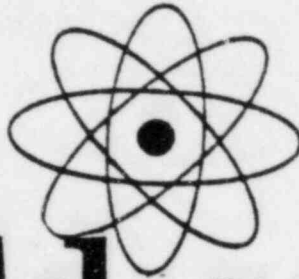


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BOSTON Edison COMPANY

NUCLEAR OPERATIONS DEPARTMENT
PILGRIM NUCLEAR POWER STATION

EMERGENCY OPERATING PROCEDURES
VERIFICATION

List of Effective Pages

All Pages Rev. 0

Attachments

All Pages Rev. 0

8512310296 851226
PDR ADOCK 05000293
F PDR

Approved

ORC Chairman

Date

1 of 4 Rev. 0

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I. PURPOSE

The purpose of this procedure is to delineate the administrative process used in the verification of the Emergency Operating Procedure (EOP's) and to assign responsibilities for carrying out the activities of the process.

II. SCOPE

This procedure identifies and directs the phases of the verification process.

III. APPLICABILITY

This process applies to initial EOP implementation and revisions for Pilgrim Nuclear Power Station.

IV. REFERENCES

- Pilgrim Nuclear Power Station Writers Guide for Emergency Operating Procedures.
- Pilgrim Nuclear Power Station Emergency Procedure Technical Guidelines.
- EOP Verification Guideline - EOPIA/INPO, January, 1983.

V. DEFINITIONS

Emergency Operating Procedures (EOPs) - Plant procedures directing operator actions necessary to mitigate the consequences of transients and accidents that cause plant parameters to exceed reactor protection system setpoints, engineered safety features setpoints, or other technical limits.

Emergency Operating Procedures Guidelines (EPGs) - Guidelines that provide sound technical bases for the development of EOPs, specific for PNPS developed from generic BWR EPGs.

EOP Source Documents - Fundamental documents or records upon which EOPs are based.

EOP Technical Accuracy - Proper incorporation of plant-specific technical information from EOP source documents and plant hardware into EOPs.

EOP Verification - The evaluation performed to confirm the written correctness of the EOPs and to ensure that the plant-specific technical aspects have been incorporated properly.

EOP Written Correctness - Proper incorporation of information from the Pilgrim Nuclear Power Station Writers Guide for EOPs into the EOPs.

Symptoms - Displayed plant characteristics that directly or indirectly indicate plant status.

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VI. RESPONSIBILITIES

- A. Chief Technical Engineer - The Chief Technical Engineer shall have overall responsibility for the EOP verification process. He shall determine when EOP verification is needed and its scope. He shall approve the discrepancy resolutions and assure that source documents are revised as applicable.
- B. Evaluator - The EOP Evaluator is responsible for performing the detailed evaluation of the EOPs per this procedure and for determining resolutions to discrepancies identified during the verification process.

VII. EOP VERIFICATION PROCESS

The process of EOP verification consists of four phases: preparation, verification, resolution and documentation.

A. Preparation Phase

The Preparation Phase consists of the following activities:

- ° Designate personnel to conduct the verification
- ° Obtain and review the EOP source documents

1. Designate Personnel

The Chief Technical Engineer shall appoint the necessary personnel as evaluators to conduct the verifications. Personnel should be appointed based on operating experience and understanding of plant hardware, the EPG's and the writers guide.

2. Obtain and Review the EOP Source Documents

The listing of EOP source documents is provided on Attachment B1, and shall be reviewed by the personnel conducting the verification phase. These documents shall be reviewed to ensure they are complete, current, applicable and approved. Any additional applicable source documents shall be listed.

B. Verification Phase

In the verification phase the evaluator shall:

- 1. Make a general review of the EOP using the procedure-general portion of the evaluation criteria, Attachment D, Section I, and the source documents.
- 2. Indicate on Attachment B1 that the evaluation was performed, either by checking the acceptable column or by designating the appropriate discrepancy sheet for any discrepancies identified.

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3. Make a step-by-step review of the EOP using the step-caution-note-specific portion of the evaluation criteria, Attachment D, Section II, and the source documents.
4. Indicate for each step, on Attachment B2, that the evaluation was performed, either by checking the acceptable column or by designating the appropriate discrepancy sheet for any discrepancies identified.
5. Document discrepancies for each step and determine the resolution for any discrepancies identified on Attachment C.
6. Complete Attachment A and forward the verification forms with the discrepancy sheets to the Chief Technical Engineer.

