Northeast
Utilities System

107 Selden Street, Berlin, CT 06037

Northeast Utilities Service Company
P.O Box 270
Hartford, CT 06141-0270
(203) 665-5000

September 21, 1995

Docket No. 50-336
B15372

Re: IR 50-336/95-21

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

Millstone Nuclear Power Station, Unit No. 2
Reply to a Request for Submittal of Plans and Schedule
for Emergency Operating Procedures Upgrade Program
Inspection Report 50-336/95-21

In a letter dated August 10, 1995,[1] the NRC Staff transmitted the results of a safety inspection of the Millstone Unit No. 2 revised Emergency Operating Procedures (EOPs) and the ability of the control room operators to use them to safely operate the unit. During the EOP inspection, Northeast Nuclear Energy Company (NNECO) noted that a second revision of the EOP Upgrade Program is planned to address human factors and other concerns. Subsequently, in the report dated August 10, 1995, the Staff requested that we submit a listing of those additional items which Millstone Unit No. 2 plans to address in the continuing EOP upgrade program, along with an estimated timetable for completion. Attachment 1 to this letter provides the EOP Upgrade Program Plan Summary, Attachment 2 provides the Program Task Summary and Attachment 3 provides the Program Timeline.

The following NNECO commitment is made within the attachments to this letter. Other statements within this letter and the attachments are provided as information only.

B15372-1 The upgraded EOPs are scheduled to be implemented by July 1, 1997.

---

(1) G. W. Meyer letter to J. F. Opeka, "Millstone, Unit 2, EOP Inspection - Report No. 50-336/95-21," dated August 10, 1995.
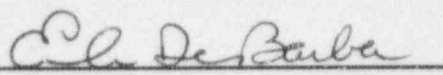
U.S. Nuclear Regulatory Commission
B15372/Page 2
September 21, 1995

If there are any questions regarding the information provided in this submittal, please contact Mr. Philip J. Lutzi at (203) 440-2072.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

FOR: J. F. Opeka
Executive Vice President

BY: _E. A. DeBarba_
E. A. DeBarba
Vice President

Attachments

cc: T. T. Martin, Region I Administrator
G. S. Vissing, NRC Project Manager, Millstone Unit No. 2
P. D. Swetland, Senior Resident Inspector, Millstone Unit Nos. 1, 2, and 3

Attachment 1

Millstone Nuclear Power Station, Unit No. 2

Reply to a Request for Submittal of Plans and Schedule
for Emergency Operating Procedures Upgrade Program
Program Plan Summary

September 1995

1995 - 1997 EOP UPGRADE PROGRAM PLAN SUMMARY

I.   FORMATION AND TRAINING OF THE EOP UPGRADE TEAM

EOP Upgrade Team Formation

The Emergency Operations Procedure (EOP) upgrade team will consist of program administrator(s), EOP writers, and support department points of contact. In addition, the team will enlist the aid of other independent organizations (e.g., technical reviewers, human factors reviewers, peer reviewers, etc.) as appropriate.

EOP Upgrade Team Training

The EOP writers and support department points of contact will be requested to attend training on the Combustion Engineering Emergency Procedures Guidelines (CEN-152). This will ensure that the entire team starts out with the same basic understanding of CEN-152. The support department supervisors and managers will also be invited to attend.

The EOP writers will also be required to attend training on the Unit 2 EOP Upgrade Writer's Guide. All other EOP upgrade team members will be invited to attend this training.

II. EOP ADMINISTRATIVE CONTROLS

NUREG-0899, "Guidelines for the Preparation of Emergency Operating Procedures", recommends an EOP development and verification and validation (V&V) process which will result in technically accurate and usable EOPs. The V&V process is addressed by this program plan. The following administrative control procedures will be specifically designed for the Millstone Unit No. 2 EOP Upgrade Program:

- MP2 EOP Upgrade Writer's Guide (OP-2259-U)
- MP2 EOP Upgrade User's Guide (OP-2260-U)
- MP2 EOP Upgrade Program Administration (OP-2261-U)
- MP2 EOP Upgrade Verification Program (OP-2262-U)
- MP2 EOP Upgrade Validation Program (OP-2263-U)
- MP2 EOP Upgrade Procedures Generation Package

OP 2259-U, "MP2 EOP Upgrade Writer's Guide" - This document will provide the guidance for the composition, layout, formatting and writing style used in the EOPs. It will also provide a listing of approved verbs, with their meanings defined for EOP purposes, along with acronyms and system names which may be used within the EOPs.

OP 2260-U, "MP2 EOP Upgrade User's Guide" - This document will provide guidance to the operator for EOP usage, and will delineate the responsibilities of the EOP users. This document will reflect the method by which the upgraded EOPs are intended to be used.

