



Commonwealth Edison
 Dresden Nuclear Power Station
 R.R. #1
 Morris, Illinois 60450
 Telephone 815/942-2920

REGULATORY DOCKET FILE COPY

February 24, 1978

BBS LTR 211-78



James G. Keppler, Regional Director
 Directorate of Regulatory Operations - Region III
 U.S. Nuclear Regulatory Commission
 799 Roosevelt Road
 Glen Ellyn, IL 60137

Reportable Occurrence Report #78-009/01T-0, Docket #050-237 is hereby submitted to your office in accordance with Dresden Nuclear Power Station Technical Specification 6.6.B.1.(b), operation of the unit or affected systems when any parameter or operation subject to a limiting condition is less conservative than the least conservative aspect of the limiting condition of operation established in the technical specifications.

B.B. Stephenson
 Station Superintendent
 Dresden Nuclear Power Station

BBS·dlz

Enclosure

cc: Director of Inspection & Enforcement
 Director of Management Information & Program Control
 File/NRC

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1/1
HEAD TO HEAD

ATTACHMENT TO LICENSEE EVENT REPORT 78-009/01T-0
COMMONWEALTH EDISON COMPANY (CWE)
DRESDEN UNIT 2 (ILDRS-2)
DOCKET # 050-237

During steady unit operations at 530 MWe and 1665 MWe on February 12, 1978 the reactor water conductivity increased to 9.2 $\mu\text{mho/cm}$ as measured at the cleanup demineralizer inlet sample station. The maximum permissible reactor water conductivity when operating at steaming rates greater than or equal to 100,000 pounds per hour is 5.0 $\mu\text{mho/cm}$ as specified in technical specification 3.6.C.4. The event occurred at 0348 hours as indicated on the conductivity recorder located in the control room.

The first reactor water sample results were obtained at 0425 hours and continued at approximately one hour intervals. By 0625 hours the reactor water conductivity had dropped to 4.4 $\mu\text{mho/cm}$. During the event the maximum chloride ion concentration was measured to be 0.064 ppm which is far below the technical specification limit of 0.5 ppm. Since the chloride ion concentration and dissolved oxygen content were maintained at low levels, the probability of any stress corrosion of stainless steel is extremely small. As a result, the safety considerations are minimal.

Reactor water conductivity is continuously monitored in the Control Room to provide the operator with a warning mechanism so he can investigate any conditions which may cause a change in indication. In this event chloride ion concentration did not change significantly. As a result, following the first reactor water sample results at 0425 hours a unit shutdown per T.S. 3.6.C.5. was discussed. However, high conductivity alone may not be cause to shut a unit down as described in the basis of Technical Specification Section 3.6.C.4. Additional water samples were taken and it was decided to shut down the unit if the second sample showed no significant decrease in conductivity. If a significant decrease was evident, unit shutdown would not be actually started because water chemistry would be back in specification in less time than significant corrective action via shutdown could be achieved. The second and third water sample results at 0525 and 0625 hours indicated that the conductivity had dropped to 6.2 and (4.4) $\mu\text{mho/cm}$ respectively and a unit shutdown was not necessary.

An investigation into the cause of the conductivity transient revealed that a small amount of condensate demineralizer resin was introduced into the reactor vessel. During the event reactor power decreased from 530 MWe to 504 MWe basically due to changes in void formation. Several other operating parameters were observed to slightly change reflecting

(CONTINUED)

the drop in reactor power. Approximately 5 minutes prior to the event 2C condensate demineralizer service unit was put on recycle following a sonic resin cleaning and regeneration. At about the same time the total condensate demineralizer differential pressure (ΔP) instantaneously increased to 70 pounds. Normal ΔP is maintained between 20 to 40 pounds. The increase in ΔP was attributed to an inadvertant cycling of the 10 inch condensate booster pump minimum flow control valve (FCV-2-3401) which returns water back to the main condenser hotwell from the condensate booster pump discharge header down stream of the demineralizers. The flow through two (2) of the four (4) demineralizers in service exhibited flows in excess of 3600 gpm in conjunction with a 70 pound ΔP . At this point it is highly likely that resin damage occurred. The damaged resin beads which resulted were subsequently forced past the demineralizer service unit underdrains and past the post strainer into the reactor vessel additional whole resin beads may have escaped a service unit as a result of the instantaneous pressure transient which may have slightly moved a few of the underdrains. By approximately 1600 hours the reactor water chemistry was returned to normal (conductivity $\approx .2 \mu\text{mho/cm}$).

The program which has been initiated to prevent a recurrence of resin introduction consists of the following:

- (1) Replacement of all seven demineralizer service unit post strainers,
- (2) Installation of a resin trap on each demineralizer effluent sample line in the attempt to identify service unit underdrain deficiencies,
- (3) The Station Nuclear Engineering Department has begun an investigation into the possible deficiencies involving the condensate booster pump minimum flow valve.

TO: Regional Director
Directorate of Regulatory Operations
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

DATE: 2-14-78
Telecop or
Date 2-14-78
Telegrammed: GE 12:51
DC _____
By _____

cc: Director
Office of Management Information and Program Control
U.S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: DPR- 19, Dresden Nuclear Power Station, Unit 2.

This will confirm a conversation with Heinz of
your office at SUN. 2/12/78 hrs this date concerning

*CONDUCTIVITY
INCREASE TO 9.2 MMHO'S - COND.
Demin DP INCREASED TO 70FSID
FOR SHORT PERIOD DURING WHICH
RESINS WERE INTRODUCED TO REACTOR
CAUSING COND. SPIKE. INVESTIGATION
AS TO CAUSE IN PROGRESS. COND.
RETURNED TO 65 IN 2 HRS.*

*J. Kolanowski
2/14/78*

dupe

To Call:
GE - 7-858-2660x16
DC - 9-1-301-492-7617 (auto)
WU - 815-942-4449/4321

B. B. Stephenson, Superintendent
Dresden Nuclear Power Station
Commonwealth Edison Company
R.R. #1
Morris, IL 60450

Station Dist: Originator (copy)
Incident File (copy)
Library File (orig)

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