Entergy

Entergy Nuclear Generation Co.
Pilgrim Nuclear Power Station
600 Rocky Hill Road
Plymouth, MA 02360

Mike Bellamy
Site Vice President

August 19, 2002

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station O-P1-17
Washington, DC 20555-0001

SUBJECT: Entergy Nuclear Operations, Inc.
Pilgrim Nuclear Power Station
Docket No. 50-293
License No. DPR-35

Request for Amendment to the Technical Specifications
Changes to Post-Accident Monitoring Instrumentation Requirements

REFERENCE: NUREG 1433, Standard Technical Specifications for General Electric Plants, BWR/4

LETTER NUMBER: 2.02.072

Dear Sir or Madam:

In accordance with the provisions of 10 CFR 50.90, Entergy Nuclear Operations, Inc. (Entergy) is submitting a request for an amendment to the Technical Specifications (TS) for Pilgrim Nuclear Power Station. This request is to change the requirements associated with post-accident monitoring (PAM) instrumentation and make Pilgrim's Technical Specifications more consistent with the requirements in the standard technical specifications for boiling water reactors.

The Enclosure contains supporting information and a safety assessment of the proposed changes, including a determination of no significant hazards consideration. Attachment 1 is a marked-up version of the current technical specifications.

Entergy has reviewed the proposed changes using the criteria of 10 CFR 50.92 and concludes that the proposed changes do not involve a significant hazards consideration.

Entergy requests approval of the proposed amendment by March 1, 2003 to support Pilgrim's upcoming refueling outage (scheduled to commence on April 19, 2003). Once approved, the amendment will be implemented within 60 days.

A001

If you have any questions, please contact Mr. Bryan Ford at (508) 830-8403.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 19th day of August 2002.

Sincerely,

WJ Riggs for RM Bellamy

Robert M. Bellamy

Enclosure: Evaluation of the Proposed Changes -11 pages

Attachment 1: Marked-up Proposed Technical Specifications and Bases Changes - 20 pages

2. List of Regulatory Commitments – 1 Page

cc:

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. Travis Tate, Project Manager
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Mail Stop: O-8B-1
Washington, DC 20555-0001

Senior Resident Inspector
U. S. Nuclear Regulatory Commission
Pilgrim Nuclear Power Station
600 Rocky Hill Road
M/S 66
Plymouth, MA 02360

Mr. Robert Hallisey
Radiation Control Program
Commonwealth of Massachusetts
Executive Offices of Health and Human Services
174 Portland Street
Boston, MA 02114

Mr. Steve McGrail, Director
Massachusetts Emergency Management Agency
400 Worcester Road
Framingham, MA 01702

ENCLOSURE

Evaluation of the Proposed Changes

Subject: Changes to Post-Accident Monitoring Instrumentation Requirements

1. DESCRIPTION

2. PROPOSED CHANGES

3. BACKGROUND

   3.1 Post-Accident Monitoring Instrumentation

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4. TECHNICAL ANALYSIS

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8. REFERENCES

1. DESCRIPTION

Entergy Nuclear Operations, Inc. (Entergy) proposes to amend the Technical Specifications (TS) to change the requirements associated with post-accident monitoring (PAM) instrumentation. Entergy proposes to update the TS to:

a. reflect post-accident instrumentation for the TS functions meeting the guidance of NRC Regulatory Guide 1.97; and

b. adopt standard limiting conditions for operations, action statements, allowable outage times, surveillance requirements, and reporting requirements for PAM instrumentation.

These changes will make Pilgrim's TS more consistent with the requirements in the Standard Technical Specifications for General Electric Plants, BWR/4, NUREG-1433 (Reference 1).

2. PROPOSED CHANGES

The following changes are proposed as part of this TS amendment.

A. Titles

Change the title of Specification 3/4.2.F from "Surveillance Information Readouts" to "Post-Accident Monitoring Instrumentation." Modify instrument function names.

B. Applicability of the Requirements

Change the conditions during which the requirements of Specification 3/4.2.F are applicable to when the unit is in the Run Mode or the Startup Mode.

C. Changes to Columns on Table 3.2.F

Delete the "Instrument #" and "Type Indication and Range" Columns from Table 3.2.F. Also add an identifying number to each Function and move the "Minimum # of Operable Instrument Channels" column to following the Function name column.

D. Required Action for One Inoperable Channel out of Two Channels (Excluding the Drywell High Radiation Function)

Change the required Action for one of two required channels of a Function being inoperable. The current Actions (current Table 3.2.F Notes (1) and (3)) require restoring the inoperable channel to operable status within 30 days or placing the unit in Cold Shutdown within 24 hours while Specification 3.7.A.7.c requires restoration within 7 days or placing the unit in Hot Shutdown within 12 hours. These Actions are changed in proposed Table 3.2.F Note (1) to restoring the inoperable channel to operable status within 30 days or submitting a special report within 14 days.

E. Required Action for One Inoperable Channel out of Two Channels for the Drywell High Radiation Function

Change the required Action for one of two required channels of the Drywell High Radiation Function being inoperable. The current Action (current Table 3.2.F Note (7)) requires restoring the inoperable channel to operable status within 7 days or submitting

a special report within 14 days. This Action is changed in proposed Table 3.2.F Note (1) to restoring the inoperable channel to operable status within 30 days or submitting a special report within 14 days. Two inoperable Drywell High Radiation Function channels are addressed by the proposed Note (3).

F. Required Action for No Control Room Indication of a Function (Excluding the Containment H_2 Analyzer and Drywell High Radiation Functions)

Change the required Action for having no indication in the control room for a Function. The current Actions (current Table 3.2.F Notes (2) and (3)) require restoring control room indication within 7 days or placing the unit in Cold Shutdown within 24 hours. This Action is changed in proposed Table 3.2.F Note (2) to restoring control room indication within 7 days or placing the unit in Hot Shutdown within 12 hours.

G. Required Action for No Control Room Indication of the Containment H_2 Analyzer Function

Revise the limiting condition for operation from 48 hours to 72 hours, consistent with standard Technical Specifications. Move the current required Action for having no indication in the control room (both required channels inoperable) of the Containment H_2 Analyzer Function from Specification 3.7.A.7.c to proposed Note (4).

