ATTACHMENT 1

PROPOSED CHANGES TO THE
GRAND GULF NUCLEAR STATION
TECHNICAL SPECIFICATIONS

NRC TECHNICAL REVIEW BRANCH: HYDROLOGIC AND GEOTECHNICAL ENGINEERING

Listing of Item Numbers by
Technical Specification Problem Sheet (TSPS) Number

TSPS No.	Item Nos.8
133	1.D.01

* Item number format: 1.A.02

- 02 — Item number within category
- A — Category designator
- 1 — Attachment number

A. TYPOGRAPHICAL ERRORS, EDITORIAL CHANGES, AND CLARIFICATIONS

No technical specification changes in this category are included with this attachment.

B. TECHNICAL SPECIFICATION/AS-BUILT PLANT CONSISTENCY

No technical specification changes in this category are included with this attachment.

C. ENHANCEMENTS THAT ARE CONSISTENT WITH THE SAFETY ANALYSES

No technical specification changes in this category are included with this attachment.

D. REGULATORY REQUIREMENTS/REQUESTS/RECOMMENDATIONS

The following change is proposed to render the technical specification consistent with recent changes in NRC policy and the Code of Federal Regulations, as well as to implement changes or enhancements recently requested or recommended by NRC reviewers.

This proposed change is required to render the technical specification consistent with recent NRC guidance, and it has been concluded based on a review of this item that the proposed change does not:

- o Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- o Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- o Involve a significant reduction in a margin of safety.

Therefore, the proposed change does not involve a significant hazards consideration.

A description of this change including justification for the change is provided below:

1. (TSPS 133) Embankment Stability, Technical Specification 3.7.10 and Administrative Controls, Procedures and Programs 6.8.1

   The existing Technical Specification 3/4.7.10 was proposed by MP&L in AECM-83/0370 dated June 29, 1983, in order to implement a requirement in Supplement 1 to the GGNS Safety Evaluation Report (SER). The SER requirement involves implementation of the provisions of Regulatory Guide 1.127, "Inspection of Water Control Features Associated with Nuclear Power Plants" for the slopes of the access road and drainage basin at Culvert No. 1. Adminsitrative changes to Specification 3/4.7.10 were requested by MP&L on September 9, 1983 (AECM-83/0565). These proposed changes were subsequently withdrawn on May 25, 1984 (AECM-84/0303).

   These required inspections do not represent limiting conditions for operation as passive flood control measures, which are consistent with Regulatory Guide 1.102, have been provided at GGNS to protect safety related equipment from the effects of flooding. The proposed change deletes Technical Specification 3.7.10 and adds a new Administrative Control Specification, 6.8.1.j. The inspections dealt with in Specification 3.7.10 will be included in the plant administrative procedures under this new specification. This change does not adversely affect plant safety since the plant administrative procedures will continue to ensure that detailed inspections of the embankment structure upstream of Culvert No. 1 are performed, using the guidance of Regulatory Guide 1.127. This proposed change is in response to an NRC proof and review comment and constitutes an enhancement to the present technical specifications. (Page 3/4 7-46, 6-14)

E. PROPOSED TECHNICAL SPECIFICATION CHANGES

(AFFECTED PAGES ARE PROVIDED IN THE
ORDER OF ASCENDING PAGE NUMBERS.)

PLANT SYSTEMS

3/4.7.10 EMBANKMENT STABILITY

LIMITING CONDITION FOR OPERATION

3.7.10 The downstream access road slope at Culvert No. 1 and the drainage basin slopes shall remain stable.

APPLICABILITY: At all times.

ACTION: If Culvert No. 1 has blockage exceeding 15% of its cross-sectional area, the Culvert shall be cleaned and the slope embankments verified to be stable.

SURVEILLANCE REQUIREMENTS

4.7.10 The downstream access road slope at Culvert No. 1 and the drainage basin slopes shall be confirmed to be stable by:

a. At least once per year, performing a visual inspection of the embankments and Culvert No. 1.

b. At least once per five years, performing a five-year survey to confirm no significant degradation to the base-line data.

c. Following the occurrence of earthquakes, hurricanes, tornados, or intense local rainfalls, a visual inspection of the embankments and Culvert No. 1 will be made. If this special inspection reveals evidence of change, a survey will be performed to confirm no significant degradation to the base-line data.

133

SAFETY LIMIT VIOLATION (Continued)

c. The Safety Limit Violation Report shall be submitted to the Commission, the SRC and the Senior Vice President - Nuclear within 14 days of the violation.

d. Critical operation of the unit shall not be resumed until authorized by the Commission.

6.8 PROCEDURES AND PROGRAMS

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

a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Revision 2, February 1978.

b. Refueling operations.

c. Surveillance and test activities of safety related equipment.

d. Security Plan implementation.

e. Emergency Plan implementation.

f. Fire Protection Program implementation.

g. PROCESS CONTROL PROGRAM implementation.

h. OFFSITE DOSE CALCULATION MANUAL implementation.

i. Quality Assurance Program for effluent and environmental monitoring, using the guidance in Regulatory Guide 4.15, February 1979.

j. Embankment Stability Verification Program

133

6.8.2 Each procedure of 6.8.1 above, and changes thereto, shall be reviewed as required by 6.5, above, prior to implementation and shall be reviewed periodically as set forth in administrative procedures.

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

a. Primary Coolant Sources Outside Containment

A program to reduce leakage from those portions of systems outside containment that could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. The systems include the:

1. RCIC system outside containment containing steam or water, except the drain line to the main condenser.

2. RHR system outside containment containing steam or water, except the line to the LRW system and headers that are isolated by manual valves.

3. HPCS system.

4. LPCS system.

5. Hydrogen analyzers of the combustible gas control system.

ATTACHMENT 2

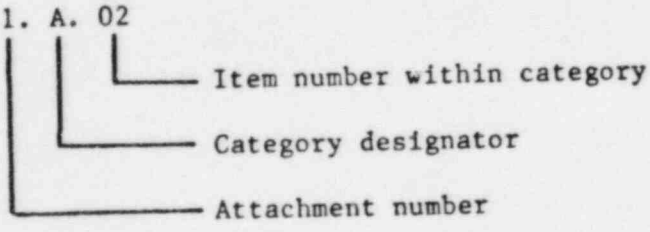
PROPOSED CHANGES TO THE
GRAND GULF NUCLEAR STATION
TECHNICAL SPECIFICATIONS

NRC TECHNICAL REVIEW BRANCH: METEOROLOGY AND EFFLUENT TREATMENT

Listing of Item Numbers by
Technical Specification Problem Sheet (TSPS) Number

TSPS No.	Item Nos.*
018	2.A.04
045	2.A.05, 2.A.01
062	2.A.08
087	2.D.01
122	2.D.02, 2.A.03
138	2.B.01
185	2.C.01, 2.A.02
193	2.C.02
262	2.B.02
311	2.C.03
348	2.A.06
349	2.B.03
361	2.A.07

*Item number format: 1. A. 02



A. TYPOGRAPHICAL ERRORS, EDITORIAL CHANGES, AND CLARIFICATIONS

These proposed changes correct obvious typographical errors, implement editorial changes such as correction of spelling errors, punctuation errors, and grammatical errors or provide clarification of the basic meaning or intent of the subject technical specifications.

