accordance with administrative procedures even though this function was left out of the Technical Specifications. Specification 6.5.1.6f is revised to have SNSOC review all Reportable Events and Special Reports and Specification 6.10.1c is revised to retain all Reportable Events and Special Reports for at least five years. Specification 6.5.2.7d is revised to have the Safety Evaluation and Control Staff (SEC) review all Violations, Reportable Events and Special Reports.

These proposed changes to the North Anna 1 and 2 Technical Specifications do not pose a significant hazards consideration and are administrative in nature. These changes have been requested by the Nuclear Regulatory Commission to reflect the new requirements of 10CFR50.72 and 50.73.

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3. Delete Technical Specifications 6.9.1.7, 6.9.1.8 and 6.9.1.9,
4. Throughout the Technical Specifications, delete the references to Technical Specifications 6.9.1.7, 6.9.1.8 and 6.9.1.9,
5. Insert where applicable, the reference to Section 50.73 to 10CFR Part 50,
6. Revise the Technical Specifications 6.9.1.10, 6.9.1.11 and 6.9.1.12 to become 6.9.1.7, 6.9.1.8 and 6.9.1.9 because the original Technical Specifications 6.9.1.7, 6.9.1.8 and 6.9.1.9 have been deleted,
7. Throughout the Technical Specifications, revise the references to Technical Specifications 6.9.1.10, 6.9.1.11 and 6.9.1.12 to become 6.9.1.7, 6.9.1.8 and 6.9.1.9, respectively, and
8. Revise the page numbers on Index Page xx, for North Anna 1, and Index Page xvii, for North Anna 2, to reflect the deletion of Technical Specifications 6.9.1.7, 6.9.1.8 and 6.9.1.9 in Section 6.

In addition, Specification 6.5.1.6a is revised to have the Station Nuclear Safety and Operating Committee (SNSOC) review all procedures required in Specifications 6.8.1, 6.8.2 and 6.8.3. Specifications 6.8.2 and 6.8.3 were inadvertently left out of Specification 6.5.1.6a. SNSOC was reviewing changes and temporary changes to procedures in accordance with administrative procedures even though this function was left out of the Technical Specifications. Specification 6.5.1.6f is revised to have SNSOC review all Reportable Events and Special Reports and Specification 6.10.1c is revised to retain all Reportable Events and Special Reports for at least five years. Specification 6.5.2.7d is revised to have the Safety Evaluation and Control Staff (SEC) review all Violations, Reportable Events and Special Reports.

These proposed changes to the North Anna 1 and 2 Technical Specifications do not pose a significant hazards consideration and are administrative in nature. These changes have been requested by the Nuclear Regulatory Commission to reflect the new requirements of 10CFR50.72 and 50.73.