

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Meeting No. 88-043

Docket No. 50-293

License No. DPR-35

Licensee: Boston Edison Company
800 Boylston Street
Boston, Massachusetts 02199

Facility Name: Pilgrim Nuclear Power Station

Meeting Location: NRC, Region I

Meeting Conducted: April 8, 1988

Reporting Inspector: Michelle A. Evans 5-9-88
M. Evans, Operations Engineer, DRS date

Approved by: Daniel J. Lange 5-5-88
D. Lange, Chief, BWR Section, OB, DRS date

Meeting Summary: A licensee/NRC management meeting was held at the NRC Region I office on April 8, 1988, to discuss the licensee's Power Ascension Program. Licensee, NRC:Region I, and NRC:NRR management representatives were in attendance. Several items requiring either NRC or licensee followup were identified.

Details

1.0 Participants

1.1 Boston Edison Company (BECO)

J. Alexander, Operations Manager
R. Bird, Senior Vice President Nuclear
R. Ledgett, Director, Special Projects
L. Schmeling, Program Manager, Special Projects
J. Seery, Technical Section Manager
R. Swanson, Manager, Nuclear Engineering Department

1.2 General Electric Company

K. Nicholas, Technical Section

1.3 U.S. Nuclear Regulatory Commission

A. Blough, NRC:RI, Chief, Reactor Projects Section 3B, DRP
S. Collins, NRC:RI, Deputy Director, DRP
J. Durr, NRC:RI, Chief, Engineering Branch, DRS
M. Evans, NRC:RI, Operations Engineer, DRS
R. Gallo, NRC:RI, Chief Operations Branch, DRS
W. Johnston, NRC:RI, Director, DRS
W. Kane, NRC:RI, Director, DRP
D. McDonald, NRC:NRR, Project Manager
C. Warren, NRC, Senior Resident Inspector
J. Wiggins, NRC:RI, Chief, Reactor Projects Branch 3, DRS

2.0 Background and Purpose

The management meeting was held at the request of NRC:REGION 1. The licensee submitted a description of their Power Ascension Program to the NRC, per BECO letter 87-163 on October 15, 1987. Following NRC review of the submittal, a number of questions and concerns requiring further information for resolution were developed and addressed to the licensee on January 28, 1988. The licensee responded to these questions and concerns per BECO letter 88-033 on February 29, 1988. Upon review of the licensee's response, NRC:REGION 1 determined that a management meeting would be necessary in order to develop a full understanding of the licensee's Power Ascension Program and to address additional questions generated during review of the licensee's February 29, 1988 response.

3.0 Meeting Summary

The meeting was opened with brief comments by W. Johnston, Director, Division of Reactor Safety. Boston Edison (BECO) Senior Vice President - Nuclear, R. Bird presented a brief overview of the licensee's presentation. He discussed the status of valve alignments, surveillance logic testing and Power Ascension Procedures, and presented the

licensee's plans for GETARS analysis. Mr. J. Alexander, BECO Operations Manager, presented a description of the basis of the Pilgrim Power Ascension Program. Mr. R. Swanson, BECO Nuclear Engineering Department Manager, presented an overview of an analysis performed to demonstrate that plant modifications have not changed the dynamic response of the plant or invalidated the previous power level tests. In addition, Mr. Swanson discussed the licensee's position regarding the need to instrument the Rosemount level transmitters to detect "ringing problems".

Discussions were held regarding all items addressed by the licensee. Based upon these discussions it was agreed that:

- additional review by the NRC staff of the licensee's analysis of the affect of plant modifications on the dynamic response of the plant would be required to determine its acceptability.
- NRC:REGION 1 release from a hold point would occur following NRC review of licensee management assessment results.

In addition the licensee committed to:

- Provide GETARS analysis, throughout plant startup until the EPIC System is operational, of plant transients that related to modifications or identified problems (MSIV closure and mode switch).
- Provide copies of test procedures TP87-114 and TP87-147 to NRC:RI upon approval. In addition the licensee will revise TP87-114 to include a time period for completion of the independent review of procedure results; and, the criteria which must be satisfied in order to sign off the Management Assessment hold points in Table 2 of TP87-114.
- Due to a misunderstanding of the term "ringing" the licensee will resubmit a response to NRC's questions regarding "ringing problems" associated with Rosemount transmitters and instrumenting the level transmitters to adequately detect the "ringing problems".

The visual aids utilized during the presentation are attached for information.

