

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-237/82-22(DPRP)

Docket No. 50-237

License No. DPR-19

Licensee: Commonwealth Edison Company  
P. O. Box 767  
Chicago, IL 60690

Facility Name: Dresden Nuclear Power Station, Unit 2

Inspection At: Dresden Site, Morris, IL

Inspection Conducted: October 4 through 7 and 12, November 12 and  
December 6 and 8, 1982

Inspectors: *J. M. Tongue*  
J. M. Tongue

2-4-83

Date

*J. Stasek*  
Stasek

2-4-83

Date

Approved By: *R. D. Walker*  
R. D. Walker, Chief  
Projects Section 2C

2-15-83

Date

Inspection Summary

Inspection on October 4 through 7 and 12, November 12 and December 6 and 8, 1982 (Report No. 50-237/82-22(DPRP))

Areas Inspected: Special unannounced inspection of Licensee Event Report Review. The inspection involved a total of 39 inspector-hours onsite by two NRC inspectors including 2 inspector-hours onsite during offshift.

Results: In the one area inspected, two items of noncompliance were identified (Failure to maintain primary containment integrity - Paragraph 2, and Failure to make appropriate notifications - Paragraph 2).

## DETAILS

### 1. Persons Contacted

#### Dresden Nuclear Power Station

- \*D. Scott, Station Superintendent
- \*D. Farrar, Assistant Superintendent for Administrative and Technical Support
- J. Eeningsberg, Assistant Superintendent for Maintenance
- J. Wujciga, Unit 1 Operating Engineer, Acting Assistant Superintendent for Operations, and Acting Unit 2 Operating Engineer
- R. Facchina, Shift Engineer
- W. Petriga, Shift Control Room Engineer/Shift Technical Advisor
- D. McDowell, Shift Forman
- R. Fenili, Licensed Nuclear Systems Operator
- K. Pierce, Equipment Attendent
- S. Mathis, Equipment Operator Trainee (previous Equipment Attendent)

#### Commonwealth Edison Company

- \*C. Reed, Vice President
- \*D. Galle, Division Vice President and General Manager, Nuclear
- \*L. DelGeorge, Director of Nuclear Licensing
- \*T. Rausch, Nuclear Licensing Administrator
- \*T. Morris, Nuclear Safety Department

\*Indicates those persons who attended the Enforcement Conference on December 6, 1982.

### 2. Licensee Event Report Review

(Open) LER 50-237/82-43: Torus Sightglass Found Valved In and Vented.

At 7:30 a.m. on October 4, 1982, the resident inspector was informed that a Deviation Report (DVR) had been written at 5:00 p.m. on Saturday, October 2, 1982. The DVR resulted from an equipment operator discovering an open flow path from the torus free volume to the reactor building (secondary containment). At that time, the reactor was in the "Run" mode at a power level of 2032 Megawatts thermal and 634 Megawatts electric.

The condition was detected after the Nuclear System Operator (NSO) for the unit received a torus water level alarm and requested a local torus sightglass reading. When the Equipment Operator (EO) reached the location of the torus sightglass, he found both of the sightglass isolation valves and the sightglass vent valve open. These manual valves are required to be closed during normal and accident conditions. The EO then obtained the sightglass reading and returned the valves to the positions in which they are normally found (isolation valves closed and vent and drain valves open). He returned to the control room and reported his finding to the NSO who passed the information to the Shift Control Room Engineer/

Shift Technical Advisor (SCRE/STA) and the Shift Engineer (SE). The SCRE/STA and SE discussed the necessity of making an Emergency Notification System (ENS) phone call to the NRC Operations Center in Bethesda, Maryland. They felt that the size of the line (three eighths of an inch tubing with an opening of one fourth of an inch) was small enough that a potential release of radioactive material during an accident would be insignificant. This position was supported by their observations that there was no excess nitrogen makeup to the primary containment and no difficulty maintaining suppression chamber to drywell differential pressure. On this basis, they determined that an ENS notification was not required. The SCRE/STA then drafted a DVR describing the event. The SE was distracted by other operational problems and did not inform the station duty officer of the event. The station duty officer was not aware of the event until after being questioned by the Resident Inspectors on Monday, October 4, 1982. After followup investigation, the station duty officer committed to submit a 14 day licensee event report pursuant to Technical Specification 6.6.B.1. Due to a clerical error, the associated confirmatory telefax to the Region III office required to be submitted on the first working day following the event pursuant to Technical Specification 6.6.B.1 was not submitted until the second working day following the event. The station duty officer also committed to check the condition of the Unit 3 Torus sightglass valves and found them to be in the required positions.

