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James Knubel
Senior Vice President and
Chief Nuclear Officer

September 13, 2000
JPN-00-036

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

Subject: **James A. FitzPatrick Nuclear Power Plant**
Docket No. 50-333
Response to Requests for Additional Information
Regarding Improved Technical Specification "Beyond Scope" Issues

References:
1. Guy Vissing E-mail, regarding Summary Status of FitzPatrick ITS Beyond Scope Issues, July 13, 2000.
2. NYPA Letter, J. Knubel to USNRC, dated March 31, 1999 (JPN-99-008) regarding Proposed Technical Specification Change - Conversion to Improved Technical Specifications.

Dear Sir:

The NRC requested in Reference 1 additional information regarding certain sections of the James A. FitzPatrick Nuclear Power Plant Improved Technical Specification (ITS) submittal (Reference 2). Attachment 1 to this letter contains the Authority responses to the Beyond Scope RAIs (request for additional information) referenced above. Attachment 2 summarizes the commitments contained in Attachment 1.

A001

If you have any questions regarding this matter, please contact Mr. George Tasick at 315-349-6572.

Very truly yours,

J. Knubel
Senior Vice President
and Chief Nuclear Officer

STATE OF NEW YORK
COUNTY OF WESTCHESTER
Subscribed and sworn to before me
this 13th day of Sept 2000.

Eileen E. O'Connor

EILEEN E. O'CONNOR
Notary Public, State of New York
No. 4991062
Qualified in Westchester County
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Attachments as stated
cc: next page

cc:

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Attachment 1 to JPN-00-036

Response to NRC Request for Additional Information Regarding Improved Technical Specifications Beyond Scope Issues

BSI-20, TAC No. MA8139, RAI ITS 3.3.3.1-9, CTS Table 3.2-8

The staff has performed the review of the safety basis to determine the acceptability of the proposed DOC L7 which changes CTS (ITS Functions 15-18) remedial actions if channels are not restored to operable status.

The licensee has proposed to revise the actions for core spray flow, core spray discharge pressure, residual heat removal (RHR) flow, and RHR service water flow in the Improved Technical Specification (ITS) Table 3.3.3.1-1, Post Accident Monitoring (PAM) Instrumentation. These four functions consist of two channels of instrumentation in each function with each channel monitoring a separate train of that function. The monitoring instrumentation in each train only provides information for that train and does not provide information about the other train. These four functions do not appear in the Standard Technical Specification (STS), NUREG-1433, but are included in the PAM ITS because the licensee has classified them as Type A (in accordance with Regulatory Guide 1.97).

The licensee has listed each of these functions, in both the Current Technical Specification (CTS) and the ITS, as Loop A and Loop B. This nomenclature is misleading because the instrumentation is not monitoring two different loops but rather two separate trains. Regardless of the loop or train nomenclature, the licensee has identified the instrumentation for each individual loop or train as a single channel.

The licensee has proposed, for each of these functions, that if a single channel of instrumentation is inoperable, the inoperable channel should be restored to operable status within 30 days or the action of Specification 5.6.6 (issue a report) be implemented immediately. The licensee has stated that these channels are not assumed to be initiators of any analyzed event and has proposed that the action to submit a report is appropriate for these four functions since the emergency core cooling system (ECCS) and primary containment cooling functions can also be verified by the other PAM instrumentation functions such as reactor water level, drywell pressure, drywell temperature, suppression chamber pressure, or suppression pool water temperature.

The proposed action is a nonstandard action that does not follow the STS philosophy for PAM functions. The philosophy behind the STS for PAM is that the 30 day restoration and report action for a single inoperable channel is applicable to functions that have two redundant channels of instrumentation. If both channels were inoperable (loss of function), one channel should be restored to operable status within 7 days or be in MODE 3 within 12 hours. The only exception to the shutdown on loss of function action is for primary containment area radiation, since alternate means of monitoring primary containment area radiation have been developed and tested.

