123 Main Street
White Plains, New York 10601
914 681.6950
914 287.3309 (Fax)

NewYorkPower Authority

James Knubel
Senior Vice President and
Chief Nuclear Officer

September 12, 2000
JPN-00-035

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 Section 3.3

References:

1. NRC Letter to J. Knubel (NYPA) dated December 10, 1999, Request for Additional Information Regarding Sections 2.0, 3.1, 3.2, 3.3, 3.5, 3.7 and 3.10 of the Improved Technical Specifications (TAC No. MA5049)

2. NRC Letter to J. Knubel (NYPA) dated February 9, 2000, Request for Additional Information Regarding Sections 2.0, 4.0, 3.0, 3.1, 3.2, 3.3, 3.5, 3.7 and 3.10 of the Improved Technical Specifications (TAC No. MA5049)

3. NRC Letter to J. Knubel (NYPA) dated June 14, 2000, Request for Additional Information Regarding Specification 3.3.5.1 of the Improved Technical Specifications (TAC No. MA5049)

4. NYPA Letter to NRC dated March 31, 1999 (JPN-99-008), Proposed Technical Specification Change - Conversion to Improved Technical Specifications

Dear Sir:

In References 1, 2 and 3 the NRC requested additional information regarding the James A. FitzPatrick Nuclear Power Plant Improved Technical Specification (ITS) submittal (Reference 4). Attachment 1 to this letter contains the Authority responses to certain RAIs associated with Section 3.3 of the ITS. Attachment 2 contains the list of 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 12th day of Sept. 2000.

EILEEN E. O'CONNOR
Notary Public, State of New York
No. 4991062
Qualified in Westchester County
Commission Expires January 21, 2002

Attachments as stated

cc: Next Page

cc:

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

Resident Inspector's Office
U. S. Nuclear Regulatory Commission
James A. FitzPatrick Nuclear Power Plant
P. O. Box 134
Lycoming, NY 13093

Mr. Guy Vissing, Project Manager
Project Directorate I
Division of Licensing Project Management
U. S. Nuclear Regulatory Commission
Mail Stop 8C2
Washington, DC 20555

Mr. William D. Beckner, Chief
Technical Specifications Branch
U. S. Nuclear Regulatory Commission
Mail Stop O-7H3
Washington, DC 20555

Mr. William F. Valentino, President
New York State Energy, Research, and Development Authority
Corporate Plaza West
286 Washington Avenue Extension
Albany, NY 12203-6399

Mr. N. B. Le
U. S. Nuclear Regulatory Commission
Mail Stop O-7H3
Washington, DC 20555

Attachment 1 to JPN-00-035

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

RAI 3.3.1.1-1 ITS Table 3.3.1.1
DOC A19

CTS 2.1 lists 8 RPS Trip Functions as "limiting safety system trip settings." The proposed RPS ITS Table 3.3.1.1-1 renames these "allowable values". The staff interprets that the "Allowable Values" listed in ITS Table 3.3.1.1-1 as the "limiting safety system settings" required by 10 CFR 50.36 and they are values derived from an approved setpoint methodology which includes instrument channel uncertainties associated with the measured parameter and the installed instrumentation.

Comment: DOC A19 indicates that the CTS values are treated consistent with the ITS values when determining Function or channel operability, therefore, it is appears that the change represents an Administrative Change. However, a more complete explanation of the defined terminology is required for Table 3.3.1.1-1 Functions 3, 6, 7.a and 7.b allowable values taken from CTS Table 3.1-1 to clarify that the CTS "trip level settings" and the ITS "Allowable Values" are both the TS limit values placed on the "as-found" trip actuation setpoint that includes all applicable instrument channel and measurement uncertainties.

Licensee Response:

The response provided below addresses this RAI as well as RAIs 3.3.2.2-1, 3.3.4.1-4, 3.3.5.1-01 and 3.3.6.1-02

The CTS "trip level settings" and the CTS "trip settings" are considered the "Allowable Values" as described in the ITS since the instrumentation is considered inoperable if the value is exceeded when either the CTS or the ITS is applicable. A detailed explanation of trip setpoints, allowable values and analytical limits as they relate to instrumentation uncertainties is provided below.

