

DUKE POWER COMPANY

P.O. BOX 33189
CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

TELEPHONE
(704) 373-4531

June 16, 1989

Director, Office of Enforcement
U.S. Nuclear Regulatory Commission

ATTN: Document Control Desk
Washington, D.C. 20555

Subject: Catawba Nuclear Station, Units 1 and 2
Docket Nos. 50-413 and 50-414
NRC Inspection Report Nos. 50-413 & 414/88-38
Reply to Notice of Violation
Answer to Notice of Violation

Attached is Duke Power Company's response to the notice of violation dated May 19, 1989 from Stewart D. Ebnetter, Regional Administrator.

As discussed in the attachments, I concede violations of requirements occurred; however, these violations do not warrant escalation of the proposed civil penalty and request the civil penalty be partially mitigated. Additionally, the severity level for Violation B, Failure to Report, should be reduced to a Level IV violation. Our initial corrective actions that you characterize as being too focused, were the result of our trying to understand the specific failure of the Containment Air Return System damper. Although not acknowledged in the Notice of Violation, nor in Inspection Report 413,414/88-38, as you know improvements in the post modification testing program were being made at the time of this event. As a result of the lessons learned from this specific event, further enhancements to our post modification test program have been made as outlined in paragraph (3) on page 2 of 4 of Attachment 1. Therefore, enclosed is Attachment One which responds to the Notice of Violation. Also enclosed is Attachment Two which requests the proposed civil penalty be mitigated to \$25,000.

This reduction of the proposed civil penalty is justified based upon our identifying and reporting the inoperability of the Containment Air Return Fan Damper, taking prompt corrective action to return the damper to an operable condition, having no previous similar problems in this area, having no prior notice that reasonably could have prevented this condition, not having multiple examples of this problem, and in light of the fact that the condition was not safety significant in this specific instance.

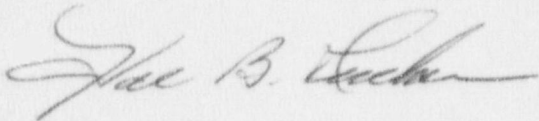
I would be glad to meet with the Staff or Regional personnel should there be additional questions concerning this response, the corrective actions associated with these violations, or the proposed reduction in the civil penalty.

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June 16, 1989
U.S. Nuclear Regulatory Commission
Page Two

Very Truly Yours,

A handwritten signature in cursive script, appearing to read "H. B. Tucker".

H. B. Tucker

PGL/IV/41

xc: Mr. Stewart D. Ebnetter
Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta St., NW, Suite 2900
Atlanta, Georgia 30323

Mr. W. T. Orders
NRC Resident Inspector
Catawba Nuclear Station

Technical Specification 3.6.5.6 requires in modes 1 through 4 that two independent Containment Air Return and Hydrogen Skimmer Systems (VX) be OPERABLE. With one Containment Air Return and Hydrogen Skimmer System (VX) inoperable, the inoperable system shall be restored to OPERABLE status within 72 hours or the unit is to be in at least HOT STANDBY within the next 6 hours, and in COLD SHUTDOWN within the following 30 hours.

Contrary to the above, during a period of 42 days from February 19, 1988 to April 1, 1988, Unit 2 operated in Modes 1 through 4 with one of the two independent Containment Air Return and Hydrogen Skimmer Systems (VX) inoperable. During this period, both trains of VX were required to be operable.

(1) Admission or Denial of the Violations:

Duke Power company admits a violation occurred. However, escalation of the base civil penalty is not warranted. The proposed civil penalty should be mitigated to \$25,000. A full explanation of why the penalty should be mitigated may be found in Attachment 2. This reduction of the proposed civil penalty is justified based upon our identifying and reporting the inoperability of the Containment Air Return Fan Damper. Prompt corrective action was taken to return the damper to an operable condition. After discovering the problem on March 31, 1988 the damper control circuitry was repaired and the VX system was returned to operable status on April 1, 1988. Having no previous similar problems in this area and having no prior notice that reasonably could have prevented this condition should allow mitigation of the civil penalty as well. Furthermore, there were not multiple examples of this problem and in light of the fact that the condition was of very limited safety significance, escalation of the fine is not warranted. The capability to correct this situation following an accident condition was discussed in great detail with you at the Enforcement Conference and was discussed in LER 413/88-33. It was shown that the process for opening the damper was simple.