OP 2261-U, "MP2 EOP Upgrade Program Administration" - This document will describe the specific process used to upgrade the Millstone Unit No. 2 EOPs and their supporting documentation. It will be the core procedure for establishing the structure of the EOP program.

OP-2262-U, "MP2 EOP Upgrade Verification Program" - This document will describe the program used to verify that the EOPs are technically correct, that there is consistency between the EOPs and the plant hardware, and that the EOPs adhere to the guidance in OP 2259-U.

OP-2263-U, "MP2 EOP Upgrade Validation Program" - This document will describe the process used to ensure that each EOP is usable, that the language is appropriate for the personnel using the EOP, and that the procedure functions as intended.

MP2 EOP Upgrade Procedures Generation Package - NUREG-0899 requires that each licensee submit a procedures generation package (PGP) to the NRC staff at least three months prior to initial operator training on new or upgraded EOPs. This document will describe the way in which the plant's EOPs are developed and implemented.

III. INITIAL EOP DEVELOPMENT AND DEVELOPMENTAL VERIFICATION

CEN-152 Mark-Up

The first step in the EOP Upgrade process will determine the degree to which the CEN-152 mitigative strategies can be implemented at Millstone Unit No. 2. A copy of CEN-152 will be entered into Microsoft Word format, and will contain appropriate Millstone Unit No. 2 plant-specific setpoints and system characteristics. It will serve as a mark-up of CEN-152. This "mark-up" will be specified as draft 1.0, and will contain both the procedure title and the EOP number.

After the mark-up of each EOP has been completed, it will be exercised on the Millstone Unit No. 2 simulator to determine if any step, strategy, or flow path changes are necessary to accommodate Millstone Unit No. 2 plant specific differences. If any modifications to the steps, mitigative strategy, or flow of CEN-152 are determined to be necessary, this will be documented, along with an explanation of the reasons the modification is necessary.

Develop Plant-Specific Guidelines

After each of the CEN-152 mark-ups has been exercised, the plant-specific EOP guidelines will be developed. These guidelines will be based on the simulator runs of the marked-up CEN-152 procedures and the current EOPs. These guidelines will be developed in procedure format similar to CEN-152, and will be specified as draft 2.0.

Developmental EOP Draft

Once the plant-specific guidelines have been developed, an initial developmental draft of each of the EOPs will be produced. This draft will be specified as draft 3.0. It will be based on the plant-specific guidelines and the current EOP steps, and will be written to comply with the Unit 2 EOP Writer's Guide.

Standard Appendices

Instead of using support procedures within the EOP space, in most cases, Millstone Unit No. 2 will excerpt the appropriate information from the support procedures and assemble an appendix which will be customized for EOP use. These "standard appendices" will be drafted during the development of the EOP(s).

Developmental Verification

This developmental verification process consists of two major tasks called "Developmental Verification Walkdown," and "Developmental Simulator Verification."

Developmental Verification Walkdown

The purpose of the developmental verification walkdown is to verify, by mock performance, that local plant operations can be successfully performed as written in the standard appendices and any EOP support procedures. In addition, this task provides an estimate of the time required to perform the local operations necessary to support the EOPs. This is necessary to provide input to the developmental simulator verification process, such that the estimated time to complete each supporting local operation can be accounted for during the exercising of the EOPs.

Developmental Simulator Verification

Developmental simulator verification will be used to ensure that each developmental EOP draft provides adequate mitigative strategies for each event, and that the plant specific steps are accurate and can be performed as presented. A draft of each EOP, specified as draft 4.0, will be prepared from the results of the previous developmental tasks. Each of these drafts will then be brought to the Millstone Unit No. 2 simulator for a developmental simulator verification.

IV. EOP VERIFICATION

Once the developmental verification is complete, a draft of each EOP will be produced accounting for developmental verification findings. This draft will be specified as draft 5.0.

Each of the procedure drafts will undergo a formal verification process in accordance with OP 2262-U. EOP verification will be accomplished through a series of reviews as follows:

- multi-discipline review
- human factors review
- label consistency review
- technical review

Multi-Discipline Review

A multi-discipline review (MDR) will be performed on each of the EOPs. This multi-discipline approach is taken to allow the various specialty skills of the participants to be utilized in the review of the EOPs. The MDR will be performed using personnel from the following organizations:

- licensing
- independent safety engineering group
- operations
- engineering
- safety analysis
- training

Human Factors Review

A human factors review of each EOP will be performed to ensure that the EOP conforms to the requirements of the Millstone Unit No. 2 EOP Upgrade Writer's Guide. This review will also consist of a check that, nomenclature, grammar, structure and style are consistent throughout the EOPs.

Label Consistency Review

The details regarding label consistency review is provided in section VI.