Trip setpoints are those predetermined values of output at which an action is expected to take place. The setpoints are compared to the actual process parameter and when the measured output value of the process parameter exceeds the setpoint in either the increasing or decreasing direction, the associated device (e.g., trip unit) changes state.

The trip setpoints are specified in the setpoint calculations and are derived from the analytical limits, corrected for all applicable instrumentation uncertainties, drift, process effects, calibration uncertainties, and severe environmental effects as appropriate. The trip setpoints derived in this manner provide adequate protection because all expected uncertainties are accounted for.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

The setpoints specified in the setpoint calculations are selected to ensure that the actual field trip setpoints do not exceed the ITS Allowable Values (i.e., the CTS "trip level settings" and the CTS "trip settings") between successive CHANNEL CALIBRATIONS. The CTS "trip settings"/"trip level settings" and the "ITS Allowable Values" are both the TS limit values that are placed on the actual field trip setpoints. The ITS Allowable Values are derived from the trip setpoints by accounting for effects that would be seen during periodic surveillance or calibration. These effects are instrumentation uncertainties observed during normal operation, drift, and calibration uncertainties. Accordingly, the ITS Allowable Values include all applicable instrument channel and measurement uncertainties. A channel is inoperable if its actual field trip setpoint is not within its required ITS Allowable Value.

The analytical limits are derived from the limiting values of the process parameters obtained from the safety analysis or other appropriate documents.

DOC A19 of ITS 3.3.1.1-1, DOC A6 of ITS 3.3.2.2-1, DOC A7 of ITS 3.3.4.1-4, DOC A12 of ITS 3.3.5.1-01 and DOC A16 of ITS 3.3.6.1-02 will be appropriately revised to reflect the above discussion.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

RAI 3.3.2.2-1 CTS Table 3.2-6
DOC A6

CTS Table 3.2-6 lists the "Trip Level Setting" for Reactor Vessel Water Level - High as $\leq$ 222.5 inches. The corresponding ITS SR 3.3.2.2.3 lists the "Allowable Value" for this setting at $\leq$ 222.5 inches. It is not clear that the CTS "Trip Level Setting" is equal to the ITS "Allowable Value." It is assumed that the CTS value is the actual device actuation setpoint and the ITS Allowable Value is the limit on the actuation setpoint which includes all instrument channel uncertainty, as defined in ITS 1.0.

Comment: Provide additional discussion and justification for the change including verification that the ITS value does not result in a change to the actual CTS limit.

Licensee Response:

See response to RAI 3.3.1.1-1

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

RAI 3.3.4.1-4 CTS Table 3.2-7
DOC A7

CTS Table 3.2-7 lists ATWS-RPT Function "trip level settings." The corresponding ITS SR 3.3.4.1.4 lists these "trip level settings" as "Allowable Values". It is not clear that the CTS "trip level settings" are not the physical trip actuation setpoints set into the ATWS-RPT actuation devices. Furthermore, it is assumed that the "Allowable Values" listed in ITS SR 3.3.4.1.4 are the values derived from the setpoint methodology analyses that include instrument channel uncertainties associated with the measured parameter and the installed instrumentation.

Comment: DOC A.7 indicates that the CTS values are treated consistent with the ITS values when determining Function or Channel OPERABILITY, therefore, it is assumed that the change is an acceptable Administrative Change. However, a more complete explanation of the defined terminology is required to ensure the CTS "trip level settings" and the ITS "Allowable Values" are both the administrative (TS limit) values placed on the trip actuation setpoint, that includes all applicable instrument channel and measurement uncertainties.

