10 CFR 50.90

PECO NUCLEAR
A Unit of PECO Energy

Nuclear Group Headquarters
200 Exelon Way
Kennett Square, PA 19348

October 25, 2000

Docket Nos. 50-352
50-353

License Nos. NPF-39
NPF-85

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: Limerick Generating Station, Units 1 and 2
Technical Specifications Change Request No. 00-03-0

Dear Sir/Madam:

PECO Energy Company is submitting Technical Specifications (TS) Change Request No. 00-03-0, in accordance with 10 CFR 50.90, requesting an amendment to the TS (Appendix A) of Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2. This proposed TS Change Request revises the Action Statements associated with TS Table 3.3.7.5-1 ("Accident Monitoring Instrumentation") concerning the Drywell Hydrogen/Oxygen (H_2/O_2) Concentration Analyzers, and the associated TS Bases. Information supporting this TS Change Request is contained in Attachment 1 to this letter, and the proposed marked up TS pages and final TS pages are contained in Attachments 2 and 3, respectively. This information is being submitted under affirmation, and the required affidavit is enclosed.

If you have any questions, please do not hesitate to contact us.

Very truly yours,

James A. Hutton
Director - Licensing

Attachments; Affidavit

cc: H. J. Miller, Administrator, Region 1, USNRC (w/enc)
A. L. Burritt, USNRC Senior Resident Inspector, LGS "
R. R. Janati, PA Bureau of Radiological Protection "

A001

bcc:	G. R. Rainey - KSA 3-N	(w/o enc)
	C. P. Lewis - KSA 3-N	"
	J. J. Hagan - KSA 3-N	"
	J. D. von Suskil - LGS, SMB1-1	"
	R. C. Braun - LGS, SSB3-1	"
	J. M. Armstrong - LGS, SSB3-1	"
	K. W. Gallogly - LGS, SSB2-4	"
	M. Bewen - LGS, SSB4-5	(w/enc)
	K. M. Knaide - LGS, SSB 4-5	"
	J. E. Mittura - LGS, SSB 4-5	"
	D. P. Helker/MJT - KSA 3-E	"
	PA DEP BRP Inspector - LGS, SSB2-4	"
	Commitment Coordinator - KSA 3-E	"
	Correspondence Control Desk - KSA 1N-1	"
	DAC - KSA 1N-1	"

COMMONWEALTH OF PENNSYLVANIA :

: ss.

COUNTY OF CHESTER :

J. J. Hagan, being first duly sworn, deposes and says:

That he is Senior Vice President of PECO Energy Company; the Applicant herein; that he has read the attached Technical Specifications (TS) Change Request No. 00-03-0, for Limerick Generating Station Facility Operating Licenses NPF-39 and NPF-85, and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.

Senior Vice President

Subscribed and sworn to
before me this 25th day
of October 2000.

Notary Public

Notarial Seal
Carol A. Walton, Notary Public
Tredyffrin Twp., Chester County
My Commission Expires May 28, 2002
Member, Pennsylvania Association of Notaries

ATTACHMENT 1

LIMERICK GENERATING STATION
UNITS 1 and 2

DOCKET NOS. 50-352
50-353
LICENSE NOS. NPF-39
NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST
NO. 00-03-0

DRYWELL HYDROGEN/OXYGEN ANALYZERS

Supporting Information for Change - 4 Pages

October 25, 2000
LGS TSCR 00-03-0

Docket Nos. 50-352
50-353
License Nos. NPF-39
NPF-85

Introduction

PECO Energy Company, Licensee under Facility Operating License Nos. NPF-39 and NPF-85 for Limerick Generating Station (LGS), Units 1 and 2, requests that the Technical Specifications (TS) contained in Appendix A to the Operating Licenses be amended to revise the Action Statements associated with TS Table 3.3.7.5-1 ("Accident Monitoring Instrumentation") concerning the Drywell Hydrogen/Oxygen (H_2/O_2) Concentration Analyzers, and the associated TS Bases. The proposed marked up TS pages and final TS pages are contained in Attachments 2 and 3, respectively.

