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GAS AND
ELECTRIC

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ARTHUR E. LUNDVALL, JR.
VICE PRESIDENT
SUPPLY

June 29, 1984

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

ATTENTION: Mr. James. R. Miller, Chief
Operating Reactors Branch #3

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2, Docket Nos. 50-317 & 50-318
Request for Amendment

Gentlemen:

The Baltimore Gas and Electric Company hereby requests an Amendment to its Operating License Nos. DPR-53 and DPR-69 for Calvert Cliffs Unit Nos. 1 & 2, respectively, with the submittal of the enclosed proposed changes to the Technical Specifications.

CHANGE NO. 1 (BG&E FCR 84-84)

Remove existing pages 3/4 7-64 of the Unit Nos. 1 and 2 Technical Specifications and replace with attached marked up pages.

DISCUSSION

This proposed change to the Technical Specifications is being processed in response to a review we performed to address concerns raised in NRC Generic Letter 83-28, Required Actions Based on Generic Implications of Salem ATWS Events, which requested identification of any Technical Specification surveillance or post maintenance tests which are perceived to degrade rather than enhance safety.

This proposed change requests relief for a surveillance requirement applicable to the Switchgear Room halon and Cable Spreading Room total flood halon systems. The current Technical Specifications require a flow test every 18 months to detect blockage of the flow path. To perform this flow test the system integrity must be broken, the line purged with nitrogen, and then system integrity reestablished. Breaking system integrity involves removing the halon bottle connection(s) from the flexline. This is a threaded connection and the more frequently this surveillance is performed the more likely premature degradation of the threads becomes. During the period the flow test is performed, the halon system is unavailable. By performing a visual inspection, system unavailability and thread degradation will be reduced. The National Fire Protection Association (NFPA) Code 12A, Chapter 1, Section 10.3, Arrangement and Installation of Piping and Fittings, specifies: "Piping shall be blown out before nozzles or discharge devices are installed." The NFPA Code does not require piping to be blown out on a periodic basis.

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1/1

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#A19366

The NFPA Code 12A Section 10.55 states that "Discharge nozzles shall be provided with frangible discs or blow-out caps where clogging by foreign materials is likely." Clogging of the Switchgear and/or Cable Spreading Rooms halon nozzles and/or associated flowpaths is not considered likely. Therefore, neither frangible discs nor blow-out caps are used in either system at Calvert Cliffs. The Cable Spreading Room is supplied by filtered air through a common air conditioning system serving the Control Room and Cable Spreading Room. Similar filters serve the Switchgear Room Heating, Ventilation, and Air Conditioning system supply line. Foreign materials blocking the nozzle would be detected by visual inspection. Because of the physical size of the discharge nozzle ports (approximately one inch in diameter) clogging by dust or dirt is not likely. However, following major maintenance or modifications when foreign materials may be inadvertantly introduced into the system flowpath, the flow test will be conducted.

Therefore, in lieu of the unnecessary flow test currently required once per 18 months we propose a flow test be performed following completion of major maintenance or modifications on the affected systems.

As stated earlier, operating maintenance experience with these systems has shown that visual inspection of accessible piping and nozzles would be adequate to detect any blockage caused by foreign materials, should that occur.

DETERMINATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

This proposed change to the Technical Specifications has been determined to involve no significant hazards considerations, in that operation of the facility in accordance with the proposed license amendment would not:

(i) involve any significant increase in the probability or consequences of an accident previously evaluated; or

(ii) create the possibility of a new or different kind of accident from any accident previously evaluated, or

(iii) involve any reduction in the margin of safety.

In fact, since the system would be visually inspected annually and the requirement for breaking system integrity for the unnecessary flow test would be eliminated, it should result in an improvement to the margin of safety.

CHANGE NO. 2 (BG&E FCR 84-80)

Remove existing page 3/4 3-8 of the Unit 1 and 2 Technical Specifications and replace with attached marked-up pages.