Licensee Response:

See response to RAI 3.3.1.1-1.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

RAI 3.3.5.1-01

CTS Table 3.2-2
DOC A.12
STS Table 3.3.5.1-1 and Table 3.3.5.2-1
JFD DB11

CTS Table 3.2-2 lists ESFAS Trip Function "trip level settings." The corresponding ITS Table 3.3.5.1-1 and ITS Table 3.3.5.2.-1 lists these "trip level settings" as "Allowable Values". It is not clear that the CTS "trip level settings" are not the physical trip actuation setpoints set into the actuation devices. Furthermore, it is assumed that the "Allowable Values" listed in ITS Table 3.3.5.1-1 and Table 3.3.5.2-1 are the values derived from the setpoint methodology analyses that include instrument channel uncertainties associated with the measured parameter and the installed instrumentation. Discussions of this change (DOC A.12) indicates that the CTS values are treated consistent with the ITS values when determining Function or Channel OPERABILITY, therefore, it is assumed that the change is an acceptable Administrative Change.

Comment: Revise submittal DOC to provide a more complete explanation of the defined terminology required to ensure the CTS "trip settings" and the ITS "Allowable Values" are both the administrative (TS limit) values placed on the trip actuation setpoint that includes all applicable instrument channel and measurement uncertainties.

Licensee Response:

See response to RAI 3.3.1.1-1

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

RAI 3.3.6.1-02 CTS Table 3.2-1 and [RETS] Table 3.10-1
DOC A.16
STS Table 3.3.6.1-1 3.3.6.2-1 and SR 3.3.7.1.2 and 3.3.7.2.2
JFD DB10

CTS Table 3.2-1 and CTS [RETS] Table 3.10-1 lists Isolation Trip Function "trip level settings." The corresponding ITS Table 3.3.6.1-1, ITS Table 3.3.6.2.-1, ITS SR 3.3.7.1.2, and ITS SR 3.3.7.2.2 lists these "trip level settings" as "Allowable Values". It is not clear that the CTS "trip level settings" are not the physical trip actuation setpoints set into the actuation devices. Furthermore, it is assumed that the "Allowable Values" listed in ITS Table 3.3.6.1-1, Table 3.3.6.2-1, ITS SR 3.3.7.1.2, and ITS SR 3.3.7.2.2 are the values derived from the setpoint methodology analyses that include instrument channel uncertainties associated with the measured parameter and the installed instrumentation. Discussions of this change indicates that the CTS values are treated consistent with the ITS values when determining Function or Channel OPERABILITY, therefore, it is assumed that the change is an acceptable Administrative Change. However, a more complete explanation of the defined terminology is required to ensure the CTS "trip settings" and the ITS "Allowable Values" are both the administrative (TS limit) values placed on the trip actuation setpoint that includes all applicable instrument channel and measurement uncertainties.

Comment: Revise submittal DOC to provide a more complete explanation of the defined terminology required to ensure the CTS "trip settings" and the ITS "Allowable Values" are both the administrative (TS limit) values placed on the trip actuation setpoint that includes all applicable instrument channel and measurement uncertainties. Reference RAI 3.3.5.1-01.

Licensee Response:

See response to RAI 3.3.1.1-1

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

RAI 3.3.6.1-05

CTS Table 3.2-1
DOC A.7
STS Table 3.3.6.1-1 Function 1.e, 3.d 3.e, 3.f, 3.g, 3.h, 3.i, 3.j, 4.d, 4.e, 4.f, 5.a, 5.b, 5.c - Allowable Values
JFD DB10

Table 3.2-1 lists the trip level setting for RWC System, HPCI System, and RCIC Steam Line Area Temperature Functions and are listed as "≤40 degrees F above max ambient." In ITS Table 3.3.6.1-1 Function 1.e, 3.d 3.e, 3.f, 3.g, 3.h, 3.i, 3.j, 4.d, 4.e, 4.f, 5.a, 5.b, 5.c - "Allowable Values" these trip settings are changed to specific temperature values. DOC A.7 discusses and justifies the changes as administrative changes. However, it is not clear that the ITS values are equal to the CTS values for these trip Functions.

