

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-237/79-11; 50-249/79-09

Docket No. 50-237; 50-249

License No. DPR-19; DPR-25

Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, IL 60690

Facility Name: Dresden Nuclear Power Station, Units 2 and 3

Inspection At: Dresden Site, Morris, IL

Inspection Conducted: March 27, April 13, 21-23 and 27, 1979

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|--------------|---|---------------|
| Inspectors: | <i>R. A. Speer</i> L. A. Reyes <i>for</i> | <u>5/3/79</u> |
| | <i>R. W. Dettenmeier</i> R. W. Dettenmeier <i>for</i> | <u>5/3/79</u> |
| | <i>B. M. K. Wong</i> B. M. K. Wong (Intern) <i>for</i> | <u>5/3/79</u> |
| Approved By: | <i>J. F. Streeter</i> J. F. Streeter, Chief Nuclear Support Section 1 | <u>5/3/79</u> |

Inspection Summary

Inspection on March 27, April 13, 21-23 and 27, 1979, (Report No. 50-237/79-11; 50-249/79-09)

Areas Inspected: Routine, unannounced inspection of the performance of the Unit 2 integrated leak rate test and licensee action on a previously identified item of noncompliance (Unit 3). The inspection involved 53 inspector-hours onsite by two NRC inspectors and one NRC intern.

Results: No items of noncompliance or deviations were identified during this inspection.

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DETAILS

1. Persons Contacted

- *R. Ragan, Operating Engineer
- *D. Farrar, Technical Staff Supervisor
- *B. Shelton, Administrative Assistant
- *R. Geier, Quality Assurance
- *R. Kyrouhd, Technical Staff Engineer
- *J. Achterberg, Technical Staff Engineer
- *G. Smith, Technical Staff Engineer
- *M. Wright, Technical Staff Engineer
- *A. Roberts, Technical Staff Engineer

The inspectors also talked with and interviewed several members of the Engineering, Operating and Technical Staffs.

*Denotes those present at the exit interview on April 27, 1979.

2. Previous Inspection Findings

(Closed) Noncompliance (Item 1 IE Report 50-249/78-12): Failure to document a change to the computer model used in the Unit 3 containment leak rate test. The inspector reviewed the revised CILRT procedure which provides instructions to the test director to document any changes to the computer model in the CILRT Log after conducting a review at the same level of review given to other normal temporary procedure changes. The inspector verified that a simplified flow diagram of the computer program and a diagram of sensor location was available during the CILRT. The licensee's corrective actions were acceptable.

3. Containment Integrated Leak Rate Test (CILRT)

The 24 hour CILRT was started on April 23, 1979, at 0912. The inspector independently evaluated leak rate data to verify the licensee's calculation of the leak rate. There was acceptable agreement between the inspector's and licensee's leak rate calculations as indicated in the following summary (units are in weight percent per day):

| <u>Measurement</u> | <u>Licensee</u> | <u>Inspector</u> |
|---|-----------------|------------------|
| Leakage rate measured (Lam) during CILRT | 0.2515 | 0.2516 |
| Lam at 95% confidence level | 0.2592 | 0.2593 |
| Lam at 95% confidence level adjusted to reflect penalties (refer to Paragraph 8) due to use of shutdown cooling and valve line up deviations. | 0.3953 | 0.3954 |

Appendix J Acceptance Criterion at 95% confidence level = $0.75 \text{ La} = 0.75 (1.6) = 1.2$

As indicated above, the adjusted Lam at the 95% confidence level was less than the maximum allowable by 10 CFR Part 50, Appendix J.

No items of noncompliance or deviations were identified.

4. Supplemental Test

After the satisfactory completion of the 24-hour test on April 23, 1979, a known leakage of 0.2515 weight percent/day was induced.

