5/23/84

ATTACHMENT 3.2

EMERGENCY OPERATING PROCEDURE

VALIDATION PROCEDURE

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

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Reviewed By R K Hann 5/30/84

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TABLE OF CONTENTS

1.0 OBJECTIVE

The objective of the Emergency Operating Procedure (EOP) validation procedure is to determine if the control room operators can manage emergency conditions in the plant using the EOPs. This determination can be made by evaluating the EOPs with regard to usability and operational correctness.

- Usability - The EOPs provide sufficient information that is understandable to the operator.

- Operational Correctness - The EOPs are compatible with plant responses, plant hardware, and the shift manpower.

This validation guideline is interdependent with an EOP verification program. The verification program encompasses the efforts necessary to evaluate the written correctness and technical accuracy of EOPs and will be covered in a separate procedure.

Westinghouse Owners Group has completed a comprehensive validation test of the Revision 1 Emergency Response Guidelines (ERGs). This generic test provides some assurance that the control room operators at PBNP can manage emergency conditions in the plant using the upgraded EOPs because the ERGs were a major source document used in the development of the EOPs. The test took place at the Public Service of New Hampshire Seabrook training simulator. As such, this validation procedure will not include instructions for the simulator method of validation but

will use the table-top and walk-through methods for the plant specific validation of EOPs.

2.0 REFERENCES

2.1 General

- WOG Emergency Response Guidelines Revision 1 Validation Program Plan, October 1983.

- Institute of Nuclear Power Operations (INPO) Guideline, "Emergency Operating Procedures Validation Guidelines", 83-006, July 1983.

- Emergency Operating Procedure Writer's Guide, PBNP, 1983.

- INPO Guideline Component Verification and System Validation Guideline, 83-047, December 1983.

2.2 EOP Validation Source Documents

- Westinghouse Owners Group "Emergency Response Guideline", Revision 1, September 1, 1983.

- FSAR, Units 1 and 2, PBNP

- PBNP LER's

- Latest revision of EOPs after the EOP verification is completed.

3.0 RESPONSIBILITIES

3.1 Manager-PBNP - The Plant Manager shall approve all EOP's and revisions.

3.2 Manager's Supervisory Staff - Manager's Supervisory Staff, or a subcommittee thereof, shall have the responsibility of reviewing the EOP's after the validation discrepancy resolutions have been incorporated, and making a recommendation to the Plant Manager.

3.3 Superintendent-Operations (PBNP) - The Operations Superintendent shall approve the validation discrepancy resolutions.

3.4 General Superintendent-(NSE&AS) - The General Superintendent shall have overall responsibility for the EOP validation process. He shall appoint an observer/review team.

3.5 EOP Writer - The EOP Writer shall review and comment on the validation discrepancy resolutions before they are forwarded to the Operations Superintendent for approval. He shall incorporate approved resolutions into the EOP's.

3.6 EOP Validation Team - The validation team shall specify the method of validation to be used for each scenario. The validation team shall act as reviewers/observers when operators are performing the walk-through and table-top validation methods. They shall recommend validation discrepancy resolutions for the Operations Superintendent's approval.

4.0 EOP VALIDATION PROCESS

4.1 Preparation Phase

4.1.1 Designate Personnel

- The validation team is to be selected by the General Superintendent of NSE&AS. Each member shall be assigned a set of scenarios to develop including the validation method to be used.

- Operators that are representative of the training level expected of all the operators, are to be selected by the Operations Superintendent.

4.1.2 Obtain and Review the Source Documents

- Complete the preparation section of the EOP Validation Form (Form No. 1)

- Develop a scenario and complete the Scenario Form (Form No. 2).

- Review the Evaluation Criteria, Table 1.

4.2 Assessment Phase

In the assessment phase, the review team shall:

- Brief the operator on the scope of validation and how the assessment will be conducted.

- Follow the developed or modified scenario by first giving the initial plant conditions and then give the changing plant parameters as talking or walking through the procedure.

- Review/observe the operator performing the EOP by using the evaluation criteria (Table 1) applicable to the validation method chosen.

- Stop the talk-through or walk-through assessment for discussion of any identified discrepancies.

- Conduct a briefing with the operators as soon as possible after each walk-through assessment using the following sequence:
  - brief the participants on the purpose and objectives for debriefing
  - have operators present problems and discrepancies which they have identified during assessment
  - have operators provide possible reasons for problems
  - present other problems, and discrepancies identified during assessment
  - have operators describe possible reasons for the other problems
  - summarize the findings of the debriefing for the operators

- Complete the EOP Validation form (Form No. 1).