Comment: Provide a more in-depth discussion which verifies that each of these CTS values are not changed in the ITS or provide clear discussion how this change differs for the CTS.

Licensee Response:

The trip level settings on CTS Table 3.2-1 for the Main Steam Line Leak Detection High Temperature, the Reactor Water Cleanup System Equipment Area High Temperature, the HPCI Steam Line/Area Temperature and the RCIC Steam Line/Area Temperature functions specified in the CTS are analytical limits. Consistent with the format of NUREG-1433, Revision 1, allowable values are provided for each of these functions in the Fitzpatrick ITS. Furthermore, a specific value is provided in the ITS in lieu of the CTS relative value of "40 °F above max. ambient." Accordingly, the last sentence of DOC A7 will be deleted and a separate M DOC will be provided to address the above changes. These changes are considered more restrictive as the allowable value is a more restrictive numerical value than the analytical limit.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

RAI 3.3.6.1-04

CTS 4.9.G.2
DOC A.3
ITS SR 3.3.8.2.2
JFD DB1

The CTS 4.9.G.2 setpoints for Channel A and Channel B RPS MG Set Source are changed in the corresponding ITS SR 3.3.8.2.2 to one value, $\geq$112.3 V. JFD DB1 justifies the change as a simplification of presentation. The submittal does not discuss or justify the changed CTS setpoint values for this Function. In addition, as noted throughout the submittal, the CTS setpoint values are changed in the ITS to Allowable Values. It is not clear that the CTS values are equal to the ITS values for the trip actuation Functions (See RAI 3.3.5.1-01).

Comment: Provide additional discussion and justification for the changed presentation and changed/omitted setpoints.

Licensee Response:

(The above RAI Reference number is not consistent with the referenced Specification. It is assumed for tracking that the RAI was numbered 3.3.8.2-04 rather than 3.3.6.1-04)

Page 1 of the CTS Markup for ITS 3.3.8.2 shows 2 values for the under-voltage function associated with CTS 4.9.G.2. Page 3.3-80 of the ITS Markup shows 1 value for the under-voltage function associated with SR 3.3.8.2.2.b. The ITS Markup is incorrect and will be revised to be consistent with the CTS 4.9.G.2 (i.e., the 2 values in CTS will be retained).

The CTS over-voltage, under-voltage and under-frequency values associated with the RPS MG Set Source and the Alternate Source are considered the Allowable Values as described in ITS SRs 3.3.8.2.2 and 3.3.8.2.3.

In addition, see the Response to RAI 3.3.1.1-1 regarding a more complete explanation of Allowable Values as they relate to instrumentation uncertainties and analytical limits.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

RAI (Unspecified Number)

NRC Letter Dated June 14, 2000.

Subject: James A. Fitzpatrick Nuclear Power Plant: Request for Additional Information Regarding Improved Technical Specification (ITS) 3.3.5.1 - ECCS Instrumentation Technical Specifications (TAC No. MA 5049)

Comment: In the above reference letter the Staff indicated that they had several questions regarding Licensee Identified Beyond Scope Issues (LID BSI) Item No. 4 (ITS 3.3.5.1 - The Automatic Depressurization System (ADS) initiation timer and the Core Spray (CS) and the Low Pressure Coolant Injection (LPCI) pump start timer values) and LID BSI Item No. 5 (ITS 3.3.5.1 - CS, LPCI, and ADS Logic System Functional Test Frequency extension). Specifically, the Staff asked seven questions with regards to LID BSI Item No.4 and one question with regard to LID BSI No. 5 pertaining to GL 91-04.

