Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

March 6, 1992

U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Document Control

Subject: Dresden Nuclear Power Station Units 2 and 3
Response to Notice of Violation
Inspection Report 50-237/91~~0~~33; 50-249/91~~0~~36
NRC Docket Numbers 50-237 and 50-249

References: (a) H. Miller letter to Cordell Reed dated February 6, 1992, transmitting NRC Inspection Report 50-237/91033; 50-249/91036

(b) W. Morgan Letter to NRR dated September 8, 1988 transmitting Final Report on the Potential for Drywell Steel Degradation at the Sand Pocket, Dresden Units 2 and 3 and Quad Cities Unit 1 and 2

Enclosed is Commonwealth Edison Company's (CECo) response to the Notice of Violation (NOV) which was transmitted with the Reference A letter and Inspection Report. The NOV cited one Severity Level IV violation requiring a written response. The violation concerned the lack of corrective action on water leaking into the sand pocket region of the Unit 3 containment liner. CECo's response is provided in the Attachment A. Attachment B provides information in response to your inquiry addressed in the Referenced A coverletter on the effect of leakage on the containment integrity. Attachment C provides information clarifying CECo response to Generic Letter 87-05, associated with Reference B.

If your staff has any questions or comments concerning this letter, please refer them to Denise Saccomando, Compliance Engineer at (708) 515-7285.

Very truly yours,

T. J. Kovach
Nuclear Licensing Manager

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Attachments

cc: A. B. Davis, Regional Administrator - Region III
B. L. Siegel, Project Manager, NRR
W. G. Rogers, Senior Resident Inspector, Dresden

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ATTACHMENT A

Response to Notice of Violation
NRC Inspection Report
50-237/91033; 249/91036

VIOLATION

10 CFR Part 50, Appendix B, Criterion XVI, states, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, between September 6, 1988, and December 31, 1991, a condition adverse to quality was not promptly identified nor corrected. Specifically, leakage was detected from the Unit 3 containment drywell liner sand pocket area during several refueling outages. Although the leakage was an abnormal condition which had the potential to cause degradation to the primary containment, no corrective action was taken to identify and eliminate the source of the leakage.

THE REASON FOR THE VIOLATION

The leakage from the Unit 3 containment drywell liner sand pocket area has been observed during past refuel outages. The Dresden Unit 3 drywell liner was inspected in 1988 for degradation. Twenty-two coreholes were drilled in the drywell basement to access the area of the liner most susceptible to the moisture in the sand pocket region. An ultrasonic (UT) inspection was performed and no degradation of the drywell liner was identified. In January 1992, seven of the original twenty-two points of the drywell liner were again UT inspected and no degradation was identified.

Therefore, it is believed that even though there has been leakage during recent refuel outages, there has been no significant degradation of the drywell liner. In order to ensure degradation of the drywell liners does not become a problem UT inspections are scheduled for every third refuel outage.

A surveillance procedure, DTS 1600-6, "Drywell Line Leakage Inspection," was established in 1987 to monitor the leakage. In 1990 the surveillance mechanism was enhanced to verify that leakage occurred when the cavity was flooded. Isotopic analysis showed that the water was similar to fuel pool water and not ground water.

In October 1990, during the D3R12 outage, drywell liner leakage was identified. The leakage was identified through the performance of DTS 1600-6. In December 1990, an Action Item Record (AIR) was initiated and forwarded to corporate engineering. The AIR requested engineering to provide assistance identifying the source of leakage. Due to an error in processing, there was a delay in responding to the AIR.

Dresden believed that their efforts in tracking the leakage through implementing the surveillance were adequate, and thereby did not recognize the relative significance of identification of the leakage source.

Efforts are currently underway to identify the source of the leakage. The task is complex due to the nature of the structures involved and the fact that investigations can only be performed under certain operational conditions during refuel outages.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

DTS 1600-6, "Drywell Liner Leakage Inspection" will be revised to require the initiation of a deviation report for failure of the surveillance. A failed surveillance is defined as the identification of any leakage. Initiation of a deviation report will alert upper management of the current condition and facilitate the development of appropriate corrective actions. This procedure revision will be completed prior to the initiation of the next surveillance which is scheduled for the upcoming D2R13 refueling outage.