H. Deletion of Containment H_2 Analyzer Function from TS 3/4.7.A.7.c

Delete the Containment H_2 Analyzer from Specification 3/4.3.7.A.7.c and add the requirements to Table 3/4.2.F.

I. Non-Regulatory Guide 1.97, Type A or Category 1, non-Type A, Variables

Delete the Suppression Chamber Air Temperature, Drywell/Torus Differential Pressure, Safety/Relief Valve Position, Safety Valve Position Indicator, Tail Pipe Temperature Indication, Reactor Building Vent, Main Stack Vent, and Turbine Building Vent Functions from Specification 3/4.2.F.

J. Instrument Check Frequency

Change the required frequency of instrument checks to once per 31 days.

K. Calibration Frequency Presentation

Present the calibration frequencies consistently as once per 24 months for those functions with current requirements that effectively require the calibration once per 24 months.

L. Number of Required Neutron Monitoring Channels

The number of required neutron monitoring channels is increased from 1 to 2.

M. Instrument Channels Addressed by the Specification 3/4.2.F requirements

With the removal of the "Instrument #" column from Table 3.2.F, the TS will no longer control the specific instrument numbers comprising each required Function. The specific instruments comprising each required Function is proposed to be modified as necessary

to reflect the currently credited Regulatory Guide 1.97, Type A or Category 1, non-Type A, instruments.

N. Delete Note (2) on page 3/4.2-41

Delete Note (2) on TS page 3/4.2-41 to reflect that it is no longer used.

These proposed TS changes are indicated in Attachment 1. Also included in Attachment 1 for information are the conforming Bases changes, which will be made after approval of the proposed changes.

3. BACKGROUND

1. Post-Accident Monitoring Instrumentation

The primary purpose of the PAM instrumentation is to display plant variables that provide information required by the control room operators during accident situations. This information provides the necessary support for the operator to take the manual actions for which no automatic control is provided and that are required for safety systems to accomplish their safety functions for design basis events.

The purpose of PAM instrumentation for Regulatory Guide 1.97, Type A variables is to provide information so that the control room operating staff can:

- Perform the diagnosis specified in the Emergency Operating Procedures (EOPs). These variables are restricted to preplanned actions for the primary success path of Design Basis Accidents (DBAs), (e.g., loss of coolant accident (LOCA)), and

- Take the specified, preplanned, manually controlled actions for which no automatic control is provided, which are required for safety systems to accomplish their safety function.

The purpose of PAM instrumentation for Regulatory Guide 1.97, Category 1, non-Type A, variables is to provide information so that the control room operating staff can:

- Determine whether systems important to safety are performing their intended functions;
- Determine the potential for causing a gross breach of the barriers to radioactivity release;
- Determine whether a gross breach of a barrier has occurred; and
- Initiate action necessary to protect the public and for an estimate of the magnitude of any impending threat.

Information on Pilgrim's post-accident monitoring instrumentation can be found in Pilgrim's Final Safety Analysis Report (FSAR) Section 7.8.10, "Post-Accident Monitoring." FSAR Table 7.8-3 lists PAM panel instrument specifications. The NRC issued two SERs

for Pilgrim regarding post-accident instrumentation and Regulatory Guide 1.97 (References 2 and 3).

The operability of the accident monitoring instrumentation ensures that there is sufficient information available on selected plant parameters to monitor and assess plant status and behavior following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97.

2. 10 CFR 50.36(c)(2)(ii) and NRC Final Policy Statement

The NRC Final Policy Statement on the Improved Technical Specifications (ITS), states that the purpose of the technical specifications is to impose those conditions or limitations on reactor operations necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety by identifying those features which are of controlling importance to safety and establishing on them certain conditions of operation which cannot be changed without prior Commission approval. To achieve that purpose, the final policy statement provides four criteria that delineate those constraints on design and operation of nuclear power plants that must be retained in the technical specifications. These criteria were subsequently incorporated into 10 CFR 50.36(c)(2)(ii).

Criterion 1 – Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary. (10 CFR 50.36(c)(2)(ii)(A))

Criterion 2 – A process variable, design feature, or operating restriction that is an initial condition of a design basis accident (DBA) or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. (10 CFR 50.36(c)(2)(ii)(B))

Criterion 3 – A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier. (10 CFR 50.36(c)(2)(ii)(C))

Criterion 4 – A structure or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety. (10 CFR 50.36(c)(2)(ii)(D))

As discussed in NUREG-1433, the PAM instrumentation that monitors the Regulatory Guide 1.97, Type A and Category 1, non-Type A, variables is the monitoring instrumentation which meets the screening criteria in the final policy statement and 10 CFR 50.36(c)(2)(ii).

4. TECHNICAL ANALYSIS

The following is the justification for the changes proposed as part of this TS amendment.

A. Titles

The changes in the title of Specification 3/4.2.F from Surveillance Information Readouts to Post-Accident Monitoring Instrumentation and function names are editorial changes to reflect the function of the instruments controlled. These changes do not result in any change in requirements.

B. Applicability of the Requirements

The current Specifications have various implied conditions during which the requirements were applicable by having different required Action end states for different Functions. These various implied applicabilities are made consistent and changed to require the Functions to be operable when the unit is in the Run Mode or the Startup Mode.

Having the PAM instrumentation required to be operable in the Run and Startup Modes provides the appropriate controls on the instrumentation. These variables are related to the diagnosis and preplanned actions required to mitigate DBAs. The applicable DBAs are assumed to occur in Run or Startup Modes. In the other plant operational modes, plant conditions are such that the likelihood of an event that would require PAM instrumentation is extremely low; therefore, PAM instrumentation should not be required to be operable in these modes.

C. Columns on Table 3.2.F

Deleting the "Instrument #" and "Type Indication and Range" Columns from Table 3.2.F removes design details which are more appropriately controlled by plant procedures. Removal of these details is consistent with NUREG-1433.

Adding an identifying number to each Function and moving the "Minimum # of Operable Instrument Channels" column following the Function name column are editorial changes.

These changes do not result in any changes in the TS requirements.

