

UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

August 30, 1996

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Ms. Irene Johnson, Acting Manager Nuclear Regulatory Services Commonwealth Edison Company Executive Towers West III 1400 Opus Place, Suite 500 Downers Grove, IL 60515

SUBJECT: HYDROGEN WATER CHEMISTRY FUELS SURVEILLANCE - DRESDEN NUCLEAR POWER STATION, UNIT 2 (TAC NO. M91689)

Dear Ms. Johnson:

On April 7, 1983, the NRC issued Amendment No. 75 to Provisional Operating License DPR-19 for Dresden Nuclear Power Station, Unit 2. The amendment approved the reload of fuel for Dresden, Unit 2, operating cycle 9. As part of the new fuel, Dresden added four new General Electric (GE) lead test assemblies (LTA) to the core. The purpose of inserting the four LTA was to monitor the hydrogen water chemistry deleterious effects on the zircaloy components because Dresden, Unit 2, uses hydrogen in addition to the primary coolant for the prevention of intergranular stress corrosion cracking (IGSCC) on reactor recirculation piping and internal reactor components. In the safety evaluation (SE) supporting Amendment No. 75, the staff indicated that the possibility of fuel failures from hydrogen embrittlement was deemed small because there have been no fuel failures in recent years caused by hydrogen embrittlement. In addition to the above conclusion, the staff requested Commonwealth Edison Company (ComEd) to provide the results of hydrogen uptake measurements which GE had committed to perform for ComEd on the LTA. By letters dated November 30, 1987, May 22, 1989 and February 7, 1991, ComEd provided the results of the GE testing of the hydrogen uptake measurements on the LTA over three operating cycles. The data indicated that there were no deleterious effects on the zircaloy components.

By letter dated January 17, 1995, ComEd stated that due to unforeseen delays in schedule, the reprioritization of projects and financial constrains experienced by GE facilities, completion of the hydrogen uptake measures for the last fuel cycle for Dresden, Unit 2, would be delayed and the examinations may not be done on samples currently at GE facilities and in the future. In addition, ComEd indicated that during fuel pool exams after the fourth cycle of irradiation, the LTA were confirmed to be in good condition based on the following:

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- channel and bundle visual inspections
- fuel deposit sampling

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- individual rod inspections
- rod corrosion thickness measurements

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ComEd determined, based on examination of crud samples, that the crud deposit characteristics are in the normal range and that after four 18-month operating cycles there are no indications that crud deposits are significantly changed by the hydrogen addition to the primary coolant.

Because the staff did not make the sampling and reporting requirements referenced in the SE to Amendment No. 75 a license condition or part of the Technical Specifications, ComEd does not need prior approval from the NRC to change the commitment. However, prior to changing the commitment, ComEd must perform a detailed 10 CFR 50.59 evaluation to determine if the commitment change constitutes an unreviewed safety question. Nevertheless, the staff remains interested in the results of the examination. Therefore, please inform the NRC staff when a firm examination schedule has been established with GE and the results of all future examination findings.

Sincerely,

Original signed by Robert A. Capra for:

John F. Stang, Senior Project Manager Project Directorate III-2 Division of Reactor Projects - III/IV Office of Nuclear Reactor Regulation

Docket No. 50-237

cc: see next page

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Document Control Desk-Licensing Commonwealth Edison Company 1400 Opus Place, Suite 400 Downers Grove, Illinois 60515 Dresden Nuclear Power Station Unit Nos. 2 and 3