This TS Change Request provides a discussion and description of the proposed TS changes, a safety assessment of the proposed TS changes, information supporting a finding of No Significant Hazards Consideration, and information supporting an Environmental Assessment.

Discussion and Description of the Proposed Changes

This Technical Specifications (TS) Change Request revises the Action Statements associated with TS Table 3.3.7.5-1 ("Accident Monitoring Instrumentation") concerning the Drywell Hydrogen/Oxygen (H_2/O_2) Concentration Analyzers, and the associated TS Bases. PECO Energy proposes to add new Action Statements 82a and 82b concerning channel operability, which will replace the current requirements of Action Statements 80a and 80b, respectively, for the Drywell Hydrogen/Oxygen Concentration Analyzers.

Under the existing TS Action Statements for Table 3.3.7.5-1 ("Accident Monitoring Instrumentation"), with the number of operable accident monitoring instrumentation channels less than the "required" number of channels (quantity 2), restore the inoperable channels within 7 days or be in at least hot shutdown within the following 12 hours (Action Statement 80a). Additionally, with the number of operable accident monitoring instrumentation channels less than the "minimum" number of channels (quantity 1), restore the inoperable channel(s) within 48 hours or be in at least hot shutdown within the following 12 hours (Action Statement 80b).

Proposed Action Statement 82a for Table 3.3.7.5-1 will extend the duration from 7 to 30 days for less than the "required" number operable of channels. Additionally, the proposed Action Statement 82a will require that if the inoperable channel(s) cannot be restored within the 30 days, then a Special Report shall be provided to the NRC within the following 14 days.

Proposed Action Statement 82b for Table 3.3.7.5-1 will extend the duration from 48 hours to 72 hours for less than the "minimum" number of operable channels. If the inoperable channel(s) cannot be restored within the 72 hours, then be in hot shutdown within the next 12 hours.

These proposed changes are bounded by NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4," Revision 1, dated April 1995, and current Peach Bottom Atomic Power Station, Units 2 and 3 Technical Specifications, Section 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation."

The Associated Bases for TS Section 3/4.3.7.5 ("Accident Monitoring Instrumentation") have also been revised.

Safety Assessment

As discussed in Section 6.2.5, of the Limerick Generating Station, Units 1 and 2, Updated Final Safety Analysis Report (UFSAR), following a postulated Loss-of-Coolant Accident (LOCA), hydrogen gas may be generated within the primary containment. To ensure that the oxygen concentration in the primary containment is maintained below the flammability limit, a combustible gas analyzer subsystem is provided to monitor the hydrogen and oxygen concentrations in the drywell and suppression chamber. In order to ensure the operability of the post-accident instrumentation for monitoring hydrogen and oxygen concentrations, Table 3.3.7.5-1 ("Accident Monitoring Instrumentation") establishes channel operability requirements. As discussed in the previous section, PECO Energy proposes to add new Action Statements 82a and 82b concerning channel operability, which will replace the current requirements of Action Statements 80a and 80b, respectively, for the Drywell Hydrogen/Oxygen Concentration Analyzers.

Redundant hydrogen and oxygen analyzer packages are provided to monitor the primary containment atmosphere during normal operation and post-LOCA. Each analyzer package is independent and powered from different divisions of Class 1E power. A single failure of either analyzer package would render that affected package inoperable with the redundant package fully capable of performing the required function at full capacity.

The analyzers are designed with sufficient sample points so that both analyzer packages can take samples from either the drywell or the suppression chamber. Also provided in the control room are annunciation of high hydrogen concentration, and annunciation of analyzer package malfunction. These analyzers are designed to remain operable in the existing environment following a LOCA and are designed to facilitate periodic testing of the safety-related features.

The hydrogen and oxygen analyzers are designed to operate either in the standby or continuous mode during normal operation. However, the analyzers are required to continuously monitor hydrogen and oxygen concentrations in the primary containment following a LOCA. The analyzers will automatically isolate following a LOCA. Following the LOCA, the analyzers are manually re-aligned to continuously sample the concentration of combustible gases.

