



GPU Nuclear, Inc.  
Route 441 South  
Post Office Box 480  
Middletown, PA 17057-0480  
Tel 717-944-7621

December 24, 1996  
6710-96-2123

U. S. Nuclear Regulatory Commission  
Att: Document Control Desk  
Washington, DC 20555

Dear Sir:

Subject: Three Mile Island Nuclear Station, Unit 1 (TMI-1)  
Operating License No. DPR 50  
Docket No. 50-289  
Technical Specification Change Request No. 258  
Reinstatement of Auxiliary and Fuel Handling Building Ventilation System  
Technical Specifications Following Resolution of Restart Hearing Issues  
Order Item No. 4 Regarding Separation of TMI-1 and TMI-2 Ventilation  
Systems

In accordance with 10 CFR 50.4(b)(1), enclosed is TMI-1 Technical Specification Change Request (TSCR) No. 258. The purpose of this TSCR is to reinstate the TS requirements for the Auxiliary and Fuel Handling Building (A&FHB) Air Treatment System (ATS) which were in effect prior to the TMI-2 accident, to delete the TS requirements for the Fuel Handling Building (FHB) ESF ATS, and to reflect other related changes.

The FHB ESF ATS was installed in 1986 in addition to an environmental barrier separating the Unit 1 Auxiliary Building from the Unit 1 FHB. These modifications were installed to satisfy a TMI-1 restart commitment regarding separation of TMI-1 during defueling operations at the damaged TMI-2. With TMI-2 now in Post-Defueling Monitored Storage (PDMS), the conditions which caused the NRC to require separate ventilation systems for the FHB and Auxiliary Building (AB) no longer exist. Since separation of the units is no longer an issue with TMI-2 in PDMS, GPU Nuclear requests that along with NRC approval of this TS change, the August 9, 1979 Restart Hearing Issues Order item requiring installation of an environmental barrier between the Unit 1 Auxiliary Building and the Fuel Handling Building be lifted.

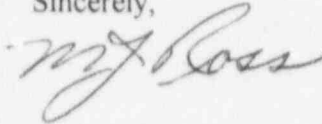
NRC review is requested for issuance of an amendment by June 1997 three months prior to the Operating Cycle 12 Refueling (12R) Outage which is currently scheduled to begin in early September 1997.

Using the standards in 10 CFR 50.92, GPU Nuclear has concluded that these proposed changes do not constitute a significant hazards consideration, as described in the enclosed analysis

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performed in accordance with 10 CFR 50.91(a)(1). Also enclosed is a Certificate of Service for this request, certifying service to the chief executives of the township and county in which the facilities are located, as well as the designated official of the Commonwealth of Pennsylvania, Bureau of Radiation Protection.

Sincerely,



J. Knubel

Vice President and Director, TMI

MRK

Enclosures: 1) Certificate of Service for TMI-1 TSCR No. 258  
2) TMI-1 TSCR 258 Evaluation and Significant Hazards Consideration  
3) TMI-1 Technical Specifications Revised Pages

cc: Region I Administrator  
TMI Senior Resident Inspector  
TMI-1 Senior Project Manager

Operating License No. DPR-50  
Docket No. 50-289  
Technical Specification Change Request No. 258

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF  
GPU NUCLEAR, INC.

DOCKET NO. 50-289  
LICENSE NO. DPR-50

CERTIFICATE OF SERVICE

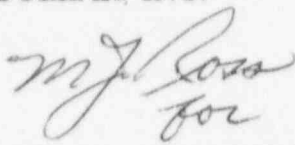
This is to certify that a copy of Technical Specification Change Request (TSCR) No. 258 to Appendix A of the Operating License for Three Mile Island Nuclear Station Unit 1, has, on the date given below, been filed with executives of Londonderry Township, Dauphin County, Pennsylvania; Dauphin County, Pennsylvania; and the Pennsylvania Department of Environmental Resources, Bureau of Radiation Protection, by deposit in the United States mail, addressed as follows:

Mr. Darryl LeHew, Chairman  
Board of Supervisors of  
Londonderry Township  
R. D. #1, Geyers Church Road  
Middletown, PA 17057

Mr. Russell L. Sheaffer, Chairman  
Board of County Commissioners  
of Dauphin County  
Dauphin County Courthouse  
Harrisburg, PA 17120

Director, Bureau of Radiation Protection  
PA Department of Environmental Protection  
Rachel Carson State Office Building  
PO Box 8469  
Harrisburg, PA 17105-8469  
Attn: Mr. Stan P. Maingi

GPU NUCLEAR, INC.