D. Required Action for One Inoperable Channel out of Two Channels (Excluding the Drywell High Radiation Function)

The proposed 30-day allowed out-of-service time for one inoperable channel out of two required channels for a Function with subsequent reporting to the NRC provides the appropriate required Action for the condition. The 30-day completion time is appropriate based on operating experience and takes into account the remaining operable channel, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval. The required action of submitting a report in lieu of the current shutdown requirement is appropriate, since alternative actions are identified as part of the report, there is no loss of functional capability, and given the likelihood of plant conditions that would require information provided by this instrumentation.

E. Required Action for One Inoperable Channel out of Two Channels for the Drywell High Radiation Function

The proposed 30-day allowed out-of-service time for one inoperable channel out of two required channels for the Drywell High Radiation Function instead of the current 7 days prior to reporting the condition to the NRC provides the appropriate required Action for the condition. The 30-day completion time is appropriate based on operating experience and takes into account the remaining operable channel, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

F. Required Action for No Control Room Indication of a Function (Excluding the Containment H_2 Analyzer and Drywell High Radiation Functions)

The proposed required Actions modify the end state of the unit if there is no indication in the control room for a Function and control room indication is not restored within 7 days. The current required Actions require placing the unit in Cold Shutdown within 24 hours while the proposed required Action is to place the unit in Hot Shutdown within 12 hours. This change is consistent with the proposed change in when the PAM instrumentation is required to be operable.

Having the unit exit the Run and Startup Modes provides the appropriate controls for the subject conditions. These variables are related to the diagnosis and preplanned actions required to mitigate DBAs. The applicable DBAs are assumed to occur in Run or Startup Modes. In the other plant operational modes, plant conditions are such that the likelihood of an event that would require PAM instrumentation is extremely low; therefore, exiting the Run and Startup Modes provides the appropriate action under the evaluated conditions.

G. Required Action for No Control Room Indication of the Containment H_2 Analyzer Function

This revision changes the LCO from 48 hours to 72 hours, consistent with standard technical specifications 3.3.3.1 and B 3.3.3.1 D.1. 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.

H. Deletion of Containment H_2 Analyzer from TS 3/4.7.A.7.c

This is an editorial change only. Any non-editorial changes are discussed in other sections.

I. Non-Regulatory Guide 1.97, Type A or Category 1, non-Type A, Variables

The Functions proposed to be deleted are not instrumentation that monitors the Regulatory Guide 1.97, Type A and Category 1 non-Type A, variables. Therefore, this instrumentation does not meet the screening criteria in the final policy statement and 10 CFR 50.36(c)(2)(ii) and removal from the TS is appropriate.

J. Instrument Check Frequency

The current TS requirements have various frequencies identified for performing the required Instrument Check (i.e., each shift, once each day, once every 30 days, and once per month). These required frequencies are made consistent with NUREG-1433.

Performance of the Instrument Check once every 31 days ensures that a gross failure of instrumentation has not occurred. An Instrument Check is normally a comparison of the parameter indicated on one channel against a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. An Instrument Check will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between calibrations. The proposed Frequency of 31 days is based upon plant operating experience, with regard to channel operability and drift, which demonstrates that failure of more than one channel of a given Function in any 31-day interval is rare. The Instrument Check supplements less

formal, but more frequent, checks of channels during normal operational use of those displays associated with required channels.

K. Calibration Frequency Presentation

The current TS requirements have various presentations of the required calibration frequencies all of which effectively require the calibration a minimum of once per 24 months (i.e., each refueling outage, once each operating cycle, and each start up). The presentation of these required frequencies are made consistent with NUREG-1433 as once per 24 months. This change in presentation of the required interval does not change the maximum interval between calibrations required by the TS for these instruments because the current refueling interval for Pilgrim is 24 months. This change in presentation does remove restrictions on the plant conditions under which the calibration can be performed. Removal of these restrictions is acceptable because implementation of the controls of 10 CFR 50.65 will continue to provide the necessary assurance that the calibrations are not performed during inappropriate plant conditions.

L. Number of Required Neutron Monitoring Channels

Increasing the number of required neutron monitoring channels from 1 to 2 is a more restrictive TS requirement. This change does not modify the design or operation of the plant but only results in more conservative TS requirements.

M. Instrument Channels Addressed by the Specification 3/4.2.F requirements

With the removal of the "Instrument #" column from Table 3.2.F the TS will no longer control the specific instrument numbers comprising each required Function. But only instrumentation that meets the design requirements for Regulatory Guide 1.97, Type A or Category 1, non-Type A, instruments should be used to meet the minimum required channels requirements of the TS. Therefore, the specific instruments comprising each required Function is proposed to be modified as necessary to reflect the credited Regulatory Guide 1.97, Type A or Category 1 non Type A instruments. The following are the credited Regulatory Guide 1.97, Type A or Category 1, non-Type A, instruments for the proposed TS required Functions.

	Function	Current TS Instruments	Regulatory Guide 1.97 Instruments
1.	Reactor Water Level	640-29A 640-29B	LI-263-100A LI-263-100B LI-263-106A LI-263-106B LI-1001-650A LI-1001-650B LR-1001-604A LR-1001-604B
2.	Reactor Pressure	640-25A 640-25B	PI-263-49A PI-263-49B PR-1001-600A PR-1001-600B

	Function	Current TS Instruments	Regulatory Guide 1.97 Instruments
3.	Drywell Temperature	TRU-9044 TI-9019	TRU-9044 TI-9019
4.	Neutron Monitoring	APRM IRM SRM	APRM SRM
5.	Suppression Chamber Water Temperature	TI-5021-2A TI-5022-2B	TI 5021-02A TI 5022-02B TRU-5021-01A TRU-5022-01B
6.	Suppression Chamber Bottom Pressure	PID-5067A PID-5067B	PI-1001-69A PI-1001-69B PR-1001-69
7.	Suppression Charnber Water Level	LR-5038 LR-5049	LI-1001 604A LI-1001 604B LR-1001-604A LR-1001-604B
8.	Drywell Pressure (Wide Range)	PI-1001-600A PR-1001-600A PI-1001-600B PR-1001-600B	PI-1001-600A PR-1001-600A PI-1001-600B PR-1001-600B
9.	Drywell Pressure (Narrow Range)	PI-1001-601A PR-1001-600A PI-1001-601B PR-1001-600B	PI-1001-601A PR-1001-600A PI-1001-601B PR-1001-600B
10.	Drywell High Radiation	RIT-1001-606A RIT-1001-606B RR-1001-606A RR-1001 606B	RIT-1001-606A RIT-1001-606B RR-1001-606A RR-1001 606B
11.	Containment H_2 Analyzer	AR-1001-612A AR-1001-612B	AR-1001-612A AR-1001-612B AI-1-5184A AI-1-5184B