DISCUSSION

NRC Generic Letter 83-28 requested that licensees review post maintenance testing and Technical Specification surveillance requirements to identify any tests which could potentially degrade, rather than enhance, overall plant safety. This proposed change to the Technical Specifications was identified during the review we conducted responding to the concerns identified in Generic Letter 83-28.

The Reactor Protective System is described in Section 7.2 of the Updated Final Safety Analysis Report (FSAR) as the primary means to effect reliable and rapid reactor shutdown if any one or a combination of conditions deviates from a preselected operating range. The system functions to protect the core and reactor coolant system pressure boundary.

The system utilizes four trip paths operating through the coincidence logic matrices to maintain or remove power from the Control Element Drive Mechanisms. Four sensor channels monitor each input parameter and utilize six two-out-of-four logic matrices to initiate a reactor trip. Operation of a least two of the four logic matrix relays in one of the six logic matrices is required to initiate a reactor trip.

Each of the logic matrix relays is exercised monthly by testing under the current Technical Specifications. In order to verify proper operation of the matrix relays, two reactor trip breakers must be opened by each matrix relay. Typical testing cycles the reactor trip breakers several times. Under a separate surveillance test, the reactor trip breakers must be functionally tested at least once per month. As a result of functional testing of the matrix relays, each reactor trip breaker must be operated at least six times. In our opinion, this unnecessary cycling of the reactor trip breakers has the potential to degrade safety by causing excessive wear on the mechanical trip mechanisms of the reactor trip breakers.

Review of surveillance test history at Calvert Cliffs has revealed that we have never experienced failure of the logic matrices or the matrix relays to initiate a reactor trip. This proposed change would serve to reduce the periodicity of testing the logic matrices or their matrix relays to at least once per quarter, but would retain the monthly functional test for the reactor trip breakers. As stated above, this would reduce the number of unnecessary cycles of the reactor trip breakers during surveillance tests. As demonstrated by the surveillance history at Calvert Cliffs the extended surveillance interval will result in no significant decrease in the margin of safety, since no logic matrices or matrix relay have ever failed to trip during surveillance testing at Calvert Cliffs. Accordingly, the quarterly testing interval proposed will still provide reasonable assurance that a failure of any logic matrix or matrix relay would be detected. Further review and experience may result in an additional request to relax the surveillance beyond the quarterly interval required by this change.

DETERMINATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

The Reactor Protection System (RPS) is designed such that the matrix relays will fail in a safe condition (i.e., to cause a reactor trip). The overall effect of this proposed change should be an improvement to the margin of safety due to the reduction in the unnecessary challenges to the reactor trip breakers. Therefore, this proposed change has been determined to involve no significant hazards considerations, in that operation of the facility in accordance with the proposed amendment would not:

(i) involve a significant increase in the probability or consequences of an accident previously analyzed; or

(ii) create the possibility of a new or different type of accident from any accident previously analyzed; or

(iii) involve a significant reduction in the margin of safety.

CHANGE NO. 3 (BG&E FCR 84-81)

Remove existing pages 3/4 7-14, 7-15, and 7-16 of the Unit 1 and Unit 2 Technical Specifications and replace with attached marked-up pages.

DISCUSSION

During an NRC inspection in early 1984, we were requested to clarify the requirements of the Technical Specifications related to **OPERABILITY** of the Component Cooling Water System and surveillance of certain key valves in the Salt Water, Service Water, and Component Cooling Water Systems.

Each of these cooling water systems serves to cool safety systems during and following accidents analyzed in Chapter 14 of the Updated FSAR. The Component Cooling Water System is described in Section 9.5.2.1, the Service Water System is described in Section 9.5.2.2, and the Salt Water System is described in Section 9.5.2.3 of the Updated FSAR.

The proposed change to surveillance requirements related to Specification 4.7.3.1.a, 4.7.4.1.a, and 4.7.5.1.a serves to clarify the requirements for verification that each valve servicing safety-related equipment not locked, sealed, or otherwise secured in position is in its correct position. The term "servicing" could be misinterpreted to mean that we are required to verify all valves, including those outside the main flowpath, are in their correct position once per 31 days. This is clearly not the intent, as the surveillance requirements would require numerous manhours to perform with no appreciable safety benefit.

