



Entergy Operations, Inc.  
1448 S.R. 333  
Russellville, AR 72802  
Tel 479-858-4888

Jeffrey S. Forbes  
Vice President  
Operations ANO

CORRECTED COPY

OCAN060403

June 30, 2004

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Subject: Arkansas Nuclear One-Units 1 and 2  
Docket Nos. 50-313 and 50-368  
Results of 10 CFR 50, Appendix R Manual Actions Review Project

Dear Sir or Madam:

In our May 7, 2004, response to Notice of Violation (IR 50-313/368-01-006), Entergy Operations, Inc. (Entergy) committed to conduct a 10CFR 50, Appendix R Manual Action Review Project to identify potential changes to plant systems and components in order to reduce the complexity of the manual actions required to safely shutdown the plant in the event of a fire in certain fire zones and to provide the results of that project to the NRC by June 30, 2004.

This project, which has been completed, assessed several fire zones where manual actions are taken to safely shutdown the plant in the event of a fire. The purpose of the assessment was to evaluate those fire zones where multiple manual actions may be required, where the manual actions may be time-critical and/or risk-significant, and to identify those actions that will be eliminated to reduce risk associated with response to a fire.

There are 40 fire zones at Arkansas Nuclear One where hot standby manual actions are credited (19 on ANO-1 and 21 on ANO-2). For each fire zone where hot standby manual actions are credited, the following tasks were completed:

- The zones were initially screened using the current manual action feasibility assessments to determine need for further review.
- From this screening, zones were selected that had numerous or complex manual actions.
- Additional zones were reviewed that contained cables required to prevent loss of reactor coolant inventory.
- A listing of manual actions was compiled. The listing included the fire zone in which the action would be performed.

A 006

- An evaluation was performed for each selected zone to determine if elimination of manual actions would significantly reduce the risk and challenge associated with a fire in that zone.

Items considered included the following:

1. Complexity of actions (Completing high priority or significant number at remote locations)
2. Cumulative number of required actions and their time sequence
3. The ability of a single operator to implement the majority of required actions
4. Effectiveness of eliminating an action toward an extension of response time

Consistent with these considerations, the focus of the effort to identify local manual actions that were the best candidates for elimination was on preventing the loss of reactor coolant inventory, preventing irreversible conditions that would jeopardize subsequent actions, and reducing the addition of energy to the reactor coolant from any source other than reactor decay heat. Accomplishing these objectives extends the time available for the effective establishment of means to: 1) remove heat from the reactor coolant, 2) provide additional reactor coolant inventory, and 3) provide motive power to accomplish items 1 and 2. In addition, preventing the irreversible conditions defined above assures that the components are available when called upon. A concurrent informal review of the current post fire recovery procedures for the relevant zones confirmed that elimination of the selected local manual actions was effective in reducing the complexity of those procedures.

From the assessment, thirteen (13) zones were identified where manual action reductions are warranted. These zones and the proposed changes are as follows:

Unit 1 Zone	Description
98-J	<b>Corridor 98 Elevation 372'</b> <ul style="list-style-type: none"> <li>• Eliminate action to manually re-close B512 load center breaker.</li> <li>• Eliminate action to de-energize and close Pressurizer ERV Isolation valve.</li> <li>• Eliminate actions to establish Emergency Diesel power.</li> </ul>
99-M	<b>North Switchgear (A4) Room</b> <ul style="list-style-type: none"> <li>• Eliminate action to manually re-close B512 load center breaker.</li> <li>• Eliminate actions to establish Emergency Diesel power.</li> </ul>
100-N	<b>South Switchgear (A3) Room</b> <ul style="list-style-type: none"> <li>• Eliminate actions to establish Emergency Diesel power.</li> </ul>
112-I	<b>Lower North Electrical Penetration Room</b> <ul style="list-style-type: none"> <li>• Eliminate action to de-energize and close Pressurizer ERV Isolation valve.</li> </ul>

Unit 2 Zone	Description
2040-JJ	<b>Access Corridor, El. 335'</b> <ul style="list-style-type: none"> <li>Eliminate action to de-energize and close Sump Recirculation Header Isolation valve.</li> </ul>
2073-DD	<b>Access, Pump and Tank Rooms Resin Addition Room</b> <ul style="list-style-type: none"> <li>Eliminate actions for operation of Emergency Diesel Generator.</li> <li>Eliminate actions to de-energize and close Sump Recirculation Header Isolation valves.</li> </ul>
2091-BB	<b>North Electrical Equipment Room</b> <ul style="list-style-type: none"> <li>Eliminate action to isolate RCS inventory loss through ECCS vent flow path.</li> </ul>
2096-M	<b>Motor Control Center 2B63 Room</b> <ul style="list-style-type: none"> <li>Eliminate actions for operation of Emergency Diesel Generator.</li> </ul>
2099-W	<b>West DC Equipment Room</b> <ul style="list-style-type: none"> <li>Eliminate actions for operation of Emergency Diesel Generator.</li> </ul>
2100-Z	<b>South Switchgear (2A4) Room</b> <ul style="list-style-type: none"> <li>Eliminate actions to de-energize and close Auxiliary Cooling Water Loop Isolation valve.</li> <li>Eliminate actions to close Letdown Isolation valves.</li> </ul>
2108-S	<b>Electrical Equipment (2B9/2B10) Room</b> <ul style="list-style-type: none"> <li>Eliminate actions for operation of Emergency Diesel Generator.</li> <li>Eliminate actions to close Letdown Isolation valves.</li> <li>Eliminate action to de-energize and close Sump Recirculation Header Isolation valve.</li> </ul>
2109-U	<b>Access Corridor &amp; Motor Control Center, El. 372'</b> <ul style="list-style-type: none"> <li>Eliminate actions for operation of Emergency Diesel Generator.</li> <li>Eliminate actions to close Letdown Isolation valves.</li> </ul>
2111-T	<b>Lower South Electrical Penetration Room</b> <ul style="list-style-type: none"> <li>Eliminate actions to close Letdown Isolation valves.</li> </ul>

A schedule for completion of modifications and analyses to eliminate the above will be provided by December 17, 2004.

The attachment contains a listing of all commitments contained in this submittal. If you have any questions or comments regarding this report, please contact me.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 30, 2004.

Sincerely,



*Jeff Forbes* for Jeff Forbes

JSF/rhs  
Attachment

cc: Dr. Bruce S. Mallett  
Regional Administrator  
U. S. Nuclear Regulatory Commission  
Region IV  
611 Ryan Plaza Drive, Suite 400  
Arlington, TX 76011-8064

NRC Senior Resident Inspector  
Arkansas Nuclear One  
P.O. Box 310  
London, AR 72847

U.S. Nuclear Regulatory Commission  
Attn: Mr. Thomas Alexion  
Mail Stop 0-7 D1  
Washington, DC 20555-0001

U.S. Nuclear Regulatory Commission  
Attn: Mr. Drew Holland  
Mail Stop 0-7 D1  
Washington, DC 20555-0001

**Attachment**

**OCAN060403**

### List of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check One)		SCHEDULED COMPLETION DATE (If Required)
	ONE- TIME ACTION	CONTINUING COMPLIANCE	
Submit schedule for completion of required modifications and analyses to eliminate referenced manual actions to NRC	X		December 17, 2004