N. Delete Note (2) on page 3/4.2-41

With the revised presentation of the calibration frequency requirements, Note (2) is no longer used on Table 4.2.F. Deletion of this Note is dependant upon the prior approval of the proposed TS change concerning the relocation of certain Control Rod Block functions submitted via Reference 5. If the changes requested in Reference 5 are not approved prior to the approval of this proposed change, then Note (2) should not be deleted as part of this change.

In Reference 4, the NRC approved required actions similar to those proposed by this submittal.

5. REGULATORY SAFETY ANALYSIS

1. No Significant Hazards Analysis

Entergy Nuclear Operations, Inc. (Entergy) is proposing to modify requirements associated with Post-Accident Monitoring Instrumentation.

Pilgrim has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the change involve a significant increase in the probability or consequences of an accident previously analyzed?

   Response: No.

   Post-Accident Monitoring (PAM) Instrumentation is not an initiator of any previously evaluated accident because there is no credible failure of PAM instrumentation that could initiate previously evaluated accidents. Therefore, the proposed changes do not involve a significant increase in the probability of an accident previously analyzed.

   The availability and use of PAM instrumentation help to ensure that the manual operator actions for mitigating an accident will be taken, and that the operator will be able to verify that automatic actions have occurred. The proposed changes make the requirements in the Technical Specifications more consistent with assumed operator actions. The proposed required actions, allowed out-of-service times, and surveillance intervals are appropriate based on operating experience, other instrumentation available, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation. Therefore, the proposed changes do not involve a significant increase in the consequences of an accident previously analyzed.

   Therefore, this proposed amendment does not involve a significant increase in the probability of occurrence or consequences of an accident previously analyzed.

2. Does the change create the possibility of a new or different kind of accident from any accident previously analyzed?

   Response: No

   The proposed change does not involve the physical modification of structures systems, or components, plant design basis, or the manner in which the plant is operated. PAM instrumentation is passive and does not initiate automatic actions.

As a result, there are no credible failures that could initiate a new or different kind of accident from any accident previously evaluated.

Therefore, this proposed amendment does not create the possibility of a new or different kind of accident from any previously analyzed.

3. Does the change involve a significant reduction in the margin of safety?

   Response: No

   PAM instrumentation performs no automatic functions. PAM instruments help to ensure that operators take necessary manual actions to mitigate the consequences of an accident, and that operators have adequate information to confirm the operation of automatic accident mitigation functions have occurred. The proposed required actions, allowed out-of-service times, and surveillance intervals are appropriate based on operating experience, other instrumentation available, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation.

   Therefore, this proposed amendment does not involve a significant reduction in margin of safety.

Based on the above, Entergy concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and accordingly, a finding of "no significant hazards consideration" is justified.

6. ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need to be prepared in connection with the proposed amendment.

7. COORDINATION WITH OTHER PENDING TS CHANGES

The markups of the TS submitted with this change delete Note (2) on TS page 3/4.2-41. Deletion of this Note is dependant upon the prior approval of the proposed TS change concerning the relocation of certain Control Rod Block functions submitted via Reference 5. If the changes requested in Reference 5 are not approved prior to the approval of this proposed change, then Note (2) should not be deleted as part of this change.

8. REFERENCES

1. NUREG-1433, "Standard Technical Specifications General Electric Plants, BWR/4," Revision 2.

2. NRC letter, S. F. Shankman to G. W. Davis, dated March 13, 1991 regarding "Safety Evaluation of the Pilgrim Nuclear Power Station Response to Conformance to Regulatory Guide 1.97 (TAC NO. 51119).

3. NRC letter, R. B. Eaton to R. A. Anderson, dated December 23, 1992 regarding "Supplemental Safety Evaluation of Conformance to Regulatory Guide (R. G.) 1.97 for Pilgrim Nuclear Power Station (PNPS) (TAC NO. M51119)."

4. NRC letter, R. M. Pulsifer to M. Balduzzi, dated May 10, 2002 regarding "Vermont Yankee Nuclear Power Station – Issuance of Amendment Re: Allowed Outage Times for Post-Accident Monitoring Instrumentation (TAC No. MB3430)."

5. Entergy letter 2.02.064, R.M. Bellamy to NRC, dated August 19, 2002.

ATTACHMENT 1

PROPOSED TECHNICAL SPECIFICATION

AND BASES CHANGES (MARK-UP)

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
3.2 PROTECTIVE INSTRUMENTATION (Cont)	4.2 PROTECTIVE INSTRUMENTATION (Cont)
E. Drywell Leak Detection	E. Drywell Leak Detection
The limiting conditions of operation for the instrumentation that monitors drywell leak detection are given in Section 3.6.C.	Instrumentation shall be functionally tested, calibrated and checked as indicated in Section 4.6.C.
F. Surveillance Information Readouts	F. Surveillance Information Readouts
The limiting conditions for the instrumentation that provides surveillance information readouts are given in Table 3.2.F.	Instrumentation shall be calibrated and checked as indicated ~~in Table 4.2.F.~~

Insert 3/4.2-3A

INSERT 3/4.2-3A

F. Post-Accident Monitoring Instrumentation	F. Post-Accident Monitoring Instrumentation
During the RUN MODE and the STARTUP MODE the limiting conditions for the instrumentation that provides post-accident monitoring are given in Table 3.2.F.	Instrumentation shall be calibrated and checked as indicated in Table 4.2.F.