For single channel instrumentation the appropriate action for loss of function would be to restore the inoperable channel to operable status within 7 days or be in MODE 3 within 12 hours. However, the staff has accepted the use of a diverse channel in lieu of a redundant channel of instrumentation with the same actions as two redundant channels. This diverse channel must be another PAM technical specification function that has a known relationship

with the single channel function and can provide information about the single channel function.

Although the licensee made a general statement concerning the verification of ECCS and primary containment cooling functions by other PAM functions, this statement does not identify which of these other PAM functions have know relationships with and can provide information about each of the four functions in question.

The licensee has stated that these functions are not assumed to be initiators of any analyzed event. There are PAM functions included in the STS that may not be initiators of any analyzed event but are included in Table 3.3.3.1-1 because they are to be used to determine if the plant is responding to the safety measures in operation and to inform the operator of the necessity for unplanned actions to mitigate the consequences of an accident. The same philosophy for actions applies to all PAM functions in the STS, with the exception of primary containment area radiation, regardless of whether they are assumed to be initiators of analyzed events or not.

Therefore, unless the licensee can identify diverse PAM functions with a known relationship with each of the four functions in question the appropriate actions for these four functions are either (1) restore the inoperable channel to operable status within 7 days or be in MODE 3 within 12 hours, or (2) the actions in the CTS, restore the inoperable channel to operable status within 30 days or be in a cold condition within the next 24 hours.

The Regulatory Guide 1.97 definition of Type A is "those variables that provide primary information needed to permit the control room operating personnel to take specified manually controlled actions for which no automatic control is provided and that are required for safety systems to accomplish their safety functions for design basis events." Since the licensee has stated that these functions are not assumed to be initiators of any analyzed event, it appears that these four functions do not meet the definition of Type A. If these functions are not Type A, they would be Type D Category 2. STS Table 3.3.3.1-1 includes Type A and Category 1, non-Type A instruments. If the licensee were to determine that these functions are not Type A, the staff would entertain a proposal for removal of these functions from ITS Table 3.3.3.1-1.

BSI-20, LICENSEE RESPONSE:

The core spray flow, core spray discharge pressure, residual heat removal flow and residual heat removal service water flow parameters have been re-evaluated and determined to be Type D, Category 2, and not Type A or Category 1. As such they will be removed from the ITS Tables and ITS Bases. These changes, as well as appropriate revisions to the DOCs and NSHCs, will be provided in a revision to the ITS Conversion submittal. This change is consistent with the Staff's expectation given the status as non-Type A and non-Category 1 variables.

Specifically, the Authority has determined that these four parameters provide information which is not required to permit the control room operator to take specific manually controlled actions for which no automatic control is provided and thereby enable safety systems to accomplish their safety functions for design basis accidents. In addition, these four parameters do not provide primary information that is essential for the direct accomplishment of certain specified

safety functions. In addition, the Authority has determined that these four parameters provide information which indicates the operation of individual safety systems. These four parameters are provided to help the operator make appropriate decisions in using the individual systems important to safety in mitigating the consequences of an accident.

Accordingly, the Authority has concluded that there is a technical basis for concluding that these four parameters can be reclassified from Type A and Category I to Type D and Category 2. This reclassification is consistent with the guidance provided by RG 1.97, Rev. 2. This reclassification is based on a review of the FitzPatrick Emergency Operating Procedures, BWROG Generic Emergency Procedure Guidelines and RG 1.97, Rev. 2.

BSI-21, TAC No. MA8140, RAI ITS 3.3.3.1-10, CTS Table 3.2-6

The licensee has proposed to add reactor vessel water level - refueling zone to the Improved Technical Specification (ITS) Table 3.3.3.1-1, Post Accident Monitoring (PAM) Instrumentation. This instrument consists of a single channel of instrumentation. Reactor vessel water level is also monitored by Category 1 reactor vessel water level - fuel zone and reactor vessel water level - wide range instrumentation.

