

AUG 13 1990

In Reply Refer To:
Dockets: 50-313/90-21
50-368/90-21

Entergy Operations, Inc.
ATTN: Neil S. Carns, Vice President
Operations, Arkansas Nuclear One
P.O. Box 551
Little Rock, Arkansas 72203

Gentlemen:

This refers to the inspection conducted by Mr. L. E. Ellershaw and other members of the NRC Region IV staff during the period July 16-20, 1990, of activities authorized by NRC Operating Licenses DPR-51 and NPF-6 for Arkansas Nuclear One (ANO), Units 1 and 2, and to the discussion of our findings with Mr. J. Yelverton and other members of your staff at the conclusion of the inspection.

Areas examined during the inspection pertained to the corrective action program, including the quality verification function and the internal audit program. Within these areas, the inspection consisted of selective examination of procedures and representative records, interviews with personnel, and observations by the inspectors. The inspection findings are documented in the enclosed inspection report. This report includes specific inspection followup for diagnostic evaluation team findings (reference Diagnostic Evaluation Team Report issued December 21, 1989). These are discussed in paragraph 3.1.

Within the scope of the inspection, no violations or deviations were identified.

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,
Original Signed By:
Thomas P. Gwynn

Samuel J. Collins, Director
Division of Reactor Projects

Enclosure:
Appendix - NRC Inspection Report
50-313/90-21 w/Attachment
50-368/90-21 w/Attachment

cc w/enclosure: (see next page)

RIV:RI:MQPS*
WMcNeill/cjg
/ /90

RI:MQPS*
LGilbert
/ /90

C:MQPS*
IBarnes
/ /90

D:DRS*
LJCallan
/ /90

[Handwritten signature]
D:DRP
for SJCollins
8/13/90

*previously concurred

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PDR ADCK 05000313
Q PDC

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Entergy Operations, Inc.

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cc w/enclosure:

Entergy Operations, Inc.
ATTN: Donald C. Hintz, Executive
Vice President
P.O. Box 31995
Jackson, Mississippi 39236

Entergy Operations, Inc.
ATTN: Gerald W. Muench, Vice President
Operations Support
P.O. Box 31995
Jackson, Mississippi 39286

Wise, Carter, Child & Caraway
ATTN: Robert B. McGehee, Esq.
P.O. Box 651
Jackson, Mississippi 39205

Arkansas Nuclear One
ATTN: Early Ewing, General Manager
Technical Support and Assessment
Route 3, Box 137G
Russellville, Arkansas 72801

Arkansas Nuclear One
ATTN: Jerry Yelverton, Director
Nuclear Operations
Route 3, Box 137G
Russellville, Arkansas 72801

Arkansas Nuclear One
ATTN: Mr. Tom W. Nickels
Route 3, Box 137G
Russellville, Arkansas 72801

Combustion Engineering, Inc.
ATTN: Charles B. Brinkman, Manager
Washington Nuclear Operations
12300 Twinbrook Parkway, Suite 330
Rockville, Maryland 20852

Honorable Joe W. Phillips
County Judge of Pope County
Pope County Courthouse
Russellville, Arkansas 72801

Bishop, Cook, Purcell & Reynolds
ATTN: Nicholas S. Reynolds, Esq.
1400 L Street, N.W.
Washington, D.C. 20005-3502

Arkansas Department of Health
ATTN: Ms. Greta Dicus, Director
Division of Environmental Health
Protection
4815 West Markam Street
Little Rock, Arkansas 72201

Babcock & Wilcox
Nuclear Power Generation Division
ATTN: Mr. Robert B. Borsum
1700 Rockville Pike, Suite 525
Rockville, Maryland 20852

U.S. Nuclear Regulatory Commission
ATTN: Senior Resident Inspector
1 Nuclear Plant Road
Russellville, Arkansas 72801

U.S. Nuclear Regulatory Commission
ATTN: Regional Administrator, Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

bcc to DMB (IE01)

bcc distrib. by RIV:

*R. D. Martin	*Resident Inspector
*DRSS-FRPS	*Section Chief (DRP/A)
Lisa Shea, RM/ALF	*RIV File
*DRP	*MIS System
*RSTS Operator	*Project Engineer (DRP/A)
*DRS	
*T. Alexion, NRR Project Manager (MS: 13-E-21)	
*C. Poslusny, NRR Project Manager (MS: 13-D-18)	
*L. Gilbert	
*L. Eilershaw	
*B. McNeill	
*S. Butler, W-3	