In an effort to determine when the Unit 2 Torus sightglass valves were open, the licensee conducted a survey of all operating personnel on shift. In addition, interviews were conducted with instrument mechanics, radiation protection personnel, chemists and any other personnel that may have had reason to operate the valves. The Unit 2 log book shows that the valves were most recently operated on August 24, 1982 to obtain a torus local water level reading. The licensee was not able to demonstrate that these valves had been manipulated after that date. Unit 2 was in cold shutdown (below 212° F) during the period from September 24 through September 30, 1982. Primary containment integrity was not required while Unit 2 was in cold shutdown.

In comparing the results of interviews of the Equipment Attendant (EA) involved in the event and an additional EA to procedure DOP-1600-13, Torus Level Verification using Local Sightglass, it was found that the sightglass valving had been routinely incorrect. The procedure requires the operator to verify that the vent and drain valves are closed, open the isolation valves, read the water level, close the isolation valves, open the drain valve, drain the sightglass, and close the drain valve. The procedure also requires a second reading for verification that the first reading was correct. Following this procedure would result in the isolation valves, the vent valve and the drain valve being closed after each reading was completed. Interviews with the EA's revealed that the vent and drain valves were routinely left open with the isolation valves closed and only one level reading was obtained.

In summary, on the day of the event, the sightglass isolation valves and the vent valve were found open creating a breach of primary containment

as defined in the Technical Specifications which would have resulted in a release path for fission products during an accident. Review of the unit logbook shows this had been the condition since August 24, 1982. Calculations and testing performed by the licensee demonstrates that this valving error resulted in exceeding the primary containment leak rate limits in the technical specifications. However, the licensee's calculations also indicated that under design basis loss of coolant accident conditions, the release from this breach of primary containment would not have resulted in exceeding the 10 CFR 100 exclusion area boundary dose equivalent rate limits. This is an item of noncompliance (50-237/82-22-01).

Following the event, reporting requirements were not followed. The ENS telephone notification to the NRC Operations Center required pursuant to 10 CFR 50.72(a)(6) was not made within one hour of the discovery of the event. The notification was made at 12:17 p.m. on October 4, 1982, at the request of the Senior Resident Inspector, about 42 hours late. The 24 hour telephone notification required pursuant to Technical Specification 6.6.B.1 was not made to the Region III Office. Past practices have been that this requirement is fulfilled when the resident inspector is informed of the event. The resident inspector was informed at 7:30 a.m. on October 4, 1982, about 14 hours late. The confirmatory telegraph, mailgram, or facsimile transmission was submitted on the second working day following the event, one day late. These reporting violations represent an item of noncompliance (50-237/82-22-02).

Following this event, the licensee initiated comprehensive actions to correct and prevent recurrence of these violations. These actions, as identified below, were completed during the period October 4 through December 30, 1982:

- Visual valve position verification was initiated once per shift,
- Operator retraining classes were updated to include a discussion of the event,
- Torus Sightglass vent and drain valves were removed and the lines were capped,
- Torus sightglass isolation valves were locked closed,
- Locked valve checklists, torus sightglass operating procedures and torus valve check off lists were updated,
- New valve identification tags were placed on all valves associated with torus level indications, and
- Visual examinations and drawing reviews of the primary containment system were completed to ensure that other similar situations did not exist.

The licensee also completed calculations and testing to determine primary containment leakage at various torus pressures and resultant exclusion area boundary cumulative dose equivalent from the first two

hours following a postulated design basis loss of coolant accident (DBLOCA). The licensee determined that the Technical Specifications for primary containment leakage at 48 psig were exceeded. However, using the DBLOCA peak torus pressure (27 psig), the licensee determined that the 10 CFR 100 exclusion area boundary cumulative dose equivalent limits would not have been exceeded. The licensee's calculations determined that the exclusion area boundary cumulative dose equivalent during the first two hours following a postulated DBLOCA would have been increased by 12.9 Rem due to noble gases and 1.44 Rem due to iodines as a result of this breach of primary containment. The above calculation is conservative in nature because it does not take credit for dilution within the Reactor Building nor does it consider an elevated processed release point via the Standby Gas Treatment System and the facility chimney (310 feet high).

### 3. Enforcement Conference

The Region III staff met with licensee representatives (denoted in Paragraph 1) for an Enforcement Conference on December 6, 1982. The purpose of the conference was to verify that the inspection findings were correct and determine what corrective actions had been planned or were completed.

The staff provided a discussion of the facts surrounding the breach of primary containment integrity which occurred during the period August 24 through October 2, 1982 and the lack of timely reporting which followed discovery of this event. The staff categorized these findings as violation of the Technical Specification Limiting Condition for Operation for primary containment integrity and violation of the reporting requirements in the Technical Specifications and 10 CFR 50.

The licensee responded by stating that the facts were correct as presented by the Region III staff and provided a discussion of their proposed and completed corrective actions.