C. Resolution Phase

In the resolution phase, the Chief Technical Engineer shall:

1. Review the evaluator's comments and approve the resolutions by signing in the appropriate space on Attachment C.
2. Ensure the applicable source documents and procedures are updated with approved resolutions and signing the verification forms.

D. Documentation Phase

The documentation developed throughout the process shall be maintained according to procedures 1.3.7, Records, and 1.3.8, Document Control.

VIII. ATTACHMENTS

- A. EOP Verification Form-General
- B. EOP Verification Form-Specific
- C. EOP Verification Form-Discrepancy Sheet Number
- D. Evaluation Criteria Checklist
- E. PNPS Emergency Procedure Guidelines (EPGs)
- F. Appendix to PNPS Emergency Procedure Guidelines (EPGs)

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ATTACHMENT A
EOP VERIFICATION FORM

Verification Completion Date: _____

Performed by: _____

All actions required by the verification have been completed and approved.

_____ Date: _____

EOPs Verified:

_____ Rev. _____	_____ Rev. _____
_____ Rev. _____	_____ Rev. _____
_____ Rev. _____	_____ Rev. _____
_____ Rev. _____	_____ Rev. _____
_____ Rev. _____	_____ Rev. _____
_____ Rev. _____	_____ Rev. _____
_____ Rev. _____	_____ Rev. _____
_____ Rev. _____	_____ Rev. _____

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ATTACHMENT B-1
EOP VERIFICATION FORM

EOP TITLE: _____

EOP NUMBER: _____ REVISION: _____

SCOPE OF VERIFICATION: _____

EOP SOURCE DOCUMENTS USED:

- | | |
|----------|----------|
| 1. _____ | 5. _____ |
| 2. _____ | 6. _____ |
| 3. _____ | 7. _____ |
| 4. _____ | 8. _____ |

EVALUATORS: _____

PROCEDURE-GENERAL VERIFICATION

Written Correctness

AREAS

ACCEPTABLE

DISCREPANCY SHEET #(S)

LEGIBILITY

EOP FORMAT CONSISTENCY

IDENTIFICATION INFORMATION

Technical Accuracy

AREAS

ACCEPTABLE

DISCREPANCY SHEET #(S)

ENTRY CONDITIONS OR
SYMPTOMS INFORMATION

Page _____ OF _____

[illegible]

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ATTACHMENT C
EOP VERIFICATION FORM
DISCREPANCY SHEET NUMBER

Procedure and Step Number: _____
Discrepancy:

Resolution:

Evaluator: _____ Date: _____

Approved Yes No (Circle one)

Chief Technical Engineer: _____ Date: _____

Resolution Incorporated By: _____ Date: _____

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ATTACHMENT D
EVALUATION CRITERIA CHECKLIST

<u>AREA</u>	<u>REFERENCE</u>
I. PROCEDURE-GENERAL	
A. Written Correctness	
1. Legibility	
a. Are the text, tables, graphs, figures, and charts legible to the evaluator?	WG VI.C, VI.F, IV.I
b. If pages are rotated they comply with the following:	WG VI.E
(1) The top of the page with rotated print is the normal left-hand edge	
(2) The page margins do not rotate	
(3) Page identification and numbering will not be rotated	
2. EOP Format Consistency	
a. Do the following sections exist in each EOP:	WG III.B
Section I - PURPOSE	
Section II - ENTRY CONDITION	
Section III - OPERATOR ACTIONS	
Section IV - DISCUSSION	
Section V - ATTACHMENTS	
b. Is the operator actions section presented in single - column format on each page?	WG III.A
c. Is the page layout consistent with the sample page formats?	WG III.A, WG ATTACHMENT A
d. When logic sequence diagrams are used do they consist of the proper logic symbols?	WG IV.A(3), WG ATTACHMENT A, Page 4.
3. Identification Information	
a. Is the procedure title descriptive of the purpose of the procedure?	WG II.A

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- b. Does the cover sheet correctly provide the following:

WGII.A, II.B,
II.C, II.D

- (1) Procedure title
- (2) Procedure number
- (3) Revision number
- (4) List of effective pages

- c. Does each page correctly provide the following:

WG II.E, IV.I(3)

- (1) Procedure designator
- (2) Revision number
- (3) Page ____ of ____ numbers

- d. Does the procedure have all its pages in the correct order?