Dresden Station will continue to pursue identification of the leakage source. Identification of the source of the leakage was undertaken by the addition of chemical tracer to the suspected sources. The results of the chemical addition to the outer bellows region proved inconclusive. Results of the chemical addition to the dryer/steam separator pool are still being analyzed. Additional details are provided in Attachment B, Question 3.

CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATION

Pending identification of the leakage source and its correction, the UT surveillance of the Unit 3 drywell liner will be increased to include all 22 inspection ports. This surveillance will be performed every refueling outage until the source of the leakage is identified and corrected.

To improve the tracking of AIRs a monthly meeting has been established to discuss the current status of existing AIRs.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance has been achieved with the initiation of investigations to identify the source of the leakage.

ATTACHMENT B

The following provides information to the inquiry on the effect of leakage on the containment integrity.

Question 1:

The leakage impacting the Unit 2 drywell liner and its effect on drywell integrity

Response:

The station is currently evaluating the installation of ultrasonic testing inspection ports for the Unit 2 drywell liner. The station will continue to conduct DTS 1600-6 during each refueling outage to monitor the extent of leakage.

Question 2:

Why some of the sand pocket drain lines on Unit 3 remained blocked at the time of our inspection even though the surveillance had already been performed to ensure they were open.

Response:

The drywell liner leakage surveillance was performed in accordance with DTS 1600-6, "Drywell Line Leakage Inspection." The surveillance provides guidance on lancing of the sand pocket drain lines with a short piece of wire to ensure no stagnant water blockage. The procedure did not detail the length of wire necessary to pass through the entire horizontal length of the sand pocket drain line. Therefore, it could not have ensured that the line was cleared of partial obstructions. Some of the drain lines were partially blocked as evidenced by the slow rate of leakage.

Procedure DTS 1600-6 is being further revised to require and specify that the proper tool be used when cleaning the sand pocket drain line.

Question 3:

The results of the test, analyses, and inspections your staff indicated would be performed during the December 31, 1991 telephone conference.

Response:

The following is an update of items identified during the December 31, 1991 teleconference.

For D3R12 prior to Startup

1. Perform drywell liner UT thickness inspection at 5 of the 22 inspection ports. These thickness measurements will be compared to prior data for liner degradation. The selection of the 5 locations should be in the vicinity of the locations of known leakage.

   Status: Complete. UT inspections were performed at 7 locations, with satisfactory results.

2. Perform a visual inspection inside the reactor cavity of the stainless steel liner for obvious cracking or degradation. This will be done after the completion of cavity draindown and wall washing.

   Status: Complete. Inspection was performed with no signs of defects on the reactor cavity liner.

3. After the reactor cavity is drained, verify that the leakage in the torus basement stops.

   Status: As of March 3, 1992, the leakage has not stopped but has slowed down to less than one gallon per hour. This leakage will continue to be monitored until it stops.

4. After the reactor cavity is drained, investigate using dye or a tracer in the water-filler area by the outer bellows, to aid in the identification of the leakage. This will confirm the previous inspection results that the bellows is intact.

   Status: Complete. Chemical (nitrite) tracer was put into the outer bellows cavity on February 11, 1992. Thus far, the nitrite has not been detected.

5. Open the reactor well seal rupture drain valves 4-1901A-12 and 3-1901B-12 and observe any leakage coming through sightglass 3-1916-530A.

   Status: Complete. Valves were open and no alarm occurred in the control room. The sightglass and flowmeter are both filled.

6. Sample and analyze the water coming from the sand pocket drains to confirm the water source.

   Status: Complete. An isotopic analysis indicated the water is fuel pool water.

7. Blow out and clear the sand pocket and drywell-to-torus bellows seal drain lines. Investigate the use of a boroscope inspection.

   Status: Complete. All four sand pocket drains lines have been cleared. The water flow has subsided in all lines. One of the lines maintains a slight flow and will be observed until the flow stops (see item 3 above). It was determined that the necessary visual resolution could not be achieved with a boroscope inspection, therefore it was not performed.