Licensee Response:

By letter dated March 31, 1999 (Letter IDJPN-99-008) the Authority proposed a License Amendment that would convert the James A. Fitzpatrick Technical Specifications to the ITS. Specifically, DOC L5 of ITS 3.3.5.1 provided the technical justification to increase the LSFT testing interval of certain timers (i.e., CTS Table 4.2-2, Item 1 for Core Spray Subsystem, Item 2 for Low Pressure Coolant Injection Subsystem and Item 5 for ADS Subsystem) from 6 months to 24 months. Consistent with the proposed increase in this testing interval, revised Allowable Values as discussed in DOC L1 were also provided for the same timers (i.e., CTS Table 3.2-2, Item 11 for Core Spray Pump Start Timer [ITS Table 3.3.5.1-1 Function 1.d], Item 12 for RHR (LPCI) Pump Start Timer [ITS 3.3.5.1-1 Function 2.f] and Item 13 for Auto Blowdown Timer [ITS 3.3.5.1-1 Function 4.b and 5.b]).

Subsequently, by letter dated April 27, 2000 (Letter ID JPN-00-010) the Authority proposed a License Amendment to the Current Technical Specifications (CTS) without conversion to the ITS that revised the same CTS functions as described above in a similar manner. However, the April 27, 2000 letter provided Allowable Values for Items 11 and 12 of CTS Table 3.2-2 (i.e., Core Spray Pump and RHR [LPCI] Pump Start Timers) which differed from those provided in the our proposed ITS conversion License Amendment dated March 31, 1999.

For the purposes of the Authority's response to this RAI, the Staff should consider the revised values in our letter dated April 27, 2000 (i.e., the CTS Amendment) as those values that are being requested as part of our ITS conversion License Amendment. At a later date the Authority will revise the ITS submittal such that the values in the ITS submittal will be identical to those values proposed in our April 27, 2000 letter with regards to Core Spray and RHR (LPCI) Pump Start Timers.

By letter dated June 14, 2000, the Staff requested additional information with regards to ITS LID BSIs No. 4 and 5. The Staff questions and the Authority's responses are provided below.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

WITH REGARD TO PROPOSED CHANGE 3.3.5.1 ADS INITIATION TIMER AND CS AND LPCI PUMP START TIMER, PLEASE ADDRESS THE FOLLOWING:

Question 1

Provide a summary description of the program for monitoring and assessing the effects of increased calibration surveillance intervals on instrument drift and its effect on safety.

Response

Instruments with Technical Specification calibration surveillance frequencies extended to 24 months are monitored by the FitzPatrick Drift Monitoring Program (DMP) [Reference 1]. The DMP establishes and maintains the list of applicable instruments, monitors instrument drift based on actual as-found and as-left calibration data to verify drift projections made in the set point calculations are conservative, describes how as-found zones are monitored for failures identified during surveillance testing and provides direction for appropriate corrective actions to be taken for instruments which indicate non-conservative drift.

Question 2

Confirm that all conditions and assumptions of the set point and safety analyses have been checked and are appropriately reflected in the acceptance criteria of plant surveillance procedures for channel checks, channel functional test, and channel calibrations.

Response

As part of the implementation of the Improved Technical Specification project, applicable surveillance test procedures will be reviewed and updated to incorporate the necessary changes in accordance with the FitzPatrick set point control program [Reference 2]. The reviews include acceptance criteria for the applicable instruments and any changes resulting from the reviews will be incorporated into the instrument surveillance test procedures.

Question 3

Confirm that the projected instrument errors caused by drift are acceptable for control of plant parameters to effect a safe shutdown with the associated instrumentation.

Response

The set point calculations are performed in accordance with the methodology described in ISA-S67.04 [Reference 3]. The projected drift values were incorporated into the set point calculations and this qualitative analysis was used to justify the SR frequency increase. The set point calculations are required to show that sufficient margin exists between the safety limit and the field trip setting to confirm that the safety analysis and safety limit assumptions are not exceeded. It was not necessary to change the associated safety analysis to accommodate a larger drift error.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

Question 4

Confirm that a comparison of the projected instrument drift errors has been made with the values of drift used in the set point analysis. If this results in revised set points to accommodate larger drift errors, provide proposed TS changes to update trip set points. If the drift errors result in a revised safety analysis to support existing set points, provide a summary of updated analysis conclusions to confirm that safety limits and safety analysis assumptions are not exceeded.