The proposed changes will not impact the required periodic testing of the analyzers. Channel checks are performed on a monthly basis, and channel calibrations are performed on a quarterly basis.

The Drywell Hydrogen/Oxygen Concentration Analyzers are utilized for indication and do not perform any automatic or control function. In the event of a failure of the Drywell Hydrogen/Oxygen Concentration Analyzers following a LOCA, concentrations of hydrogen and oxygen can be measured by utilizing grab samples with the post-accident sampling system.

As stated previously, these proposed changes are bounded by NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4," Revision 1, dated April 1995, and current Peach Bottom Atomic Power Station, Units 2 and 3 Technical Specifications, Section 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation." The extended completion times are based on the passive nature of the instruments (no critical automatic action is assumed to occur involving these instruments), the low probability of an event requiring post-accident instrumentation during this interval, and the availability of alternate means to obtain the required information.

Information Supporting a Finding of No Significant Hazards Consideration

We have concluded that the changes to the Limerick Generating Station (LGS), Units 1 and 2 Technical Specifications (TS), do not involve a Significant Hazards Consideration. In support of this determination, an evaluation of each of the three (3) standards set forth in 10 CFR 50.92 is provided below.

1. The proposed TS changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed TS changes modify the Action Statements associated with the duration that the Drywell Hydrogen/Oxygen Concentration Analyzers can be inoperable. The Drywell Hydrogen/Oxygen Concentration Analyzers are not accident initiating equipment and are monitoring devices required to be available for monitoring hydrogen and oxygen following a LOCA. These analyzers do not perform any automatic or control functions. Therefore, the proposed changes will not increase the probability of an accident previously evaluated.

   In the event of a failure of the Drywell Hydrogen/Oxygen Concentration Analyzers following a LOCA, concentrations of hydrogen and oxygen can be measured by utilizing grab samples with the post-accident sampling system. A single failure of either analyzer package would render that affected package inoperable with the redundant package fully capable of performing the required function at full capacity. Following a postulated LOCA, the hydrogen recombiners will be utilized to ensure that the oxygen concentration in the primary containment is maintained below the lower flammability limit as required by plant emergency procedures.

   These proposed changes are bounded by NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4," Revision 1, dated April 1995, and current Peach Bottom Atomic Power Station, Units 2 and 3 Technical Specifications, Section 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation." The extended completion times are based on the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), the low probability of an event requiring post-accident instrumentation during this interval, and the availability of alternate means to obtain the required information. Therefore, the proposed TS changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed TS changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

   The proposed Technical Specification changes modify the Action Statements associated with the duration that the Drywell Hydrogen/Oxygen Concentration Analyzers can be inoperable. They do not change the design or configuration of the plant. The Drywell Hydrogen/Oxygen Concentration Analyzers are not accident initiating equipment, and are monitoring devices required to be available for monitoring hydrogen and oxygen following a LOCA. The proposed changes do not create a system-level failure mode different than those that already exist. In addition, there are no operation or failure modes of the Drywell Hydrogen/Oxygen Concentration Analyzers that are accident initiators. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed TS changes do not involve a significant reduction in the margin of safety.

   The proposed changes in Action Statements do not affect any safety limits or analytical limits. There are also no changes to accident or transient core thermal hydraulic conditions, minimum combustible concentration limits, or fuel or reactor coolant boundary design limits, as a result of these proposed changes. The proposed Technical Specification changes modify the Action Statements associated with the duration that the Drywell Hydrogen/Oxygen Concentration Analyzers can be inoperable. Therefore, the proposed changes do not involve a significant reduction in the margin of safety.