The licensee has proposed that if the single channel of reactor vessel water level - refueling zone instrumentation is inoperable, the channel should be restored to operable status within 30 days or the action of Specification 5.6.6 (issue a report) be implemented immediately. The licensee has stated that all of the safety functions are provided by the redundant wide range instrument channels and thus no manual operator actions are required within the range of the refueling zone instrumentation.

The proposed action is a nonstandard action that does not follow the Standard Technical Specification (STS), NUREG-1433, philosophy for PAM functions. The philosophy behind the STS for PAM is that the 30 day restoration and report action for a single inoperable channel is applicable to functions that have two redundant channels of instrumentation. If both channels were inoperable (loss of function), one channel should be restored to operable status within 7 days or be in MODE 3 within 12 hours. The only exception to the shutdown on loss of function action is for primary containment area radiation, since alternate means of monitoring primary containment area radiation have been developed and tested.

For single channel instrumentation the appropriate action for loss of function would be to restore the inoperable channel to operable status within 30 days or be in MODE 3 within 12 hours. However, the staff has accepted the use of a diverse channel in lieu of a redundant channel of instrumentation with the same actions as two redundant channels. This diverse channel must be of another PAM technical specification function that has a known relationship with the single channel function and can provide information about the single channel function. The fact that reactor vessel water level is also monitored by reactor vessel water level - fuel zone and reactor vessel water level - wide range instrumentation does not qualify as diverse channels since these instruments cover different range than the reactor vessel water level - refueling zone instrumentation.

The Bases for the reactor vessel water level function includes the statement, "The refueling channel is a Category 3 channel." STS Table 3.3.3.1-1 includes Type A and Category 1, non-Type A instruments. Since the reactor vessel water level - refueling zone instrumentation is Category 3, it does not need to be included in ITS Table 3.3.3.1-1. The staff would entertain a proposal for removal of reactor vessel water level - refueling zone from ITS Table 3.3.3.1-1.

Therefore, unless the licensee proposes removal of reactor vessel water level - refueling zone from ITS Table 3.3.3.1-1, the appropriate actions for reactor vessel water level - refueling zone is restore the inoperable channel to operable status within in 7 days or be in MODE 3 within 12 hours.

BSI-21, LICENSEE RESPONSE:

The Reactor Vessel Water Level - Refueling Zone parameter will be removed from the ITS Table as it is not a Type A variable nor Category 1. As stated in the Bases for the reactor vessel water level function, "The refueling channel is a Category 3 channel." Since Table 3.3.3.1-1 is only to include Type A and Category 1, non-Type A instruments, the Reactor Vessel Water Level - Refueling Zone instrumentation does not need to be included in ITS Table 3.3.3.1-1. The Authority will provide a revision to the ITS Conversion submittal to reflect this change. This change is consistent with the Staff's statement that they would be willing to entertain this approach.

BSI-22, TAC No. MA8141, RAI ITS 3.3.3.2-3, CTS Table 3.2-10

The licensee has proposed to relocate the details relating to the instrumentation and control functions of the Remote Shutdown System. These details are currently located in Current Technical Specification (CTS) Table 3.2-10. In the Standard Technical Specification (STS), NUREG-1433, the details relating to the instrumentation and control functions of the Remote Shutdown Station are located in Table 3.3.3.2-1.

The licensee has proposed that in lieu of including this information in Improved Technical Specification (ITS) Table 3.3.3.2-1, the information would be included in the Technical Requirements Manual.

By letter dated September 10, 1999, the staff approved TSTF-266, Rev. 3, which addresses this issue. In TSTF-266, Rev. 3, STS Table 3.3.3.2-1 is relocated to the Bases as Table B3.3.3.2-1. Additionally, the changes shown in TSTF-266, Rev. 3 have been approved on a plant-specific basis for Clinton Grand Gulf, River Bend, and Perry as well as several other BWRS. It is recommended that the licensee adopt TSTF-266, Rev. 3 to resolve this issue.