BY:   
Vice President and Director, TMI

DATE: December 24, 1996

I. TMI-1 TECHNICAL SPECIFICATION CHANGE REQUEST (TSCR) NO. 258

GPU Nuclear requests that the following change be made to the existing TMI-1 Technical Specifications (TS):

A. Replacement pages:

The following revised pages, provided in Attachment 2, replace existing TS pages:

ii, iii, iv, 3-62c, 3-62d, 3-62e, 4-55d, 4-55e, 5-10, and Figure 5-3

B. The following pages are to be removed from the existing TMI-1 TS:

3-62f, 4-55f, and 4-55g

II. DESCRIPTION OF THE CHANGE

The purpose of this change is to reinstate the TS requirements for the Auxiliary and Fuel Handling Building (A&FHB) Air Treatment System (ATS) related to mitigation of a fuel handling accident (FHA) in the FHB and delete the Technical Specification requirements for the Fuel Handling Building (FHB) ESF (Engineered Safety Feature) ATS. The FHB ESF ATS was installed in 1986 to satisfy a TMI-1 restart commitment regarding separation of the TMI-1 ventilation systems from the damaged TMI-2 fuel handling activities. With TMI-2 now in Post-Defueling Monitored Storage (PDMS), there is no longer a need for separation or for the additional ventilation system. Continuing to maintain its operability would involve unnecessary expenses. Therefore, GPU Nuclear proposes to retire the FHB ESF ATS and reinstate the use of the normal A&FHB ATS as intended by the original plant design.

This TSCR accommodates the desired change and includes minor editorial changes in format and grammar needed to improve the clarity or readability of the technical specifications. This change would also eliminate a gaseous radwaste release point such that the FHB ESF Vent Stack can be deleted from the list of gaseous effluent release points in Table 5-10 and from the drawing in Figure 5-3, which shows the location of liquid and gaseous release points.

The following is a description of the changes on each revised page (those which are considered to be editorial changes to correct previous errors or improve the clarity of the technical specifications are preceded by an asterisk and an explanation is provided):

A. Table of Contents pages ii, iii, and iv:

- \* 1. Format changes have been made for consistency of spacing, capitalization, underlining, and tab settings. Margin bars are not provided for these changes.

2. Pages ii and iii: Section 3.15.4, "Fuel Handling Building ESF Air Treatment System," is shown as "DELETED." In reformatting pages ii and iii, to eliminate the need for insertion of an additional page, this entry moves from page ii to page iii.
  - \* 3. Page iii: Sections 3.21, 3.22, and 3.23 were deleted by Amendment No. 197. This changed page removes the subsections but leaves the section heads which are indicated as having been deleted.
  4. Page iv:
    - \* a. Section 4.12.4, "Fuel Handling Building ESF Air Treatment System," is shown as "DELETED." This section listing was inadvertently deleted by Amendment No. 146, but has been added back for clarity to show deletion.
    - \* b. In reformatting pages iii and iv, to eliminate the need for insertion of an additional page, some of the material at the bottom of page iii has been moved to page iv.
    - \* c. Sections 4.21, 4.22, and 4.23 were deleted by Amendment No. 197. This changed page removes the subsections but leaves the section heads, which are indicated as having been deleted. Section 4.23, "Radiological Environmental Monitoring" never appeared in the Table of Contents, but this section head has been added for consistency in deleting the subsections 4.23.1, 4.23.2, and 4.23.3.
- B. Page 3-62c:
- \* 1. In sections 3.15.3.1, 3.15.3.2.c and 3.15.3.3.a, the nomenclature for fans AH-E14A&C and AH-E14B&D has been revised for consistency. This is a correction to section 3.15.3.1 where the fan pairs as stated (A&B and C&D) were incorrect.
  2. In Section 3.15.3.1, operability requirements for conditions when fuel handling operations are in progress in the FHB have been moved from Section 3.15.4.1. This requirement was included with Amendment No. 55 and moved to Section 3.15.4.1 by Amendment No. 122.
  - \* 3. In Section 3.15.3.1, at the end of that paragraph, the reference to Section 3.22.2.4 has been deleted since Section 3.22 and its subsections were deleted by Amendment No. 197.
  - \* 4. In Section 3.15.3.2.c the word "set" has been changed to "pair" with regard to the exhaust fans to be consistent with Section 3.15.3.3. This change does not affect the meaning or intent of the specification.