Technical Review

A techn   review will be performed to verify the technical adequacy   the EOPs, and the correspondence between the upgraded EOPs and CEN-152.

V.   EOP SUPPORT DOCUMENTATION DEVELOPMENT

EOP Technical Basis Documents

A Technical Basis Document will be developed for each EOP and will explain the reasons for each EOP step, lists the reference documents used to support the basis, and lists any NRC commitment being fulfilled by the step. It is intended to be used as reference for training on the EOPs prior to their implementation, and as a reference for future EOP revisions.

Step Deviation Documents

A Step Deviation Document will be developed for each EOP that compares each step of the EOP to the CEN-152 steps. In accordance with NUREG-0800, NUREG-0899, NUREG-1358, and NUREG-1358 Supplement 1, all safety significant deviations will be identified and justified.

Training Expectations Documents

A Training Expectations Document will be developed for each EOP that describes how the operations department expects the training department to train the operators on the implementation of each EOP. The purpose of this document will be to describe the unique expectations that will be associated with certain steps. Therefore, not all steps will have an associated training expectation.

Safety Evaluations

The NNECO Safety Analysis Branch will perform an Integrated Safety Evaluation on the EOPs in accordance with department procedures.

EOP Setpoint Document

This document will provide a basis for all plant specific numerical values listed in the EOPs, including reference to the appropriate supporting calculations. This EOP Setpoint Document will contain values which account for both harsh containment, and non-harsh containment instrument uncertainties in accordance with CE-NPSD-925, and the report which will be generated as a product of current Combustion Engineering Owners Group Task 884.

VI. CONTROL ROOM AND LOCAL OPERATIONS LABEL PROGRAM

In conjunction with the development of the upgraded EOPs, the control room labels and the labels on local equipment associated with local EOP operations will be evaluated for clarity, display attributes, conformance to "normal" plant nomenclature, location, and completeness. A human factors expert, a licensed or previously licensed operator, and a member of the EOP upgrade development team as a minimum, will comprise the labeling design, evaluation, and verification team.

VII. SPDS UPGRADE

In conjunction with the development of the upgraded EOPs, the Safety Parameter Display System (SPDS) monitoring and display software will be modified. This modification will be performed by the SPDS computer group working with technical support engineering, and the EOP team. This development will commence once the final EOP verification drafts have been produced and will continue through the end of the program.

VIII. EOP VALIDATION

Simulator Validation

Once the verification process has been completed as specified in section IV of this Program Plan, each EOP will be validated in accordance with OP 2263-U. The validation process will commence with the development of a draft EOP incorporating all documented verification concerns. This draft will be designated as draft 6.0.

NRC Review

NNECO personnel will continue to maintain communication, regarding the progress of the EOP Upgrade Program, with the NRC through the Region I, Operations Branch. In the course of this communication the Staff has been invited to review the progress of the EOP Upgrade Program at any time. However, we believe the Staff's review during the simulator validation phase would be beneficial in our assessment of the initial products of the EOP Upgrade Program.

IX. EOP TRAINING

MP2 EOP Trainers

Prior to the commencement of operator training on the EOPs, the EOP development team will provide to the training department with (approximately two weeks of) "Upgraded EOP Indoctrination" presentations on the new EOPs. These presentations will take the form of classroom seminars, and simulator sessions, and will allow the EOP Development Team to familiarize the trainers with the upgraded EOPs, and the reasoning behind the EOP strategies.

Millstone Unit No. 2 operators will be trained on the upgraded EOPs following completion of the validation phase of the development program, and the upgraded EOP indoctrination training of the trainers. A draft, designated as draft 7.0, will be produced incorporating all validation and upgraded EOP indoctrination session findings. This draft will be used during the operator training phase of the project. Each crew will be trained on the new EOPs prior to their implementation. Comments, concerns and suggestions will be solicited from the operators and will be evaluated and addressed.

X.   PROCEDURE FINALIZATION AND APPROVAL

Final Reviews

A final human factors review of the EOPs will be conducted
following completion of the EOP validation. This review will be
performed using draft 7 of the upgraded EOPs. The purpose of this
review will be to evaluate how well the earlier comments from the
reviews were understood, incorporated and resolved, and to ensure
that the EOPs meet all of the requirements of the EOP Upgrade
Writer's Guide.

A final technical review will be conducted following completion of
the EOP validation. This review will be performed using Draft 7 of
the upgraded EOPs. The purpose of this review will be to evaluate
how well the earlier comments from the Technical reviews were
understood, incorporated and resolved.

EOP Finalization

Once the final human factors and technical reviews have been
completed, a final draft of the EOPs will be prepared. This draft
will be designated as draft 8.0. The EOP development team will
incorporate the comments from the final human factors review and
technical review, and will perform a final consistency check to
ensure that the steps are presented consistently throughout the
EOPs, and that the EOP standard appendices are consistent as
appropriate.