BSI-22, LICENSEE RESPONSE:

Consistent with the Authority's July 31, 2000 response to this RAI: "The Authority will revise the submittal to relocate the Table of RSS components to the ITS Bases (instead of the TRM) in accordance with TSTF-266." This change is consistent with the Staff's recommendation.

Response to NRC Request for Additional Information
Regarding Improved Technical Specifications
Beyond Scope Issues

BSI-16, TAC No. MA8135, RAI ITS Bases 3.6.2-3

During the phone call with the licensee on May 25, 2000, it was agreed that for RAI 3.6.1.9-02, and RAI 3.6.2.3-01 (re ITS 3.6.1.9 and associated Bases) the licensee will revise the DOC to explain their basis for going from 2-RHR pump operable per subsystem as in their CTS to 1-RHR pump operable per subsystem as in their proposed ITS for the staff to review as a BSI. The staff will need this revised information for the review of BSI 16.

BSI-16, LICENSEE RESPONSE:

The Authority provided UFSAR Sections and DOCs from ITS 3.6.1.9 and ITS 3.6.2.3 that support the change for further Staff review. Further Authority response is pending ongoing Staff review and comment.

BSI-24, TAC No. MA8143, RAI ITS 3.5.1

Fitzpatrick is requesting to remove different combinations of ECCS from service for 72 hours. As you are aware, as in the recently approved STS, the staff allowed 2 LPCI to be taken out of service; but in the FitzPatrick ITS conversion submittal, you want to take 2 LPCIs and Core Spray... etc... as proposed in the new insert Action A , insert Action B, etc... in ITS 3.5.1. The staff contention is that the licensees should try to follow the STS as much as possible, and any deviations from the STS will only be reviewed only on special cases with technically sound justifications.

The above was conveyed to the licensee about March 13, 2000, and the licensees response follows:

> We think that the different combination of inoperable low pressure ECCS pumps that we proposed in the various Conditions of ITS 3.5.1 reflect the design that resulted after the so called "LPCI fix" (or VY fix) to the LPCI system. As part of that major change to the design of the LPCI system, two of the four LPCI pumps had the power source changed to the opposite electrical division (so that in each loop one of the two pumps is powered from the other division) Refer to FSAR 7.4.3.5.1 (3rd paragraph on page 7.4-18).
>
> The pump combinations that you refer to are probably cases that reflect the inoperability of one LPCI pump in each LPCI loop which results whenever one of the 4160 VAC emergency busses is inoperable. I think that review of the referenced FSAR section prior to the telephone call may help.

The issue is still unresolved.

BSI-24, LICENSEE RESPONSE:

The Authority's 7/31/2000 response to this RAI is repeated here:

> The changes to the ISTS identified with JFD DB3 are generally consistent with an NRC

approved change to NUREG-1433 (TSTF-318). As such, those changes are no longer "BSIs." The Authority will revisit the changes associated with JFD DB3 to ensure appropriate justification and consistency with TSTF-318.

The proposed changes associated with JFD DB4 were generally consistent with proposed changes to NUREG-1433 (TSTFs-223 and 224) that have been withdrawn. As such, the Authority will withdraw the changes associated with JFD DB4.

The Authority will provide a revision to the ITS Conversion submittal to reflect this change. This proposed revision is believed to be consistent with the Staff's position and recommendations.

LID BSI-03, ITS 3.3.1.1-CLB11, Action F

Complete except for the issue on LCO 3.0.3 - the proposed change to allow 9 hours completion time to be in Mode 2. This is still under review and waiting for response to RAI.