The word "servicing . . ." has been changed to "in the main flowpath supplying . . ." in the revised wording. This clarifies that the aforementioned valve position verification is applicable only to valves in the main flowpath to safety related equipment.

The second clarification is only applicable to the Limiting Condition for Operation of Technical Specification 3.7.3.1. The Component Cooling Water System at Calvert Cliffs is operated normally with one or two component cooling pumps operating, one heat exchanger on-line, and with the other heat exchanger isolated in standby. With this alignment, all normal loads can be supplied with the on-line heat exchanger, and the standby heat exchanger can be placed in service very quickly, when needed. Chapter 14 of the Updated FSAR states that cooling to the Shutdown Cooling Heat Exchanger is not required until a minimum of 36 minutes following a design basis Loss of Coolant Accident (LOCA). This coincides with the Recirculation Actuation Signal (RAS) or low water level in the Refueling Water Tank.

The saltwater cooling to the Component Cooling heat exchanger is isolated on a Safety Injection Actuation Signal shortly after initiation of a design basis LOCA. The saltwater cooling is automatically restored following an RAS. Therefore, ample time is available for the operator to restore flow through the standby heat exchanger (minimum 36 minutes, as described above) before cooling water would be automatically restored.

Although with this lineup, the intent of Technical Specification 3.7.3.1 is being met there is room for clarification of the LCO. With the proposed change, the actual wording in the LCO is more representative of the normal system lineup.

DETERMINATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

Because both changes are being effected for clarification purposes only, and do not change the intent of any of the affected specifications, they are administrative in nature and involve no significant hazards considerations, in that operation of the facility in accordance with the proposed amendment would not:

(i) involve a significant increase in the probability or consequences of an accident previously evaluated; or

(ii) create the possibility of an accident of a type different from any previously evaluated; or

(iii) involve any reduction in a margin of safety.

CHANGE NO. 4 (BG&E FCR 84-85) (Unit 1 and Unit 2)

Remove existing pages 3/4 3-38 of the Unit 1 and Unit 2 Technical Specifications and replace with attached marked-up pages.

DISCUSSION

This proposed change involves an allowance to use a backup indication to meet the requirements of Technical Specification 3.3.3.5, whenever the primary instrumentation has failed.

During the Unit 1 Refueling Outage completed in late 1983 and the current Unit 2 Refueling Outage, we modified the Wide Range Nuclear Instrumentation by providing an extended range from .1 cps to 200% power in lieu of the original range, .1 cps to 150% power, from the remote shutdown instruments at 1(2)C43. Recent operating experience has proven the newly installed nuclear instruments may fail during power operation. On April 4, 1984, we requested and were granted a one-time emergency Technical Specification change for Unit 1 to permit using the nuclear instrumentation in the Auxiliary Feedwater Pump Room to meet Technical Specification 3.3.3.5, until the next outage of sufficient duration to permit repair/replacement of the failed detectors.

The proposed change to the Technical Specifications would permit us to use the nuclear instrumentation to meet Technical Specification 3.3.3.5 as long as certain conditions are met. The first condition is that the instrumentation at 1(2)C43 has failed. The second condition is that procedures exist to require emergency boration if the instrumentation fails after the Control Room has been evacuated. The third condition is a dedicated individual is available to monitor the Auxiliary Feedwater Pump (AFWP) Room nuclear instruments, if needed. The last condition is that communication is provided to relay the readings from the panel in the Auxiliary Feedwater Pump Room to the panel 1(2)C43 in the 45' Switchgear Room. During periods when the nuclear instruments in the AFWP Room are being utilized to meet Technical Specification 3.3.3.5, they will be subject to the surveillance requirements of Table 4.3-6.

As stated in our request dated April 4, 1984, although the nuclear instruments installed in the AFWP do not meet the specifications of Appendix R Section III.G and the associated criteria for environmental qualification, they have demonstrated high reliability throughout the operating life of the plant and will satisfy General Design Criterion 19 of 10 CFR 50.