The inspector independently evaluated leak rate data to verify the licensee's calculation of the supplemental leak rate. There was acceptable agreement between the inspector's and licensee's leak rate calculations as indicated in the following summary (units are in weight percent per day):

| <u>Measurement</u> | <u>Licensee</u> | <u>Inspector</u> |
|---|-----------------|------------------|
| Measured leakage (Lc) rate during supplemental test | 0.4530 | 0.4529 |
| Lc @ 95% confidence level | 0.5054 | 0.5053 |
| Induced leakage rate (Lo) = | 0.2515 | 0.2515 |

Appendix J Acceptance Criterion: $Lo+Lam-0.25La < Lc < Lo+Lam+0.25La$

$0.2515+0.2516-0.4 < Lc < 0.2515+0.2516+0.4$

$0.1031 < Lc < 0.9031$

As indicated above, the supplemental test results satisfied the requirements of 10 CFR Part 50, Appendix J.

No items of noncompliance or deviations were identified.

5. Instrumentation

The inspector reviewed the calibration data associated with performing the CILRT. A multipoint calibration of all instrumentation was performed. Correction values were generated based on the difference between measurements of resistance from a NBS verified resistance box and actual resistance measured. All corrections were placed as an array or equation into the CILRT computer.

The following instrumentation was used in the CILRT.

| <u>Type</u> | <u>Quantity</u> | <u>Serial Number</u> |
|----------------|-----------------|--------------------------|
| RTDs | 31 | 5377-1 thru 29, 30A, 30B |
| Flowmeter | 1 | VMC 801/714 |
| Pressure Gauge | 2 | 1087, 1088 |
| Dewcells | 8 | 5377-1, 2 and 4-9 |

No items of noncompliance or deviations were identified.

6. CILRT Procedure Review

The inspector reviewed a copy of procedure DTS 1600-7, Revision 2 "Unit 2/3 Integrated Primary Containment Leak Rate Test," for technical adequacy and conformance with regulatory requirements. The inspector has no further questions on the procedure.

a. Data Rejection

The inspector stated that, during the conduct of CILRT, individual data points are sometimes erroneous for various reasons. The inspector also stated that these erroneous data points cannot be rejected without a definitive data rejection criteria. The licensee's procedure contains no such criteria. There were no data points rejected during the 1979 CILRT.

The inspector stated that the draft ANS 274 standard contains acceptable data rejection criteria.

7. CILRT Valve Lineup for Pressure Switches

During the 1979 CILRT the Drywell, Torus and Drywell to Torus differential pressure switches and transmitters were isolated from the containment atmosphere. This closes a potential leakage path that would be exposed under postaccident conditions. The licensee stated that the pressure switches were isolated during CILRT to prevent changes in calibration and possible unrepair damage. There are no means to locally test the switches at the present time. This is an Unresolved Item (50-237/79-11-01) pending further review by the inspector.

No items of noncompliance or deviations were identified.

8. CILRT Valve Lineup Penalties

During the test, it is essential that the shutdown cooling system be in operation to maintain stable reactor temperature. This valve configuration along with others noted below deviated from the normal CILRT valve lineup. As a result, the local leak rate test results are added as a penalty to Lam at the 95% confidence level.

| <u>System</u> | <u>SCFH</u> | <u>WT%/Day</u> |
|------------------|-------------|----------------|
| 'A' FW Line | 15.88 | 0.03242 |
| 'B' FW Line | 11.22 | 0.02291 |
| CRD | 4.04 | 0.00825 |
| Shutdown Cooling | 0 | 0 |

| | | |
|------------------------|-------|---------|
| Standby Liquid Control | 1.26 | 0.00257 |
| Isolation Condenser | 1.61 | 0.00328 |
| 'A' LPCI | 9.64 | 0.01968 |
| 'B' LPCI | 6.92 | 0.01413 |
| 'A' Core Spray | 5.75 | 0.01174 |
| 'B' Core Spray | 1.15 | 0.00234 |
| CAM | 0.78 | 0.00159 |
| Primary Sample | 0.02 | 0.00004 |
| Reactor Cleanup | 8.36 | 0.01707 |
| TOTAL | 66.63 | 0.01361 |

9. Plant Tour

The inspector conducted a tour of various areas of the plant to observe operations and activities in progress, general house-keeping and cleanliness, and equipment caution or lockout tags.

No items of noncompliance or deviations were identified.

10. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item discussed during the inspection is discussed in Paragraph 7.

11. Exit Interview

An exit interview was conducted at the conclusion of the inspection with the licensee representatives denoted in Paragraph 1. The total leak rate after all corrections were included was determined by the licensee to be 0.3953 weight percent/day.