- Complete the Scenario form (Form No. 2).

- Indicate on a discrepancy sheet (Form No. 3) each discrepancy observed during the assessment phase.

4.3 Resolution Phase

In the resolution phase, the validation team shall initiate the following steps:

- The team is to determine a solution for each discrepancy and indicate this as the resolution on the discrepancy sheet (Form No. 3).

- The procedure writer will then review and comment on the proposed resolutions.

- After review and comment by the procedure writer, the discrepancy sheet with the EOP and any applicable source documents are sent to the Superintendent of Operations for approval of the resolution.

- If the resolution is not approved, the team is to determine a revised solution. A new discrepancy sheet is to be initiated and the full review and approval process completed.

- The procedure writer updates the EOP with all approved resolutions and returns the modified procedure to the team.

4.4 Documentation

Documentation will exist for the following:

- scope of the validation
- validation method(s) used
- participants
- scenario description
- evaluation criteria
- observer worksheet
- identified discrepancies
- discrepancy resolutions
- review and approval of resolutions

EOP Validation Forms (Forms 1 and 2) and Discrepancy Sheets (Form 3) shall be maintained per the Administration Procedure, PBNP 2.2.1, "Records Administration and Storage."

The revised EOPs are then submitted for approval per Administration Procedure PBNP 2.1.1, "Classification, Review, and Approval of Procedures."

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Form No. 1

EOP VALIDATION FORM

EOP TITLE: _____

EOP NUMBER: _____ REVISION: _____

SCOPE OF VALIDATION: _____

_____

VALIDATION METHOD OR METHODS TO BE USED: _____

_____

Designated Observer/Reviewer(s)

_____

_____

_____

Preparation Completed on _____ By: _____

Assessment Completed on _____ By: _____

Operator(s) Involved:	Qualification: (SRO, RO, Other)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Resolution Completed on _____ By: _____

Documentation Packaged Forwarded on _____ By: _____

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FORM #2

TABLE-TOP/WALK-THROUGH SCENARIO FORM

SCENARIO NO.:_____ DATE:_____

TITLE:_____

SCOPE:_____

_____

SCENARIO DESCRIPTION AND SPECIAL INSTRUCTIONS:_____

_____

_____

_____

_____

_____

INITIAL PLANT C[redacted]_____

_____

_____

PROCEDURE NO., STEP NO., & DESCRIPTION	PLANT PARAMETER/ SYMPTOM	TRANSITION TO (PROCEDURE NO.)

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FORM #3

DISCREPANCY SHEET NUMBER _____

SCENARIO _____

EOP: _____ REV.: _____

PAGE NUMBER: _____ STEP NUMBER: _____

DISCREPANCY: _____

_____

_____

_____

_____

_____

_____

RESOLUTION: _____

_____

_____

_____

_____

_____

VERIFICATION TEAM REVIEW: _____ DATE: _____

EOP WRITER REVIEW AND COMMENTS: _____

_____

_____ BY: _____ DATE: _____

RESOLUTION APPROVED: YES NO (circle one)

OPERATIONS SUPERINTENDENT: _____ DATE: _____

RESOLUTION INCORPORATED BY: _____ DATE: _____

TABLE 1

EVALUATION CRITERIA

Applicable to: T-T	Applicable to: W-T		
		I	USABILITY
		A.	LEVEL OF DETAIL
x	x	1.	Is there sufficient information to perform the specified actions at each step?
x	x	2.	Are the alternatives adequately described at each decision point?
x	x	3.	Are the labeling, abbreviations, and location information as provided in the EOP sufficient to enable the operator to find the needed equipment?
x	x	4.	Is the EOP missing information needed to manage the emergency condition?
x	x	5.	Are the contingency actions sufficient to address the symptoms?
x	x	6.	Are the titles and numbers sufficiently descriptive to enable the operator to find referenced and branched procedures?
		B.	UNDERSTANDABILITY
x	x	1.	Is the EOP easy to read?
x	x	2.	Are the figures and tables easy and accurately read?
x	x	3.	Is interpolation of values on figures and charts difficult?
x	x	4.	Are caution and note statements readily understandable?
x	x	5.	Are the EOP steps readily understandable?
x	x	6.	Are the emphasized items noticed?