A further example of the minimal safety significance is that had Technical Specification (T/S) 3.0.3 been entered each time train 'B' was inoperable during the 42 day time period, T/S 3.0.3 would have been exited prior to completion of the allowed 7 hours to shutdown to Mode 3. Each period of train 'B' inoperability was less than 2 hours. This along with the ease of restoring the inoperable train of VX to operability following a LOCA, minimizes the significance of this event.

(2) Reasons for Violation:

The inoperability of the VX system was caused by an inappropriate personnel action. Wires were swapped during the installation of Nuclear Station Modification (NSM) CN-20223 resulting in the inoperability of the train 2A air return fan damper. The wire swapping was caused by the incorrect installation of wire markers. This incorrect labeling of the conductors caused the wires to be terminated to incorrect termination points. The incorrect termination created an "alternate" power supply for a portion of the control circuit for the VX damper. The incorrect wiring resulted in an incorrect assessment of the results of the functional test following the installation of the modification. Also a contributing cause of the violation was the inability of the functional test to identify the unique circuit configuration caused by the wiring error. More information regarding this event may be found in Licensee Event Report (LER) 414/88-33.

(3) Corrective steps that have been taken and the results achieved:

To correct this problem work requests were completed correcting the wiring, checking the control circuits affected by the implementation of the modification and verifying the correct contact status of associated test switches. Wiring installation practices for both Nuclear Production and Construction and Maintenance Departments have been changed to require independent verification of the installation of wire markers for new conductors.

Additionally, changes have been made to the station modification program to enhance the post modification testing program. These changes to the post modification testing program ensure that all groups, including Design Engineering are involved in the decisions on what post modification testing needs to be performed, when it will be performed and the expected and required results of the testing. These new enhancements were incorporated into Catawba's Station Directives on November 7, 1988. These enhancements have resulted in improvements of handling recent testing situations. For example, complete testing of Catawba's Steam Generator Power Operated Relief Valves (PORVs) manufactured by Control Components Incorporated (CCI) was accomplished using a coordinated test plan. Inputs for the test plan came from the Design Engineering, Performance, Project and Mechanical Maintenance Groups. The same coordinated effort was evident in correcting a recent problem with a grounded cable on a Unit 2 Containment Spray valve, 2NS-12. Since April 1, 1988, no further violations of Technical Specifications have occurred because of incorrectly labeled conductors or inadequate post modification tests.

(4) Corrective steps that will be taken to avoid further violations:

The actions outlined in paragraph (3) above will avoid further violations. As our understanding of methods to improve post modification testing continues, enhancements will be incorporated into our post modification and post maintenance testing programs.

(5) Date when full compliance will be achieved:

Duke Power is currently in full compliance.

10 CFR 50.73(a)(2) requires the submittal of a Licensee Event Report within 30 days after discovery of any operation or condition prohibited by the plant's Technical Specifications.

Contrary to the above, on September 14, 1988, the licensee determined that Catawba Unit 2 had previously operated for 42 days in a condition prohibited by the plant's Technical Specifications because train A of the Containment Air Return and Hydrogen Skimmer (VX) System had been inoperable and a Licensee Event Report was not submitted until January 27, 1989.

(1) Admission or Denial of the Violations:

Duke Power company admits the violation. Although, this violation should be characterized as a severity level IV violation. "Failure to Report" is specifically listed as an example of a severity level IV violation in 10 CFR 2, Appendix C, Supplement 1, D. Despite the length of time it took to report this condition, it was identified by Duke Power and it was reported.

(2) Reasons for Violation:

The violation occurred because the complexity of the problem caused an initial incorrect determination of the operability of the VX System. After a preliminary past operability determination was made on September 14, 1988, certain tests and evaluations were performed to ensure the validity of the operability determination. These evaluations included returning the circuitry to its previously incorrect wired condition. These tests and further evaluations caused the reporting of the inoperability of the VX system to be delayed.

