

IES UTILITIES INC.

July 25, 1994
NG-94-2682

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Reply to a Notice of Violation Transmitted with
Inspection Report 94009
File: A-105, A-102

Dear Sir:

This letter and attachments respond to the Notice of Violation transmitted by NRC Inspection Report 94009, the request in that letter concerning management oversight of existing Engineering Work Requests and plans to assure that the new "Action Request" program receives the appropriate long term management attention.

The following is a list of commitments made in this response.

1. The following procedures will be permanently revised by August 15, 1994 to impose appropriate administrative controls which assure that override switch S583B is not placed in the override position prior to receipt of a Group 3 Primary Containment Isolation Signal:

AOP 301	"Loss of Essential Electric Power"
OI 573	"Containment Atmosphere Control System"
AOP 358	"Loss of RPS AC Power"
OI 358	"Reactor Protection System"

2. A wiring change correcting the design deficiency in override switch S583B will be completed by the end of the next refueling outage.

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If you have any questions regarding this response, please contact my office.

Sincerely,

A handwritten signature in cursive script, appearing to read "David L. Wilton for".

John F. Franz
Vice President, Nuclear

JFF/DSR/pjv+

- Attachments:
1. Response to Notice of Violation Transmitted with Inspection Report 94009
 2. Response to Request for Additional Information Transmitted with Inspection Report 94009

cc: D. Robinson
L. Liu
L. Root
R. Pulsifer (NRC-NRR)
J. Martin (Region III)
NRC Resident Office
DCRC

**IES Utilities Inc.
Reply to A Notice of Violation
Transmitted with Inspection Report 94009**

VIOLATION ONE

10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," requires that activities affecting quality shall be prescribed by document instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

Procedure No. 1406.1 Revision 1, "Procedure Use and Adherence," requires in step 6.0(1) that "When signoffs are required to reflect performance of procedural steps, the worker shall sign/initial each step when the step is completed and prior to beginning the next step."

Contrary to the above, STP-41A005, "RPS Response Time Check" dated March 26, 1992, channel test steps 7.1.14.8, 7.2.14.4, and 7.3.8.8 were not signed off as completed. Also, some N/A steps were initialed while completed steps were N/A'd.

This is a Severity Level IV violation (Supplement 1).

RESPONSE TO VIOLATION ONE

1. REASON FOR VIOLATION

STP-41A005, "RPS Response Time Check" is normally performed during Duane Arnold Energy Center (DAEC) refueling outages, prior to start up. In the past, and as evidenced by the step descriptions and special test equipment required, a Gould Two Channel Recorder was used in this procedure to measure response time. Because that type of brush recorder has system variables that may affect the accuracy and detail of the results, the decision was made prior to performance of the STP in 1992 to use a Solid State Timer (SST) which would provide more reliable test data. STP-41A005 was revised to include the following step:

4.9 This procedure is written assuming that a Brush Recorder (Gould Two Channel) will be utilized. It is permissible to use a Solid State Timer (SST) in place of the Brush Recorder. If the SST is used, connection points are the same as those used by the brush recorder. N/A steps that do not apply to the use of the SST (i.e.: establish proper

trace . . . attach a copy of the chart recorder traces . . . etc.). All events utilized by this procedure are "power removal to initiate".

Use of the SST required that extensive changes to the procedure be made by the technician in the field. The complexity of these changes led to some steps being initialed rather than marked N/A and vice versa. Additionally, the technician incorrectly interpreted step 4.9 to mean that steps that were not actually worked and/or were not specific to actual use of the SST could be left blank. This belief was also held by the reviewers of the completed STP.

2. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

We have verified that all the steps in STP-41A005 which were required to be performed in 1992 when the STP was used were in fact completed appropriately. STP-41A005, "RPS Channel Response Time Check" was revised to reflect use of the new test equipment prior to its use during the 1993 refueling outage. The STP was performed satisfactorily in 1993. The technicians report that human factoring has been greatly improved and the STP has been performed without incident.