For Prior to D2R13

1. Accelerate the investigation for resolution of the location of and the stoppage of the leakage. In conjunction with General Electric develop an action plan that includes further testing, inspection and repairs to find and stop the leakage.

   Status: In progress. Corporate engineering is currently meeting with General Electric to resolve this issue.

Subsequent Actions (as of 01/08/92)

1. Further inspect the area around the reactor cavity liner and evaluate the dryer/steam separator pit as source of leakage.

   Status: In progress. The area around the bulkhead was inspected and it was determined not to be the leakage source. Drain line plugs are installed in reactor well drains and drywell to concrete seal drains while cavity is filled. On February 26, 1992, Sodium Nitrite tracer was added to the dryer-separator pit. Water samples are currently being analyzed.

2. Investigate the possibility of clearing out plugged drain lines (reactor well, drywell to concrete seal, and reactor cavity seal rupture drains).

   Status: In progress. The station is currently pursuing this option with General Electric.

Question 4:

A comparison of these results with those obtained in 1988.

Response:

See attached table

ATTACHMENT C

Clarification of Response Provided in Reference B

Reference B provided, "The Final Report on the Potential for Drywell Steel Degradation at the Sand Pocket, Dresden Units 2 and 3 and Quad Cities Units 1 and 2." In the Preventative Actions section, CECo stated, "Surveillance procedures have been instituted at both Dresden and Quad Cities stations to check for leakage into the sand pocket. These procedures, QTS 170-8 for Quad Cities and DTS 1600-6 for Dresden, provide for inspection of the spent fuel drain lines, the dryer separator pool drain lines and the sand pocket drain lines for water flow, as an indicator of the leakage of water into the sand pocket. The frequency of inspection is once per cycle with the recommendation that it be performed at the beginning of a refueling outage, when leakage from the bellows expansion joint is most likely to occur. Any evidence of leakage through any of the drain lines constitutes an abnormal condition to be reported and for corrective measures to be initiated. The initiation of this procedure was proceeded by examination of the drains to ensure they are open."

Dresden Station believes the above statement refers to the reporting of abnormal conditions via the implementation of surveillance procedure, DTS 1600-6, "Drywell Liner Leakage Inspection," section f.5 which states "If any abnormal conditions are noted, notify Technical Staff supervisor of abnormality and initiate work request(s) for repairs (if necessary)." After completion of this surveillance, the results were reported to the Technical Staff Supervisor. The station does not believe that the intent of Reference B was a commitment to report this leakage to the NRC.

However, in order to avoid further confusion and to address the inspectors' concern with this issue, Dresden Station is revising DTS 1600-6 to require the initiation of a Deviation Report for failure of the surveillance. This revision will be completed prior to the initiation of the next surveillance which is scheduled for the upcoming D2R13 refueling outage.

Table
Response to Question 4

ULTRASONIC THICKNESS MEASUREMENTS

OF UNIT #3 DRYWELL LINER

HOLE	1988 Inspection Thickness	1992 Inspection Thickness
22.5.1.1A	1.10	1.15
22.5.1.1B	1.14	N/A
22.5.1.2A	1.18	1.15
22.5.1.2B	1.10	N/A
112.5.1.1A	1.12	N/A
112.5.1.1B	1.12	N/A
112.5.1.2A	1.10	N/A
112.5.1.2B	1.08	N/A
157.5.1.1A	1.14	N/A
157.5.1.1B	1.14	N/A
157.5.1.2A	1.14	N/A
157.5.1.2B	1.12	N/A
202.5.1.1A	1.08	1.10
202.5.1.1B	1.08	N/A
292.5.1.1A	1.18	1.17
292.5.1.1B	1.12	1.17
292.5.1.2A	1.12	N/A
292.5.1.2B	1.26	N/A
337.5.1.1A	1.20	1.14
337.5.1.1B	1.08	N/A
337.5.1.2A	1.12	1.31
337.5.1.2B	1.24	N/A