MP&L has determined that the proposed changes do not:

- o Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- o Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- o Involve a significant reduction in a margin of safety.

Therefore, the proposed changes do not involve a significant hazards consideration.

A description of these changes including necessary justification for the changes is provided below:

TYPOGRAPHICAL ERRORS

Typographical errors are being corrected by this submittal as listed below. Correction of these typographical errors is purely an administrative change. (See attached revised technical specification pages for exact changes proposed.)

	TSPS No.	TS Page No.
1.	045	B 3/4 3-6
2.	185	3/4 11-17
3.	122	3/4 3-95

CLARIFICATIONS

Clarifications to the technical specifications to improve understanding and readability are discussed below:

4. (TSPS 018), Radioactive Liquid and Gaseous Effluent Monitoring Instrumentation, Technical Specification 3/4.3.7.11 and 3/4.3.7.12

   The proposed change clarifies that an explanation in the Semiannual Radioactive Effluent Release Report is needed only if attempts to restore the required channels to OPERABLE status in a timely manner are unsuccessful. Also, the "Offsite Dose Calculation Manual" has been capitalized in technical specification 3.3.7.11 to be consistent with the standard format of the technical specifications. The proposed changes represent clarifications which do not adversely impact

plant safety and which do not change the intent of the specifications. (Pages 3/4 3-82 and 3/4 3-87)

5. (TSPS 045), Radioactive Gaseous Effluent Monitoring Instrumentation, Technical Specification 3/4.3.7.12

   The proposed change clarifies two aspects of Technical Specification 3.3.7.12:

   a. The current wording implies that the OFFSITE DOSE CALCULATION MANUAL (ODCM) prescribes the alarm/trip setpoints for all the instruments in Table 3.3.7.12-1 and bases. The ODCM does not apply to the Explosive gas monitor, the Offgas Pretreatment Monitor or the Offgas Post-Treatment Monitor, as these instruments do not monitor effluent discharge points.

   b. A footnote has been added to provide the limits for the Explosive Gas Monitor and the Offgas Pretreatment Monitor are provided in Specifications 3.11.2.6 and 3.11.2.7, respectively.

   The is a purely administrative change to clarify and achieve consistency in the Technical Specifications and, as such, will have no adverse impact on plant safety. (Pages 3/4 3-87 and B 3/4 3-6)

6. (TSPS 348), Meteorological Monitoring Instrumentation, Technical Specification 3/4.3.7.3

   This proposed change clarifies that the requirement for a special report is applicable only when there are less than the minimum number of channels required to be OPERABLE by Technical Specification Table 3.3.7.3-1. The current wording of this specification could be misinterpreted to require a special report when any of the presently installed instrumentation channels are inoperable. This change is purely administrative in that it is a clarification to reflect the design intent and is consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Programs," February, 1972. (Page 3/4 3-63)

7. (TSPS 361), Radioactive Liquid Effluent Monitoring Instrumentation and Surveillance Requirements, Technical Specification Tables 3.3.7.11-1 and 4.3.7.11-1

   The proposed change adds the phrases "alarm and" to Item 1 on Page 3/4 3-83 and "or Circulating Water Blowdown" to Item 2b on Pages 3/4 3-83 and 3/4 3-85. The addition of "alarm and" clarifies that an alarm function exists as well as an automatic termination of release. The addition of "or Circulating Water Blowdown" provides an alternate flow measurement that is more conservative than the discharge canal flow measurement, since the circulating water blowdown is only a part of the total canal discharge. This alternate method of measurement is acceptable at any time the circulating water system is in service and is consistent with the as-built plant condition. These changes do not adversely impact plant safety because they are clarifications that are

consistent with the philosophy and intent of the technical specifications. (Pages 3/4 3-83 and 3/4 3-85)

8. (TSPS 062), Standby Gas and Control Room Emergency Filtration Systems, Technical Specification Bases 3/4.6.6 and 3/4.7.2

Technical Specifications 4.6.6.3.a and 4.7.2.a require that each standby gas treatment and control room emergency filtration subsystem be demonstrated OPERABLE by initiating from the control room, at least once per 31 days, flow through the HEPA filters and charcoal adsorbers and verifying that each subsystem operates for at least 10 hours with the heaters OPERABLE. The intent of the requirement is to ensure that a continuous 10 hour operation of each subsystem is performed with the heaters OPERABLE to reduce the buildup of moisture in the adsorbers and HEPA filters. When these specifications are referenced to their bases, misinterpretation may occur as to whether a continuous or a cumulative 10-hour period of operation is required. This proposed change clarifies the intent of the requirement by inserting the word "continuous" into the surveillance requirements in Technical Specifications 3/4.6.6 and 3/4.7.2 and by changing the word "cumulative" to "continuous" in their associated Bases sections. This proposed change does not adversely impact plant safety as it represents only a clarification of the intent of the surveillance requirements. (Page B 3/4 6-6 and B 3/4 7-1)

B. TECHNICAL SPECIFICATION/AS-BUILT PLANT CONSISTENCY

The following changes are proposed to render the technical specifications consistent with the as-built plant. In all such cases, the as-built plant is consistent with the safety analyses and the licensing basis.

In that these proposed changes are inherently consistent with the safety analyses and the licensing basis, it is concluded that the proposed changes do not:

- Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- Involve a significant reduction in a margin of safety.

Therefore, the proposed changes do not involve a significant hazards consideration.