PNPS

TABLE 3.2.F

SURVEILLANCE INSTRUMENTATION

Minimum # of Operable Instrument Channels	Instrument #	Parameter	Type Indication and Range	Notes
2	640-29A & B	Reactor Water Level	Indicator 0-60"	(1) (2) (3)
2	640-25A & B	Reactor Pressure	Indicator 0-1200 psig	(1) (2) (3)
2	TRU-9044 TRU-9045	Drywell Pressure	Recorder 0-80 psia	(1) (2) (3)
2	TRU-9044 TI-9019	Drywell Temperature	Recorder, Indicator 0-400°F	(1) (2) (3)
2	TRU-9045 TI-9018	Suppression Chamber Air Temperature	Recorder, Indicator 0-400°F	(1) (2) (3)
2	LR-5038 LR-5049	Suppression Chamber Water Level	Recorder -7 to +7 inches	(1) (2) (3)
1	NA	Neutron Monitoring	SRM, IRM, LPRM 0 to 100% power	(1) (2) (3) (4)

Insert 3/4.2-25A

INSERT 3/4.2-25A

PNPS

TABLE 3.2.F

Post-Accident Monitoring Instrumentation

	Function	Minimum # of Operable Instrument Channels	Notes
1.	Reactor Water Level	2	(1) (2)
2.	Reactor Pressure	2	(1) (2)
3.	Drywell Temperature	2	(1) (2)
4.	Neutron Monitoring	2	(1) (2)
5.	Suppression Chamber Water Temperature	2	(1) (2)
6.	Suppression Chamber Bottom Pressure	2	(1) (2)
7	Suppression Chamber Water Level	2	(1) (2)
8.	Drywell Pressure (Wide Range)	2	(1) (2)
9.	Drywell Pressure (Narrow Range)	2	(1) (2)
10.	Drywell High Radiation	2	(1) (3)
11.	Containment H_2 Analyzer	2	(1) (4)

INSERT 3/4.2-25A Continued

Notes for Table 3.2.F

(1) With less than the minimum number of instrument channels, restore the inoperable channel(s) within 30 days. If the inoperable channel(s) are not restored, prepare and submit a special report to the Commission within 14 days of the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the channels to operable status.

(2) With the instrument channel(s) providing no indication to the control room, restore the indication to the control room within 7 days. If the indication is not restored, an orderly shutdown shall be initiated and the reactor shall be in the Hot Shutdown Condition within 12 hours.

(3) With the instrument channel(s) providing no indication to the control room, restore the indication to the control room within 7 days. If the indication is not restored, prepare and submit a special report to the Commission within 14 days of the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the channels to operable status.

(4) With the instrument channel providing no indication to the control room, restore the indication to the control room within 72 hours. If the indication is not restored, an orderly shutdown shall be initiated and the reactor shall be in the Hot Shutdown Condition within 12 hours.

PNPS

TABLE 3.2.F (Cont)

SURVEILLANCE INSTRUMENTATION

Insert 3/4.2-25A

Minimum # of Channels	Operable Instrument Instrument #	Parameter	Type Indication and Range	Notes
2	TI-5021-2A TRU-5021-1A	Suppression Chamber Water Temperature	Indicator/ Multipoint Recorder 30-230°F (Bulk)	(1) (2) (3) (4)
	TI-5022-2B TRU-5022-1B	Suppression Chamber Water Temperature	Indicator/ Multipoint Recorder 30-230°F (Bulk)	(1) (2) (3) (4)
1	PID-5021	Drywell/Torus Diff. Pressure	Indicator -.25 - +3.0 psig	(1) (2) (3) (4)
1	PID-5067A PID-5067B	Drywell Pressure Torus Pressure	Indicator -.25 - +3.0 psig Indicator - 1.0 - +2.0 psig	(1) (2) (3) (4)
1/Valve	(a)Primary or (b) Backup	Safety/Relief Valve Position	(a) Acoustic monitor (b) Thermocouple	(5)
1/Valve	(a)Primary or (b) Backup	Safety Valve Position Indicator	(a) Acoustic monitor (b) Thermocouple	(5)
1/Valve	See Note (6)	Tail Pipe Temperature Indication	Thermocouple	(6)
2	LI-1001-604A LR-1001-604A	Torus Water Level (Wide Range)	Indicator/Multipoint Recorder 0-300" H_20	(1) (2) (3) (4)
	LI-1001-604B LR-1001-604B	Torus Water Level (Wide Range)	Indicator/Multipoint Recorder 0-300" H_20	(1) (2) (3) (4)

INSERT 3/4.2-25A Continued

Pages 3/4.2-27 and 3/4.2-28 have been deleted.

Insert 3/4.2-25A

PNPS
TABLE 3.2.F (Cont)

SURVEILLANCE INSTRUMENTATION

Minimum # of Operable Instrument Channels	Instrument #	Parameter	Type Indication and Range	Notes
2	(PI 1001-600A (PR 1001-600A ((PI 1001-600B (PR 1001-600B	Containment Pressure, (High Range)	Indicator/Multipoint Recorder 0-225 psig	(4) (1) (2) (3)
2	(PI 1001-601A (PR 1001-600A ((PI 1001-601B (PR 1001-600B	Containment Pressure, (Low Range)	Indicator/Multipoint Recorder -5 to 5 psig	(4) (1) (2) (3)
2	(RIT 1001-606A (RIT 1001-606B (RR 1001-606A (RR 1001-606B	Containment High Radiation (Drywell)	Monitor/Multipoint Recorder 1 to 1×10^7 R/hr	(4) (7)
1	RI 1001-609 RR 1001-608	Reactor Building Vent	Indicator/Multipoint Recorder 10^{-1} to 10^4 R/hr	(4) (7)
1	RI 1001-608 RR 1001-608	Main Stack Vent	Indicator/Multipoint Recorder 10^{-1} to 10^4 R/hr	(4) (7)
1	RI 1001-610 RR 1001-608	Turbine Building Vent	Indicator/Multipoint Recorder 10^{-1} to 10^4 R/hr	(4) (7)

NOTES FOR TABLE 3.2.F

(1) With less than the minimum number of instrument channels, restore the inoperable channel(s) within 30 days.

(2) With the instrument channel(s) providing no indication to the control room, restore the indication to the control room within seven days.

(3) If the requirements of notes (1) or (2) cannot be met, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown Condition within 24 hours.

(4) These surveillance instruments are considered to be redundant to each other.