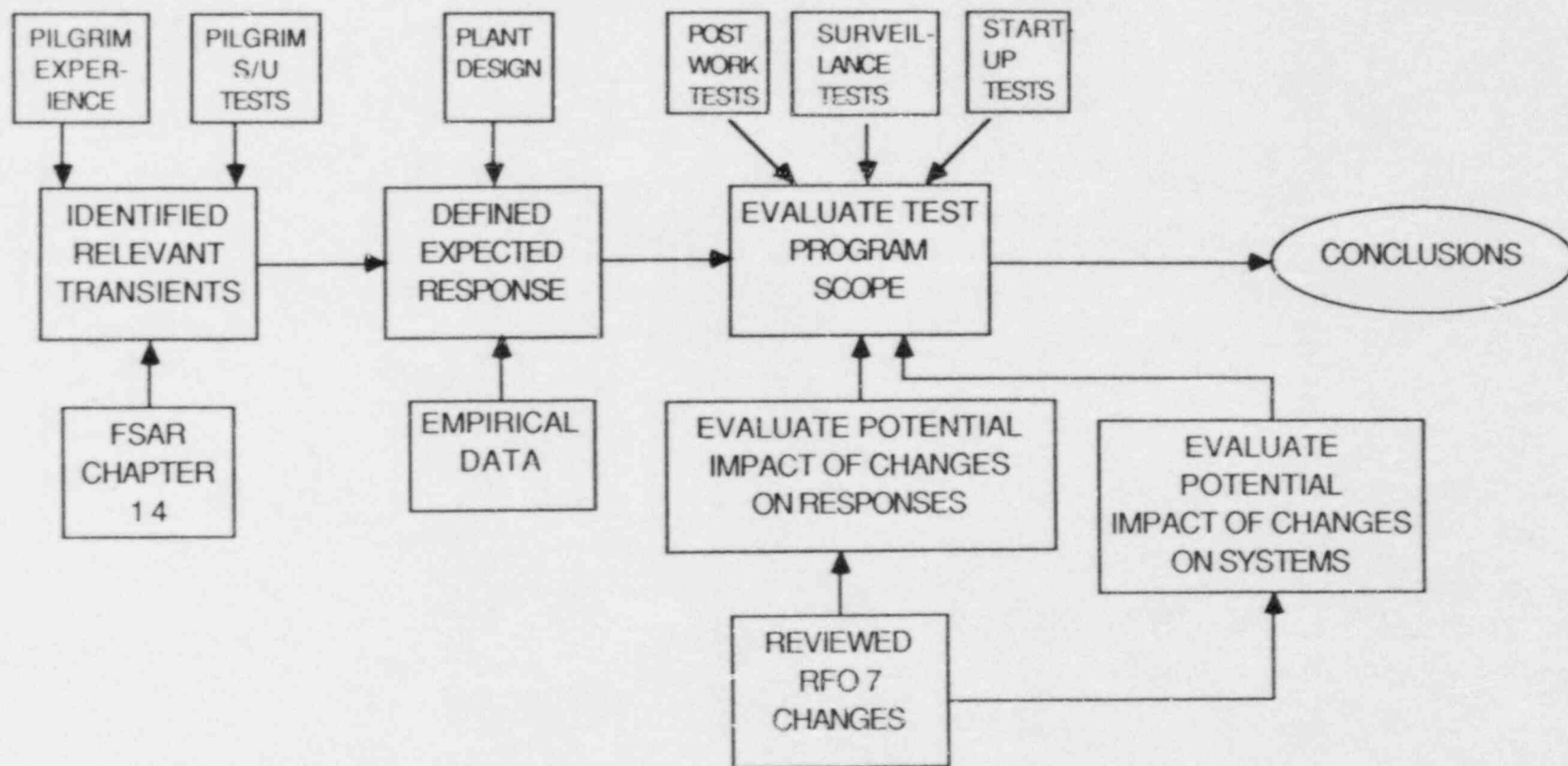
Enclosure 2

Handouts
for
Boston Edison Company
Presentation
April 8, 1938

**AUGMENTED DESIGN REVIEW BOARD EVALUATED ADEQUACY
OF DYNAMIC TEST PROGRAM SCOPE**

- DISCIPLINED, STRUCTURED PROCESS
- PROGRAM EVALUATED ON TRANSIENT/SYSTEM BASIS
- PERFORMED BY DESIGN REVIEW BOARD WITH STATION PARTICIPATION
- REQUIRED OVER 1500 MANHOURS
- PLANNED SINCE MID-1987

PROGRAM EVALUATION USED STRUCTURED PROCESS



SELECTED RELEVANT TRANSIENTS FROM PLANT AND INDUSTRY ANALYSIS/EXPERIENCE

- PILGRIM INITIAL START-UP TRANSIENT TEST PROGRAM
- CURRENT NTOL INITIAL START-UP TRANSIENT TESTS (SHOREHAM, LIMERICK)
- OPERATING TRANSIENTS FROM PILGRIM FSAR CHAPTER 14
- PILGRIM OPERATING EXPERIENCE
 - MSIV CLOSURE
 - LOSS OF OFFSITE POWER