Response

The projected drift values were compared to the existing channel uncertainties for the instruments covered in the set point calculations used to support this submittal. The projected drift values were incorporated into the associated set point analysis, the proposed TS Allowable Values will change as follows:

Trip Function	Existing setting	Proposed setting
LPCI 1st Pump Start	1.0 (+) 0.5 (-) 0 sec	1.25 $\pm$ 0.26 sec
LPCI 2nd Pump Start	6.0 $\pm$ 0.5 sec	6.0 $\pm$ 0.73 sec
CS Pump Start	11.0 $\pm$ 0.6 sec	11.0 $\pm$ 1.34 sec
ADS Auto Blowdown	120 $\pm$ 5 sec	$\leq$ 134 sec

The associated safety analysis has not changed, the safety limits and safety analysis assumptions are not effected.

Question 5

Confirm that the magnitude of instrument drift has been determined with a high probability and a high degree of confidence for a bounding calibration interval of 30 months for each instrument type (make, model number, and range) and application that performs a safety function. Provide a list of the channels by TS section that identifies these instrument applications.

Response

In accordance with the methodology described in section 6, the magnitude of instrument drift has been determined with a high degree of probability and a high degree of confidence (95%/95%) for a bounding calibration interval of 30 months for each applicable instrument type and safety function application. In addition to instrument drift, this data reflects instrument reference accuracy, measuring and test equipment uncertainties, and the effects of ambient environmental conditions (temperature, pressure, humidity, and radiation). Therefore, the term "drift" as used throughout this evaluation actually represents total instrument calibration uncertainties. The ADS timers are AGASTAT Model ETR14D3 and the LPCI and CS timers are AGASTAT Model E7012. The associated instruments for the affected SR are listed in the corresponding discussion of the change.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

Question 6

Confirm that the values of drift for each instrument type (make, model, and range) and application have been determined with a high probability and a high degree of confidence. Provide a summary of the methodology and assumptions used to determine the rate of instrument drift with time based upon historical plant calibration data.

Response

FitzPatrick has performed drift evaluations using as-found and as-left calibration data obtained from surveillance tests of the applicable instruments by make, model and range. The projected 30-month drift values are based on statistically determined drift in accordance with the FitzPatrick design standard for evaluation of calibration information [Reference 4]. The projected drift values have a 95% probability with a 95% level of confidence. This design standard is based primarily on the methodology described in EPRI TR-103335 [Reference 5], and provides specific actions where the EPRI report provides various options. The projected drift values were determined as follows:

The as-found and as-left calibration data is entered on an EXCEL spreadsheet, the data analysis involves calculating raw drift values and then performing outlier testing on them. After the substantiated outlier data is removed, final drift values are calculated. The EXCEL spreadsheet data is then transferred to the SYSTAT program. The SYSTAT program re-calculates the drift values that are then compared with the EXCEL spreadsheet results, this is a verification process. The SYSTAT program is then used to perform normal distribution testing and time dependency analysis. The results are summarized and the projected drift values are documented and controlled in accordance with the FitzPatrick manual calculation and analyses process [Reference 6]. The analyses were performed using Microsoft EXCEL 97 and SYSTAT version 5.0 programs. The minimum sample size for these drift evaluations was 36 data entries and the largest was 199.

Question 7

Confirm that instrument drift as determined by as-found and as-left calibration data from surveillance and maintenance records has not, except on rare occasions, exceeded acceptable limits for a calibration interval.

Response

FitzPatrick has evaluated the effects of longer calibration intervals on TS instrumentation by performing reviews of the surveillance test history for the applicable instrumentation. In performing the drift studies, recorded calibration data was retrieved for the associated instruments for all operating cycles in which the current equipment was in service. A true representation of instrument drift can be determined with this recorded calibration data. The failure history evaluations and drift studies demonstrate that, except on rare occasions, instrument drift has not exceeded the acceptable limits for a calibration interval.