A description of these changes including justification for the changes is provided below:

1. (TSPS 138), Radioactive Gaseous Waste Sampling, Technical Specification Table 4.11.2.1.2-1

   A revision to Technical Specification Table 4.11.2.1.2-1 concerning the Radioactive Gaseous Waste Sampling and Analysis Program is proposed to restructure the table to more clearly reflect the requirements for sampling radioactive gaseous waste. The changes are consistent with the as-built plant design and operation. These proposed changes are as follows:

   a. The gaseous release types will be revised to include two functional categories: A.) gaseous exhaust points requiring monitoring capability at all times, and B.) gaseous exhaust points requiring monitoring only when there is flow past these locations. This portion of the change is purely administrative in that it affects only the organization of the table and does not alter its intent.

   b. MP&L has determined that two additional grab sample points for gaseous release, the radwaste building ventilation exhaust point and the fuel handling area ventilation exhaust point, fall within the scope of Technical Specification 3.11.2.1. Provisions for periodic grab sampling at these gaseous exhaust points are included in Table 4.11.2.1.2-1 as items A.(1) and A.(2). This change is an enhancement to safety in that it provides an additional monitoring requirement not included in the current specification.

c. Note b to Table 4.11.2.1.2-1 requires that grab sample analyses for principal gamma emitters and tritium be completed following startup from COLD SHUTDOWN or after a 15% or greater RATED THERMAL POWER change. The tritium analysis does not provide information directly related to power changes and is therefore not necessary. Therefore, application of Note b is removed from the Sampling Frequency and Minimum Analysis Frequency column and added to the Type of Activity Analysis column where it applies only to Principal Gamma Emitters. This change is a clarification which will not adversely impact plant safety because it does not reduce the amount of appropriate information being obtained from the required sample analyses.

d. The reference to Note f (currently in Section D) in Section A of proposed Table 4.11.2.1.2-1 is a typographical error and will be eliminated since there is no Note f. This is purely an administrative change that does not impact plant safety.

These proposed changes reflect the as-built plant design and are consistent with the requirements of 10 CFR 20. (Page 3/4 11-9)

2. (TSPS 262), Standby Gas Treatment System (SGTS) Exhaust Monitoring System, Technical Specification Tables 3.3.7.12-1, 4.3.7.12-1 and 4.11.2.1.2-1

This proposed change involves the SGTS Exhaust Monitoring System radiation monitors in Technical Specification Tables 3.3.7.12-1, 4.3.7.12-1 and 4.11.2.1.2-1 which contains the radioactive gaseous effluent monitoring instrumentation and the radioactive gaseous waste sampling and analysis program. The SGTS Exhaust Monitoring System is currently included in Technical Specification 3/4.3.7.5 for Accident Monitoring Instrumentation. The SGTS, however, may be operated for short periods of time for reasons other than the occurrence of an accident (e.g., SGTS surveillance testing, secondary containment integrity demonstrations, inadvertent initiation signals). Since the SGTS provides a gaseous effluent release path when in service, the inclusion of the SGTS Exhaust Monitoring System in the Gaseous Effluent Instrumentation Technical Specification is appropriate. The Minimum OPERABLE Channel requirements, Applicability Requirements, ACTION statements and Surveillance Requirements proposed for Tables 3.3.7.12-1 and 4.3.7.12-1 are consistent with the design of the associated SGTS exhaust noble gas activity monitors and are sufficient to assure adequate gaseous effluent monitoring. The proposed addition of the SGTS exhaust to Table 4.11.2.1.2-1 provides inclusion of SGTS exhaust contributions in the dose rate calculations if the SGTS has been run. The proposed changes are enhancements to safety in that they provide requirements not currently contained in the technical specifications to monitor effluent releases via the SGTS. (Pages 3/4 3-90, 3/4 3-91, 3/4 3-94, and 3/4 11-9)

3. (TSPS 349), Radiation Monitoring Instrumentation ACTION Statement, Technical Specification Table 3.3.7.1-1

The proposed change to Item b. of ACTION 75 will specify that SECONDARY CONTAINMENT INTEGRITY must be established with at least one standby gas treatment subsystem operating when two of the three required monitors in either the fuel handling area ventilation exhaust or the fuel handling area pool sweep exhaust are inoperable. As indicated by footnote (d) to Table 3.3.7.1-1, a high radiation trip signal by the affected ventilation monitoring channels would isolate the auxiliary building and fuel handling area ventilation systems. The proposed change to ACTION statement 75 is necessary to ensure that this function provided by the ventilation monitoring channel is implemented. The proposed change is an enhancement to plant safety as it represents a revision for the purpose of consistency with the as-built plant design and function and it constitutes an additional requirement not contained in the current technical specification. (Page 3/4 3-58)

C. ENHANCEMENTS THAT ARE CONSISTENT WITH THE SAFETY ANALYSES

The following proposed changes are enhancements which are consistent with the safety analyses and the licensing basis and which provide clarification, render areas consistent with the philosophy and intent of the technical specifications, or provide additional plant operational margin.

Since these proposed changes are included in the current licensing bases and are bounded by existing safety analyses, the proposed changes do not:

- o Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- o Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- o Involve a significant reduction in a margin of safety.

Therefore, the proposed changes do not involve a significant hazards consideration.

A description of these changes including justification for the changes is provided below:

1. (TSPS 185), Radioactive Effluents, Main Condenser, Technical Specification 3/4.11.2.7 and Table 3.3.7.12-1

   The following changes are proposed to Specification 3/4.11.2.7:

   a. Specific isotopes are deleted from the Limiting Condition for Operation (LCO), the associated ACTION statement, and Surveillance 4.11.2.7.2 to make the Specification applicable to all noble gases that are existent after a 30 minute decay period. This allows for the decay of the short-lived noble gas isotopes which are not considered significant in effluent release considerations. This change therefore has no adverse impact on safety.

   b. A footnote is added to the applicability of Specification 3/4.11.2.7, for OPERATIONAL CONDITIONS 2 and 3, to reflect applicability only during operation of the main condenser air ejector. An additional footnote is provided for Surveillance 4.11.2.7.2 to indicate that the provisions of Technical Specification 4.0.4 do not apply. These changes have no adverse impact on safety since they are clarifications which indicate that there is no need to monitor air ejector effluent if the air ejectors are not in service.

c. The ACTION statement for Technical Specification 3.11.2.7 and ACTION 126 of Table 3.3.7.12-1 (Table Notation) are revised to delete reference to HOT STANDBY. This term is not defined as an OPERATIONAL CONDITION in Technical Specification Table 1.2. Additionally, the present ACTION statement does not require that the reactor be placed in an OPERATIONAL CONDITION where the LCO does not apply. Replacing the requirement to be in - "HOT STANDBY within 12 hours" with a requirement to be in "HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the following 24 hours" is consistent with the requirements of Specification 3.0.3 and places the appropriate OPERATIONAL CONDITIONS in the ACTION statements.

d. Surveillance 4.11.2.7.2 is revised to indicate that samples should be taken of the offgas recombiner effluent. The sample point used at Grand Gulf is downstream of the offgas recombiner. This change is consistent with the LCO and Grand Gulf design.

e. Surveillance Requirement 4.11.2.7.2.b is revised to replace Condenser Air Ejector Noble Gas Activity Monitor with Offgas Pretreatment Monitor. This is a terminology change proposed to achieve consistency within the technical specifications and is in agreement with Table 3.3.7.12-1.