(3) Corrective steps that have been taken and the results achieved:

Increased emphasis has been placed on performing complete, quality and timely operability evaluations in the Construction and Maintenance (CMD), Design Engineering and Nuclear Production Departments. Also, increased emphasis has been placed on communicating frequently, early, both informally and formally with the Nuclear Regulatory Commission on issues and problems as they develop. Based on an earlier enforcement conference concern of reporting associated with the design of Catawba's Nuclear Service Water System on February 23, 1988, our perspective and posture concerning the reporting of emerging issues has changed. Evidence of these changes is the submittal of courtesy Licensee Event Reports concerning Inoperability of the Rotork Actuator for Valve 2ND2A (LER 414/88-10), Sliding Links Found Open in Auxiliary Shutdown Panel (LER 413/88-16), and Problems with Calcon Pressure Switches in Diesel Generators (LER 413/88-19) in 1988. In 1989 courtesy LERs have been submitted concerning Nuclear Service Water Pond Temperature Measurements (LER 413/89-14), Potential

(3) Corrective steps that have been taken and the results achieved (con't):

Release Path from the Containment Sump to the Refueling Water Storage Tank (LER 413/89-12) and Possible Problems with the Valve Factors for Certain Borg Warner Valves (LER 413/89-10). Also, station personnel have been engaged in weekly discussions with the Resident Inspectors, not just to discuss items of significance to the Resident Inspectors but also to present to the Resident Inspectors any work in progress that may become a more significant issue. Since April 1, 1988 no further violations of 10 CFR 50.73 have occurred.

(4) Corrective steps that will be taken to avoid further violations:

The actions outlined in paragraph (3) above will avoid further violations.

(5) Date when full compliance will be achieved:

Duke Power is currently in full compliance.

Answer to Notice of Violation
Protesting The Violation "A" Civil Penalty
And The Violation "B" Severity Level

This attachment is provided pursuant to 10CFR2.205 to protest the civil penalty imposed on Violation "A" of this response and the level of Violation "B". Provided is the bases for mitigating this penalty as well as demonstrate other reasons why the penalty should be mitigated to \$25,000.

The six factors addressed in Section V.B of 10 CFR Part 2, Appendix C (1988) are:

1. Identification and Reporting
2. Corrective Action to Prevent Recurrence
3. Past Performance
4. Prior Notice of Similar Events
5. Multiple Occurrences
6. Duration

In your Notice of Violation you stated, "The escalation and mitigation... is assessed for this violation". In essence you have applied factors 1,2, and 3 and consider 4,5, and 6 as not applicable. We agree with 4,5, and 6 as being not applicable and will address items 1, 2, and 3.

Identification and Reporting

You stated that no mitigation was appropriate from this category, although the problem was identified and reported by Duke Power, because the post modification test (PMT) should have identified it prior to startup from the refueling outage. The characterization that our post modification test should have been capable of detecting this unique problem is in error. The Post Modification Testing and Independent Verification Programs work together in detecting problems. The performance test, the VX test, used as the post modification test in this situation worked properly in evaluating VX operability on a quarterly basis in 1987 and after the event in 1988 and 1989. The impact of the "sneak path" established by the wiring error was not fully understood for the VX Performance test until lengthy and detailed tests were performed recreating the original swapped wires condition.

This situation has reinforced the importance of a broad and "design basis" post mod test, but even at the time of the event, improvements were underway to the post mod test process. This modification on VX was developed as a pre-TOPFORM modification. TOPFORM is a program within Duke Power Company implemented to improve various aspects of the modification process including PMT. Post Mod Testing acceptance criteria are established by the program. These improvements have been made subsequent to the VX modification and should prevent recurrence. In addition, there are other enhancements to the process of PMT that have been made as a part of the lessons learned from the VX event.

Several recent examples of complete testing show a posture change on the part of our staff:

1. Retesting associated with the Steam Generator PORV's. Modification are being made due to problems found at Palo Verde on Control Components Incorporated valve types.
2. Repair of a grounded cable going to valve 2NS-12A which caused a "Containment Spray Actuated Alarm."

Finally, there is a need to reinforce this understanding of the PMT process in our Performance and Projects groups on-site by documenting the process used in several recent examples and by providing necessary training on those examples. A process of updating our staffs periodically on PMT issues will continue to enhance this process. PMT is not a static or one time process. We understand the need for and intend to continue to strive for improvements based on this and other upcoming events.

Corrective Action to Prevent Recurrence

In your notice of violation, the civil penalty seems to have been escalated by this factor. You stated, "the base penalty for violation A has been increased by 50% because your initial corrective actions were narrowly focused on correcting the improperly installed electrical wiring and failed to address the broader problem of inadequate PMT."