In addition, the resulting configuration would be the same as the present configuration for Unit 2 and the configuration utilized to meet Specification 3.3.3.5 prior to the late 1983 Unit 1 Refueling Outage.

DETERMINATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

This proposed change has been determined to involve no significant hazards considerations, in that operation of the facility in accordance with the proposed license amendment would not:

(i) involve a significant increase in the probability or consequences of an accident previously evaluated; or

(ii) create the possibility of a new or different kind of accident form any accident previously evaluated; or

(iii) involve a significant reduction in the margin of safety.

The primary instrumentation would be used to meet Specification 3.3.3.5 until it fails, then the backup instruments at the AFWP Room Instrument Panel would be used to meet this requirement.

These remote shutdown instruments allow the Operator to monitor key safety parameters outside the Control Room, when the Control Room is uninhabitable. No automatic safety features are actuated from Remote Shutdown Monitoring Instruments. The instruments provide required information to assure safe shutdown of the plant. The instruments installed in the AFWP Room provide substantial assurance that the Operator will be able to monitor neutron flux throughout the required range, .1 cps to 150% power. Interim measures are in place, as described above, ensuring the plant remains safely shutdown should the backup instrumentation be lost after Control Room evacuation because of a fire.

CHANGE NO. 5 (BG&E FCR 82-177)

Remove existing page VII of the Unit 1 and 2 Technical Specifications and replace with the marked-up page VII. Add page 3/4 7-78 to the Unit 1 Technical Specifications and add page 3/4 7-70 to the Unit 2 Technical Specifications.

DETERMINATION OF SIGNIFICANT HAZARDS CONSIDERATION

NUREG-0737, Item II.B.3 identifies requirements for the addition of a Post Accident Sampling System (PASS). In accordance with these requirements, a new post-accident sampling system has been installed. The system consists of new sample lines and skid mounted analyzing hardware with the capability of recirculating and drawing effluent samples from the reactor coolant system and containment sump. Analysis of boron, pH, and dissolved gas concentration is provided along with the capability of radioanalysis for liquid and dissolved gaseous effluents.

With the exception of safety-related interfaces, the system has been installed and classified as non-safety related, as allowed by NUREG-0737.

The system has been designed to be remotely operated within one hour of an accident and integral shield walls limit the exposure of personnel to values less than the exposure limits set forth in NUREG-0737 under all postulated post-accident sampling conditions. Chloride sampling capability is provided on-site via laboratory techniques using diluted liquid samples provided by the PASS.

The PASS provides remote sampling/chemistry analysis capability following accidents involving significant core damage. This system enhances the ability of the operator to analyze core conditions and correspondingly take corrective actions following an accident to minimize the off-site exposure to the public. During normal operation, this system shall remain passive with sample isolation valves closed.

Post-accident sampling can also be performed manually. The Emergency Response Plan Implementing Procedure (ERPIP) specifies the steps to manually withdraw and analyze Reactor Coolant System samples. The analysis can be performed onsite and/or in a mobile lab.

The technicians designated to operate the PASS are trained and qualified. Training is normally scheduled for all candidates and qualified technicians every six months. Training includes:

(1) A functional description and layout of the system and components,

(2) Operations, procedures, valve positions and flow paths, and

(3) Limitations, setpoints, protection devices, and dose rates.

The proposed Technical Specifications are submitted in lieu of the NRC guidance Standard Technical Specifications that specify a PASS program under Section 6.8.4. The current Administrative Controls, Section 6.0, specify administrative requirements and do not contain a Section 6.8.4 for programs. Including a new section for the PASS program in the Administrative Controls is inconsistent with the control of similar plant equipment. The Standard Technical Specifications do not define how the system is demonstrated operable nor provide specific actions in the event of an inoperable system. Therefore, the proposed Technical Specifications are included with similar plant equipment in section 3/4.7 - Plant Systems, and define the requirements to demonstrate operability and the actions for an inoperable system.

In the Federal Register dated April 6, 1983, the NRC provided guidance for license amendments which were likely or not likely to involve Significant Hazards Considerations. As an example of amendments that are considered not likely to involve Significant Hazards Considerations the Federal Register states:

> "A change that constitutes an additional limitation, restriction or control not presently included in the Technical Specifications."