In summary, the proposed changes are consistent with the requirements of 10 CFR 100 as described in Bases Section 3/4.11.2.7 and do not affect any safety requirements. These changes improve safety by either requiring more stringent action or by clarifying the specifications. (Pages 3/4 3-91 and 3/4 11-17)

2. (TSPS 193), Applicability Change for Explosive Gas Mixture, Technical Specification 3/4.11.2.6

The proposed change to the applicability statement for Technical Specification 4.11.2.6 will indicate that the specification is applicable only during operation of the Main Condenser Offgas Treatment System (i.e., the hydrogen concentration in the system will not increase unless the system is in operation). The word "maintaining" in Surveillance Requirement 4.11.2.6 is changed to "monitoring." "Maintaining" has no clear meaning in this context and is changed to clarify the requirement. This proposed change is purely administrative in that it provides clarification and is consistent with the intent of the technical specification. (Page 3/4 11-16)

3. (TSPS 311), Chemical Release Clarification, Bases 3/4.6.6 and Bases 3/4.7.2

The proposed change to the bases for the Standby Gas Treatment System and the Control Room Emergency Filtration System will provide supplemental information on the design and performance of these systems. The additional information will describe the adequacy of system's surveillance requirements to ensure charcoal adsorbency is maintained in the event of a chemical release in an associated ventilation zone. The proposed change has no adverse affect on plant safety as it represents a purely administrative change for the purpose of expanding the descriptions contained in the bases and does not affect system design or performance. (Pages B 3/4 6-6, B 3/4 7-1)

D. REGULATORY REQUIREMENTS/REQUESTS/RECOMMENDATIONS

The following changes are proposed to render the technical specifications consistent with recent changes in NRC policy and the Code of Federal Regulations, as well as to implement changes or enhancements recently requested or recommended by NRC reviewers.

These proposed changes are required to render the technical specifications consistent with recent NRC guidance, and it has been concluded based on a review of each item that the proposed changes do not:

- o Involve a significant increase in the probability or consequences of an accident previously evaluated; or
- o Create the possibility of a new or different kind of accident from any accident previously evaluated; or
- o Involve a significant reduction in a margin of safety.

Therefore, the proposed changes do not involve a significant hazards consideration.

A description of these changes including justification for the changes is provided below:

1. (TSPS 087), Radioactive Gaseous Waste Sample and Analysis Program, Technical Specification Table 4.11.2.1.2-1

   The proposed change adds a sentence to Table Notations b and c to indicate the conditions for which the requirements do not apply. Analysis for gamma emitters is unnecessary for conditions following startup from COLD SHUTDOWN and THERMAL POWER changes of greater than 15 percent within one hour if (1) analysis shows that the DOSE EQUIVALENT I-131 concentration in the primary coolant has not increased more than a factor of 3 and (2) the noble gas monitor shows that effluent activity has not increased more than a factor of 3. Reactor coolant isotopic analysis for DOSE EQUIVALENT I-131 concentration is required on at least a monthly basis by Specification 3/4.4.5. The noble gas monitors specified in Section A of the proposed change to Table 4.11.2.1.2-1 are continuous sample monitors. Since the reactor coolant activity and noble gas effluent activity are being monitored and will detect increases in activity levels, the grab samples are not required until the activity level shows a significant increase. The proposed changes reflect the Grand Gulf design and are consistent with the requirements of 10 CFR 20. (Page 3/4 11-11)

2. (TSPS 122), Flow Rate Monitors Channel Functional Test, Technical Specification Table 4.3.7.12-1

This revision adds footnote number 5 to Technical Specification Table 4.3.7.12-1, and makes this footnote applicable to the CHANNEL FUNCTIONAL TEST requirements for the flow rate monitors in the exhaust monitor systems for the radwaste building ventilation, containment ventilation effluent, turbine building ventilation, and fuel handling area ventilation. The footnote requires that the measured flow rates be compared to the expected design flow rates for the existing plant conditions for these systems. This proposed revision supersedes a previous submittal (Item 19 of MP&L letter AECM-83/0565 dated September 9, 1983 which was withdrawn by MP&L letter AECM-84/0303 dated May 25, 1984) which proposed that the CHANNEL FUNCTIONAL TEST requirements be deleted for these monitors. This change is submitted in its current form in response to an NRC concern that the requirements be retained and is considered to be a safety enhancement in that it represents a more stringent surveillance requirement. (Pages 3/4 3-92, 3/4 3-93, and 3/4 3-95)

E. PROPOSED TECHNICAL SPECIFICATION CHANGES

(AFFECTED PAGES ARE PROVIDED IN THE
ORDER OF ASCENDING PAGE NUMBERS.)

TABLE 3.3.7.1-1 (Continued)

RADIATION MONITORING INSTRUMENTATION

ACTION

ACTION 70 - With the required monitor inoperable, obtain and analyze at least one grab sample of the monitored parameter at least once per 24 hours.

ACTION 71 -

a. With one of the required monitors inoperable, place the inoperable channel in the downscale tripped condition within one hour.

b. With both of the required monitors inoperable, be in at least HOT SHUTDOWN within 12 hours.

ACTION 72- With the required monitor inoperable, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

ACTION 73 -

a. With one of the required monitors in a trip system inoperable, place the inoperable channel in the downscale tripped condition within one hour; restore the inoperable channel to OPERABLE status within 7 days, or, within the next 6 hours, initiate and maintain operation of at least one control room emergency filtration system in the isolation mode of operation.

b. With both of the required monitors in a trip system inoperable, initiate and maintain operation of at least one control room emergency filtration system in the isolation mode of operation within one hour.