DEFINED EXPECTED PLANT RESPONSE BY ANALYSIS AND OPERATING EXPERIENCE

- PREDICTED BEHAVIOR OF KEY PARAMETERS
- DEFINED POSSIBLE PLANT SYSTEM RESPONSES
 - ACTUATIONS
 - ISOLATIONS
- CLASSIFIED POTENTIAL PLANT RESPONSE
 - ESSENTIAL
 - EXPECTED
 - UNWANTED
 - UNEXPECTED
- DEFINED TRANSIENT - RESPONSE MATRIX
- DETERMINED INITIATING DEVICES FOR EACH RESPONSE

IDENTIFIED CHANGES POTENTIALLY AFFECTING TRANSIENT RESPONSE

- IDENTIFIED RFO 7 CHANGES
 - PLANT DESIGN CHANGES
 - ENGINEERING EQUIVALENCY EVALUATIONS
 - COMMERCIAL QUALITY ITEMS
 - POTENTIAL "OPERATING EXPERIENCE" ISSUES
 - IN-PROGRESS EVALUATIONS (LERs, F&MRs)
 - MAJOR MAINTENANCE ACTIONS

- EVALUATED CHANGES FOR IMPACT
 - INITIATING DEVICES
 - EXPECTED PLANT ACTIONS
 - TRANSIENT INITIATION
 - KEY PARAMETER RESPONSE

- LISTED RELEVANT CHANGES ON TRANSIENT-ACTION MATRIX

5/10/05

EXAMINED POTENTIAL IMPACT OF CHANGES THROUGH INTEGRATED APPROACH

- ESTABLISHED PUNCH LIST OF CONSIDERATIONS
 - PRESSURE SPIKES
 - RESPONSE TIME
 - INSTRUMENT SENSITIVITY
 - VOLTAGE SPIKES
 - ENVIRONMENTAL TRANSIENTS
 - ETC.

- EVALUATED AGGREGATE CHANGE IMPACT ON TRANSIENT BASIS
 - EMPHASIZED POTENTIAL SYNERGISM
 - POSTULATED FAILURES & MALFUNCTIONS
 - "WHAT IF"

- DETERMINED WORST CASE POTENTIAL IMPACT ON EACH TRANSIENT
 - INITIATING DEVICES
 - PARAMETER RESPONSE

**EVALUATED DYNAMIC TEST PROGRAM SCOPE ON
TRANSIENT-RELATED CHANGES**

- SYSTEMATICALLY REVIEWED TEST COVERAGE
 - TRANSIENT BY TRANSIENT
 - RESPONSE BY RESPONSE

- SCOPE REVIEW INCLUDED MAJOR TEST CATEGORIES
 - POST WORK TESTS
 - SURVEILLANCE TESTS
 - ROUTINE STARTUP DYNAMIC TESTS
 - SPECIAL STARTUP DYNAMIC TESTS

- REVIEW CONCLUDED DYNAMIC TEST PROGRAM SCOPE IS ADEQUATE FOR TRANSIENT-RELATED CHANGES

EVALUATED DYNAMIC TEST PROGRAM SCOPE ON SYSTEM-BASIS

- ESTABLISHED SYSTEMS VS MODIFICATION MATRIX

- SCOPE REVIEW INCLUDED MAJOR TEST CATEGORIES
 - POST WORK TESTS
 - SURVEILLANCE TESTS
 - STARTUP DYNAMIC TESTS

- POTENTIAL NEED FOR TWO ADDITIONAL TESTS (OUTSIDE POWER ASCENSION PROGRAM)
 - BACKUP NITROGEN
 - INTEGRATED ELECTRICAL TEST

INDEPENDENT REVIEW CONFIRMED ADEQUACY OF POWER ASCENSION PROGRAM TEST SCOPE

- CURRENTLY PLANNED DYNAMIC TEST SCOPE IS SUFFICIENT

- FURTHER REVIEWS ARE PLANNED
 - POST WORK TEST REVIEW OF 15 KEY DESIGN CHANGES
 - POST WORK TEST REVIEW OF 12 MAJOR MAINTENANCE TASKS
 - EVALUATE NEED FOR ADDITIONAL SYSTEMS TESTS (N2, ELECTRICAL)
 - EVALUATE SYSTEMS/SURVEILLANCE TESTS FOR COVERAGE (WHERE CREDITED)

- FUTURE EMERGENT ISSUES MAY REQUIRE FURTHER TESTS