The proposed change to incorporate the PASS in the Technical Specifications is an additional control not previously required. The PASS improves the ability to recognize the extent of fuel damage, radioactive contamination, and threat to the health and safety of the public.

The proposed amendment to the operating license is an additional administrative requirement which would not:

(i) involve an increase in the probability or consequences of an accident previously evaluated; or

(ii) create the possibility of a new or different kind of accident from any accident previously evaluated; or

(iii) involve a reduction in the margin of safety.

CHANGE NO. 6 (BG&E FCR 84-90)

Remove existing page 3/4-46 of the Unit 1 and 2 Technical Specifications and replace with the marked-up page 3/4-46.

DETERMINATION OF SIGNIFICANT HAZARDS

NUREG-0737, Item II.F.1(2) identifies requirements to provide for continuous sampling of plant effluents for post-accident releases of radioactive iodines and particulates and on-site laboratory capability. In accordance with these requirements, a new Wide Range Noble Gas Monitor (WRNGM) has been installed. The system consists of new isokinetic sample nozzles, skid mounted sample assembly, noble gas detection skid, and a remote control panel.

The procedures to operate the WRNGM and analyze the samples have been approved and incorporated into the Operations and Chemistry manuals. Chemistry technicians are trained and qualified to obtain and analyze samples from the WRNGM. The proposed Technical Specifications are submitted in lieu of the NRC guidance Standard Technical Specifications that specifiy a Plant Effluent Sampling program under Section 6.8.4. The current Administrative Controls, Section 6.0, specify administrative requirements and do not contain a Section 6.8.4 for programs. Including a new section for the Plant Effluent Sampling program in the Administrative Controls is inconsistent with the control of similar plant equipment. The Standard Technical Specifications do not define how the system is demonstrated operable nor provide specific actions in the event of an inoperable system. Therefore, the proposed Technical Specifications are included with similar plant equipment in Section 3/4.3 and define the requirements to demonstrate operability and the actions for an inoperable system.

In the Federal Register dated April 6, 1983, the NRC provided guidance for license amendments which were likely or not likely to involve significant hazards consideration. As an example of amendments that are considered not likely to involve significant hazards considerations the Federal Register states:

> "A change that constitutes an additional limitation, restriction or control not presently included in the Technical Specifications."

The proposed change to incorporate the plant effluent sampling program in the Technical Specifications is an additional control not previously required. The WRNGM improves the ability to recognize the extent of fuel damage, radioactive contamination, and threat to the health and safety of the public.

The proposed amendment to the operating license is an additional administrative requirement which would not:

(i) involve an increase in the probability or consequences of an accident previously evaluated; or

(ii) create the possibility of a new or different kind of accident from any accident previously evaluated; or

(iii) involve a reduction in the margin of safety.

CHANGE NO. 7 (BG&E FCR 84-77)

Remove existing pages 3/4 7-74 and 3/4 7-66 of the Unit Nos. 1 and 2 Technical Specifications, respectively, and replace with the attached marked-up pages.

DETERMINATION OF SIGNIFICANT HAZARDS CONSIDERATIONS

The proposed change to Technical Specification Table 3.7-6 will clarify the status of the -10' and -15' Auxiliary Building hose stations (i.e., common to both units). All of these hose stations are situated such that equipment from both units can be reached by the water spray. This change is purely administrative in nature and, therefore, does not constitute a significant hazard as defined in 10 CFR 50.92.

(i) There is no significant reduction in the margin of safety as a result of the proposed change.

(ii) It will not result in any increase in the probability or consequences of any accident previously evaluated.

(iii) It will not create the possibility of a new or different kind of accident from any accident previously evaluated.

SAFETY COMMITTEE REVIEW

These proposed changes to the Technical Specifications and our determination of significant hazards have been reviewed by our Plant Operations and Off-Site Safety Review Committees, and they have concluded that implementation of these changes will not result in an undue risk to the health and safety of the public.