Procedure 1406.1 Revision 1, "Procedure Use and Adherence" was revised in 1992 to more clearly state that STPs are "continuous use" procedures, so that each step of the procedure must be read prior to performing that step, performed in the sequence given and when required, signed off before proceeding to the next step.

3. CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

All corrective actions have been completed.

4. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Duane Arnold Energy Center was in full compliance upon revision of STP-41A005, "RPS Channel Response Time Check" and satisfactory completion of the STP during the 1993 refueling outage.

VIOLATION TWO

10 CFR 50, Appendix B, Criterion XVI, requires that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations and nonconformances are promptly identified and corrected.

Contrary to the above, from 1980 to 1993, the licensee failed to address a design deficiency or establish and impose administrative controls to ensure that override switch S583B was not placed in the override position prior to receipt of a Group 3 Primary Containment Isolation Signal (PCIS). The switch had been placed in the override position on several occasions during Reactor Protection System (RPS) bus transfer testing, prior to receipt of a Group 3 isolation signal.

This is a Severity Level IV violation (Supplement 1).

RESPONSE TO VIOLATION TWO

1. REASON FOR VIOLATION

In 1980, a design change was initiated to install a bypass switch to allow manual re-opening of nitrogen supply valve CV4371A from the control room after a Group 3 containment isolation signal. Opening of this valve would assure long-term supply of nitrogen to key plant valves. The original design of this modification was such that the bypass function would be disabled until a Group 3 isolation signal was present. Because of changes made to the design during implementation, the installed bypass switch could function regardless of whether an isolation signal was present. As described in the safety evaluation for this modification, the bypass design assumed the existence of administrative controls which would assure that the bypass function would only be used if a Group 3 isolation signal was present.

In 1991, Operations personnel determined that placing the bypass switch for CV4371A in bypass also bypasses the Group 3 isolation signal to CV4378B (Nitrogen Compressor Drywell Isolation Valve). A Deviation Report and an Engineering Work Request (EWR) were written to document and correct the problem. At the time, the design's potential to adversely affect containment isolation was not fully recognized. However, as an interim corrective action, a warning tag was placed on control panel 1C35. This warning tag was later replaced with a permanent placard that stated, "Caution CV4378B will not auto close on a

Group 3 Isolation with S583B in override." To clarify information in Inspection Report 94-09, this action was taken in 1991, not 1993 as stated in the inspection report. Also for clarification, in 1994 an operator recognized an error in a procedure relating to the design deficiency and took the action of requesting a change be made to the procedure. The Inspection Report is incorrect in stating the operator recognized the design deficiency and took no actions.

During the NRC's 1994 review of this EWR it was determined that the administrative controls detailed in the original design change package had not been established as originally intended and that permanent corrective actions had not yet been taken to resolve this concern.

2. CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

Upon identification of this issue during the NRC Electrical Modification Inspection, operations management issued a "Shift Order" stating: "... if the switch is placed in override before the isolation signal is received, CV4378B will not automatically close. Until all procedures have been reviewed and revised, do not override the isolation prior to receiving the PCIS Group 3 signal. When an isolation signal is received, verify isolation and override CV4371A as required for long-term nitrogen makeup to the drywell."

The following procedures have been temporarily revised to impose appropriate administrative controls which assure that override switch S583B is not placed in the override position prior to receipt of a Group 3 Primary Containment Isolation Signal:

AOP 301 "Loss of Essential Electrical Power"
OI 573 "Containment Atmosphere Control System"
AOP 358 "Loss of RPS AC Power"
OI 358 "Reactor Protection System"

These actions brought Duane Arnold Energy Center into full compliance with the original Safety Evaluation in DCP 906, which installed the override.

3. **CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

The EWR written on this discrepancy in 1991 has been processed by the Action Request (AR) Committee. A permanent wiring change correcting the design deficiency has been approved to be worked during the next refueling outage.

The permanent revisions to the three procedures stated above are currently in final processing and will be implemented by August 15, 1994.