The escalation is inappropriate for two reasons:

1. As discussed previously, a major effort was required to understand the reason for the failure of the VX Periodic Test to catch the unique error. The comprehensive aspect of that review and the revision to LER 414/88-33 that reported those findings showed initiative on our part to ensure this situation would not recur. The issues of Licensee initiative and comprehensive action are both factors for mitigation in this category.
2. As discussed previously, the improvements made to the PMT process through the TOPFORM program have come about subsequent to this modification and as a result no other similar violations have occurred. Further, the additional "lessons learned" approach we are taking shows "extensive" corrective action in PMT to prevent recurrence.

Rather than a 50% escalation of the base penalty, a 50% reduction should be applied since the actions taken in regard to PMT and those that are ongoing have been complete and timely in preventing recurrence.

Past Performance

In this category you stated that no mitigation or escalation was deemed appropriate as we have an overall SALP Category 2 rating and have no similar

problems in the past 2 years. A 100% reduction of the civil penalty is available in this category for "prior good performance". Further 10CFR50 Part 2 states that the effectiveness of previous corrective action for similar problems, overall SALP ratings, and prior performance including severity Level IV and V violations are considered.

In our view, with no similar problems in the past 2 years and an overall SALP 2 rating, at least a 50% reduction in the base penalty should be applied. It would seem appropriate that a SALP 1 plant would be in line for 100% mitigation in this situation, a SALP 2 plant - 50% reductions, and a SALP 3 plant - 0% reduction. Clearly a SALP 2 rating is "adequate" and with no similar problems in this area, a mitigating factor of 50% should apply.

Other Reasons For Mitigating The Civil Penalty

Though not specifically stated in the enforcement policy as a mitigating factor, the issue of safety significance must play a part in establishing a final level of civil penalty. In the Enforcement Conference it was shown through analysis that equipment qualification profiles were not exceeded if the damper could be reopened within 30 minutes. To determine if this was achievable, the capability to perform this action in the 30 minutes available was tested in an unannounced late night drill. That drill demonstrated the ability of Operations to contact the Instrument and Electrical Supervisor to diagnose and correct the problem by reopening the dampers. In that test, it took 16 minutes from Operations notification to the point where the damper would have opened. As a result of questions at the Enforcement Conference, a sensitivity study was performed to determine if additional time was available to the on-shift crew to correct the situation without impacting equipment in lower containment. That study determined a period of at least 60 minutes was available. Two procedures, EP/1(2)/A/5000/01 (Reactor Trip or Safety Injection) and EP/1(2)/A/5000/01C (High Energy Line Break Inside Containment) contain specific steps that check the status of the VX damper to ensure it is open at the appropriate time. With the on-shift Supervisor's ability to correct this situation by placing one jumper in one cabinet, a simple process, the safety significance of the event is minimized.

Further, the "B" train of VX was only out-of-service for a total of 7 hours during the 42 days that "A" train was unknowingly inoperable. ("B" train inoperable during Diesel Testing and Safe Shutdown Protection System Testing) Those 7 hours were broken down in periods that did not exceed 2 hours at any one time. Had Technical Specifications (T/S) 3.0.3 been entered each time train "B" was inoperable during the 42 days time period, T/S 3.0.3 would have exited this T/S prior to the initiation of a shutdown to MODE 3. Thus, "B" train was available for 99.3% of the total 42 days which significantly reduces the probability of a LOCA event having a "one train response" from the VX System.

Violation B Level Protest

There is no denial that a violation existed in late reporting associated with this event, but do protest assignment of a Severity Level 3 violation.

In Supplement 1 to Appendix C of 10CFR Part 2, failure to make a required Licensee Event Report is specifically identified as a Severity Level 4 violation. There is no reference to this aspect as a Level 3 violation and since a report was generated on our own initiative, a Level 3 violation should not be imposed. Even if an LER had not been submitted, a separate Level 4 violation would be specified under this Supplement to Appendix C. The importance of reporting such events is clear, since it allows the industry to share operating experience and allows utilities to take preventive action as a result of events at other facilities. However, because of the complexity of the circuit as a result of the wiring swap and the time required to understand the effects, an unusual amount of time was taken to report the problem.

As stated in response to Violation B, a number of courtesy LER's have been submitted to enhance communications with the NRC as well as initiation of "two-way" discussion of events at the plant on a weekly basis between the Residents and Station Staff.