Information Supporting an Environmental Assessment

An Environmental Assessment is not required for the changes proposed by this TS Change Request because the requested changes to the Limerick Generating Station (LGS), Units 1 and 2, TS conform to the criteria for "actions eligible for categorical exclusion" as specified in 10 CFR 51.22 (c)(9). The requested changes will have no impact on the environment. The proposed changes do not involve a Significant Hazards Consideration as discussed in the preceding section. The proposed changes do not involve a significant change in the types, or a significant increase in the amounts, of any effluents that may be released offsite. In addition, the proposed changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Conclusion

We have concluded that the proposed changes to the LGS, Units 1 and 2, TS do not involve a Significant Hazards Consideration.

ATTACHMENT 2

LIMERICK GENERATING STATION
UNITS 1 and 2

DOCKET NO. 50-352
50-353
LICENSE NO. NPF-39
NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST
NO. 00-03-0

DRYWELL HYDROGEN/OXYGEN ANALYZERS

MARKED UP TECHNICAL SPECIFICATION PAGES

UNIT 1

3/4 3-85
3/4 3-86
B 3/4 3-5
INSERT 1

UNIT 2

3/4 3-85
3/4 3-86
B 3/4 3-5
INSERT 1

TABLE 3.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. Reactor Vessel Pressure	2	1	1,2	80
2. Reactor Vessel Water Level	2	1	1,2	80
3. Suppression Chamber Water Level	2	1	1,2	80
4. Suppression Chamber Water Temperature	8, 6 locations	6, 1/location	1,2	80
5. Suppression Chamber Air Temperature	1	1	1,2	80
6. Drywell Pressure	2	1	1,2	80
7. Drywell Air Temperature	1	1	1,2	80
8. Drywell Oxygen Concentration Analyzer	2	1	1,2	80
9. Drywell Hydrogen Concentration Analyzer	2	1	1,2	80
10. Safety/Relief Valve Position Indicators	1/valve	1/valve	1,2	80
11. Primary Containment Post-LOCA Radiation Monitors	4	2	1,2,3	81
12. North Stack Wide Range Accident Monitor**	3*	3*	1,2,3	81
13. Neutron Flux	2	1	1,2	80

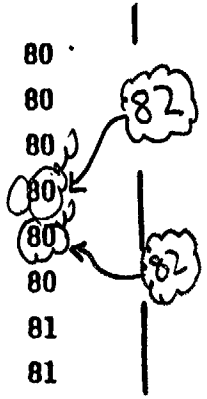

Table 3.3.7.5-1 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

TABLE NOTATIONS

*Three noble gas detectors with overlapping ranges (10^{-7} to 10^{-1}, 10^{-4} to 10^{2}, 10^{-1} to 10^{5} μCi/cc).
**High range noble gas monitor.

ACTION STATEMENTS

ACTION 80 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION 81 - With the number of OPERABLE accident monitoring instrumentation channels less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameters within 72 hours, and

a. Either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

b. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

NEW

ACTION 82-

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel to OPERABLE status within 30 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the following 14 days outlining the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channel of the function to OPERABLE status.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours.

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3/4.3.7 MONITORING INSTRUMENTATION

3/4.3.7.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring instrumentation ensures that; (1) the radiation levels are continually measured in the areas served by the individual channels, and (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with 10 CFR Part 50, Appendix A, General Design Criteria 19, 41, 60, 61, 63, and 64.

The specified surveillance interval for the Main Control Room Normal Fresh Air Supply Radiation Monitor has been determined in accordance with GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," as approved by the NRC and documented in the SER (letter to R.D. Binz, IV, from C.E. Rossi dated July 21, 1992).

3/4.3.7.2 (Deleted) - INFORMATION FROM THIS SECTION RELOCATED TO THE UFSAR.

3/4.3.7.3 (Deleted) - INFORMATION FROM THIS SECTION RELOCATED TO THE ODCM.

3/4.3.7.4 REMOTE SHUTDOWN SYSTEM INSTRUMENTATION AND CONTROLS

The OPERABILITY of the remote shutdown system instrumentation and controls ensures that sufficient capability is available to permit shutdown and maintenance of HOT SHUTDOWN of the unit from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR Part 50, Appendix A.