- \* 5. In section 3.15.3.3, without changing the meaning of the technical specifications, the words "except as provided in 3.15.3.3.b" has been deleted to improve clarity. Because Section 3.15.3.3.a applies for one train out of service and Section 3.15.3.3.b applies for both trains out of service, Section 3.15.3.3.b is clearly not an exception to 3.15.3.3.a and the words are being deleted to avoid any confusion.
- 6. Section 3.15.3.3.a, is being broken up into two actions: 3.15.3.3.a.1 applies to inoperability of one pair of exhaust fans at all times, and 3.15.3.3.a.2 applies to inoperability of one pair of exhaust fans during fuel handling operations. 3.15.3.3.a.2 contains the provision for fuel handling operations in the FHB being allowed to continue with one train inoperable has been added from Section 3.15.4.1.a. This statement was included with Amendment No. 55 in paragraph 3.15.3.3 and moved to Section 3.15.4.1.a by Amendment No. 122.
- 7. Section 3.15.3.3.b is being broken up into two actions: 3.15.3.3.b.1 applies to system inoperability during power operation, and 3.15.3.3.b.2 applies to system inoperability related to fuel handling operations.
- 8. In section 3.15.3.3.b.1, the action to require suspension of fuel handling operations immediately, after completing any fuel assembly movement in progress, is being moved from Section 3.15.4.1.b. This statement was included with Amendment No. 55 in the second paragraph of section 3.15.3.1 and moved to Section 3.15.4.1.b by Amendment No. 122.

C. Page 3-62d:

- \* 1. A heading was added to the page to show continuation of Section 3.15.3 onto page 3-62d.
- \* 2. In section 3.15.3.3.b.2 (which corresponds to the single paragraph section 3.15.3.3.b on the revised page) the words, "From the date that ... becomes," have been deleted to improve clarity since the words did not carry any additional meaning.
- \* 3. In the first paragraph of the Bases, the nomenclature for fans AH-E14A&C and AH-E14B&D has been revised and the words "set" and "sets" have been replaced with the words "pair" and "pairs" for consistency. The meaning is unchanged.
- 4. In the third paragraph of the Bases, the last two sentences were deleted since mitigation of a FHA will be provided by the A&FHB ATS upon deletion of the FHB ESF ATS and the FHB operating floor will not be isolated from the A&FHB ATS by automatic damper action (closing damper AH-D122) in the event of increasing activity in the FHB. (A modification to AH-D122 to remove the automatic damper isolation feature will be required prior to implementing the amendment requested by this TSCP.)



5. Two paragraphs were added to the end of the section 3.15.3 Bases. These paragraphs were part of Amendment No. 55 that were deleted by Amendment No. 122 and are being placed back into the section 3.15.3 Bases because the A&FHB ATS will replace the FHB ESF ATS for FHA mitigation on issuance of the amendment authorizing this request.

The first of these two paragraphs has been reworded for consistency and clarity to reflect the correct name of the system Auxiliary and Fuel Handling Building Air Treatment System vs the Auxiliary and Fuel Handling exhaust air treatment system as it was referred to in Amendment No. 55. The wording of this sentence is also changed for clarity to state that with the A&FHB ATS inoperable, "all irradiated fuel handling operations in the Fuel Handling Building will be terminated," vs "all fuel handling and fuel movement operations will be terminated." This was clarified in Amendment No. 122 because there is no intent that these requirements apply to movement of new fuel.