ACTION 74 -

a. With one of the required monitors in a trip system inoperable, place the inoperable channel in the downscale tripped condition within one hour.

b. With two of the required monitors in a trip system inoperable, isolate the containment and drywell purge and vent penetrations within 12 hours.

ACTION 75 -

a. With one of the required monitors in a trip system inoperable, place the inoperable channel in the downscale tripped condition within one hour.

b. With two of the required monitors in a trip system inoperable, ~~initiate and maintain operation of at least one standby gas treatment subsystem within 12 hours.~~ establish SECONDARY CONTAINMENT INTEGRITY with at least one standby gas treatment subsystem operating within 12 hours.

349

INSTRUMENTATION

METEOROLOGICAL MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.3 The meteorological monitoring instrumentation channels shown in Table 3.3.7.3-1 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With one or more required meteorological monitoring instrumentation channels inoperable for more than 7 days, in lieu of any other report required by Specification 6.9.1, 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 instrumentation to OPERABLE status. | 348

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.3 Each of the above required meteorological monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.7.3-1.

INSTRUMENTATION

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.11 The radioactive liquid effluent monitoring instrumentation channels shown in Table 3.3.7.11-1 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 in accordance with the ~~Offsite Dose Calculation Manual~~ OFFSITE DOSE CALCULATION MANUAL (ODCM). 018

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, immediately suspend the release of radioactive liquid effluents monitored by the affected channel or declare the channel inoperable.

b. With less than the minimum number of radioactive liquid effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3.7.11-1. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION ~~or~~ explain why this inoperability was not corrected in a timely manner in the next Semiannual Radioactive Effluent Release Report. and, if unsuccessful, 018

c. The provisions of Specifications 3.0.3, 3.0.4 and 6.9.1.11 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.11 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 4.3.7.11-1.

TABLE 3.3.7.11-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	ACTION	
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE			361
a. Liquid Radwaste Effluent Line	1	110	
2. FLOW RATE MEASUREMENT DEVICES			
a. Liquid Radwaste Effluent Line	1	111	
b. Discharge Canal or Circulating Water Blowdown	1	111	361

TABLE 4.3.7.11-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. GROSS RADIOACTIVITY MONITORS PROVIDING ALARM AND AUTOMATIC TERMINATION OF RELEASE				
a. Liquid Radwaste Effluent Line	D	P	R(2)	Q(1)
2. FLOW RATE MEASUREMENT DEVICES				
a. Liquid Radwaste Effluent Line	D(3)	N.A.	R	Q
b. Discharge Canal OR CIRCULATING WATER BLOWDOWN	D(3)	N.A.	R	Q

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.7.12 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3.7.12-1 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limit of Specification 3.11.2.1* are not exceeded. The alarm/trip setpoints of ~~these~~ applicable channels shall be determined in accordance with the ODCM. 845

APPLICABILITY: As shown in Table 3.3.7.12-1

ACTION:

a. With a radioactive gaseous effluent monitoring instrumentation channel alarm/trip setpoint less conservative than required by the above specification, immediately suspend the release of radioactive gaseous effluents monitored by the affected channel or declare the channel inoperable.

b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3.7.12-1. Restore the inoperable instrumentation to OPERABLE status within the time specified in the ACTION ~~or~~ explain why this inoperability was not corrected in a timely manner in the next Semiannual Radioactive Effluent Release Report. and, if unsuccessful, 818

c. The provisions of Specifications 3.0.3, 3.0.4 and 6.9.1.11 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.12 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 4.3.7.12-1.

* See Specification 3.11.2.6 and 3.11.2.7 for the Explosive Gas Monitor and Offgas Pretreatment Monitor limits. 845

TABLE 3.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION
6. OFFGAS PRE-TREATMENT MONITOR			
a. Noble Gas Activity Monitor	1	***	126
7. OFFGAS POST-TREATMENT MONITOR			
a. Noble Gas Activity Monitor Providing Alarm and Automatic Termination of Release	1	**	121
8. STANDBY GAS TREATMENT EXHAUST MONITORING SYSTEM (A+B)			
a. Noble Gas Activity Monitor	1/system	*	127

262

TABLE 3.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

TABLE NOTATION

* At all times.

** During main condenser offgas treatment system operation.

*** During operation of the main condenser air ejector.

ACTION 121 - With the number of channels OPERABLE less than required by the Minmum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are taken at least once per 8 hours and these samples are analyzed for gross activity within 24 hours.

ACTION 122 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided samples are continuously collected with auxiliary sampling equipment as required by Table 4.11.2.1.2-1.

ACTION 123 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent release via this pathway may continue for up to 30 days provided the flow rate is estimated at least once per 8 hours.

ACTION 124 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation of main condenser offgas treatment system may continue for up to 30 days provided grab samples are collected at least once per 4 hours and analyzed within the following 4 hours.

ACTION 125 - [DELETED]

ACTION 126 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, the SJAE effluent may be released to the environment for up to 72 hours provided:

a. The offgas system is not bypassed, except for filtration system bypass during plant startups, and

b. The offgas delay system noble gas activity effluent downstream monitor is OPERABLE;

Otherwise, be in at least HOT SHUTDOWN ~~STANDBY~~ within 12 hours, and in COLD SHUTDOWN within the following 24 hours.

ACTION 127 - (INSERT)

282 185

Insert for Table 3.3.7.12-1, Page 3/4 3-91

With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided grab samples are taken at least once per 4 hours and these samples are analyzed for gross activity within 24 hours.

TABLE 4.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED	
1. RADWASTE BUILDING VENTILATION MONITORING SYSTEM						
a. Noble Gas Activity Monitor - Providing Alarm	D	M	A(3)	Q(2)	*	
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*	
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*	
d. Flow Rate Monitor	D	N.A.	R	Q (5)	*	122
e. Sampler Flow Rate Monitor	D	N.A.	R	N.A.	*	
2. MAIN CONDENSER OFFGAS TREATMENT SYSTEM EXPLOSIVE GAS MONITORING SYSTEM						
a. Hydrogen Monitor	D	N.A.	Q(4)	M	**	
3. CONTAINMENT VENTILATION MONITORING SYSTEM						
a. Noble Gas Activity Monitor Providing Alarm	D	M	A(3)	Q(2)	*	
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*	
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*	
d. Effluent System Flow Rate Monitor	D	N.A.	R	Q (5)	*	122
e. Sampler Flow Rate Monitor	D	N.A.	R	N.A.	*	