3/4.3.7.5 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess important variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

3/4.3.7.6 SOURCE RANGE MONITORS

The source range monitors provide the operator with information of the status of the neutron level in the core at very low power levels during startup and shutdown. At these power levels, reactivity additions shall not be made without this flux level information available to the operator. When the intermediate range monitors are on scale, adequate information is available without the SRMs and they can be retracted.

INSERT 1

INSERT 1

Drywell and containment hydrogen and oxygen analyzers are Category I instruments provided to detect high hydrogen or oxygen concentration conditions that represent a potential for containment breach. This variable is also important in verifying the adequacy of mitigating actions.

When two hydrogen monitor channels are inoperable, one hydrogen monitor channel must be restored to OPERABLE status within 72 hours. The 72 hour Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit; the length of time after the event that operator action would be required to prevent hydrogen accumulation from exceeding this limit; and the availability of the hydrogen recombiners, the Hydrogen Purge System, and the Post Accident Sampling Systems.

TABLE 3.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT		REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1.	Reactor Vessel Pressure	2	1	1,2	80
2.	Reactor Vessel Water Level	2	1	1,2	80
3.	Suppression Chamber Water Level	2	1	1,2	80
4.	Suppression Chamber Water Temperature	8, 6 locations	6, 1/location	1,2	80
5.	Suppression Chamber Air Temperature	1	1	1,2	80
6.	Drywell Pressure	2	1	1,2	80
7.	Drywell Air Temperature	1	1	1,2	80 82
8.	Drywell Oxygen Concentration Analyzer	2	1	1,2	80
9.	Drywell Hydrogen Concentration Analyzer	2	1	1,2	80 82
10.	Safety/Relief Valve Position Indicators	1/valve	1/valve	1,2	80
11.	Primary Containment Post-LOCA Radiation Monitors	4	2	1,2,3	81
12.	North Stack Wide Range Accident Monitor**	3*	3*	1,2,3	81
13.	Neutron Flux	2	1	1,2	80

Table 3.3.7.5-1 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

TABLE NOTATIONS

*Three noble gas detectors with overlapping ranges (10^{-7} to 10^{-1}, 10^{-4} to 10^{2}, 10^{-1} to 10^{5} μCi/cc).
**High range noble gas monitor.

ACTION STATEMENTS

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a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION 81 - With the number of OPERABLE accident monitoring instrumentation channels less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameters within 72 hours, and

a. Either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

b. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

NEW

ACTION 82-

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel to OPERABLE status within 30 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the following 14 days outlining the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channel of the function to OPERABLE status.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours.

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3/4.3.7.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring instrumentation ensures that; (1) the radiation levels are continually measured in the areas served by the individual channels, and (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variable following an accident. This capability is consistent with 10 CFR Part 50, Appendix A, General Design Criteria 19, 41, 60, 61, 63, and 64.

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The OPERABILITY of the remote shutdown system instrumentation and controls ensures that sufficient capability is available to permit shutdown and maintenance of HOT SHUTDOWN of the unit from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR Part 50, Appendix A. The Unit 1 RHR transfer switches are included only due to their potential impact on the RHRSW system, which is common to both units.

3/4.3.7.5 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess important variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

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Drywell and containment hydrogen and oxygen analyzers are Category I instruments provided to detect high hydrogen or oxygen concentration conditions that represent a potential for containment breach. This variable is also important in verifying the adequacy of mitigating actions.

When two hydrogen monitor channels are inoperable, one hydrogen monitor channel must be restored to OPERABLE status within 72 hours. The 72 hour Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit; the length of time after the event that operator action would be required to prevent hydrogen accumulation from exceeding this limit; and the availability of the hydrogen recombiners, the Hydrogen Purge System, and the Post Accident Sampling Systems.