6. The reference to the Updated Final Safety Analysis Report (UFSAR) Section 14.2.2.1 - "Fuel Handling Accident" has been added because the A&FHB ATS will replace the FHB ESF ATS for mitigation of a FHA in the FHB on issuance of the amendment authorizing this change. This reference is being added as reference 2 which requires renumbering the two references which follow and revision of the parenthetical in paragraph three of the Bases to include the three sections of Chapter 14.

- \* 7. After Section 3.15.3, an entry is being added which shows that TS section 3.15.4, "Fuel Handling Building ESF Air Treatment System" has been deleted.

- \* 8. A notation is being added at the bottom of the page to indicate that page 3-62f, which contained the deleted Section 3.15.4, have been deleted.

- \* D. Page 3-62e is being revised to contain only the continuation of Section 3.15.3 Bases. TS Section 3.15.4, "Fuel Handling Building ESF Air Treatment System" is being deleted.

- \* E. Page 3-62f is being deleted as it contains only the TS Section 3.15.4, "Fuel Handling Building ESF Air Treatment System."

- F. Page 4-55d:

1. In section 4.12.3, the requirement that tests and sample analysis required by 3.15.3.2 be performed "within 30 days prior to the movement of irradiated fuel" (included with Amendment No. 55 and removed by Amendment No. 122) is being added back.



- \* 2. In section 4.12.3.2.d, the nomenclature for fans AH-E14A&C and AH-E14B&D has been revised for consistency.

G. Page 4-55e:

- \* 1. A heading was added to the page to show continuation of TS Section 4.12.3 onto page 4-55e.
- \* 2. In the Bases, second paragraph, last three sentences, the references to ANSI N509-1980 and N510-1980 have been corrected to remove the extra hyphen between ANSI and N509-1980 or N510-1980.
- 3. An entry is being inserted at the bottom of the page which shows that TS Section 4.12.4, "Fuel Handling Building ESF Air Treatment System" has been deleted.
- \* 4. A notation has been added at the bottom of the page to indicate that pages 4-55f and 4-55g, which contained TS Section 4.12.4, have been deleted.
- \* H. Pages 4-55f and 4-55g are being deleted as they contain only the TS Section 4.12.4, "Fuel Handling Building ESF Air Treatment System" surveillance requirements which are being deleted.
- I. Page 5-10: The Unit 1 FHB ESF Vent Stack will no longer be a release point and therefore is being deleted from the list of gaseous effluent release points.
- J. Figure 5-3: This figure shows the location of gaseous release points on a map of the TMI site. The Unit 1 FHB ESF Vent Stack will no longer be a release point and is therefore being deleted from the figure.

### III. SAFETY EVALUATION JUSTIFYING CHANGE

#### A. BACKGROUND

The Auxiliary and Fuel Handling Building (A&FHB) Air Treatment System (ATS) was originally designed to mitigate the consequences of a postulated Fuel Handling Accident (FHA) in the TMI-1 Fuel Handling Building (FHB) as well as to mitigate the consequences of a Waste Gas Tank Rupture. This design was accepted by the NRC in the Safety Evaluation Report (SER) for the TMI-1 operating license dated July 11, 1973. The system, which was intended for normal building ventilation as well, served as the design basis system for mitigating a hypothetical FHA in the FHB from the initial plant startup until the Cycle 6 Refueling Outage (6R) and continues to serve as the design basis system for mitigating a Waste Gas Tank Rupture in the AB.

Technical Specifications for the ventilation systems including the A&FHB ATS

were not contained in the original license. However, at the request of the NRC in a letter dated December 6, 1974 Metropolitan Edison Company, operator of TMI-1 at the time, submitted TSCR No. 7 on January 30, 1975 as revised on October 28, 1975 which were approved by license amendment (AM) No. 55 on June 3, 1980. The amendment added operability requirements (TS 3.15.3) and surveillance requirements (TS 4.12.3) for the A&FHB ATS in conformance with the model TS for air treatment systems. Subsequent to modifications to the housings, which enabled air distribution tests to be performed across the high efficiency particulate air (HEPA) filter bank and allowed samples of the charcoal adsorber to be obtained for laboratory testing, the SER states the NRC's conclusion that the surveillance specifications and details in TS 4.12.3 conform to the requirements of the model Technical Specifications for ESF ventilation filters for operating reactors and meet the requirements of RG 1.52, (Rev 2).