4. **THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Duane Arnold Energy Center was in full compliance on May 6, 1994 when the "Shift Order" noted above, was issued.

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The cover letter which transmitted the Notice of Violation and Inspection Report 94009, requested DAEC respond to the following:

- 1 "Provide your assessment of the oversight existing EWRs have received over the past year," and
- 2 "Provide ... your plans to ensure the new "Action Request" program receives the appropriate long term management attention required to ensure the program's effectiveness."

This attachment serves as that response.

- 1) Engineering Work Requests (EWRs) have received considerable management attention over the past several years. The EWR backlog has been reduced significantly through project implementation and elimination of low priority EWRs. Monthly reports on EWR status and backlog were published and provided to Senior DAEC Management. Systems Engineering Group Leaders reviewed EWRs and ensured priority EWRs were presented to the DAEC Priority Review Board for funding. As an added assurance that priority EWRs were appropriately evaluated for funding, periodic meetings were held between Systems Engineering, Operations and Maintenance management to review the backlog of historical EWRs. The purpose of these meetings was to review the EWR backlog, identify priority or safety significant EWRs (if any) and ensure that they were reviewed by the Priority Review Board. Those projects determined to be safety significant or of significant value were appropriately funded.

In July 1993, DAEC management received a proposal to restructure the EWR process and decided to delay the review of the proposal until the end of the refueling outage (October 1993). The intent of this restructuring was to include screening criteria that filtered out low value/low priority issues and better define responsibilities for determining priorities. As the engineering staff was proceeding with their plan for replacing the EWR system with a new "Request for Resolution (RFR)" system, they determined that the plant corrective action program, which was also undergoing a similar restructuring, contained many of the same program elements as the RFR program. In November 1993 a comparison of the two programs was made. Given the similarities in the

programs and the efficient utilization of resources, the decision was made in November 1993 to incorporate the RFR system into the corrective action program. This decision is documented in our response to the Notice of Violation in NRC Inspection Report 93-16. At that time, the new corrective action program was planned for implementation in January 1994. However, due to the extensive review process and need for administrative and procedural changes and training, the new corrective action program now called the Action Request (AR) program was implemented in June 1994.

We acknowledge, however, that because of the forthcoming change eliminating the EWR process and the delay in implementation of the Action Request (AR) program, the EWR procedure was not revised to be consistent with actual practice.

Currently, all existing EWRs are being processed by the Action Request system. The process is being implemented on a system-by-system basis and is scheduled to be completed November 1, 1994.

- 2) During the development of the AR program, the Manager of Engineering and the Manager of Quality Assurance served as program sponsors. As program sponsors, they ensured management's expectations were clearly communicated to the AR development team. Additionally, they provided organizational support, monitored progress and served as the communications link to other senior managers. When an internal reorganization placed the department responsible for the implementation of the program under the Manager of Licensing, he also provided senior management overview. During development of the program there were presentations on the program made to senior Managers, Vice President-Nuclear, Operations Committee and Safety Committee. The AR program itself involves DAEC supervision and management in all aspects of its implementation.

In the AR procedure, the AR Screening Team is defined as: "A group of individuals normally comprised of supervisory personnel (or above) from the following departments: Engineering, Maintenance, Operations, QA/QC, Radiation Protection, Licensing/Regulatory Communications, Training, Emergency Planning". The procedure also states that Department Managers are responsible for concurring with Action Plans and the completion of corrective actions for Action Level 1, 2, and 3 ARs which are assigned to their respective departments. Other sections specify that the Health Physics Supervisor and Radiation Protection Manager review and concur on documented radiological

control deficiencies that require a response. The Manager of Engineering is listed as responsible for ensuring reviews of technical evaluations are provided. The QA Assessment Supervisor is responsible for trending AR information.

These procedural requirements and the actual practice of frequent senior management attendance at the AR screening meetings each morning demonstrate a high degree of management oversight and involvement, and long-term commitment to the success of this program.