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

WITH REGARD TO PROPOSED CHANGE 3.3.5.1 CORE SPRAY, LPCI, AND ADS LOGIC SYSTEM FUNCTIONAL TEST FREQUENCY:

Question 1

Evaluate the effect on safety for the change in surveillance interval to 24 months and confirm that historical maintenance and surveillance data support your conclusion. Confirm that performance of the surveillance at 24 months would not invalidate any assumption in the plant-licensing basis. In consideration of these confirmations, you need not quantify the effect of the change in surveillance intervals on availability of individual systems or components.

Response

Changing the performance interval of the LSFTs from semiannually to 24 months enhances plant safety and reduces the unavailability due to testing for the applicable safety systems for the following reasons:

LSFT procedures for Core Spray, LPCI and ADS require the installation of jumpers and/or the lifting of leads to perform verification of relay and contact operability. These factors increase the potential for inadvertent safety system actuation and plant transients that may result from personnel error or equipment malfunction. Inadvertent scrams impose unnecessary cycles on reactor equipment and unnecessary demands on plant safety systems. Scrams are also potential initiators of accident sequences. Changing the LSFT interval from semiannually to 24 months will reduce the potential for plant transients by reducing the number of times the tests must be performed. Although the current performance frequency of LSFT is not expected to be a major factor in component wear, it is prudent to maintain the number of trip actuations at a low level in order to reduce any potential incremental wear.

Results of a FitzPatrick Surveillance Extension Report [Reference 7] show that safety system reliability is not dominated by the reliability of the logic systems, but by that of the mechanical components, (e.g., pumps and valves), which are tested on a more frequent basis. The results contained in the report demonstrate that there is no significant change in the logic system unavailability due to equipment failure by changing the test interval from semiannually to 24 months. This conclusion is based on the following factors:

Logic circuit unavailability is influenced predominantly by relay coil failure and testing rates. Unavailability due to contact failures is less significant. Testing of plant safety system instrumentation and controls through methods other than LSFT (e.g., functional test), as required by the FitzPatrick TS, demonstrates relay coil operability but not necessarily operability of all associated contact configurations. LSFT relay coil testing is therefore somewhat redundant to these other tests, offering little extra benefit while increasing logic circuit unavailability and the potential for plant transients due to testing. The principal benefits of LSFT are end-to-end contact operability verification. The worth of any such added benefit of higher frequency testing is completely outweighed by the consequent increase in unavailability due to testing.

The largest contributor to circuit unavailability is the amount of time a circuit is out-of-service due to testing. A 24 month LSFT interval minimizes the amount of time a circuit is unavailable due to testing.

The above considerations together with the use of highly reliable components have aided FitzPatrick in achieving a very high LSFT success rate. LSFT results, where possible and applicable, have been reviewed for a period of approximately 20 years. Reviews covering shorter time periods were due principally to components being replaced, thus, reducing the availability of historical data.

References:

1. AP-19.10, Revision 1, Drift Monitoring Program
2. MCM-8A, Revision 5, Set point Control
3. ISA-S67.04-1994, Set points for Nuclear Safety-Related Instrumentation
4. IES-5A, Revision 0, Engineering Standards Manual, Evaluation of Calibration Information
5. EPRI TR-103335, March 1994, Guidelines for Instrument Calibration Extension/ Reduction Programs
6. DCM-2A, Revision 3, Preparation and Control of Manual Calculations and Analyses
7. JAF-RPT-MULTI-02903, Revision 0, Surveillance Extension Reports for Logic System Functional Testing

Attachment 2 to JPN-00-035

Response to Requests for Additional Information
Regarding Improved Technical Specification Section 3.3

Summary of Commitments

Commitment ID	Description	Due Date
JPN-00-035-01	Submit a letter to the NRC including a schedule for the revision of the FitzPatrick ITS submittal as stated in NYPA letter JPN-00-035 -- Response to NRC RAI on ITS Section 3.3.	October 16, 2000