AM No. 122, dated December 12, 1986 deleted the requirements for the A&FHB ATS related to FHA mitigation and incorporated TS requirements for the new FHB ESF ATS which was installed in 1986 to satisfy a TMI-1 restart commitment regarding separation of TMI-1 from the damaged TMI-2.

The origins of our commitment to install the FHB ESF<sup>1</sup> ATS are found in the NRC Commission Order of August 9, 1979 which stated that unique circumstances at TMI required that additional safety concerns identified by the NRC staff be resolved prior to restart. One of these concerns resulted from "potential interaction between Unit 1 and the damaged Unit 2." The licensee was to take the following action:

**ORDER ITEM 4 (SHORT-TERM): SEPARATION OF TMI-1  
OPERATIONS FROM TMI-2**

"The licensee shall demonstrate that decontamination and/or restoration operations at TMI-2 will not affect safe operations at TMI-1. The licensee shall provide separation and/or isolation of TMI 1 and 2 radioactive liquid transfer lines, fuel handling areas, ventilation systems and sampling lines. Effluent monitoring instruments shall have the capability of discrimination between effluents resulting from Unit 1 or Unit 2 operations."

In the case of the common TMI-1 and TMI-2 FHB air space, GPU Nuclear chose to provide separation by modifying the layout to isolate the TMI-1 AB and the A&FHB ATS from the fuel handling floor air space. This yielded the desired separation, but would have left TMI-1 without a filtration system to mitigate a postulated FHA on the TMI-1 side of the FHB. Therefore, in our response to the NRC's Question No. 52 of the TMI-1 Restart Report Supplement 1, Part 2, we

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<sup>1</sup> The FHB ESF ATS is referred to as an ESF system in plant documents and NRC correspondence but does not meet all of the design requirements for an ESF system.

committed to install "a ventilation system to mitigate the consequences of a postulated fuel handling accident in the Fuel Handling Building." The NRC staff's safety evaluation supporting restart of TMI-1 (NUREG-0680, June 1980) found this approach to be acceptable.

The issue was also litigated in the TMI-1 Restart proceeding. The Atomic Safety and Licensing Board (ASLB) stated in its Partial Initial Decision (PID), Volume 1 entitled, "Plant Design Procedures and Separation Issues," dated December 14, 1981:

Item No. 1263: "The Unit 1 and 2 ventilation systems are independent and have no interconnections or common interface points. However, the potential for communication between ventilation systems does exist, since there is a common air space between Unit 1 and Unit 2 fuel handling buildings and since the Unit 1 auxiliary and fuel handling buildings utilize a common ventilation system. Licensee plans to minimize this potential by installing an environmental barrier between the Unit 1 auxiliary and fuel handling buildings and by installing separate filtration systems for the Unit 1 auxiliary and Unit 1 fuel handling buildings."

The approach assured that decontamination and/or restoration operation at TMI-2 would not affect safe operation of TMI-1.

Now that TMI-2 is in PDMS, the basis for Item 4 of the Commission Order of August 9, 1979 is no longer applicable. Separation of TMI-1 fuel handling areas need not be provided, and the original A&FHB ATS can be reinstated as the design basis system for mitigating a FHA.

**B. MODIFICATIONS TO REINSTATE THE A&FHB ATS**

During normal plant operation a supply fan operates continuously, providing air flow to the FHB Operating Floor and other areas of the FHB. One Pair of A&FHB ATS exhaust fans also operate continuously drawing air from the FHB past radiation monitors, through particulate, HEPA, and Charcoal filters before release through the plant stack.

Currently during fuel handling operations, in addition to A&FHB ATS operation, the FHB ESF ATS is required to operate drawing air from the FHB operating floor at a low flow rate through particulate, HEPA and charcoal filters prior to release through a separate stack atop the Auxiliary Building. In the event of a fuel handling accident in the FHB, radiation monitors [RM-A4 (located in the FHB exhaust ventilation duct), RM-G9 (located near the FHB spent fuel bridge on the FHB operating floor), and RM-A8 (located in the Unit 1 vent stack) each detect high radiation and isolate the FHB supply air by tripping the fan (AH-E10 and AH-E11) and closing dampers AH-D120 & AH-D121 and isolate the FHB operating floor from the A&FHB ATS by closing damper AH-D122. All FHB exhaust air is then processed through the FHB ESF ATS.