FEE DETERMINATION

Pursuant to 10 CFR 170.21, we are including BG&E Check Number A119266 in the amount of $150.00 to cover the application fee for this request.

Very truly yours,

Arthur E. Lundvall, Jr.

AEL/LES/JRS/JJN/sjb

STATE OF MARYLAND :
: **TO WIT:**
CITY OF BALTIMORE :

Arthur E. Lundvall, Jr., being duly sworn states that he is Vice President of the Baltimore Gas and Electric Company, a corporation of the State of Maryland; that he provices the foregoing response for the purposes therein set forth; that the statements made are true and current to the best of his knowledge, information, and belief; and that he was authorized to provide the response on behalf of said Corporation.

WITNESS my Hand an Notarial Seal: Cheryl A. Hopkins
Notary Public

My Commission Expires: July 1, 1986

cc: D. A. Brune, Esquire
G. F. Trowbridge, Esquire
D. H. Jaffe, NRC
T. Foley, NRC
T. Magette, DNR

ATTACHMENT 1

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

TABLE 4.3-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
11. Wide Range Logarithmic Neutron Flux Monitor	S	R(5)	S/U(1)	1, 2, 3, 4, 5 and *
12. Reactor Protection System Logic Matrices	N.A.	N.A.	Q and ~~M and~~ S/U(1)	1, 2
13. Reactor Protection System Logic Matrix Relays	N.A.	N.A.	Q and S/U(1) ~~M and S/U (1)~~	1, 2
14. Reactor Trip Breakers	N.A.	N.A.	M	1, 2 and *

Amendment No.

FCR 84-80

TABLE 3.3-9

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1. Wide Range Neutron Flux	1C43*	0.1 cps-200% power*	1*
2. Reactor Trip Breaker Indication	Cable Spreading Room	OPEN-CLOSE	1/trip breaker
3. Reactor Coolant Cold Leg Temperature	1C43	212-705°F	1
4. Pressurizer Pressure	1C43	0-4000 psia	1
5. Pressurizer Level	1C43	0-360 inches	1
6. Steam Generator Pressure	1C43	0-1200 psig	1/steam generator
7. Steam Generator Level	1C43	-401 to +63.5 inches	1/steam generator

*~~Until the next outage of sufficient duration to allow repair of~~ When the 1C43 instrumentation is inoperable, the wide range neutron flux monitors located in the auxiliary feedwater pump room may be utilized to meet this requirement. During the period when the instruments are utilized to meet the above requirement, they will be subject to the surveillance requirements of Table 4.3-6.

FCR 84-45

NEW

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The main vent iodine and particulate sampler shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. Without the main vent iodine and particulate sampler OPERABLE, restore 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 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.

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

SURVEILLANCE REQUIREMENTS

4.3.3.8 The main vent iodine and particulate sampler shall be demonstrated OPERABLE by comparing samples independently drawn from the main vent at least once per month.

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two component cooling water loops shall be OPERABLE, with at least one component cooling water heat exchanger operating and the remaining component cooling water heat exchanger, if any, in standby.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) ~~servicing~~ safety related equipment that is not locked, sealed or otherwise secured in position, is in its correct position. (in the main flowpath supplying)

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

FCR 84-81

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

in the main flowpath supplying

4.7.4.1 At least two service water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) ~~servicing~~ (safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on Safety Injection Actuation and Containment Spray Actuation test signals.

PLANT SYSTEMS

3/4.7.5 SALT WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 At least two independent salt water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one salt water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.5.1 At least two salt water loops shall be demonstrated OPERABLE:

in the main flowpath supplying

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) ~~servicing~~ safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

FCR 84-84

PLANT SYSTEMS

HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

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

a. Cable spreading rooms total flood system, and associated vertical cable chase 1C, Unit 1.

b. 460 volt switchgear rooms 27 & 45' elevation Unit 1.