TABLE 4.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED	
4. TURBINE BLDG. VENTILATION MONITORING SYSTEM						
a. Noble Gas Activity Monitor	D	M	A(3)	Q(2)	*	
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*	
c. Particulate Sampler	W	N.A.	N.A.	N.A.	*	
d. Flow Rate Monitor	D	N.A.	R	Q (5)	*	122
e. Sampler Flow Rate Monitor	D	N.A.	R	N.A.	*	
5. FUEL HANDLING AREA VENTILATION MONTORING SYSTEM						
a. Noble Gas Activity Monitor	D	M	A(3)	Q(2)	*	
b. Iodine Sampler	W	N.A.	N.A.	N.A.	*	
c. Particulate Sampler	W.	N.A.	N.A.	N.A.	*	
d. Flow Rate Monitor	D	N.A.	R	Q (5)	*	122
e. Sampler Flow Rate Monitor	D	N.A.	R	N.A.	*	

Amendment No. — Order

APR

TABLE 4.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	SOURCE CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
6. OFFGAS PRE-TREATMENT MONITOR					
a. Noble Gas Activity Monitor	D	M#	A(3)##	Q(2)	***
7. OFFGAS POST-TREATMENT MONITOR					
a. Noble Gas Activity Monitor Providing Alarm and Automatic Termination of Release	D	M	A(3)##	Q(1)	**
8. STANDBY GAS TREATMENT EXHAUST MONITORING SYSTEM (A+B)					
a. Noble Gas Activity Monitor	D	M	A(3)	Q(2)	*

TABLE 4.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING
INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TABLE NOTATION

* At all times.

** During main condenser offgas treatment system operation.

*** During operation of the main condenser air ejector.

#SOURCE CHECK may be deferred to the next shutdown of greater than 8 hours duration if unable to be performed at the monthly interval due to inaccessibility because of being in a high radiation area.

##The sensor will be calibrated for mr/hr or cpm from the calibration standard. The conversion to release rate will be performed during subsequent unit operation, but within one week.

(1) The CHANNEL FUNCTIONAL TEST shall also demonstrate that automatic isolation of this pathway and control room alarm annunciation occurs if any of the following conditions exists:

1. Instrument indicates measured levels above the alarm/trip setpoint.
2. Circuit failure.
3. Instrument indicates a downscale failure.
4. Instrument controls not set in operate mode.

(2) The CHANNEL FUNCTIONAL TEST shall also demonstrate that control room alarm annuciation occurs if any of the following conditions exists:

1. Instrument indicates measured levels above the alarm setpoint.
2. Circuit failure.
3. Instrument indicates a downscale failure.
4. Instrument controls not set in operate mode.

(3) The initial CHANNEL CALIBRATION shall be performed using one or more of the reference standards certified by the National Bureau of Standards (NBS) or using standards that have been obtained from suppliers that participate in measurement assurance activities with NBS. These standards shall permit calibrating the system over its intended measurement range. For subsequent CHANNEL CALIBRATION, sources that have been related to the initial calibration shall be used.

(4) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

1. One volume percent hydrogen, balance nitrogen, and
2. Four volume percent hydrogen, balance nitrogen.

(5) Compare the measured flowrate to the expected design flowrate for existing plant conditions.

122

STANDBY GAS TREATMENT SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.6.3 Two independent standby gas treatment subsystems shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, 3 and *.

ACTION:

a. With one standby gas treatment subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days, or:

1. In OPERATIONAL CONDITION 1, 2 or 3, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

2. In Operational Condition *, suspend handling of irradiated fuel in the primary or secondary containment, CORE ALTERATIONS and operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

b. With both standby gas treatment subsystems inoperable in Operational Condition *, suspend handling of irradiated fuel in the primary or secondary containment, CORE ALTERATIONS or operations with a potential for draining the reactor vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.6.6.3 Each standby gas treatment subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 10 hours with the heaters OPERABLE. (continuous)

*When irradiated fuel is being handled in the primary or secondary containment, and during CORE ALTERATIONS and operations with a potential for draining the reactor vessel.

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.2 Two independent control room emergency filtration system subsystems shall be OPERABLE.

APPLICABILITY: All OPERATIONAL CONDITIONS and *.

ACTION:

a. In OPERATIONAL CONDITION 1, 2 or 3 with one control room emergency filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. In OPERATIONAL CONDITION 4, 5 or *:

1. With one control room emergency filtration subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 7 days or initiate and maintain operation of the OPERABLE subsystem in the isolation mode of operation.

2. With both control room emergency filtration subsystems inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the primary or secondary containment and operations with a potential for draining the reactor vessel.

c. The provisions of Specification 3.0.3 are not applicable in Operational Condition *.

SURVEILLANCE REQUIREMENTS

4.7.2 Each control room emergency filtration subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and charcoal adsorbers and verifying that the subsystem operates for at least 10 continuous hours with the heaters OPERABLE.

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the subsystem by:

1. [DELETED]

062

* When irradiated fuel is being handled in the primary or secondary containment.

TABLE 4.11.2.1.2-1

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) (μCi/ml)[a]
A. Containment Ventilation Exhaust	M[b] Grab Sample	M[b]	Principal Gamma Emitters[e]	1×10^{-4}
			H-3	1×10^{-6}
B. Turbine Building Ventilation Exhaust	M[b] Grab Sample	M[b]	Principal Gamma Emitters[e]	1×10^{-4}
			H-3	1×10^{-6}
C. Offgas Post Treatment Exhaust, whenever there is flow	M Grab Sample	M	Principal Gamma Emitters[e]	1×10^{-4}
D. (1) Radwaste Building Ventilation Exhaust	Continuous[d]	W[c] Charcoal Sample	I-131	1×10^{-12}
			I-133	1×10^{-10}
(2) Fuel Handling Area Ventilation Exhaust	Continuous[d]	W[c] Particulate Sample	Principal Gamma Emitters[e] (I-131, Others)	1×10^{-11}
(3) Containment Ventilation Exhaust	Continuous[d]	M Composite Particulate Sample	Gross Alpha	1×10^{-11}
(4) Turbine Building Ventilation Exhaust	Continuous[d]	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}
	Continuous[f]	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	1×10^{-6}