In the proposed configuration during fuel handling operations, the A&FHB ATS will continue providing supply and exhaust air flow to and from the FHB operating floor in the same manner during normal plant operation. In the event of a fuel handling accident in the FHB, a high radiation signal from either of the radiation monitors (RM-A4, RM-G9, and RM-A8) will still isolate the FHB supply air by tripping the supply fan and closing dampers AH-D120 & AH-D121; but AH-D122 will remain open and the FHB operating floor space will continue to be exhausted through the normal A&FHB ATS past radiation monitors, through particulate, HEPA, and charcoal filters before release through the plant stack.

Changes to TS Sections 3.15.3 and 4.12.3 included in this amendment request will ensure operability of the normal A&FHB ATS once the FHB ESF ATS is removed from service. The operability and surveillance requirements included in this change will return to those which existed prior to installation of the ESF Ventilation System resembling AM No. 55 with differences that are either minor wording changes as discussed in Section II above or changes that have been approved by AM Nos. 122 and 177. For example, TS sections 3.15.3.2.c, 4.12.3.1, and 4.12.3.3 were changed in AM No. 177 to specify the operating range for each set of fans (AH-E14A&C and AH-E14B&D) between 100,580 cfm and 130,691 cfm.

Currently GPU Nuclear has no plans to remove or alter the environmental barrier which was installed as required by the 1979 Order to limit potential leakage paths and isolate the Unit 1 refueling floor from the TMI-1 AB. Any changes to the barrier would need to address security plan requirements. However this barrier could be removed without affecting the ability of the A&FHB ATS to maintain a negative pressure in the FHB. And since separation of the units is no longer a radiological issue with TMI-2 in PDMS, the 1979 Order requirements for an environmental barrier should be lifted.

#### C. CAPABILITY OF THE A&FHB ATS WITH REGARD TO MITIGATING THE CONSEQUENCES OF A FHA IN THE FHB

With the FHB ESF ATS removed from service, the accident mitigation function of the FHB ESF ATS will be fulfilled by the existing A&FHB ATS. The A&FHB ATS is fully capable of filtering radioactive particulate and iodine from a postulated spent FHA in the TMI-1 FHB to levels acceptable for release to the environment.

The A&FHB ATS supply and exhaust ducting is arranged to direct the air flow from areas of lesser radioactive contamination to areas of potentially greater contamination prior to exhaust through a system of roughing and HEPA filters followed by iodine adsorbers. The system is also designed to preclude the unmonitored release of radioactive material from the FHB out to the environment by maintaining a negative pressure in the building with respect to the outside. A test on December 22, 1992 confirmed that the normal A&FHB ATS has the design capability of maintaining a negative pressure on both Units 1&2 FHB operating floors. This was attained at an exhaust flow of approximately 110,000 cfm, well

within the capability of the system (design flow is 118,810 CFM).

The following describes some of the attributes of the A&FHB ATS compared with the FHB ESF ATS (see Table 1):

1. Filtration Capacity

The A&FHB ATS is currently relied upon for mitigation of the Waste Gas Tank Rupture in the AB (UFSAR Section 14.2.2.6) which is a release similar to a FHA in the FHB. The A&FHB ATS has a greater flow capacity than that of the FHB ESF ATS (27,320 cfm from FHB floor compared with the FHB ESF ATS capacity of 5,000 cfm). The A&FHB ATS contains two filter trains; each train has four banks charcoal filters with 102 trays per bank (a total of 816 trays) containing 50 lbs of charcoal per tray. Each filter train is operating at 50% capacity (50% air flow), thereby doubling the required residence time. In comparison, the FHB ESF ATS contains two trains of charcoal filters each of which contains 18, for a total of 36 trays, containing approximately 59 lb of charcoal. Each train operates at 100% capacity.

With substantially greater flow, substantially larger filter media (HEPA and charcoal), and twice the residence time, the A&FHB ATS is at least as capable as the FHB ESF ATS of handling a FHA in the FHB.