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

ACTION:

a. With both the primary and backup Halon systems protecting the areas inoperable, within one hour establish an hourly fire watch with backup fire suppression equipment for those areas protected by the inoperable Halon system. Restore the system to OPERABLE status within 14 days, or, 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 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

4.7.11.3 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 (level) and pressure.

c. At least once per 12 months by performing a visual inspection of the nozzle(s) and visible flex hose for obstruction.

d. At least once per 18 months by:

1) Verifying the system, including associated ventilation dampers and fire door release mechanisms, actuates manually and automatically, upon receipt of a simulated actuation signal, and

e. Following completion of major maintenance or modifications on the system(s), within 72 hours, performance of a flow test through headers and nozzles to assure no blockage.

FCR 84-77

TABLE 3.7-6

FIRE HOSE STATIONS

LOCATION	ELEVATION	NUMBER OF HOSE STATIONS
1. Containment	10'	2
	45'	2
	69'	2
2. Auxiliary Building	-15'*	1 #
	-10'*	2 #
	5'	6
	27'	3
	45'	5
	69'*	4
3. Turbine Building, Heater Bay Outside Service Water Pump Rooms and Aux [redacted] Rooms	12'	3
Feedwater Pump		
Outside Switchgear Room	27'	2
Outside Switchgear Room	45'	3
4. Intake Structure	10'*	1

*Fire Hose Stations required for primary protection to ensure the OPERABILITY of safety related equipment.

Hose stations which serve both Units 1 and 2

3/4.7.13 POST ACCIDENT SAMPLING

LIMITING CONDITION FOR OPERATION

3.7.13 The post accident sampling system shall be operable and capable of processing samples from all of the below listed points:

a. RCS sample via hot leg,
b. RCS sample via low pressure safety injection, and
c. Containment sump sample via low pressure safety injection.

APPLICABILITY: MODES 1, 2, and 3

ACTION: With the operability of the post accident sampling system less than the LIMITING CONDITION FOR OPERATION specified above, either restore the system to operable status within 30 days, or:

a. Initiate the preplanned alternate method of processing specified sample(s), and

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

SURVEILLANCE REQUIREMENTS

4.7.13 The post accident sampling system shall be demonstrated OPERABLE at least once per six (6) months by comparing the results of a RCS sample analyzed by laboratory techniques with the results analyzed by the below listed analyzing equipment:

1. Boron Analyzer
2. Hydrogen and oxygen analyzer,
3. pH analyzer, and
4. Liquid effluent radioanalysis analyzer

ATTACHMENT 2

INDEX

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

TABLE 4.3-1 (Continued)

REACTOR PROTECTIVE INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
11. Wide Range Logarithmic Neutron Flux Monitor	S	R(5)	S/U(1)	1, 2, 3, 4, 5 and *
12. Reactor Protection System Logic Matrices	N.A.	N.A.	Q ~~M~~ and S/U(1)	1, 2
13. Reactor Protection System Logic Matrix Relays	N.A.	N.A.	Q ~~M~~ and S/U (1)	1, 2
14. Reactor Trip Breakers	N.A.	N.A.	M	1, 2 and *

Amendment No.

FCR 84-80

TABLE 3.3-9

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1. Wide Range Neutron Flux	*	0.1 cps-150%	1
2. Reactor Trip Breaker Indication	Cable Spreading Room	OPEN-CLOSE	1/trip breaker
3. Reactor Coolant Cold Leg Temperature	2C43	212-705°F	1
4. Pressurizer Pressure	2C43	0-1600 psia	1
5. Pressurizer Level	2C43	0-360 inches	1
6. Steam Generator Pressure	2C43	0-1200 psig	1/steam generator
7. Steam Generator Level	2C43	-401 to +63.5 inches	1/steam generator

~~* Wide Range Neutron Flux monitors are located on the instrumentation cabinets located in the Auxiliary Feedwater pump room.~~

* When the 2C43 instrumentation is inoperable, the wide range neutron flux monitors located in the Auxiliary Feedwater Pump Room may be utilized to meet this requirement. During the period when the instruments are utilized to meet the above requirement, they will be subject to the surveillance requirements of Table 4.3-6.

FCR 84-45

NEW

INSTRUMENTATION

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.8 The main vent iodine and particulate sampler shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. Without the main vent iodine and particulate sampler OPERABLE, restore 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 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the instrument(s) to OPERABLE status.

