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July 15, 1998
JPN-98-031
IPN-98-080

U.S. Nuclear Regulatory Commission
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SUBJECT: **James A. FitzPatrick Nuclear Power Plant**
Docket No. 50-333
Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Status of Authority Initiative to Improve the
Adequacy and Availability of Design Bases Information

REFERENCES: NYPA letter, J. Knubel to USNRC (JPN-97-010/IPN-97-035), "Response to Request for Additional Information Pursuant to 10 CFR 50.54(f) Regarding Adequacy and Availability of Design Bases Information," dated March 10, 1997

Dear Sir:

The Authority has prepared a report (Attachment 1) to update the NRC on the progress made to improve the adequacy and availability of design bases information contained in the Updated Final Safety Analysis Reports (UFSARs) for the Indian Point 3 (IP3) and James A. FitzPatrick Nuclear Power Plants. The report also revises and clarifies the scope of this initiative, and highlights another closely related Authority initiative on Design Bases Documents (DBDs). The Authority originally committed to this initiative in March of 1997 (Reference).

Attachment 2 summarizes commitments made or revised by this letter. If you have any questions regarding this matter, please contact the Director - Nuclear Licensing, Ms. C. D. Faison.

Very truly yours,

J. Knubel
Senior Vice President and
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Attachment 1 to JPN-98-031/IPN-98-080

Authority Initiative to Improve the Adequacy and Availability
Of Design Basis Information

Introduction

The Authority has prepared this report to update the NRC on the progress made to improve the adequacy and availability of design bases information contained in the Updated Final Safety Analysis Reports (UFSARs) for the Indian Point 3 (IP3) and James A. FitzPatrick Nuclear Power Plants. The Authority originally committed to this initiative in March of 1997 (Reference 1). The report also revises and clarifies the scope of this initiative, and highlights another closely related Authority initiative on Design Bases Documents (DBDs).

Background

The Authority described it's initiative to improve the adequacy and availability of the IP3 and FitzPatrick UFSARs in its March 10, 1997 response to an NRC request for additional information (Reference 1). The initiative was captured in a three-phase program. Phase 1 was to include:

- Development of an UFSAR verification process, with appropriate administrative controls
- Application of this process to UFSAR text, figures and tables for a single "pilot" plant system
- Conducting a vertical assessment of the same plant system
- Comparison of the results of the verification to the vertical slice assessment, and
- Feedback of the lessons-learned to improve the UFSAR verification process

Phase 2 would apply the process developed in phase one to the remaining safety-related plant systems. Phase 3 would apply the process to portions of the UFSAR not covered by phases 1 or 2. Any discrepancies or deviations identified, as part of this process would be recorded, evaluated, reported and resolved using normal Authority procedures. A description of the program, including its scope and schedule, was submitted to the NRC to fulfill one of the requirements necessary for enforcement discretion as discussed in Reference 2.

As part of program closely related to this initiative, existing Design Basis Documents (DBDs) are being validated to confirm their accuracy and updated to reflect changes completed since their issuance. Outstanding DBD open items are dispositioned and the need for new DBDs considered.

The Authority also committed to a program of periodic assessments, which would be used to confirm design bases information in the UFSAR. Starting after the completion of Phase 2 of the UFSAR verification initiative, a minimum of one assessment per operating cycle will be conducted at each plant.

Phases 1 and 2 were to be completed prior to October 18, 1998. Phase 3 was to be completed approximately one year later.

Revised/Clarified Work Scope

Verification vs. Validation

The Authority has adopted the definitions of *verification* and *validation* in NUREG-1397 (Reference 6) for this initiative. NUREG-1397 defines *verification* as "...checking that the information contained in the design basis documents has been correctly and consistently translated from the source documents." The NUREG defines *validation* as "...ensuring that the physical plant, the design output documents and the design-bases documents are consistent."

Although the Authority originally described it's UFSAR initiative (Reference 1) as *verification*, the actual process being used is *validation*. The configuration of the plants and their systems, as well as their functionality, will be compared to the descriptions in the UFSARs. Information contained in other plant documents, such as operations, maintenance, and surveillance test procedures, will be compared to UFSARs to assure consistency.

In general, the UFSAR will not be verified. Source documents will not be identified, collected or reviewed to assure that their information is correctly reflected in the UFSAR.

Phase 3 Validations

To date, neither Phase 1 nor Phase 2 has resulted in a significant operability concern. On this basis, the Authority is reducing the scope of Phase 3 from that originally described in Reference 1. In this revised scope, Phase 3 will be limited to non-safety-related systems that are risk significant, or are in the Maintenance Rule. Non-safety related structures, systems and components (SSCs) that are not significant from a risk-informed perspective will not be part of this program. Phase 3 is scheduled for completion by November 1, 1999.

Open Item Resolution

Normal work practices and existing processes will be used to document and correct discrepancies in the UFSAR identified during Phases 1, 2 or 3. No schedule for the resolution of all open items has or will be established. Open items will be resolved based on their safety significance, any potential effects on plant operation, and the availability of resources to resolve them.

Program Status

Phase 1 and 2

Phase 1 is complete at both plants. Phase 2 is in-progress. To date, no discrepancies have been discovered that are safety significant or that have resulted in operability concerns or an unreviewed safety question.