2. REDUNDANCY

The redundancy provided for the A&FHB ATS compares favorably with that provided for the FHB ESF ATS. The A&FHB ATS includes redundant fans (either the A/C combination or the B/D combination provides full air flow) and a greater redundancy in radiation monitoring capability with two radiation monitors (RM-A4 and RM-A8) compared to one (RM-A14) monitor in the FHB ESF ATS. Although the filter banks are not redundant, the filter testing requirements are equivalent and the likelihood of a failed filter is very low.

3. Automatic Isolation of the FHB in the Event of a FHA

When the FHB ESF ATS is removed from service, the dampers which are designed to isolate the FHB operating floor will still isolate the air supply, but keep the return duct open. Supply dampers AH-D120 & AH-D121 will remain interlocked to close on a high radiation signal from either RM-A4 or RM-G9 to prevent radioactive releases to the Air Intake Tunnel. And AH-D122 will be modified to remain open for continuous, uninterrupted exhaust flow from the FHB operating floor.

4. Capability of Maintaining a Negative Pressure in the FHB

Supply and exhaust dampers for the A&FHB ATS are provided with static pressure regulators (SPRs). During normal conditions, if the building negative pressure set point is not satisfied, the SPR for the exhaust damper will open the damper wider to exhaust more air and pull a greater vacuum in the building. This design feature assures that the two buildings will always be maintained at a



negative pressure with respect to atmosphere during normal or accident conditions. During a Fuel Handling Accident, when AH-D120/121 are closed, the SPR for the FHB will modulate the FHB exhaust to protect the duct system.

5. Radiation Monitoring Capability

The A&FHB ATS effluent radiation monitors (RM-A4 and RM-A8) also have more overall capability than the single monitor located in the exhaust from the FHB ESF ATS (RM-A14). RM-A4 and RM-A8 include particulate, iodine and gas channels which would provide continuous on-line trending on the Plant Process Computer. Trending capability is also provided for RM-A8 on Recorder RM-R6 on control room panel right front (PRF). In comparison, the FHB ESF ATS monitor (RM-A14) can be trended continuously on the Plant Process Computer for the gas channel only. For iodine or particulate, RM-A14 is provided with an iodine cartridge and particulate filter which must be removed and analyzed in the laboratory.

In the event of a FHA in the FHB, using the A&FHB ATS, radioactive effluents are sampled by RM-A4 and RM-A8, which are indicated and alarmed in the Control Room and recorded by the Plant Process Computer. Exhaust flow rates from the FHB operating floor and the AB are monitored by control room indicator/recorders FR149 and FR150 respectively, on the H&V Panel in the control room. These exhaust flow indications from control room indicator/recorders FR149 and FR150 are used in conjunction with readings from monitors RM-A4 and RM-A8 to facilitate accurate effluent dose assessments.

6. Offsite Dose Consequences

The particulate and iodine removal capacity of the A&FHB ATS is greater than that of the FHB ESF ATS. The A&FHB ATS release point is higher, at approximately 170 ft above ground level, than that of the FHB ESF ATS release point, at approximately 40 ft above ground level. Therefore, the dose consequences for any given FHA would be less using the A&FHB ATS.

D. NEED FOR EMERGENCY POWER SUPPLY TO EXHAUST FANS

The likelihood of a Loss of Offsite Power event coincident with a FHA is low, however such an event could render the A&FHB ATS inoperable since the exhaust fans are not provided with an emergency power source (See Table 1). The dose consequences of a failed filter system have been examined and were addressed by the NRC staff in its SER for AM No. 122, Dated December 12, 1986 which incorporated the surveillance requirements for the FHB ESF ATS. The SER states:

"The NRC staff performed independent analyses of the dose consequences of this accident assuming failure of the FHB ESF Air Treatment System. In these analyses, the staff used the guidelines of RG 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling

Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors," as referenced in SRP 15.7.4. In addition to the offsite dose consequences, the staff calculated doses to personnel in the TMI-1 and TMI-2 control rooms, assuming failure of the FHB ESF ventilation system during the design basis fuel handling accident. SRP 6.4, "Control Room Habitability System," provides doses to an individual in the control room that should not be exceeded for a postulated accident. The NRC staff concludes, based on these analyses, that the calculated doses to personnel in the TMI-1 and TMI-2 control rooms, and at the exclusion area boundary, for the design basis fuel handling accident without a functional ESF atmosphere cleanup system are below those of the acceptance criteria of SRP §§ 6.4 and 15.7.4 respectively. Thus, the corresponding releases of fission products to working and outdoor environments are not significant."