ATTACHMENT 3

LIMERICK GENERATING STATION
UNITS 1 and 2

DOCKET NO. 50-352
50-353
LICENSE NO. NPF-39
NPF-85

TECHNICAL SPECIFICATIONS CHANGE REQUEST
NO. 00-03-0

DRYWELL HYDROGEN/OXYGEN ANALYZERS

FINAL TECHNICAL SPECIFICATION PAGES

UNIT 1

3/4 3-85
3/4 3-86
B 3/4 3-5
B 3/4 3-5a

UNIT 2

3/4 3-85
3/4 3-86
B 3/4 3-5
B 3/4 3-5a

TABLE 3.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. Reactor Vessel Pressure	2	1	1,2	80
2. Reactor Vessel Water Level	2	1	1,2	80
3. Suppression Chamber Water Level	2	1	1,2	80
4. Suppression Chamber Water Temperature	8, 6 locations	6, 1/location	1,2	80
5. Suppression Chamber Air Temperature	1	1	1,2	80
6. Drywell Pressure	2	1	1,2	80
7. Drywell Air Temperature	1	1	1,2	80
8. Drywell Oxygen Concentration Analyzer	2	1	1,2	82
9. Drywell Hydrogen Concentration Analyzer	2	1	1,2	82
10. Safety/Relief Valve Position Indicators	1/valve	1/valve	1,2	80
11. Primary Containment Post-LOCA Radiation Monitors	4	2	1,2,3	81
12. North Stack Wide Range Accident Monitor**	3*	3*	1,2,3	81
13 Neutron Flux	2	1	1,2	80

Table 3.3.7.5-1 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

TABLE NOTATIONS

*Three noble gas detectors with overlapping ranges (10^{-7} to 10^{-1}, 10^{-4} to 10^{2}, 10^{-1} to 10^{5} μCi/cc).

**High range noble gas monitor.

ACTION STATEMENTS

ACTION 80 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION 81 - With the number of OPERABLE accident monitoring instrumentation channels less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameters within 72 hours, and

a. Either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

b. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

ACTION 82 -

a. With the number of OPERABLE accident monitoring instrumenation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel to OPERABLE status within 30 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the following 14 days outlining the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channel of the function to OPERABLE status.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours.

3/4.3.7 MONITORING INSTRUMENTATION

3/4.3.7.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring instrumentation ensures that; (1) the radiation levels are continually measured in the areas served by the individual channels, and (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with 10 CFR Part 50, Appendix A, General Design Criteria 19, 41, 60, 61, 63, and 64.

The specified surveillance interval for the Main Control Room Normal Fresh Air Supply Radiation Monitor has been determined in accordance with GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," as approved by the NRC and documented in the SER (letter to R.D. Binz, IV, from C.E. Rossi dated July 21, 1992).

3/4.3.7.2 (Deleted) - INFORMATION FROM THIS SECTION RELOCATED TO THE UFSAR.

3/4.3.7.3 (Deleted) - INFORMATION FROM THIS SECTION RELOCATED TO THE ODCM.

3/4.3.7.4 REMOTE SHUTDOWN SYSTEM INSTRUMENTATION AND CONTROLS

The OPERABILITY of the remote shutdown system instrumentation and controls ensures that sufficient capability is available to permit shutdown and maintenance of HOT SHUTDOWN of the unit from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR Part 50, Appendix A.

3/4.3.7.5 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess important variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

Drywell and containment hydrogen and oxygen analyzers are Category I instruments provided to detect high hydrogen or oxygen concentration conditions that represent a potential for containment breach. This variable is also important in verifying the adequacy of mitigating actions.

When two hydrogen monitor channels are inoperable, one hydrogen monitor channel must be restored to OPERABLE status within 72 hours. The 72 hour Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit; the length of time after the event that operator action would be required to prevent hydrogen accumulation from exceeding this limit; and the availability of the hydrogen recombiners, the Hydrogen Purge System, and the Post Accident Sampling Systems.

3/4.3.7 MONITORING INSTRUMENTATION (Continued)

3/4.3.7.6 SOURCE RANGE MONITORS

The source range monitors provide the operator with information of the status of the neutron level in the core at very low power levels during startup and shutdown. At these power levels, reactivity additions shall not be made without this flux level information available to the operator. When the intermediate range monitors are on scale, adequate information is available without the SRMs and they can be retracted.