LID BSI-03, LICENSEE RESPONSE:

The Authority provided a response to RAI 3.0-1 in the June 30, 2000 submittal (JAFP-00-0141). This response provided the requested additional plant specific justification in support of a 9-hour Completion Time to reach Mode 2. That response is duplicated below:

1. The Authority has reviewed operating records associated with actual orderly shutdown procedures to evaluate the time necessary to bring the plant from 100 percent RATED THERMAL POWER (RTP) to approximately 10 percent RTP. The result of this evaluation show that approximately 8 hours is required.

2. Thermal-hydraulic stability Option I-D is applicable to the FitzPatrick Plant. Option I-D established an "Exclusion Region" of the power-to-flow map contained in the Core Operating Limits Report (COLR) as a means of avoiding the operating region where the potential for "thermal-hydraulic instability" exists. Avoiding the Exclusion Region during orderly shutdown procedures that progressively reduce reactor power and reactor recirculation flow, and the necessary use of "dual concurrent verification" of each reactivity control action by operators during the shutdown results in a shutdown process that requires a full 8 hours to bring the plant from 100 percent RTP to approximately 10 percent RTP where the shift to MODE 2 is performed.

3. A similar evaluation was performed by personnel at the Duane Arnold plant (which is also an Option I-D plant) with similar results and the ITS conversion for the Duane Arnold plant was approved with the same 9 hour period (one hour to start the shutdown plus 8 hours to reduce power to approximately 10% RTP) allowed to reach MODE 2.

Response to NRC Request for Additional Information
Regarding Improved Technical Specifications
Beyond Scope Issues

LID BSI-06, ITS 3.4.9 DOC L2

Phone call of April 6, 2000, provided questions by George Thomas related to the proposed ITS 3.4.9, which requires the verification that the active recirculation loop flow exceeds 40% of rated drive flow or the active loop has been operating below 40% rated flow for a period no longer than 30 minutes. To specify the active loop be operated below 40% is not specific enough considering it could be operating at 0% which is not acceptable. George expressed that it needs to be more specific. Waiting for a response from licensee.

LID BSI-06, LICENSEE RESPONSE:

The proposed allowance is only applicable for an "active loop" operating below 40% rated flow. "Active loop" would not allow for a "0%" flow condition. Anytime a recirculation loop is in operation, the pump speed is interlocked such that it always remains above minimum flow. This minimum flow interlock assures a loop flow of approximately 22% of rated loop flow. This is consistent with the GE analyses reported in DOC L2 for the ITS 3.4.9 conversion. As such, the Authority believes that the ITS already reflects the appropriate detail to ensure that the referenced recirculation loop could not be operating at 0% to comply with the allowances presented in ITS 3.4.9.

LID BSI-13, ITS 5.5 DOC L2

Relates to charcoal filter testing from 6 months to 24 months and the specifications for the testing program to be consistent with GL 99-02. The licensee has not provided an ITS package for the charcoal filter testing that is consistent with GL 99-02. The licensee needs to provide an amendment for the charcoal filter testing for the current TS and an ITS submittal that is consistent with GL 99-02. The licensee has committed to do this. When we receive the submittals, we will make out at least one additional TAC and work order to account for a BSI issue of charcoal filter testing. If the submittal totally changes the previous submittal of November 19, 1999, (the response to GL 99-02), we will cancel TAC No. 7252 and start anew with a new TAC No. and work order. This would provide a new start date for the issue. Our schedule for completing the ITS issue and the CTS issue would be November 2000. If we cannot make this schedule, we would develop an ITS TS based on the CTS.

LID BSI-13, LICENSEE RESPONSE:

Revisions to the ITS Conversion submittal will be made separately and will address changes consistent with those presented for the CTS change.

Attachment 2 to JPN-00-036

Response to Requests for Additional Information
Regarding Improved Technical Specification "Beyond Scope" Issues

Summary of Commitments

Commitment ID.	Description	Due Date
JPN-00-036-01	Submit a letter to the NRC including a schedule for the revision of the FitzPatrick ITS submittal as stated in NYPA letter JPN-00-036 -- Response to NRC RAI on "Beyond Scope Issues."	October 16, 2000