(5) At a minimum, the primary or back-up* parameter indicators shall be operable for each valve when the valves are required to be operable. With both primary and backup* instrument channels inoperable either return one (1) channel to operable status within 31 days or be in a shutdown mode within 24 hours.

The following instruments are associated with the safety/relief and safety valves:

Valve	Primary Acoustic Monitor	Secondary Tail Pipe Temperature Thermocouple
203-3A	ZT-203-3A	TE6271 *
203-3B	ZT-203-3B	TE6272 *
203-3C	ZT-203-3C	TE6273 *
203-3D	ZT-203-3D	TE6276 *
203-4A	ZT-203-4A	TE6274-B
203-4B	ZT-203-4B	TE6275-B

* See Note (6)

(6) At a minimum, for thermocouples providing SRV tail pipe temperature, one of the dual thermocouples will be operable for each SRV when the valves are required to be operable. If a thermocouple becomes inoperable, it shall be returned to an operable condition within 31 days or the reactor shall be placed in a shutdown mode within 24 hours.

(7) With less than the minimum number of operable instrument channels, restore the inoperable channels to operable status within 7 days or prepare and submit a special report to the Commission within 14 days of the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the channels to operable status.

Insert 3/4.2-25A

PNPS

TABLE 4.2.F

MINIMUM TEST AND CALIBRATION FREQUENCY FOR SURVEILLANCE INSTRUMENTATION

Instrument Channel	Calibration Frequency	Instrument Check
1) Reactor Water Level	Each Refueling Outage	Each Shift
2) Reactor Pressure	Each Refueling Outage	Each Shift
3) Drywell Pressure	Each Refueling Outage	Each Shift
4) Drywell Temperature	Once/6 Months	Each Shift
5) Suppression Chamber Temperature	Once/6 Months	Each Shift
6) Suppression Chamber Water Level	Once/6 Months	Each Shift
7) NA		
8) Neutron Monitoring	(2)	Each Shift
9) Drywell/Torus Differential Pressure	Once/6 Months	Each Shift
10) Drywell Pressure Torus Pressure	Once/6 Months Once/6 Months	Each Shift
11) Safety/Relief Valve Position Indicator (Primary/Secondary)	Each refueling outage	Once each day
12) Safety Valve Position Indicator (Primary/ Secondary)	Each refueling outage	Once each day

Insert 3/4.2-37A

INSERT 3/4.2-37A

PNPS

TABLE 4.2.F

MINIMUM TEST AND CALIBRATION FREQUENCY FOR
Post-Accident Monitoring Instrumentation

	Function	Calibration Frequency	Instrument Check
1.	Reactor Water Level	Once/24 Months	Once/31 Days
2.	Reactor Pressure	Once/24 Months	Once/31 Days
3.	Drywell Temperature	Once/6 Months	Once/31 Days
4.	Neutron Monitoring	Once/24 Months	Once/31 Days
5	Suppression Chamber Water Temperature	Once/6 Months	Once/31 Days
6.	Suppression Chamber Bottom Pressure	Once/6 Months	Once/31 Days
7.	Suppression Chamber Water Level	Once/24 Months	Once/31 Days
8.	Drywell Pressure (Wide Range)	Once/24 Months	Once/31 Days
9.	Drywell Pressure (Narrow Range)	Once/24 Months	Once/31 Days
10.	Drywell High Radiation	Once/24 Months	Once/31 Days
11.	Containment H_2 Analyzer	Once/6 Months	Once/31 Days

INSERT 3/4.2-37A Continued

Page 3/4.2-37 has been deleted.

TABLE 4.2.F (Cont)

MINIMUM TEST AND CALIBRATION FREQUENCY FOR SURVEILLANCE INSTRUMENTATION

	Instrument Channel	Calibration Frequency	Instrument Check
13)	Torus Water Level (Wide Range)	Each refueling outage	Once every 30 days
14)	Containment Pressure	Each refueling outage	Once every 30 days
15)	Containment High Radiation	Once/Operating Cycle	Once every 30 days
16)	Reactor Building Vent Radiation Monitor	Once/Operating Cycle	Once every 30 days
17)	Main Stack Vent Radiation Monitor	Once/Operating Cycle	Once every 30 days
18)	Turbine Building Vent Radiation Monitor	Once/Operating Cycle	Once every 30 days

NOTES FOR TABLES 4.2.A THROUGH 4.2.G

1. Initially once per month until exposure hours (M as defined on Figure 4.1.1) is 2.0 x 10^5; thereafter, according to Figure 4.1.1 with an interval not less than one month nor more than three months.

2. Functional tests, calibrations and instrument checks are not required when ~~these instruments~~ are not required to be operable or are tripped. Functional tests shall be performed ~~before each~~ startup with a required frequency not to exceed once per week. Calibrations of ~~IRMs and~~ SRMs shall be performed during each startup or during controlled shutdowns ~~with~~ a required frequency not to exceed once per week. Instrument checks shall be ~~performed~~ at least once per day during those periods when the instruments are required ~~to be~~ operable.

Deleted

3. This instrumentation is excepted from the functional test definition. The functional test will consist of injecting a simulated electrical signal into the measurement channel.

4. Simulated automatic actuation shall be performed once each operating cycle. Where possible, all logic system functional tests will be performed using the test jacks.

5. Reactor low water level and high drywell pressure are not included on Table 4.2.A since they are tested on Tables 4.1.1 and 4.1.2.

6. The logic system functional tests shall include a calibration of time delay relays and timers necessary for proper functioning of the trip systems.

