

Point Beach Nuclear Plant
SUPPLEMENT TO PBNP RECORD

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EDMS Record Type: <u>MEMO RCE</u>	
Record ID of Original Record: <u>RCE 01-069-01</u>	
Unit: <input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2	No. of Pages: (Including Supplement Form) <u>5</u>
Record Date of Original Record: <u>5/15/2002</u>	
Reason for Supplement: <p>PROVIDE A MORE COMPLETE RECORD OF ACTIVITIES RELATED TO RCE 01-069 REV-1. THIS ADDENDUM IS FOCUSED PRIMARILY ON ACTIVITIES COMPLETED SINCE THE RCE WAS COMPLETED. CARB MET ON 9/17/02 AND APPROVED THIS ADDENDUM.</p>	
Attach the updated pages/documents to this form as necessary for records retention.	
Initiator: <u>Richard Flessner</u>	Date: <u>9/18/02</u>
Reviewer: <u>Richard Flessner</u>	Date: <u>9/18/02</u>
Approver: <u>Gary J. Peterson</u>	Date: <u>9/18/02</u>

ROUTE COMPLETED FORM TO RECORDS MANAGEMENT

11/237



**INTERNAL
CORRESPONDENCE**

NPM 2002-0495

To: CARB Members
From: Richard Flessner *RAF*

Date: September 16, 2002

Subject: Addendum to RCE 01-069 Rev.1/ACE000314

Copy To: S. J. Nikolai S. A. Pfaff L. J. Peterson File

The attached addendum to RCE 01-069 Rev.1/ACE000314 is being submitted for CARB review and approval. This addendum is being created to provide a more complete documentation record of items related to RCE 01-069 Rev. 1. The focus of the addendum is primarily on actions taken after the RCE was completed and accepted by CARB. A revision to the RCE is not deemed necessary because the basic conclusions and resulting recommended actions have not changed. Additional discretionary actions have been implemented by NMC and are being included in the addendum for a more complete record.

Attachment

Addendum to RCE 01-069 Rev.1/ACE000314

This addendum to RCE 01-069 Rev.1 (ACE000314) covers the following items:

1. Inaccuracy in RCE report regarding IST program testing
2. Comments on Independent Review of RCE Report
3. Addition of the Open Safety Function to the AFW recirculation valves
4. Creation of action items to document corrective actions described in RCE report
5. Expansion of Extent of Condition Review
6. Effectiveness Review

Reason for Addendum: This addendum is being created to provide a more complete documentation record of items related to RCE 01-069 Rev. 1. The focus of the addendum is primarily on actions taken after the RCE was completed and accepted by CARB. A revision to the RCE is not deemed necessary because the basic conclusions and resulting recommended actions have not changed. Additional discretionary actions have been implemented by NMC and are being included in the addendum for a more complete record.

1. Inaccuracy in RCE report regarding IST program testing

On page 23 of RCE 01-069, Rev. 1, a statement is made regarding the deletion of open testing of the AFW recirculation valves from the IST program as a result of the evaluation made for CR 97-3363. Additional review has determined that testing of the AFW recirculation valves was not deleted, and that time testing data exists for all 4 AFW recirculation valves during the period 1993 to 2002.

2. Comments on Independent Review of RCE Report

The independent review of the AFW RCE (CAP002612/CA004074) contained the following final conclusion:

"The following final conclusion is based upon the scope of the investigation as prescribed by the management team in the investigation charter. The RCE represents a high quality, detailed, integrated investigation into the problem statement described in the Team Charter. The report is well constructed and well written and allows a non-involved reader to understand the event and the investigation performed. The root cause is supported by the facts, evidence and failure modes identification. The corrective actions are appropriate for the scope of the investigation and will ensure higher quality EOP documents in the future. Questions regarding the adequacy of the overall scope of the investigation are contained in the main body of the report."

Specific issues discussed in the review are:

- Charter/scope of investigation does not investigate why the design allowed the recirculation valves to fail-closed on loss of instrument air and how this condition went uncorrected until discovered by the PRA review.
Comment: The fail-closed position was known and understood in the design and did NOT go uncorrected until discovered by the PRA review. What was not known was the timing of operator actions and the need for specific guidance in the EOPs. The problem was determined to be a procedural issue by PBNP and the NRC; hence the investigation scope was appropriate.
- No corrective actions exist to ensure that similar components do not have the same failure mode.
Comment: Since there was not a problem with the failure mode of the valve, there was no need to evaluate similar components. All operator actions associated with a loss of instrument air condition were evaluated and determined to be appropriate.
- Root cause may be too narrowly focused.
Comment: The RCE evaluated the mismatch between plant design and plant procedures. It was determined that the revised procedures could adequately support the plant design. The cited violation is for a procedural problem and not a design issue; hence, the focus was appropriate.

- Barrier analysis might also be used (in addition to E&CF charting) on the EOP development and validation process.

Comment: This would be an enhancement. Since the EOPs have been through 3 major revisions by WOG and the current processes for verification and validation are different (and enhanced by corrective actions in the RCE), it was felt that no value would be added by an additional barrier analysis.