TABLE 4.11.2.1.2-1

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) (μCi/ml)[a]
A. (1) Radwaste Building Ventilation Exhaust	M Grab Sample	M	Principal Gamma Emitters[b,e]	1×10^{-4}
			H-3	1×10^{-6}
(2) Fuel Handling Area Ventilation Exhaust	Continuous[d]	W[c] Charcoal Sample	I-131	1×10^{-12}
			I-133	1×10^{-10}
(3) Containment Ventilation Exhaust	Continuous[d]	W[c] Particulate Sample	Principal Gamma Emitters[e] (I-131, Others)	1×10^{-11}
(4) Turbine Building Ventilation Exhaust	Continuous[d]	M Composite Particulate Sample	Gross Alpha	1×10^{-11}
	Continuous[d]	Q Composite Particulate Sample	Sr-89, Sr-90	1×10^{-11}
	Continuous	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	1×10^{-6}
B.[f] (1) Offgas Post Treatment Exhaust, whenever there is flow	M Grab Sample	M	Principal Gamma Emitters[e]	1×10^{-4}
(2) Standby Gas Treatment A Exhaust, whenever there is flow				
(3) Standby Gas Treatment B Exhaust, whenever there is flow				

138

262

TABLE 4.11.2.1.2-1 (Continued)

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

TABLE NOTATION (Continued)

b. Analyses shall also be performed following startup from cold shutdown, or a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a one hour period. 087

Insert

c. Samples shall be changed at least once per 7 days and analyses shall be completed within 48 hours after changing or after removal from sampler. Sampling and analyses shall also be performed at least once per 24 hours for at least 7 days following each shutdown, startup or THERMAL POWER change exceeding 15 percent of RATED THERMAL POWER in one hour. When samples collected for 24 hours are analyzed, the corresponding LLD's may be increased by a factor of 10. 087

d. The ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specifications 3.11.2.1 and 3.11.2.3.

e. The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be detected and reported. Other peaks which are measurable and identifiable, together with the above nuclides, shall also be identified and reported.

*For a more complete discussion of the LLD, and other detection limits, see the following:

(1) HASL Procedures Manual, HASL-300 (revised annually).

(2) Currie, L. A., "Limits for Qualitative Detection and Quantitative Determination - Application to Radiochemistry" Anal. Chem. 40, 586-93 (1968).

(3) Hartwell, J. K., "Detection Limits for Radioisotopic Counting Tecnhiques," Atlantic Richfield Hanford Company Report ARH-2537 (June 22, 1972).

Insert to Table 4.11.2.1.2-1 Notations b and c, Page 3/4 11-11

This requirement does not apply if (1) analysis shows that the DOSE EQUIVALENT I-131 concentration in the primary coolant has not increased more than a factor of 3; and (2) the noble gas monitor shows that effluent activity has not increased more than a factor of 3.

RADIOACTIVE EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

3.11.2.6 The concentration of hydrogen in the main condenser offgas treatment system shall be limited to less than or equal to 4% by volume.

APPLICABILITY: ~~At all times.~~ Whenever the main condenser offgas treatment system is in operation. 193

ACTION:

a. With the concentration of hydrogen in the main condenser offgas treatment system exceeding the limit, restore the concentration to within the limit within 48 hours.

b. The provisions of Specifications 3.0.3, 3.0.4 and 6.9.1.11 are not applicable.

SURVEILLANCE REQUIREMENTS

4.11.2.6 The concentration of hydrogen in the main condenser offgas treatment system shall be determined to be within the above limits by monitoring ~~maintaining~~ the waste gas in the main condenser off-gas treatment system with the hydrogen monitor OPERABLE as required by Table 3.3.7.12-1 of Specification 3.3.7.12. 193

RADIOACTIVE EFFLUENTS

MAIN CONDENSER

LIMITING CONDITION FOR OPERATION

3.11.2.7 The gross radioactivity (gamma) rate of the noble gases ~~Xe-135m, Xe-133, Xe-135, Xe-138, Kr-85m, Kr-87, Kr-88~~ measured at the off gas recombiner effluent shall be limited to less than or equal to 380 millicuries/second, after 30 minutes decay. SR1 SR1

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2*, and 3*

ACTION:

With the gross radioactivity rate of the noble gases ~~Xe-135m, Xe-133, Xe-135, Xe-138, Kr-85, Kr-87m, and Kr-88~~ at the off gas recombiner effluent exceeding 380 millcuries/second, restore the gross radioactivity release rate to within its limit within 72 hours or be in at least HOT ~~STANDBY~~ SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours. SR1

SURVEILLANCE REQUIREMENTS

4.11.2.7.1 The radioactivity release rate of noble gases near the outlet of the main condenser air ejector shall be continuously monitored in accordance with Specification 3.3.7.12.

4.11.2.7.2 The gross ~~radoactivity~~ radioactivity release rate of the noble gases ~~Xe-135m, Xe-133, Xe-135, Xe-138, Kr-85m, Kr-87, and Kr-88~~ from the main condenser air ejector shall be determined** to be within the limits of Specification 3.11.2.7 at the following frequencies by performing an isotopic analysis of a representative sample of gases taken at the ~~discharge (prior to dilution and/or discharge) of the main condenser air ejector:~~ offgas recombiner effluent: SR1 SR1

a. At least once per 31 days.

b. Within 4 hours following an increase, as indicated by the ~~Condenser Air Ejector Noble Gas Activity~~ Monitor, of greater than 50%, after factoring out increases due to changes in THERMAL POWER level, in the nominal steady state fission gas release from the primary coolant. SR1

{ Offgas Pretreatment

* When the main condenser air ejector is in operation.

** The provisions of Specification 4.0.4 are not applicable. SR1

3/4.3.7.11 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The radioactive liquid effluent monitoring instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid effluents. The alarm/trip setpoints for these instruments shall be calculated in accordance with the procedures in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

3/4.3.7.12 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

The radioactive gaseous effluent monitoring instrumentation is provided to monitor and control, as applicable, ~~the releases of radioactive materials in~~ gaseous effluents during actual or potential releases ~~of gaseous effluents. The alarm/trip setpoints for these instruments shall be calculated in accordance with the procedures in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. This instrumentation of potentially explosive gas mixtures in the waste gas holdup system~~. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

Insert A

045

045

3/4.3.8 PLANT SYSTEMS ACTUATION INSTRUMENTATION

The plant systems actuation instrumentation is provided to initiate action to mitigate the consequences of accidents that are beyond the ability of the operator to control. The LPCI mode of the RHR system is automatically initiated on a high drywell pressure signal and/or a low reactor water level, level 1, signal. The containment spray system will then actuate automatically following high drywell and high containment pressure signals. Negative barometric pressure fluctuations are accounted for in the trip setpoints and allowable values specified for drywell and containment pressure-high. A 10-minute minimum, 13-minute maximum time delay exists between initiation of LPCI and containment spray actuation. A high reactor water level, level 8, signal will actuate the feedwater system/main turbine trip system.

