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DUKE POWER

August 12, 1994

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Subject: Catawba Nuclear Station
Dockets 50-413 and 50-414
Reply to Notice of Violation
Inspection Report Nos. 50-413/94-15 and 50-414/94-15

Attached is Duke Power Company's response to the one (1) Level IV violation cited in the Notice of Violation of Inspection Report 50-413/94-15 and 50-414/94-15, dated July 08, 1994. This response is first directed at the overall procedure use and adherence issue and corrective actions taken. Following the overall response, each of the five examples are addressed individually.

This violation involved five examples of improper procedure use and adherence.

Due to the nature and number of the examples cited in this Notice of Violation, Duke Power Company required additional time to analyze and respond to each example. Our response to this violation is therefore being submitted after the 30 day NRC requirement. This delay in responding was discussed with the Catawba Senior Resident, R. J. Freudenberger.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'D. L. Rehn'.

D. L. Rehn

\KEN:RESP94.15

xc: S. D. Ebnetter, Regional Administrator

R. E. Martin, ONRR

R. J. Freudenberger, SRI

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REPLY TO NOTICE OF VIOLATION
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Notice of Violation

During an NRC inspection conducted on May 8, 1994 - June 11, 1994, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violation is listed below:

Technical Specification 6.8.1, Procedures and Programs, requires, in part, that written procedures be established, implemented and maintained covering the activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, which includes licensee procedures controlling operation and maintenance of safety-related systems.

Operations Procedure OP/2/A/6150/06, Draining the Reactor Coolant System (RCS), Enclosure 4.1, Initial Draining of the NC System, requires that the RCS (via the Pressurizer Relief Tank) be vented to the Containment Auxiliary Carbon Filter Units for radioactive gas cleanup and be depressurized prior to opening an unfiltered pressurizer vent path directly to containment via valve 2NC-300.

Maintenance Procedure MP/0/A/7600/103, Fisher/Posi-Seal Butterfly Valve Disassembly and Reassembly, Sections 11.1 and 11.7, includes instructions for the removal and reinstallation of the actuator for valve 2RN-C04.

Instrument Procedure IP/0/A/3230/07, Procedure for Movable Incore Detector Thimble Retraction and Insertion, Section 10.3.7.D, requires installation of an O-ring in the incore detector thimble low pressure seal.

Operations Procedure OP/2/A/6350/02M, Drain and Fill of the Diesel Generator Cooling Water System, Enclosure 4.1, Draining and Filling the 2A KD System, outlines the steps necessary for draining the 2A Diesel Generator KD System. Steps 2.3 and 2.4 of this enclosure requires the KD keepwarm pump and heaters to be electrically isolated prior to draining the system.

Contrary to the above requirements:

- A. On May 6, 1994, a non-licensed operator failed to properly implement OP/2/A/6150/06, Enclosure 4.1, by failing to verify that the Reactor Coolant System was depressurized

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(via Pressurizer Relief Tank pressure indication in the Control Room) prior to opening valve 2NC-300. Since the Pressurizer Relief Tank was slightly pressurized, this caused the release of unfiltered radioactive gas from the Reactor Coolant System into containment, resulting in an automatic Containment Purge Supply and Exhaust System isolation and containment evacuation alarm.

- B. On May 9, 1994, maintenance personnel failed to implement an existing procedure which was applicable to the activity. MP/O/A/7600/103, Fisher/Posi-Seal Butterfly Valve Disassembly and Reassembly, Sections 11.1 and 11.7, were not utilized for the removal and reinstallation of the actuator on valve 2RN-C04, resulting in improper installation of the actuator.
- C. On May 9, 1994, maintenance personnel failed to implement procedure IP/O/A/3230/07, Procedure for Movable Incore Detector Thimble Retraction and Insertion. The procedure specified that O-rings be used for the low pressure seals. Split rings were improperly installed, resulting in leakage of the seals upon initial fill of the refueling cavity.
- D. On May 11, 1994, maintenance personnel failed to implement OP/2/A/6350/02M, Enclosure 4.1, for draining the 2A Diesel Generator KD System resulting in the KD keepwarm pump and heaters remaining energized and in operation after the system was drained. The continued operation of these components was potentially damaging to them.
- E. On May 13, 1994, operations personnel failed to establish an adequate procedure for draining the Cold Leg Accumulators to the liquid waste system. Detailed instructions included in the Operations Work List were utilized as procedure steps which resulted in improper sequencing of the evolution, rapid filling of the Reactor Coolant Drain Tank, and the overflow of a small quantity of water to the containment floor. Increased radiation levels resulted in the automatic Containment Purge Supply and Exhaust System isolation and containment evacuation alarm.