Legend:

x - applicable to the validation method
o - not applicable to the validation method
T-T - Table-Top validation method
W-T - Walk-Through validation method

T-T	W-T		
		II.	OPERATIONAL CORRECTNESS
		A.	PLANT COMPATIBILITY
o	x	1.	Can the actions specified in the procedure be performed in the designated sequence?
x	x	2.	Are there alternative success paths that are not included in the EOP?
o	x	3.	Can the information from the plant instrumentation be obtained, as specified by the EOP?
x	x	4.	Are the plant symptoms specified by the EOP adequate to enable the operator to select the applicable EOP?
x	x	5.	Is information or equipment not specified in the EOP required to accomplish the task?
o	x	6.	Are the instrument readings and tolerances stated in the EOP consistent with the instrument values displayed on the instruments?
o	x	7.	Is the EOP physically compatible with the work situation (too bulky to hold, binding would not allow them to lay flat in work space, no place to lay the EOPs down to use)?
o	x	8.	Are the instrument readings and tolerances specified by the EOP for remotely located instruments accurate?
		B.	OPERATOR COMPATIBILITY
o	x	1.	If time intervals are specified, can the procedure action steps be performed on the plant within or at the designated time intervals?
x	x	2.	Can the procedure action steps be performed by the operating shift?
x	x	3.	If specific actions are assigned to individual shift personnel, does the EOP adequately aid in the coordination of actions among shift personnel where necessary?
x	x	4.	Can the operating shift follow the designated action step sequences?

T-T	W-T		
x	x	5.	Can the particular steps or sets of steps be readily located when required?
o	x	6.	Can the procedure exit point be returned to without omitting steps when required?
x	x	7.	Can the branched procedure be entered at the correct point?
x	x	8.	Are EOP exit points specified adequately?

ATTACHMENT 3.3

EOP VERIFICATION FORM #1

EOP TITLE: Reactor Trip or Safety Injection

EOP NUMBER: 0 REVISION: Draft #1 4/1/84

EOP SOURCE DOCUMENTS USED:

EOP-0 Draft #1 4-1-84 Deviation Document
WOG ERG E-0 LP-Rev1 Sept. 1, 1983
EOP Writers Guide, PBNP 4.19, Rev 0, 6-1-84
EOP-1A, Major, Rev 20, 6-31-82

EVALUATOR: Verification Team DATE 5/29/84

PROCEDURE-GENERAL VERIFICATION

A. WRITTEN CORRECTNESS

AREAS	ACCEPTABLE	DISCREPANCY SHEET #(s)
LEGIBILITY	✓	
EOP FORMAT CONSISTENCY		1
IDENTIFICATION INFORMATION		2
Written Correctness	✓	

B. Technical Accuracy

AREA	ACCEPTABLE	DISCREPANCY SHEET #(s)
Entry Conditions or Symptoms		3, 4, 5

EOP VERIFICATION

FORM #2

EOP 0 Rev. Draft #1
Page 1 of ___

STEP, CAUTION, NOTE-SPECIFIC VERIFICATION

STEP NUMBER, CAUTION, OR NOTE	WRITTEN CORRECTNESS		TECHNICAL ACCURACY	
	ACCEPTABLE	DISCREPANCY SHEET #	ACCEPTABLE	DISCREPANCY SHEET #
NOTE		6, 7		8
NOTE		9		9
NOTE				
NOTE				
1				
2				
↓				
Caution		10		10
27				
↓				
30		11		12, 13

Form #3

DISCREPANCY SHEET NUMBER 1

EOP: 0 REV.: Draft #1 4/1/84

PAGE NUMBER: All pages STEP NUMBER: NA

DISCREPANCY: Left hand and bottom margins are not in agreement with the writers guide.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 2

EOP: 0 REV.: Draft #1 4/1/84

PAGE NUMBER: 1 STEP NUMBER: NA

DISCREPANCY: Total number of pages does not include the appendix A pages. Also the Appendix A pages do not have page - of - on the bottom of the page.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 3

EOP: O REV.: Draft # 1 4/.184

PAGE NUMBER: 1 STEP NUMBER: Cover page

DISCREPANCY: Material regarding Reactor trip and safety Injection Symptoms was deleted without sufficient justification provided in the deviation document

RESOLUTION: Include a reference to training operators review in the deviation document.