Insert to Bases 3/4.3.7.12, Page B 3/4 3-6

Those instruments that monitor the activity of gaseous effluents being released to the environment shall have their alarm/trip setpoints calculated in accordance with the methods in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. Other instruments that monitor offgas processing, (i.e., the Explosive Gas Monitor, Offgas Pre-Treatment Monitor, and Offgas Post-Treatment Monitor) are calibrated according to plant procedures.

DRYWELL POST-LOCA VACUUM BREAKERS (Continued)

drywell purge system, is necessary to insure that the post-LOCA drywell H_2 concentration does not exceed 4% by volume.

Following vacuum relief, the drywell purge system pressurizes the drywell, forcing noncondensibles through the horizontal vents and into the containment at a rate designed to maintain the H_2 concentration below the flammable limits.

There are two 100% vacuum relief systems so that the plant may continue operation with one system out of service for a limited period of time.

3/4.6.6 SECONDARY CONTAINMENT

Secondary containment is designed to minimize any ground level release of radioactive material which may result from an accident. The Auxiliary Building and Enclosure Building provide secondary containment during normal operation when the containment is sealed and in service. When the reactor is in COLD SHUTDOWN or REFUELING, the containment may be open and the Auxiliary Building and Enclosure Building then become the only containment.

The maximum isolation times for secondary containment automatic isolation dampers/valves are the times used in the FSAR accident analysis for dampers/valves with analytical closing times. For automatic isolation valves not having analytical closing times, closing times are derived by applying margins to previous valve closing test data obtained by using ASME Section XI criteria. Maximum closing times for these valves was determined by using a factor of two times the allowable (from previous test closure to next test closure) ASME Section XI margin and adding this to the previous test closure time.

Establishing and maintaining a vacuum in the Auxiliary Building and Enclosure Building with the standby gas treatment system once per 18 months, along with the surveillance of the doors, latches, dampers and valves, is adequate to ensure that there are no violations of the integrity of the secondary containment.

The OPERABILITY of the standby gas treatment systems ensures that CONTINUOUS sufficient iodine removal capability will be available in the event of a LOCA. The reduction in containment iodine inventory reduces the resulting site boundary radiation doses associated with containment leakage. The operation of this system and resultant iodine removal capacity are consistent with the assumptions used in the LOCA analyses. ~~Cumulative~~ operation of the system with the heaters OPERABLE for 10 hours over a 31 day period is sufficient to reduce the buildup of moisture on the absorbers and HEPA filters.

The surveillance testing for verifying heat dissipation for the Standby Gas Treatment System heaters is performed in accordance with ANSI N510-1975 with the exception of the 5% current phase balance criteria of Section 14.2.3. The offsite power system for the Grand Gulf Nuclear Station consists of a non-transpositional 500 KV grid. The grid has an inherent unbalanced load distribution which results in unbalanced voltages in the plant. Voltage unbalances exceeding the ANSI N510-1975 5% criteria are not atypical.

Insert →

Insert for Bases 3/4.6.6, Page B 3/4 6-6

For painting, fire, and chemical releases other than carbon dioxide in any ventilation zone communicating with the standby gas treatment system, the Surveillance Requirements are adequate to ensure charcoal adsorbency is maintained. A release of carbon dioxide for any reason other than a fire will not adversely affect the charcoal's adsorbency and the Surveillance Requirement need not be performed.

3/4.7.1 SERVICE WATER SYSTEMS

The OPERABILITY of the service water systems ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of these systems, assuming a single failure, is consistent with the assumptions used in the accident conditions within acceptable limits.

3/4.7.2 CONTROL ROOM EMERGENCY FILTRATION SYSTEM

The OPERABILITY of the control room emergency filtration system ensures that the control room will remain habitable for operations personnel during and following all design basis accident conditions. ~~Cumulative~~ CONTINUOUS operation of the system for 10 hours with the heaters OPERABLE over a 31 day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system in conjunction with control room design provisions is based on limiting the radiation exposure to personnel occupying the control room to 5 rem or less whole body, or its equivalent. This limitation is consistent with the requirements of General Design Criteria 19 of Appendix "A", 10 CFR Part 50. 062

The surveillance testing for verifying heat dissipation for the Control Room Emergency Filtration System heaters is performed in accordance with ANSI N510-1975 with the exception of the 5% current phase balance criteria of Section 14.2.3. The offsite power system for the Grand Gulf Nuclear Station consists of a non-transpositional 500 KV grid. The grid has an inherent unbalanced load distribution which results in unbalanced voltages in the plant. Voltage unbalances exceeding the ANSI N510-1975 5% criteria are not atypical. 311

Insert →

3/4.7.3 REACTOR CORE ISOLATION COOLING SYSTEM

The reactor core isolation cooling (RCIC) system is provided to assure adequate core cooling in the event of reactor isolation from its primary heat sink and the loss of feedwater flow to the reactor vessel without requiring actuation of any of the Emergency Core Cooling System equipment. The RCIC system is conservatively required to be OPERABLE whenever reactor pressure exceeds 135 psig even though the LPCI mode of the residual heat removal (RHR) system provides adequate core cooling up to 225 psig.

The RCIC system specifications are applicable during OPERATIONAL CONDITIONS 1, 2 and 3 when reactor vessel pressure exceeds 135 psig because RCIC is the primary non-ECCS source of emergency core cooling when the reactor is pressurized.

With the RCIC system inoperable, adequate core cooling is assured by the OPERABILITY of the HPCS system and justifies the specified 14 day out-of-service period.

The surveillance requirements provide adequate assurance that RCICS will be OPERABLE when required. Although all active components are testable and full flow can be demonstrated by recirculation during reactor operation, a complete functional test requires reactor shutdown. The pump discharge piping is maintained full to prevent water hammer damage and to start cooling at the earliest possible moment.

Insert for Bases 3/4.7.2, Page B 3/4 7-1

For painting, fire, and chemical releases other than carbon dioxide in any ventilation zone communicating with the control room emergency filtration system, the Surveillance Requirements are adequate to ensure charcoal adsorbency is maintained. A release of carbon dioxide for any reason other than a fire will not adversely affect the charcoal's adsorbency and the Surveillance Requirement need not be performed.