TABLE 3.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. Reactor Vessel Pressure	2	1	1,2	80
2. Reactor Vessel Water Level	2	1	1,2	80
3. Suppression Chamber Water Level	2	1	1,2	80
4. Suppression Chamber Water Temperature	8, 6 locations	6, 1/location	1,2	80
5. Suppression Chamber Air Temperature	1	1	1,2	80
6. Drywell Pressure	2	1	1,2	80
7. Drywell Air Temperature	1	1	1,2	80
8. Drywell Oxygen Concentration Analyzer	2	1	1,2	82
9. Drywell Hydrogen Concentration Analyzer	2	1	1,2	82
10. Safety/Relief Valve Position Indicators	1/valve	1/valve	1,2	80
11. Primary Containment Post-LOCA Radiation Monitors	4	2	1,2,3	81
12. North Stack Wide Range Accident Monitor**	3*	3*	1,2,3	81
13. Neutron Flux	2	1	1,2	80

ACCIDENT MONITORING INSTRUMENTATION

TABLE NOTATIONS

* Three noble gas detectors with overlapping ranges (10^{-7} to 10^{-1}, 10^{-4} to 10^{2}, 10^{-1} to 10^{5} μCi/cc).
** High range noble gas monitor.

ACTION STATEMENTS

ACTION 80 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION 81 - With the number of OPERABLE accident monitoring instrumentation channels less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameters within 72 hours, and

a. Either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

b. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

ACTION 82 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel to OPERABLE status within 30 days or prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the following 14 days outlining the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channel of the function to OPERABLE status.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours.

3/4.3.7 MONITORING INSTRUMENTATION

3/4.3.7.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring instrumentation ensures that; (1) the radiation levels are continually measured in the areas served by the individual channels, and (2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded; and (3) sufficient information is available on selected plant parameters to monitor and assess these variable following an accident. This capability is consistent with 10 CFR Part 50, Appendix A, General Design Criteria 19, 41, 60, 61, 63, and 64.

The specified surveillance interval for the Main Control Room Normal Fresh Air Supply Radiation Monitor has been determined in accordance with GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specification," as approved by the NRC and documented in the SER (letter to R. D. Binz, IV, from C. E. Rossi dated July 21, 1992).

3/4.3.7.2 (Deleted) - INFORMATION FROM THIS SECTION RELOCATED TO THE UFSAR.

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3/4.3.7.4 REMOTE SHUTDOWN SYSTEM INSTRUMENTATION AND CONTROLS

The OPERABILITY of the remote shutdown system instrumentation and controls ensures that sufficient capability is available to permit shutdown and maintenance of HOT SHUTDOWN of the unit from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criterion 19 of 10 CFR Part 50, Appendix A. The Unit 1 RHR transfer switches are included only due to their potential impact on the RHRSW system, which is common to both units.

3/4.3.7.5 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess important variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November 1980.

Drywell and containment hydrogen and oxygen analyzers are Category I instruments provided to detect high hydrogen or oxygen concentration conditions that represent a potential for containment breach. This variable is also important in verifying the adequacy of mitigating actions.

When two hydrogen monitor channels are inoperable, one hydrogen monitor channel must be restored to OPERABLE status within 72 hours. The 72 hour Completion Time is based on the low probability of the occurrence of a LOCA that would generate hydrogen in amounts capable of exceeding the flammability limit; the length of time after the event that operator action would be required to prevent hydrogen accumulation from exceeding this limit; and the availability of the hydrogen recombiners, the Hydrogen Purge System, and the Post Accident Sampling Systems.

3/4.3.7 MONITORING INSTRUMENTATION (Continued)

3/4.3.7.6 SOURCE RANGE MONITORS

The source range monitors provide the operator with information of the status of the neutron level in the core at very low power levels during startup and shutdown. At these power levels, reactivity additions shall not be made without this flux level information available to the operator. When the intermediate range monitors are on scale, adequate information is available without the SRMs and they can be retracted.