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

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RESPONSE: (General)

1. Reason for Violation

During the first few weeks of the recent Catawba Nuclear Station Unit 2 refueling outage, there were several examples of failure to properly implement management's policy on procedure use and adherence. Each of these examples as cited in the notice of violation is discussed in this response as to the specific reason for its occurrence. However, from an overall management perspective it was clear that even though each of these examples had its own set of circumstances, there was a lack of clarity and understanding of management's fundamental expectation relative to technical procedure use and adherence.

Therefore, this violation is attributable to management deficiency.

2. Corrective Actions Taken and Results Achieved

The Catawba management team quickly recognized the adverse trend on technical procedure use and adherence. The management team reviewed the specifics of each example discussed in this violation and then held discussions with Operators, Engineering personnel, and Maintenance, Chemistry and Radiation Protection Technicians to further diagnose the problem. Through these discussions it was concluded that while there was an overall understanding of the procedure use and adherence policy, there was also an understanding that under certain circumstances the policy did not have to be strictly followed.

As a result of this finding, the management team reviewed and reconfirmed the existing policy and expectations relative to technical procedure use and adherence. The management team further determined that although the safety significance of the examples cited in this violation of failure to properly implement the procedure use and adherence policy was minimal, the current level of performance was acceptable. Therefore, on 05/16/94, the Catawba management team took immediate corrective action to recommunicate the policy on procedure use and adherence in very simple terms.

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In short, the following points, along with the policy, were communicated:

- We do our work by procedure.
- There is no other higher authority that can direct our work other than a procedure.
- If a procedure is found to be inadequate during the performance of the procedure, the expectation is to STOP WORK and get the procedure changed.
- If a procedure does not exist for an activity that is to be performed, the expectation is to STOP WORK and develop a procedure.
- Failure to follow this policy may result in disciplinary action.

This recommunication took place in "time out" sessions during the outage and was delivered by management team members to all individuals in Operations, Maintenance, Chemistry, Radiation Protection, and Engineering involved with the preparation and/or execution of technical procedures.

The results of the recommunication were immediate. The number of requests for procedure changes increased significantly in all areas. The type of changes ranged from minor (editorial corrections) to significant changes that had been previously worked around. Several of these procedure changes also resulted in work stoppage which had not previously been a "norm" during a refueling outage.

3. Corrective Actions to be Taken to Avoid Future Violations

The Catawba management team is remaining actively involved in all technical procedure use and adherence issues. This includes a thorough review of each instance that is related to a technical procedure use and adherence problem and a determination of appropriate disciplinary action.

4. Date of Full Compliance

Duke Power Company is now in full compliance.

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RESPONSE: (Example A)

1. Reason for Violation

While performing OP/2/A/6150/06 (Draining the Reactor Coolant System), the pressurizer relief tank (PRT) was inadvertently vented to containment.

This example has been attributed to verbal communication and failure to follow documents correctly. Personnel performing this task reviewed the procedure with the Control Room Operator (CRO). The CRO granted permission to perform the procedure up to a specific step number without having to contact the control room. The Non-Licensed Operators (NLOs) understood this to mean that all steps to be done or verified from the control room were satisfied. While in containment, they failed to verify that the PRT pressure was at atmospheric pressure prior to opening a local PRT vent.

Management expectations are that all communications will be precise and clearly understood, and that every procedure step needs to be performed and not assumed complete.

2. Corrective Actions Taken and Results Achieved

This example was one of a number of events discussed at the Operations time out sessions. These sessions were conducted by the Superintendent of Operations with shifts and other sections within Operations. They were held mid-shift, stopping outage work in progress, for added emphasis on the need to reverse this trend. It was communicated to personnel that while no event singularly has been catastrophic, collectively, they tell a story about the quality of our operations which indicated the need for immediate improvement.