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

SURVEILLANCE REQUIREMENTS

4.3.3.8 The main vent iodine and particulate sampler shall be demonstrated OPERABLE by comparing samples independently drawn from the main vent at least once per month.

FCR 84-81

PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two component cooling water loops shall be OPERABLE, with at least one component cooling water heat exchanger operating and the remaining component cooling water heat exchanger, if any, in standby.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two component cooling water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) ~~servicing~~ safety related equipment that is not locked, sealed or otherwise secured in position, is in its correct position. (in the main flowpath supplying)

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

FCR 84-81

PLANT SYSTEMS

3/4.7.4 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.4.1 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two service water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) ~~servicing~~ safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

in the main flowpath supplying

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on Safety Injection ~~Actuation and Con-~~ tainment Spray Actuation test signals.

Amendment No. ~~AUG 1 3 1976~~

PLANT SYSTEMS

3/4.7.5 SALT WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.5.1 At least two independent salt water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one salt water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.7.5.1 At least two salt water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) ~~servicing~~ safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on a Safety Injection Actuation test signal.

Amendment No.

~~AUG 13 1979~~

FCR 84-84

PLANT SYSTEMS

HALON SYSTEMS

LIMITING CONDITION FOR OPERATION

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

a. Cable spreading rooms total flood system, and associated vertical cable chase 1C, Unit 2.

b. 4160 volt switchgear rooms 27 & 45' elevation Unit 2.

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

ACTION:

a. With both the primary and backup Halon systems protecting the areas inoperable, within one hour establish an hourly fire watch with backup fire suppression equipment for those areas protected by the inoperable Halon system. Restore the system to OPERABLE status within 14 days, or, 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 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

4.7.11.3 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 (level) and pressure.

c. At least once per 12 months by performing a visual inspection of the nozzle(s) and visible flow path(s) for obstructions.

d e. At least once per 18 months by:

e. Verifying the system, including associated ventilation dampers and fire door release mechanisms, actuates manually and automatically, upon receipt of a simulated actuation signal, and

f. Following completion of major maintenance or modifications on the system(s), within 72 hours, by performance of a flow test through headers and nozzles to assure no blockage.

TABLE 3.7-6

FIRE HOSE STATIONS

UNIT 2

LOCATION	ELEVATION	NUMBER OF HOSE STATIONS
1. Containment	10'	2
	45'	2
	69'	2
2. Auxiliary Building	-15'*	1 **
	-10'*	2 **
	5'	3
	27'	2
	45'	4
	69'*	3
3. Turbine Building, Heater Bay Outside Service Water Pump Rooms and Aux [redacted] Rooms	12'	2
Outside Switchgear Room	27'	1
Outside Switchgear Room	45'	2
4. Intake Structure	10'*	1

Feedwater Pump

*Fire Hose Stations required for primary protection to ensure the OPERABILITY of safety related equipment.

** Hose stations which serve both Units 1 and 2

PLANT SYSTEMS

3/4.7.13 POST ACCIDENT SAMPLING

LIMITING CONDITION FOR OPERATION

3.7.13 The post accident sampling system shall be operable and capable of processing samples from all of the below listed points:

a. RCS sample via hot leg,
b. RCS sample via low pressure safety injection, and
c. Containment sump sample via low pressure safety injection.

APPLICABILITY: MODES 1, 2, and 3

ACTION: With the operability of the post accident sampling system less than the LIMITING CONDITION FOR OPERATION specified above, either restore the system to operable status within 30 days, or:

a. Initiate the preplanned alternate method of processing specified sample(s), and

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

SURVEILLANCE REQUIREMENTS

4.7.13 The post accident sampling system shall be demonstrated OPERABLE at least once per six (6) months by comparing the results of a RCS sample analyzed by laboratory techniques with the results analyzed by the below listed analyzing equipment:

1. Boron Analyzer
2. Hydrogen and oxygen analyzer,
3. pH analyzer, and
4. Liquid effluent radioanalysis analyzer