This was the NRC staff's basis for acceptability of the non-seismic design of the FHB ESF ATS and serves as an equally valid basis for not providing emergency power for the A&FHB ATS exhaust fans. This also supports the original design basis for the system's not including emergency power for the exhaust fans.

During a Loss of Offsite Power, the Station Blackout (SBO) Diesel can provide power to one pair of exhaust fans (AH-E14B&D) via the 1M 480 v bus.

#### E. CONCLUSION

Short Term Order Item 4 of the Commission Order of August 9, 1979 is no longer applicable since decontamination and/or restoration operations at TMI-2 which could affect safe operations at TMI-1 have been completed, and TMI-2 has been placed in PDMS. Separation of fuel handling areas need not be continued, and reinstatement of the original A&FHB ATS would result in lower offsite dose consequences for a postulated FHA in the FHB.

#### F. ENVIRONMENTAL CONSIDERATIONS

The changes included in this request do not result in a change in effluent types or total amounts nor an increase in power level and are insignificant from the standpoint of environmental impact.

#### IV. NO SIGNIFICANT HAZARDS CONSIDERATION

The proposed change has been evaluated against the standards in 10 CFR 50.92 and determined not to involve a significant hazards consideration, in that the editorial changes do not change the meaning or intent of the technical specifications, and operation of the facility in accordance with the proposed amendment:

1. Would not involve a significant increase in the probability of occurrence or the consequences of an accident previously evaluated, because the A&FHB ATS does



not interface with any nuclear safety related system and thus its reinstatement would not affect the probability of a fuel handling accident, or any other accident, occurring. Further, the A&FHB ATS performance characteristics are such that its use to mitigate a postulated FHA would not result in a significant increase in the dose consequences of an accident previously evaluated.

2. Would not create the possibility of a new or different kind of accident from any accident previously evaluated, because the A&FHB ATS does not interface with any nuclear safety related system and its reinstatement would only return the plant configuration to the original licensing basis.
3. Would not involve a significant reduction in a margin of safety because the amendment would establish requirements for operability and periodic surveillance of the A&FHB ATS that are essentially equivalent to the requirements that would be deleted for the FHB ESF ATS.

#### V. IMPLEMENTATION

It is requested that the amendment authorizing this change be effective upon completion of the damper modifications necessary for implementation.

Table 1

Comparison of the A&FHB Air Treatment System with the FHB ESF Air Treatment System		
	A&FHB ATS	FHB ESF ATS
Nominal Capacity	Both filter trains operate continuously. Exhaust Flow 27,320 cfm <sup>1</sup> Charcoal (Wt) 40,800 lb	One train operates continuously. Exhaust Flow 5,000 cfm Charcoal (Wt) 2,074 lb
Estimated Exhaust Filter Residence Time	0.62 sec	0.25 sec
Redundancy	Exhaust Fans Yes Exhaust Filters No Rad Monitors Yes	Exhaust Fans Yes Exhaust Filters Yes Rad Monitor No
Radiation Monitors	RM-A4 and RM-A8	RM-A14
Emergency Power	Exhaust Fans SBO Rad Monitors: Dose Rate Meters BATT Pumps EDG	Exhaust Fans EDG Rad Monitor: Dose Rate Meter BATT Pump EDG
Release Elevation	~170 ft above ground level	~40 ft above ground level
Seismic	No	No
<p>EDG = Emergency Diesel Generator Power  BATT = Station Battery Power  SBO = Station Blackout Diesel Power (for one pair of AH-E14 exhaust fans)</p> <p>Note 1: It is the combined exhaust flow from the Fuel Handling Building (27,320 cfm) and the Auxiliary Building which passes through the filters trains. This combined flow (nominally 110,000 cfm) was used to obtain the residence time shown (0.62 sec).</p>		