PORC Review, Unit Director's Approval and Implementation

Each EOP will be reviewed by the Plant Operations Review Committee
(PORC) in accordance with Station Procedure OA-3. All comments and
concerns will be resolved as appropriate. Following this PORC
review and approval, the new EOPs will be presented to the Unit
Director for approval prior to implementation.

XI.   EOP UPGRADE PROGRAM SCHEDULE

The EOP upgrade program commenced in August, 1995 and will take
approximately two years to complete. It is anticipated that the
new EOPs will be implemented by July 1, 1997.

XII.   EOP UPGRADE PROGRAM RECORD CONTROL

All EOP upgrade program supporting documentation will be kept in
the EOP upgrade program project file, by Millstone Unit No. 2 EOP
team members. The documentation will be separated by the EOP it
supports, to the extent possible, and will be available for audit
purposes.

Attachment 2

Millstone Nuclear Power Station, Unit No. 2

Reply to a Request for Submittal of Plans and Schedule
for Emergency Operating Procedures Upgrade Program
Program Task Summary

EOP Upgrade Program Task Summary

1. Assemble EOP Upgrade Team

2. Train EOP Upgrade Team

3. Develop EOP Upgrade Administrative Controls

    - MP2 EOP Upgrade Writer's Guide (OP-2259-U).
    - MP2 EOP Upgrade User's Guide (OP-2260-U)
    - MP2 EOP Upgrade Program Administration (OP-2261-U)
    - MP2 EOP Upgrade Verification Program (OP-2262-U)
    - MP2 EOP Upgrade Validation Program (OP-2263-U)
    - MP2 EOP Upgrade Procedures Generation Package

4. Develop CEN-152 Mark-up

    - Develop CEN-152 Mark-up
    - Exercise CEN-152 Mark-up on the MP2 Simulator

5. Develop Plant-Specific Guidelines

6. Develop Initial EOP Drafts

    - Develop Standard Appendices
    - Perform Developmental Verification Walkdown
    - Perform Developmental Simulator Verification

7. Perform Full EOP Verification

    - Multi-Discipline Review
    - Human Factors Review
    - Label Consistency Review
    - Technical Review

8. Develop EOP Support Documentation

    - EOP Technical Basis Documents
    - Step Deviation Documents
    - Training Expectations Documents
    - Safety Evaluations
    - EOP Setpoint Document

9. Implement Control Room and Local Operations Label Program

10. Perform SPDS Upgrade

11. Validate EOPs

        -   Simulator validations
        -   NRC review

12. Conduct EOP Training

        -   Indoctrinate MP2 EOP Trainers on the Upgraded EOPs
        -   Train the MP2 Operators on the Upgraded EOPs

13. Finalize and Approve EOPs

        -   Final Human Factors review and Technical review
        -   EOP Finalization
        -   PORC Review, Unit Director's Approval and
            Implementation

Attachment 3

Millstone Nuclear Power Station, Unit No. 2

Reply to a Request for Submittal of Plans and Schedule
for Emergency Operating Procedures Upgrade Program
Program Timeline

September 1995

ID	Task Name	1995			1996				1997			
		Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4
1	Assemble EOP Upgrade Team	7/3 ■ 9/18										
5												
6	Train EOP Team	7/9 ■ 10/6										
11												
12	Develop EOP Admin. Procedures	7/3 ■■■ 3/22										
40												
41	Develop CEN-152 Mark-Up	8/11 ■ 10/31										
49												
50	Develop Plant-Specific Guidelines	10/25 ■ 12/19										
54												
55	Develop Initial Drafts	11/28 ■■ 5/10										
65												
66	Develop Deviation Documents				3/1 ■■■■ 6/18							
76												
77	Develop Technical Basis Documents				3/15 ■■■■ 6/17							
89												
90	Develop Training Expectations				3/15 ■■■■ 6/17							
100												
101	Develop EOP Setpoing Document				3/15 ■■■■ 5/21							
112												
113	Verification				3/20 ■■■ 2/15							
126												
127	Validation				4/5 ■■■ 12/4							
135												
136	EOP Training				8/8 ■■■ 3/26							
146												
147	Finalization and Approvals				12/9 ■■■ 6/23							
161												
162	Perform Label Upgrade	10/2 ■■■ 9/9										
169												
170	Determine EOP Instrument Uncertainties	11/1 ■■■ 10/18										
178												
179	Support Departments Technical Assistance	11/28 ■■■ 2/10										
182												
183	Upgrade SPDS				5/7 ■■■■ 6/23							
197												
198	EOP Implementation				7/1 ■ 7/1							