7. Calibration of analog trip units will be performed concurrent with functional testing. The functional test will consist of injecting a simulated electrical signal into the measurement channel. Calibration of associated analog transmitters will be performed each refueling outage.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7 CONTAINMENT SYSTEMS (Cont)	4.7 CONTAINMENT SYSTEMS (Cont)
A. Primary Containment (Cont)	A. Primary Containment (Cont)
7. Containment Atmosphere Dilution	7. Containment Atmosphere Dilution
a. Within the 24-hour period after placing the reactor in the Run Mode the Post-LOCA Containment Atmosphere Dilution System must be operable and capable of supplying nitrogen to the containment for atmosphere dilution. If this specification cannot be met, the system must be restored to an operable condition within 30 days or the reactor must be at least in Hot Shutdown within 12 hours.	a. The post-LOCA containment atmosphere dilution system shall be functionally tested once per operating cycle.
b. Within the 24-hour period after placing the reactor in the Run Mode, the Nitrogen Storage Tank shall contain a minimum of 1500 gallons of liquid N_2. If this specification cannot be met the minimum volume will be restored within 30 days or the reactor must be in at least Hot Shutdown within 12 hours.	b. The level in the liquid N_2 storage tank shall be recorded weekly.
c. There are 2 H_2 analyzers available to serve the drywell. With only 1 H_2 analyzer operable, reactor operation is allowed for up to 7 days. If the inoperable analyzer is not made fully operable within 7 days, the reactor shall be in a least Hot Shutdown within the next 12 hours.	Deleted c. The H_2 analyzers shall be tested for operability once per month and shall be calibrated once per 6 months.
	d. Once per month each manual or power operated valve in the CAD system flow path not locked, sealed or otherwise secured in position shall be observed and recorded to be in its correct position.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.7 CONTAINMENT SYSTEMS (Cont.)	4.7 CONTAINMENT SYSTEMS (Cont.)
A. Primary Containment (Cont.) With no H_2 analyzer operable, reactor operation is allowed for up to 48 hours. If one of the inoperable analyzers is not made fully operable within 48 hours, the reactor shall be in at least Hot Shutdown within the next 12 hours.	
B. Standby Gas Treatment System and Control Room High Efficiency Air Filtration System	B. Standby Gas Treatment System and Control Room High Efficiency Air Filtration System
1. Standby Gas Treatment System	1. Standby Gas Treatment System
a. Except as specified in 3.7.B.1.c or 3.7.B.1.e below, both trains of the standby gas treatment shall be operable when in the Run, Startup, and Hot Shutdown MODES, during movement of irradiated fuel assemblies in the secondary containment, and during movement of new fuel over the spent fuel pool, and during **CORE ALTERATIONS**, and during operations with a potential for draining the reactor vessel (OPDRVs), or the reactor shall be in cold shutdown within the next 36 hours.	a. 1. At least once per operating cycle, it shall be demonstrated that pressure drop across the combined high efficiency filters and charcoal adsorber banks is less than 8 inches of water at 4000 cfm.
b. 1. The results of the in-place cold DOP tests on HEPA filters shall show ≥99% DOP removal. The results of halogenated hydrocarbon tests on charcoal adsorber banks shall show ≥99.9% halogenated hydrocarbon removal.	2. At least once per operating cycle, demonstrate that the inlet heaters on each train are operable and are capable of an output of at least 14 kW. 3. The tests and analysis of Specification 3.7.B.1.b. shall be performed at least once per operating cycle or following painting, fire or chemical release in any ventilation zone communicating with the system while the system is operating that could contaminate the HEPA filters or charcoal adsorbers. 4. At least once per operating cycle, automatic initiation of

BASES:

3.2 PROTECTIVE INSTRUMENTATION (Cont)

Trip settings of < 100 mr/hr for the monitors in the refueling area ventilation exhaust ducts are based upon initiating normal ventilation isolation and standby gas treatment system operation so that none of the activity released during the refueling accident leaves the Reactor Building via the normal ventilation path but rather all the activity is processed by the standby gas treatment system.

at least

For most parameters monitored, as listed in Table 3.2.F, there are two (2) channels of instrumentation. By comparing readings between these two (2) channels, a near continuous surveillance of instrument performance is available. Meaningful deviation in comparative readings of these instruments will initiate an early recalibration, thereby maintaining the quality of the instrument readings.

Insert B3/4.2-5A

The Safety - Safety/Relief Valve position indication instrumentation provides the operator with information on selected plant parameters to monitor and assess these variables during and following an accident.

In response to NUREG-0737, modifications were made to the ADS logic to extend automatic ADS operation to a class of transients that involve slowly uncovering the core without depressurizing the vessel or pressurizing the drywell. These transients were analyzed assuming no high pressure injection systems (feedwater, HPCI or RCIC) are available. Only ADS is considered available to depressurize the vessel, permitting operation of LPCI. The transients generally involve pipe breaks outside containment. Automatic ADS would not occur on low water level because high drywell pressure would not be present and ADS logic has a high drywell pressure permissive. The modification added a timer to the ADS logic which bypasses the high drywell pressure permissive, and a manual inhibit switch which allows the operator to inhibit automatic ADS initiation for events where automatic initiation is not desirable.

An analysis was performed to determine an upper time limit on the bypass timer. The goal was to ensure ADS is automatically initiated in time to prevent peak clad temperature (PCT) from exceeding 1500°F for a limiting break, which was determined to be a Reactor Water Cleanup line break. The analysis concluded that there are 18 minutes between the low water level initiation of the timer and the heatup of the cladding to the limit. Since the logic includes a 2 minute delay already, the bypass timer upper limit can not be more than 16 minutes, which provides a conservative margin for PCT and allows sufficient time for operator intervention if required. A minimum time delay is incorporated to allow RPV water level to recover, resetting the timer and preventing depressurization. The choice of a timer setting of 11 minutes places the setting in the middle and provides maximum tolerance from either limit. (Reference: GE Report "Bypass Timer Calculation for the ADS/ECCS Modification for Pilgrim Station" December 16, 1986).

INSERT B3/4.2-5A

The following are the instruments which meet the quality requirements of Regulatory Guide 1.97 and can be credited to meet the operability requirements of Specification 3/4.2.F. Two channels of indication in the control room from the below list must be available to meet the Specification requirements.