The message included discussion on how to apply Stop, Think, Act, Review (STAR) at an overall job level as well as when performing individual tasks, the importance of communications with all involved in the task, obtaining feedback, positive acknowledgement of agreement, making sure our message is heard and that we have heard others, Reactor Operators (ROs) and Senior Reactor Operators (SROs) were cautioned as to how their statements on directions may be perceived by others, carrying more

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weight than may have been intended. All shift operators and worklist preparers were briefed on the expectations that worklist items only provide guidance as to what is to be accomplished during a shift and not how to actually perform the task; the worklist is not to be used as a procedure. The need to always comply with procedure use and adherence expectations without exception and of the need to stop and take appropriate actions whether as observed by ourselves or by others were discussed. Expectations for personal accountability for compliance and how that expectation is a significant part of personal accountability.

In addition to the Operations time out sessions, an operator update was sent out on this example emphasizing the important aspects of communications, procedure adherence, and good tailgate discussions.

3. Corrective Actions to be Taken to Avoid Future Violations

The Catawba Management Team is actively monitoring all technical procedure use and adherence issues to ensure the effectiveness of the recommunication.

4. Date of Full Compliance

Duke Power Company is now in full compliance.

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RESPONSE: (Example B)

1. Reason for Violation

While implementing MP/O/A/7600/103 (Fisher/Posi-Seal Butterfly Valve Disassembly and Reassembly), Sections 11.1 and 11.7 were not utilized appropriately, which resulted in improper installation of the actuator.

This example is attributed to failure to use a procedure to install the operator for 2RNC04 valve. This job was scoped and planned to install the valve and operator as a single unit, therefore the operator procedure was not referenced in the modification work order. It was necessary for the team responsible for performing this work to remove the operator from the valve in order to install it. They did not realize a procedure should be used for this evolution, since another team would be setting up the operator by a procedure which would cover the reinstallation requirements. When the other maintenance team performed the setup of the operator, they observed the operator had already been installed. They did not realize that they needed to perform the installation section of the operator procedure, and therefore only performed the setup section. The setup section did not identify that the operator was installed incorrectly.

2. Corrective Actions Taken and Results Achieved

The involved individuals were counseled on their roles and responsibilities relating to procedure use and adherence.

A sitewide communication was conducted by station management to ensure all personnel involved with the development, review, or conduct of technical procedures fully understand the management expectation. This communication has been delivered to all appropriate Maintenance and Engineering personnel and their receipt of this information has been documented. Personnel have been informed of the potential consequences of not meeting the expectations for procedure use and adherence, which include actions to be taken in accordance with the company's administrative process.

Mechanical Implementation Accountables were trained and instructed to add optional steps in the modification

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procedure to allow removal of valve operators and assembly and also to reference procedures and torque requirements. This corrective action was completed 07/26/94.

3. Corrective Actions to be Taken to Avoid Future Violations

The Catawba Management Team is actively monitoring all technical procedure use and adherence issues to ensure the effectiveness of the recommunication.

4. Date of Full Compliance

Duke Power Company is now in full compliance.

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RESPONSE: (Example C)

1. Reason for Violation

While implementing Procedure IP/0/A/3230/07 (Procedure for Movable Incore Detector Thimble Retraction and Insertion), split rings were improperly installed resulting in leakage of the seals upon initial fill of the refueling cavity.

This example is attributed to failure to follow the approved guidance for installation of the Flux Thimble Low Pressure Seals per procedure IP/0/A/3230/07. Contributing factors include:

- An unclear expectation on the part of the Maintenance Technicians and Engineer of their responsibilities for ensuring proper technical guidance is included in a technical procedure and is strictly adhered to during performance of the procedure.
- Unavailability of sufficient quantity of the parts needed to perform the installation in the desired configuration as specified by the procedure.
- Availability of parts needed to perform the installation in a configuration as previously covered by the procedure.