*w/766

DETAILS

1. PERSONS CONTACTED

ANO

- *A. Cox, Manager, System Engineering
- *D. Daniels, Manager, Plant Assessment
- *R. Edington, Manager, Operations, Unit 2
- *J. Fisicaro, Manager, Licensing
- *C. Fite, Supervisor, In-House Events Analysis (IHEA)
- *C. Gaines, Manager, Industry Event Review
- *S. Garchow, Manager, Safety Assessment
- *L. Humphrey, General Manager, Nuclear Quality
- D. Irving, Acting Manager, Operations, Unit 1
- *J. Jacks, Licensing Specialist
- *R. Johannes, Acting Plant Manager, Unit 1
- *G. Jones, General Manager, Engineering
- *R. King, Supervisor, Licensing
- *W. McKelvy, Acting Manager, Chemistry & Rad-chemistry
- *J. McWilliams, Executive Assistant
- *J. Mueller, Manager, Maintenance, Unit 1
- *G. Provencher, Manager, Quality Assurance (QA)
- *M. Ruder, Technical Lead, IHEA
- *R. Scheide, Licensing Specialist
- *R. Sessoms, Plant Manager, Central
- *J. Taylor-Brown, Manager, Quality Control/Quality Engineering
- *P. Wade, Administrative Lead, IHEA
- *J. Yelverton, Director, Nuclear Operations

NRC

- *L. Callan, Director, Division of Reactor Safety (DRS), Region IV (RIV)
- *G. Cwalina, Acting Chief, Plant Systems Section, DRS, RIV
- *L. Ricketson, Reactor Inspector, RIV
- *C. Warren, Senior Resident Inspector, ANO

*Indicates personnel who attended the exit interview conducted on July 20, 1990.

The inspectors also contacted and interviewed other licensee personnel during the course of the inspection.

2. BACKGROUND

NRC has identified ongoing problems associated with the quality verification function and corrective action program at ANO. The problems were attributed to declining self-assessment capabilities and a lack of effective management involvement and oversight. It appeared that programmatic breakdowns in the areas of corrective action and reporting had occurred.

Specific concerns associated with the quality verification function and corrective action program at ANO were documented in a Diagnostic Evaluation Team (DET) inspection report dated December 21, 1989. The DET inspection, which was conducted during August and September 1989, evaluated overall plant operations and addressed a number of the licensee's programs and policies. The licensee also identified problems in these areas and determined that the findings and root causes identified in various NRC reports were consistent with their own conclusions. This resulted in the licensee establishing the ANO Business Plan which is designed to be the controlling document for providing details of the actions being taken at ANO and for assigning priorities for self-identified actions as well as the issues identified by NRC.

3. CORRECTIVE ACTION PROGRAM (92720)

The corrective action program is described in the licensee's Station Administration Procedure 1000.104, "Condition Reporting and Corrective Actions," Revision 7. The procedure defines the method for identification, classification, review and reporting of conditions adverse to safety, and associated corrective actions. It is applicable to all safety-related materials, parts, components, activities, processes, and documents. Prior to May 1988, vehicles used by the licensee to document the existence of nonconforming conditions and/or conditions which could affect safety included nonconformance reports (NCRs), report of abnormal conditions (RACs), and possible nuclear safety concerns (PNSCs).

The use of these different reporting systems resulted in different priorities and a lack of focus on significant safety issues. The licensee, due in part to these problems, was late by several months to years in reporting certain events to NRC and, in some cases, events went unreported. As a result, in May 1988, the licensee initiated the condition report (CR) system which, as noted by DET, has resulted in a significant improvement in problem identification and tracking.

All open NCRs, RACs, and PNSCs were to have been converted to CRs and tracked under the new system. Of possible concern was the potential for inadvertent failure to accomplish 100 percent conversion. The inspectors reviewed documentation associated with this activity to verify that none had been missed. Further, this provided an opportunity to determine if any were still open. It was established that all NCRs, RACs, and PNSCs that were open at the time the new system was implemented, had been converted to CRs. It was also established that two former NCRs (88-097-0 and 88-106-0), nine former RACs (1-88048, 1-87205, 1-88016, 2-88056, 2-87099, 2-88091, 2-86479, 2-86092, and 2-86488), and four PNSCs (86-013, 82-001, 82-012, and 86-009) were still open. With respect to the two former NCRs, all evaluations and required actions have been completed except for replacement of the affected parts, which is planned for the next scheduled maintenance of the associated equipment. Neither one of these is considered to be significant. Regarding the nine former RACs, all required actions have been completed on five; however they have not yet been administratively closed. The remaining four RACs, while certain actions are still pending, are considered to be not significant and the actions are scheduled for completion by November 1990. Regarding the four former PNSCs, all actions except administrative closure have been completed on two, with two

remaining open. One is scheduled for closure by October 1990, and the second one has become an issue associated with Generic Letter 89-10, "Safety Related Motor Operated Valve Testing and Surveillance," and is scheduled for closure by July 1992. Both of these have been evaluated as being nonsignificant and nonreportable.