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 4

EOP: 0 REV.: Draft # 1 4-1-84

PAGE NUMBER: 1 STEP NUMBER: Cover Page

DISCREPANCY: The word "annunciator" in the generic procedure was removed in the plant procedure sections B. 1. A and B. 2. a. without further justification in supporting documents.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 5

EOP: 0 REV.: Draft # 1 4-1-84

PAGE NUMBER: 1 STEP NUMBER: Cover Page

DISCREPANCY: The generic statement B.4.b. was left out of the plant procedure without sufficient justification in the source documents

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 6

EOP: O REV.: Draft 4-1-84

PAGE NUMBER: 2-7 STEP NUMBER: 1 → 22

DISCREPANCY: Immediate action steps have step numbers crossed but this is not described in the writers guide

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 7

EOP: O REV.: Draft 4-1-84

PAGE NUMBER: 2 STEP NUMBER: First Note prior to 1

DISCREPANCY: The remark in the parenthesis is not described sufficiently in the writers Guide as to its purpose and use.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 8

EOP: O REV.: Draft #1 4-1-84

PAGE NUMBER: 2 STEP NUMBER: First Note be prior to Stp 1

DISCREPANCY: The reference to auxiliary feedwater in the note is incorrect and should be CCW.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 9

EOP: D REV.: Draft "1 4-1-84 second

PAGE NUMBER: 2 STEP NUMBER: Note prior to Step 1

DISCREPANCY: The note should be clarified by including the word only between "are" and "to" to increase clarity. The fact that this was used in past Emergency Procedures should be included in the deviation document.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 10

EOP: O REV.: Draft #1 4-1-84

PAGE NUMBER: 9 STEP NUMBER: Caution before 27

DISCREPANCY: The caution is not clear and the word cautiously should be better described. The word other should be changed to unaffected to be consistent with the writers Guide.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 11

EOP: O REV.: Draft #1, 4-1-84

PAGE NUMBER: 11 STEP NUMBER: 30

DISCREPANCY: The substep format is not described in the writers guide.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 12

EOP: 0 REV.: Draft #1, 4-1-84

PAGE NUMBER: 11 STEP NUMBER: 30

DISCREPANCY: This step is not technically identical to the generic step and the logic may be incorrect to transfer to the contingency column

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

Form #3

DISCREPANCY SHEET NUMBER 13

EOP: O REV.: Draft # 1 4-1-84

PAGE NUMBER: 11 STEP NUMBER: 30

DISCREPANCY: the phrase "being controlled" is not easy to define and is not sufficiently supported to justify the difference between the plant and generic procedure.

RESOLUTION:

EVALUATOR: DATE:

VERIFICATION TEAM REVIEW AND COMMENTS:

BY: DATE:

EOP WRITER REVIEW AND COMMENTS:

BY: DATE:

RESOLUTION APPROVED: YES NO (circle one)

SUPERINTENDENT OPERATIONS: DATE:

RESOLUTION INCORPORATED BY: DATE:

ATTACHMENT 4

EOP TRAINING PROGRAM DESCRIPTION

Current plans for EOP training are being developed and include the following:

1. Approximately 8 days training in a classroom environment covering background information, organization and networking of procedures, format and use of procedures, specific procedures, and critical safety functions. Specific procedures to be covered include:

- Reactor Trip or Safety Injection
- Loss of Reactor or Secondary Coolant
- Faulted Steam Generator Isolation
- Steam Generator Tube Rupture
- Loss of All AC Power
- Loss of Recirculation Cooling
- Loss of Reactor Coolant Outside Containment
- Uncontrolled depressurization of all Steam Generators
- Loss of Reactor Coolant - Subcooled Recovery
- Loss of Reactor Coolant - Saturated Recovery
- Steam Generator Tube Rupture without Pressurizer Pressure Control
- Critical Safety Procedures

2. Approximately 5 days of simulator training demonstrating use of procedures in a simulated accident.

The training is being developed in the PBNP Course Format and will contain specific units of instruction and detailed lesson plans for both classroom and simulator instruction. Objectives will be written to define knowledge and skills required of attending personnel. Evaluation of operator knowledge and skills will be accomplished by written tests and simulator exams.

The training is planned to begin during the week of July 9, 1984, and continue through the week of November 12, 1984. All licensed RO and SRO's are scheduled to attend, as are 20 trainees. Duty Technical Advisors will attend selected portions of this scheduled training.