B. Technical Accuracy

1. Entry Conditions or Symptoms Information

- a. Are the entry conditins of the EOP listed correctly?
- b. If additional entry conditions have been added, do they comply with the following:
 - (1) Appropriate entry conditions for which the EOP should be used.
 - (2) Not excessive.

PNPS PSTG

WG III.B

WG III.B

II. STEP, CAUTION, NOTE-SPECIFIC

A. Written Correctness

1. Information Presentation

- a. Are instruction sections numbered correctly?
- b. Are instruction steps numbered correctly?
- c. Are operator contingency actions identified?
- d. Are instruction steps constructed to comply with the following:
 - (1) Steps deal with only one action or reaction.
 - (2) Sentences are short and simple

WG III.C

WG III.D

WG IV.A(2)

WG.IV.A

WG.IV.A

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- | | |
|--|--------------------|
| (3) Complex evolutions are prescribed in a series of steps, each step as simple as practicable. | WG IV.A |
| (4) Objects of operator actions are specifically stated. | WG IV.A |
| (5) Expected indications are presented | WG IV A(1) |
| (6) Operator actions are appropriate for the expected indications. | WG IV A(1) |
| (7) When anticipated system response may adversely affect instrument indicators, are the conditions described that will likely introduce instrument error and means of determining if instrument error has occurred, by using a NOTE or when considered critical, a CAUTION. | WG IV.A |
| (8) When additional confirmation of system response is considered necessary, are the available and expected backup readings to be made prescribed? | WG IV.A |
| (9) Instructional steps that involve an action verb relating to three or more objects are listed with space provided for operator checkoff. | WG IV.A |
| (10) Punctuation, capitalization and hyphenation are proper. | WG VB, VC, IV.I(2) |
| (11) Abbreviations are correct and understandable to the operator. | WG V.F |
| | |
| e. Do instruction steps make proper use of logic structure? | WG IV.B |
| | |
| f. When an action instruction is based on receipt of an annunciator alarm, is the setpoint of the alarm identified? | WG IV.A |
| | |
| g. Are notes and cautions placed properly? | WG IV.C |
| | |
| h. Are notes and cautions used appropriately? | WG IV.C |
| | |
| i. Are cautions and notes constructed to comply with the following: | |
| (1) They do not contain operator actions. | WG IV.C |
| (2) They make proper use of emphasis. | WG IV.E, VI.G |
| | |
| j. Are numerical values properly written? | WG V.E |
| | |
| k. Are values specified in such a way that mathematical operations are not required of the user? | WG V.E |
| | |
| l. Are units of measurement in the EOP the same as those used on equipment? | WG V.E |

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- m. Are units of measure on figures, tables, and attachments given for numerical values which present observed measurement data or calculating results?

WG IV.I(1)

2. Procedure Referencing and Branching

- a. Do the referenced and branched procedures identified in the EOPs exist for operator use?
- b. Is the use of referencing steps minimized?
- c. Are referencing and branching instructions correctly worded using the key words "go to", "EXECUTE PROCEDURE", or "ENTER Procedure"?
- d. When only a few steps are involved in the referencing are they stated in the procedure wherever they are needed?
- e. Are the exit conditions compatible with the entry conditions of the referenced or branched procedure?
- f. Do the instructions avoid routing users past important information such as cautions preceding steps?

WG IV.F

WG IV.F

WG IV.F

WG IV.F

B. TECHNICAL ACCURACY

1. Instruction Step, Caution, and Note Information

- a. Is the EPG technical foundation (strategy) changed by any of the following changes in EOP steps, cautions, or notes:
 - (1) Elimination
 - (2) Addition
 - (3) Sequence
 - (4) Alteration
- b. Are correct plant-specific adaptations incorporated per PNPS PSTG:
 - (1) Systems
 - (2) Instrumentation
 - (3) Limits
 - (4) Controls
 - (5) Indications

WG IV.G, IV.H

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2. Quantitative Information

- a. Do the quantitative values, including tolerance bands, used in the EOP comply with the applicable EOP source documents?
- b. Where PSTG values are not used in the EOP, are the EOP values computed accurately?
- c. When calculations are required by the EOP, are equations presented with sufficient information for operator use?

3. Plant Hardware Information

- a. Is the plant hardware specified in the EOP available for operator use:
 - (1) Equipment
 - (2) Controls
 - (3) Indicators
 - (4) Instrumentation