Installation of the low pressure seals per procedure IP/0/A/3230/07 is a task which is normally performed by the technicians without direct involvement from Engineering. The Engineer was highly involved in this task due to a need to take some dimensional measurements of the seal table components in conjunction with this activity. He became further involved when a problem with availability of o-rings used for the low pressure seal installation was discovered. Additional parts were ordered with receipt expected to support the schedule for seal installation. When the ordered parts were received, it was discovered that they were the incorrect size and there was not sufficient time remaining prior to installation to reorder the correct parts. The Engineer and technicians discussed alternatives and recognized that the previously approved method of using split washers in place of the o-ring may be an option. The split washers had been used for seal installation until approximately four years previous when the o-ring use was identified as

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the preferred method due to ease of installation. When the o-ring configuration was selected as the preferred method for seal installation, the steps outlining use of the split washers were removed from procedure IP/0/A/3230/07 so as to prevent confusion.

During a pre-job briefing the Engineer and Technicians discussed the plan for using the available correct o-rings (total of 31) then using the split washers for the remaining seals (total of 27). The installation method for each configuration was discussed, however it was not recognized that the split washer method required two washers to provide an effective seal. The installation sequence for each configuration was very similar, and the individuals involved did not recognize the need for adding procedural guidance to cover the method for installation of the split washers. The technicians had a perception that their previous experience on installing the split washers, the similarity to the o-ring installation, and pre-job discussion with the Engineer provided an acceptable means of performing this task without specific procedural guidance.

2. Corrective Actions Taken and Results Achieved

Discussions with the individuals involved identified the specifics of this example, and further discussion with others indicated that management expectations may not be clear to all site individuals.

The management team reconfirmed the expectation with respect to procedure use and adherence expectation is that strict adherence to technical procedures is required by all individuals. Discussions were held to review the roles of Engineering and Maintenance in developing, maintaining, and using technical procedures. The expectations have been defined and communicated as follows:

- Engineering is responsible for ensuring the technical content of procedures is adequate to properly complete the desired task and produce the expected result.
- Maintenance is responsible for performing the procedures as written and identifying any deficiencies that prevent proper completion of the

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procedure or expected results.

The involved individuals were counseled on their roles and responsibilities relating to procedure use and adherence.

A sitewide communication was conducted by station management to ensure all personnel involved with the development, review, or conduct of technical procedures fully understand the management expectation. This communication has been delivered to all appropriate Maintenance and Engineering personnel and their receipt of this information has been documented. Personnel have been informed of the potential consequences of not meeting the expectations for procedure use and adherence, which include actions to be taken in accordance with the company's administrative process.

A procedure change to IP/0/3230/07 was incorporated to provide the guidance for proper installation of the low pressure seals using the split washer method. The seals were re-installed per the procedure during the appropriate period of the Unit 2 outage, and were verified to provide an adequate seal. Actions were taken to ensure future availability of the o-rings for seal installation, however the procedure will continue to permit the use of the split washers as an option since this is an adequate alternative.

3. Corrective Actions to be Taken to Avoid Future Violations

The Catawba Management Team is actively monitoring all technical procedure use and adherence issues to ensure the effectiveness of the recommunication.

4. Date of Full Compliance

Duke Power Company is now in full compliance.

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RESPONSE: (Example D)

1. Reason for Violation

Maintenance personnel failed to implement Enclosure 4.1 of OP/2/A/6350/02M (Drain and Fill of the Diesel Generator Cooling Water System) for draining the 2A diesel generator cooling water (KD) system. The diesel generator maintenance crew drained the diesel cooling water system prior to hanging the block tagout for that system. This resulted in the KD keepwarm pump and heaters remaining energized and in operation after the system was drained.

This example is attributed to inadequate verbal communication and change related documents not being properly revised.

The procedure to drain the diesel cooling water system is written to suit Operations needs and was not written to adequately address Maintenance draining the system to a bladder. The decision to drain the system to a bladder was made just prior to the planned evolution and the method for controlling the drain was not addressed. There were also several times where communications between the two groups (Operations and Maintenance) occurred about this complex evolution and misunderstandings occurred (i.e., Maintenance was given the impression by Operations that it was permissible to drain the diesel cooling water system when in fact the block tagout had not been hung).

2. Corrective Actions Taken and Results Achieved

This example was one of a number of events discussed at the Operations stoppage work briefings. These briefings were conducted by the Superintendent of Operations with shifts and other sections within Operations. They were held mid-shift, stopping outage work in progress, for added emphasis on the need to reverse this trend. It was communicated to personnel that while no event singularly has been catastrophic, collectively, they tell a story about the quality of our operations which indicated the need for immediate improvement.