	Specification 3/4.2.F Function	Regulatory Guide 1.97 Instruments
1.	Reactor Water Level	LI 263-100A, LI 263-106A, LR 1001-604A LI 263-100B, LI 263-106B, LR 1001-604B LI 1001-650A, LI 1001-650B
2.	Reactor Pressure	PI 263-49A, PR-1001-600A PI 263-49B, PR-1001-600B
3.	Drywell Temperature	TRU-9044, TI-9019
4.	Neutron Monitoring	APRM, SRM
5.	Suppression Chamber Water Temperature	TI 5021-02A, TRU-5021-01A TI 5022-02B, TRU-5022-01B
6.	Suppression Chamber Bottom Pressure	PI 1001-69A, PI 1001-69B PR 1001-69
7.	Suppression Chamber Water Level	LI 1001 604A, LR 1001-604A LI 1001 604B, LR 1001-604B
8.	Drywell Pressure (Wide Range)	PI-1001-600A, PR-1001-600A PI-1001-600B, PR-1001-600B
9.	Drywell Pressure (Narrow Range)	PI-1001-601A, PR-1001-600A PI-1001-601B, PR-1001-600B
10.	Drywell High Radiation	RIT-1001-606A, RR 1001-606A RIT-1001-606B, RR 1001-606B
11.	Containment H_2 Analyzer	AI-1-5184A, AR 1001-612A AI-1-5184B, AR 1001-612B

BASES:

3/4.7 CONTAINMENT SYSTEMS (Cont)

A. Primary Containment (Cont)

wetwell pressure differential to keep the suppression chamber downcomer legs clear of water significantly reduced suppression chamber post LOCA hydrodynamic loads. A pressure of 1.17 psid is required to sufficiently clear the water legs of the downcomers without bubbling nitrogen into the suppression chamber at the 3.00 ft. downcomer submergence which corresponds to approximately 84,000 ft.^{3} of water. Maximum downcomer submergence is 3.25 ft. at operating suppression chamber water level. The above pressure differential and submergence number are used in the Pilgrim I Plant Unique Analysis.

Post LOCA Atmosphere Dilution

In order to ensure that the containment atmosphere remains inerted, i.e. the oxygen-hydrogen mixture below the flammable limit, the capability to inject nitrogen into the containment after a LOCA is provided. A minimum of 1500 gallons of liquid N_2 in the storage tank assures that a three-day supply of N_2 for post-LOCA containment inerting is available. Since the inerting makeup system is continually functioning, no periodic testing of the system is required.

The Post-LOCA Containment Atmospheric Dilution (CAD) System is designed to meet the requirements of AEC Regulatory Guides 1.3, 1.7 and 1.29, ASME Section III, Class 2 (except for code stamping) and seismic Class I as defined in the PNPS FSAR.

In summary, the limiting criteria are:

1. Maintain hydrogen concentration in the containment during post-LOCA conditions to less than 4%.

2. Limit the buildup in the containment pressure due to nitrogen addition to less than 28 psig.

3. To limit the offsite dose due to containment venting (for pressure control) to less than 300 Rem to the thyroid.

By maintaining at least a 3-day supply of N_2 on site there will be sufficient time after the occurrence of a LOCA for obtaining additional nitrogen supply from local commercial sources.(1) The system design contains sufficient redundancy to ensure its reliability. Thus, it is sufficient to test the operability of the whole system once per operating cycle. The H_2 analyzers ~~will~~ provide redundancy for the drywell i.e., there are two H_2 analyzers for the Unit. By ~~permitting~~ reactor operation for 7 days with one of the two H_2 analyzers inoperable, redundancy of analyzing ~~capability~~ will be maintained while not imposing an immediate interruption in plant operation. Monthly

(1) As listed in Pilgrim Nuclear Power Station Procedure No. 5.4.6 "Post Accident Venting".

BASES:

3/4.7 CONTAINMENT SYSTEMS (Cont)

testing of the analyzers using H_2 will be adequate to ensure the system's readiness because of the design. Since the analyzers are normally not in operation there will be little deterioration due to use. In order to determine H_2 concentration, the analyzers must be warmed up 6 hours prior to putting into service. This time frame is acceptable for accident conditions because a 4% H_2 level will not be reached in the drywell until 16 hours following the accident. Due to nitrogen addition, the pressure in the containment after a LOCA will increase with time. Under the worst expected conditions the containment pressure will reach 28 psig in approximately 45 days. If and when that pressure is reached, venting from the containment shall be manually initiated per the requirements of 10CFR50.44. The venting path will be through the Standby Gas Treatment system in order to minimize the off site dose.

B.1 Standby Gas Treatment System

The Standby Gas Treatment System is designed to filter and exhaust the reactor building atmosphere to the stack during secondary containment isolation conditions. Upon containment isolation, both standby gas treatment fans are designed to start to bring the reactor building pressure negative so that all leakage should be in leakage. After a preset time delay, the standby fan automatically shuts down so the reactor building pressure is maintained approximately 1/4 inch of water negative. Should one system fail to start, the redundant system is designed to start automatically. Each of the two trains has 100% capacity.

High Efficiency Particulate Air (HEPA) filters are installed before and after the charcoal adsorbers to minimize potential release of particulates to the environment and to prevent clogging of the iodine adsorbers. The charcoal adsorbers are installed to reduce the potential release of radioiodine to the environment. The in-place test results should indicate a system leak tightness of less than 0.1% bypass leakage for the charcoal adsorbers and a HEPA filter efficiency of at least 99% removal of cold DOP particulates. The laboratory carbon sample test results should indicate a methyl iodide removal efficiency of at least 97.5% for expected accident conditions. The specified efficiencies for the charcoal and particulate filters is sufficient to preclude exceeding 10CFR100 guidelines for the accidents analyzed. The analysis of the loss of coolant accident assumed a charcoal adsorber efficiency of 95% and TID 14844 fission product source terms, hence, installing two banks of adsorbers and filters in each train provides adequate margin. A 14 kW heater maintains relative humidity below 70% in order to ensure the efficient removal of methyl iodide on the impregnated charcoal adsorbers. Considering the relative simplicity of the heating circuit, the test frequency of once/operating cycle is adequate to demonstrate operability.

Air flow through the filters and charcoal adsorbers for 15 minutes each month assures operability of the system. Since the system heaters are automatically controlled, the air flowing through the filters and adsorbers will be $\leq$70% relative humidity and will have the desired drying effect.

ATTACHMENT 2

LIST OF REGULATORY COMMITMENTS

List of Regulatory Commitments

The following table identified those actions committed to by Pilgrim in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

REGULATORY COMMITMENT	DUE DATE
Implement changes to the Technical Specifications within 60 days of approval.	60 days following approval of the amendment.