As of March 1998, the validation of the pilot systems has been completed at both FitzPatrick and Indian Point 3. Vertical-slice assessments, based on the NRC Safety System Function Inspection process, of the125 VDC (FitzPatrick) and Main Steam Systems (IP3), have been

completed. Program improvements have been incorporated into the validation process based on lessons learned from the pilot system validations and vertical-slice assessments and specific findings and recommendations have been entered into the corrective action program.

UFSAR Validation Process

At both sites, work has started on the validations for the safety-related systems. Over 60% of this work has been completed as of June 22, 1998. UFSAR Chapter 14 "Safety Analysis," will be validated and updated for both FitzPatrick and Indian Point 3.

The UFSARs have been segmented into discreet groupings of "data-cells" at each site. These cells were grouped by system as an aid in performing the validation process. A relational database has been developed to manage the data-cells and validation process. In addition, administrative procedures to control the implementation of the validation process have been fully developed.

Vertical-Slice Assessments

As mentioned above, a vertical-slice assessment has been completed at Indian Point 3 and FitzPatrick. Programs have been developed to conduct future assessments.

Next 10 CFR 50.71(e) Update Schedule

Corrections and clarifications identified as part of these initiatives, together with revisions required to reflect plant modifications or other changes, will be submitted to the NRC as part of the next UFSAR update. The next update will be submitted in accordance with the schedule requirements of 10 CFR 50.71(e).

The last FitzPatrick UFSAR update was submitted to the NRC on June 10, 1997 (Reference 7). Indian Point 3 submitted its last update on December 19, 1997 (Reference 8). Refueling outages are currently scheduled to end on November 27, 1998 at FitzPatrick and in the fall of 1999 for Indian Point 3. Based on these dates, the Authority will submit the next UFSAR update for FitzPatrick not later than May 27, 1999. Indian Point 3's next UFSAR update will be submitted not later than December 19, 1999.

Design Basis Documents (DBD) Validations

In addition to the UFSAR validation, the Authority is updating and validating existing DBDs. DBDs are being validated to confirm they are accurate, and that plant documentation is consistent with these requirements. Upon completion of the validation effort, the DBDs will be updated to reflect both significant open items pending since issuance of the DBDs and new changes required as a result of the validation process.

References

1. NYPA letter, J. Knubel to USNRC (JPN-97-010/IPN-97-035), "Response to Request for Additional Information Pursuant to 10 CFR 50.54(f) Regarding Adequacy and Availability of Design Bases Information," dated March 10, 1997

2. Federal Register Notice, 61 FR 54461 dated October 18, 1996, regarding NRC amended policy statement on enforcement actions associated with departures from the FSAR.

3. American National Standards Institute (ANSI), N45.2.10-1973, "Quality Assurance Terms and Definitions"

4. Electric Power Research Institute, Nuclear Safety Analysis Center, NSAC-39, December 1981, "Verification and Validation for Safety Parameter Display Systems"

5. Institute of Electrical and Electronics Engineers, IEEE Std. 729-1983, "Software Engineering Terminology"

6. NUREG-1397, "An Assessment of Design Control Practices and Design Reconstitution Programs in the Nuclear Power Industry," February 1991.

7. NYPA letter, M. J. Colomb to USNRC, dated June 10, 1997, (JAFP-97-0207) regarding 1997 Update to the James A. FitzPatrick Final Safety Analysis Report.

8. NYPA letter, J. Knubel to USNRC, dated December 19, 1997 (IPN-97-174) regarding 1997 Update to the Indian Point 3 Final Safety Analysis Report.

Attachment 2 to JPN-98-031/IPN-98-080

Summary of Commitments

Commitment Number	Description	Due Date
IPN-97-035-01 JPN-97-010-01	Complete phases one and two of the Authority's UFSAR validation program to validate all safety related systems in the UFSAR and to identify discrepancies at both Indian Point 3 and FitzPatrick. This program will be designed to satisfy the provisions of the Commission's amended policy statement (61 FR 54461, October 18, 1996) on enforcement actions associated with departures from the UFSAR. (Note 1)	October 18, 1998
IPN-97-035-02 JPN-97-010-02	Complete phase three of the Authority's UFSAR Validation Program to validate remaining maintenance rule, risk significant, non safety-related systems and identify discrepancies at both Indian Point 3 and FitzPatrick. (Note 1)	November 1, 1999

Notes:

1. Commitment originally made in IPN-97-035/JPN-97-010. Revised to describe program as a "validation."

JPN-98-031/IPN-98-080

Summary of Commitments

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Commitment Number	Description	Responsible Individual	Due Date
IPN-97-035-01 JPN-97-010-01	Complete phases one and two of the Authority's UFSAR verification program to verify all safety related systems in the UFSAR and to identify discrepancies at both Indian Point 3 and FitzPatrick. This program will be designed to satisfy the provisions of the Commission's amended policy statement (61 FR 54461, October 18, 1996) on enforcement actions associated with departures from the FSAR. (Note 1)	T. Dougherty	October 18, 1998
IPN-97-035-02 JPN-97-010-02	Complete phase three of the Authority's UFSAR Verification Program to verify remaining maintenance rule, risk significant, non safety-related systems and identify discrepancies at both Indian Point 3 and FitzPatrick. (Note 1)	T. Dougherty	November 1, 1999