3.1 Previous Inspection Findings

The inspectors reviewed each of the corrective action program concerns documented in the DET inspection report in order to evaluate the licensee's corrective actions. The inspectors made the following observations during these reviews.

3.1.1 Service Water (SW) Pump Shaft Damage

The DET determined that a root cause analysis had not been performed with respect to a surveillance test failure of Unit 1 SW Pump P4A during June 1989. On August 2, 1989, SW Pump P4B experienced a similar event except the shaft on this pump was completely sheared. The DET requested the root cause analysis for the second event, but it was not provided by the time the team left the site in mid-September. The team, therefore, concluded that a root cause analysis had not been performed in a timely manner.

The inspectors reviewed Revision 7 to CR and corrective action program Procedure 1000.104, which underwent extensive changes in February 1990, as a result of NRC identified and licensee self-identified problems. This procedure, which became effective April 15, 1990, established the Corrective Action Review Board (CARB) which is charged with reviewing and approving the root cause and proposed corrective action plan of significant CRs within 14 days of the initiation of the CR. The procedure states that all significant conditions will be subjected to a root cause determination. Criteria for determination of significance are established and appear to be well defined. All of the CRs reviewed by the inspectors since implementation of Revision 7, have had a root cause determination performed in a timely manner. The inspectors found the licensee's actions to be acceptable.

3.1.2 Large Backlog of Corrective Actions for Engineering

The DET determined that, although the CR system was a plant-wide system, the engineering department was assigned the majority of the corrective actions associated with the system. This resulted in the allocation of more than 50 percent of the engineering resources to CRs which led to approximately 24 percent of the CR corrective actions assigned to the engineering department not being resolved by the scheduled due date; thus the creation of a large backlog.

Reduction of the engineering backlog has been identified as a project in the ANO Business Plan. This includes the systematic identification, prioritization, and resolution of the backlog. The inspectors reviewed computerized data sheets from the ANO Condition Reporting System, which showed a very clear improvement in the area of late engineering responses and

resolutions to CRs. The percentage of late CR corrective actions attributed to the engineering department as of July 18, 1990, was 2.4 percent. It was also noted that there had been a slight decline (approximately 8.5 percent) in the overall number of CRs associated with the engineering department since February 1990.

The inspectors found that the licensee's actions appear to have been effective in the reduction of late CR corrective actions assigned to the engineering department. Continued management attention in this area will have a positive effect and should accomplish the project goals.

3.1.3 Weak Quality Control Department Involvement

The DET determined that the activities of the Quality Control (QC) department with respect to support of the maintenance effort, especially in the troubleshooting and maintenance of equipment requiring repetitive repairs, was weak. There was an identified lack of QC review of job orders (JOs) prior to implementation.

This resulted in the Nuclear Quality Department issuing a memorandum which described an interim program, effective January 22, 1990, for reviewing scheduled JOs prior to issuance in order to identify those specified items and activities for which QC surveillance or inspection is warranted. The memorandum also stated that QC review coverage for JOs and their revisions issued during back shifts was not planned during the interim period.

Subsequently, Nuclear Quality issued QC Procedure QCO-14, "Job Order Review Prior to Field Issue," Revision 0, dated April 11, 1990. The scope of this procedure states that it is intended to be an enhancement to the JO review process but is not intended to be all inclusive, and that JOs issued during nonroutine working hours may be excluded from review.

The inspectors reviewed 20 corrective maintenance JO packages in order to verify that QC was involved in the JO review process and that inspection hold points and/or notification points were being established. A listing of the reviewed JOs is contained in the Attachment to this report and are identified with a # sign. The inspectors identified two JOs (809772 and 809054) in which Block 38, used to denote QC review, had been marked N/A. Discussions with Nuclear Quality management indicated that approximately 10-15 percent of corrective maintenance JOs are processed during nonroutine hours; therefore QC review would probably not be performed. While it appears that the actions taken to date are an improvement over previous program requirements, the inspectors expressed concern that some activity which warrants a QC inspection hold point or notification point, would not be identified if QC did not review the JO.