- Report does not discuss use of single failure analysis in deriving EOPs.

Comment: This comment was based on the misperception that the fail-closed mode of the recirculation valves was not correct. Single failure analysis would be in addition to the designed failure mode of the valve and would not have been applicable.

- RCE did not address timeliness or effectiveness of CA program in bringing issue to management's attention (initial CR 01-2278 written 7/6/01).

Comment: This issue was discussed between the RCE investigator, his Manager and the PRA Group Lead during the RCE evaluation and determined to be appropriate based on the complexity of the issue, the involvement of operations, and risk associated with the issue at that time; therefore, no concern was identified in the final RCE. A statement of there being no problem was not added.

- Was deletion of testing the recirculation valves (in the open direction) from the IST program a dropped or missed commitment?

Comment: Evaluation of this item has determined that time testing of the AFW recirculation valves in the open direction is occurring and has not been deleted.

- RCE does not discuss how PBNP specific design differences were identified through the original EOP development process.

Comment: The report describes the EOP verification process in general terms and the results obtained. The verification was via an approved procedure and checklist. There were more than 2500 discrepancy sheets identified, which is ample evidence that specific plant differences were considered.

- Is it a safety function for the recirculation valves to open?

Comment: The report clearly describes the plant's licensed position that there was no required OPEN safety function for the recirculation valves. The NMC decision to add the OPEN safety function was based on improving equipment reliability and reducing CDF risk.

- Report does not discuss any findings regarding design configuration control differences.

Comment: The report identifies that there were inconsistencies between the FSAR, IST and DBD documents and initiated a corrective action to review the current versions for consistency. This was treated as a broke-fix issue since it was not a significant contributing cause to the event. The evaluator's perception of a design problem gave this issue more importance than warranted.

- There is no discussion on how the PBNP design compares to other similar plants AFW design.

Comment: A review of other plants AFW designs was performed and the PBNP design was found to be fairly unique; since there was no design deficiency, the issue was not discussed in the RCE report.

- The design change for adding pneumatic back-up supply to the recirculation valves is not identified as a corrective action in the RCE

Comment: This corrective action was added to Revision 1 of the RCE.

3. Addition of the Open Safety Function to the AFW recirculation valves

During ongoing reviews of the AFW recirculation issue, NMC determined that there was increased nuclear safety benefit (improved reliability and reduced CDF risk) in the addition of an open safety function to the AFW recirculation valves beyond that credited by the pneumatic back-up supply modifications already installed. Therefore, modification MR 02-029 was initiated to add the open safety function to the AFW recirculation valves. This MR included removal of the internals of the AF-117 check valve to eliminate a common mode failure. The modification was accepted on 9/12/02.

4. Creation of action items to document corrective actions described in RCE report

RCE 01-069, Rev. 1 identifies the corrective actions already taken and those being implemented in section VIII of the report, beginning on page 37. T-track references had been provided for the actions being implemented, but not for all of the actions already completed. Subsequently, t-track records have been created to adequately document the completed actions discussed in the report. The following action items have been created:

- Interim Corrective Action #1 – CA026222
- Corrective Action #17 – CA026223
- Corrective Action #18 – CA026224
- Corrective Action #19 – CA026225

Other t-track items related to this event are:

- CA002592 – This item documents the review of the condition from a short-term Maintenance Rule risk monitoring perspective.
- CA002593 – This item documented the OD review of the condition.
- CA002594 – This item tracked issuance of the LER for this event.
- OTH003541 – This item tracked presentation of the completed RCE to CARB.
- CA003983 – This item brought closure documentation back for CARB review once CA003691, CA003692 and CA003693 were completed.
- OTH004389 – This item tracked revision of the RCE to reflect information gained during preparations for the NRC regulatory conference.
- OD Part 1 Rev 2 – This document is attached to the parent CAP001415 and documents the operability determination of the original condition.
- OTH004510 – This item tracks the correction of problems identified with some HEPs from the review performed under CA004388
- CAP012011/CE010138 (KNPP) – These items document KNPP's review of the industry OE notification issued for this event.

5. Expansion of Extent of Condition Review

The EOP weakness regarding controlling AFW flow was found during the PRA model update for the AFW system. The PRA model update involved a simultaneous review of plant design, procedures, failure modes and timing of operator actions. However, the update process is not specifically designed to identify procedural errors. Therefore, an alternate approach was developed that combined the elements of the effects of a loss of support component function, the procedures that deal with resolving this function, and the timing of required actions. CAP029344 has been initiated to expand the extent of condition review for the AFW Red Finding using this alternate approach to provide an additional level of assurance that similar issues do not exist in other emergency procedures.

6. Effectiveness Review

T-track action item CA003983 was created following the CARB Meeting on 3/5/02 to bring back closure documentation for review at a CARB Meeting once CATPRs 1 and 2 (CA003691 and CA003962), and corrective action #1 (CA003693) were completed. CA003693 is associated with the overall PRA update project, which now has an approved action plan that extends to the end of 2004. It is recommended that the scope of CA003983 be modified to be an effectiveness review of the completed CATPRs as normally performed on RCEs.