The message included discussion on how to apply Stop, Think, Act, Review (STAR) at an overall job level as well as when performing individual tasks, the importance of communications with all involved in the task, obtaining

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feedback, positive acknowledgement of agreement, making sure our message is heard and that we have heard others, Reactor Operators (ROs) and Senior Reactor Operators (SROs) were cautioned as to how their statements on directions may be perceived by others, carrying more weight than may have been intended. All shift operators and worklist preparers were briefed on the expectations that worklist items only provide guidance as to what is to be accomplished during a shift and not how to actually perform the task; the worklist is not to be used as a procedure. The need to always comply with procedure use and adherence expectations without exception and of the need to stop and take appropriate actions whether as observed by ourselves or by others were discussed. Expectations for personal accountability for compliance and how that expectation is a significant part of personal accountability.

The procedure for draining the diesel cooling water has been revised to allow Maintenance the flexibility to drain the cooling water as desired, while maintaining required prerequisites. The pre-job tailgate for this evolution has been revised to include a big picture description and sequence of tag hanging, draining, and necessary procedures.

3. Corrective Actions to be Taken to Avoid Future Violations

The Catawba Management Team is actively monitoring all technical procedure use and adherence issues to ensure the effectiveness of the recommunication.

4. Date of Full Compliance

Duke Power Company is now in full compliance.

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RESPONSE: (Example E)

1. Reason for Violation

Operations personnel failed to establish an adequate procedure for draining the cold leg accumulators to the reactor coolant drain tank. Drain valves were opened prior to the reactor coolant drain tank pumps being started, resulting in the drain tank being over filled. This caused approximately five gallons of water to come out of the reactor coolant drain tank vent. The contaminated water caused 2EMF-39 (Containment Radiation Monitor) to reach the trip two setpoint. The trip two setpoint caused the containment purge system (B Train) to shutdown and also caused the reactor building evacuation alarm to sound. Closure of VP valves during core alterations is considered an ESF Actuation.

This example is attributed to technical inaccuracies and document use practices.

The instructions in the Operations shift worklist were not detailed enough to control this evolution and did not address a potential problem which was not identified by the worklist writer, Senior Reactor Operator, Reactor Operator or Non-Licensed Operator. In this instance, the worklist was used primarily as a procedure to accomplish the task.

2. Corrective Actions Taken and Results Achieved

This example was one of a number of events discussed at the Operations stoppage work briefings. These briefings were conducted by the Superintendent of Operations with shifts and other sections within Operations. They were held mid-shift, stopping outage work in progress, for added emphasis on the need to reverse this trend. It was communicated to personnel that while no event singularly has been catastrophic, collectively, they tell a story about the quality of our operations which indicated the need for immediate improvement.

The message included discussion on how to apply Stop, Think, Act, Review (STAR) at an overall job level as well as when performing individual tasks, the importance of communications with all involved in the task, obtaining feedback, positive acknowledgement of agreement, making

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sure our message is heard and that we have heard others, Reactor Operators (ROs) and Senior Reactor Operators (SROs) were cautioned as to how their statements on directions may be perceived by others, carrying more weight than may have been intended. All shift operators and worklist preparers were briefed on the expectations that worklist items only provide guidance as to what is to be accomplished during a shift and not how to actually perform the task; the worklist is not to be used as a procedure. The need to always comply with procedure use and adherence expectations without exception and of the need to stop and take appropriate actions whether as observed by ourselves or by others were discussed. Expectations for personal accountability for compliance and how that expectation is a significant part of personal accountability.

Operations Management Procedure 2-5 (Operations Worklist and Technical Memorandums) was revised on 06/06/94 to clarify the purpose of worklist instructions, and clarify the expectations for its use.

3. Corrective Actions to be Taken to Avoid Future Violations

The Catawba Management Team is actively monitoring all technical procedure use and adherence issues to ensure the effectiveness of the recommunication.

Operations will develop a procedure for draining the Cold Leg Accumulators by the next refueling outage, 1EOC8.

4. Date of Full Compliance

Duke Power Company is now in full compliance.