3.1.4 Inadequate Root Cause Analysis by Operations and Maintenance

The DET concluded that root cause analysis performed by operations and maintenance personnel showed evidence of weak analytical skills and an inclination to seek a conclusion that would not interrupt plant operation.

The licensee had committed to improve root cause analysis for identified conditions by providing training for personnel responsible for making such determinations. The inspectors determined that training in root cause analysis had been provided for over 200 licensee personnel by outside contractors using various recognized techniques. Additionally, training was planned to be conducted periodically at the site until the licensee felt confident that an adequate number of personnel had the necessary training to perform meaningful root cause determinations for identified problems. The licensee made changes to their existing process for condition identification and correction to ensure that ongoing root cause determinations and corrective actions were adequate. Assigned evaluators for significant CR's are initially informed as to what elements are required to be addressed in their root cause analysis and proposed corrective actions. They are provided with a "Root Cause Determination and Corrective Action Desk Guide" and are assisted by a trained member of the In-House Events Assessment (IHEA) group, if necessary.

The inspectors consider the licensee's actions to be responsive to the concerns addressed in the DET report and are acceptable.

3.1.5 Weaknesses in Operability Determinations Existed

The DET determined that weaknesses in operability determinations existed, which were attributed to a general lack of knowledge by operations personnel and demonstrated a need for training in this area.

The inspectors noted that the licensee had taken several steps to improve both the quality and timeliness of operability determinations being made with respect to equipment under the jurisdiction of the Technical Specifications (TSs). Management emphasis has been placed on using a conservative philosophy when making operability determinations. Operability determination training has been made a part of the formal requalification training program for licensed operators. Weekly shift meetings now include discussions of case studies pertaining to operability determinations made at other facilities. Additional guidance, in the form of a formal TS interpretation process, has been defined in Procedure 1062.006, "Technical Specifications Interpretations," and is in the process of being implemented. Further information has been provided as Attachment G, "Operability Assessment Guidance," to Procedure 1000.104.

The inspectors consider the licensee's actions to be responsive and are acceptable.

3.1.6 Administrative Guidance for Making Operability Determinations Was Nonconservative

The DET determined that administrative procedure for operability determinations did not provide adequate guidance to operating personnel, thereby allowing a wide range of interpretation. Procedure OP-1000.116, Revision 1, contained station policy and provided instructions as well as an attachment that discussed operability policy. The described instructions and policy contained

information that was nonconservative and sometimes appeared to deviate from previous and current NRC staff positions on the determination of operability.

The inspectors noted that the instructions and policy which had been described by DET as being nonconservative had been deleted from Procedure 1000.116. In addition, when an identified condition results in a situation where the operations staff and shift technical advisor can not make a determination without engineering input, a 24 hour time limit has been administratively imposed to resolve the indeterminate situation.

The inspectors determined that these measures should significantly improve the operations staff's capability to make valid and timely operability determinations and consider the actions to be acceptable.

3.2 Evaluation of Industry Information

The inspectors reviewed the licensee's process for evaluating industry experience and information and implementing corrective action as appropriate. The focal point for collection and evaluation of industry information, with the exception of NRC Generic Letters and Bulletins, was the Industry Event Review section of the Plant Assessments group. Procedure 1010.008, "Industry Event Evaluation," specified the process to be used to evaluate and disseminate such information.

The section was adequately staffed with a multidisciplined group of individuals to assess external information and events. Adequate resources were available to ensure that a timely review and disposition of information could be made. Enhancements to the licensee's process were being proposed which would further improve their capability. Affected plant department heads would be involved with formulating the necessary actions, depending on the impact of the event or information. Commitments for action by the affected individuals would be obtained and the supervisor of the Industry Event Review section would be responsible for tracking these commitments, reporting their status to plant management, and verifying completion of action items and closure. This additional accountability for actions resulting from industry events or information should significantly enhance the licensee's ability to benefit from industry experience.

3.3 Adequacy of Operability Determinations

The inspectors reviewed 40 CRs in varying degrees of detail to determine the adequacy of the licensee's operability determinations for conditions that affected TS equipment, the adequacy of the licensee's evaluation of the conditions for reportability as required by 10 CFR Part 50.72 and 10 CFR Part 50.73, and the adequacy of cause or root cause determination.

The inspectors determined that, in general, the licensee adequately addressed operability, reportability and cause determination in the CRs that were reviewed. Timeliness of determining operability and reporting was satisfactory and documentation of any engineering input was adequate. Questions or problems