



Commonwealth Edison
1400 Opus Place
Downers Grove, Illinois 60515

January 17, 1995

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

Attn: Document Control Desk

Subject: Dresden Nuclear Power Station Unit 2
Hydrogen Water Chemistry Fuel Surveillance
NRC Docket No. 50-237

- References:
- (a) D. Crutchfield letter to D. Farrar, dated April 7, 1983.
 - (b) J. Silady letter to T. Murley, dated November 30, 1987.
 - (c) J. Silady letter to T. Murley, dated May 22, 1989.
 - (d) M. Richter letter to T. Murley, dated February 7, 1991.

Reference (a) transmitted Amendment No. 75 to Provisional Operating License DPR-19 in support of Dresden Unit 2 Cycle 9 operation and authorized operation with addition to the primary coolant. Section 2.1.6 of the Safety Evaluation which supported Amendment No. 75 requested that Commonwealth Edison Company (ComEd) provide the results of hydrogen uptake measurements on the General Electric lead test assemblies exposed to the hydrogen environment. The results of the hydrogen uptake measurements following one, two and three cycles of hydrogen addition were presented in References (b), (c) and (d), respectively. The data from the first three cycles of hydrogen water chemistry at Dresden Unit 2 indicated that there were no deleterious effects on the zircaloy components.

The fourth cycle of irradiation also produced no evidence of fuel performance problems based on activity levels indicating zero defects. During pool-side exams after the fourth cycle, the lead assemblies were confirmed to be in good condition based on:

- a) channel and bundle visuals
- b) fuel deposit sampling
- c) individual rod visuals, and
- d) rod corrosion thickness measurements.

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Based on examination of the crud samples, it was concluded that the crud deposit characteristics are in the normal range and that, after four 18 month cycles, there are no indications that crud deposits are significantly changed by hydrogen water chemistry.

Individual rods have subsequently been removed from the lead assemblies and shipped to the GE hot cell facilities at Vallecitos for further exams.

The fourth cycle inspections at Vallecitos have not yet been completed. Due to unforeseen delays in schedule, the re-prioritization of projects and financial constraints experienced by General Electric and EPRI, completion of the hot cell exams, including hydrogen uptake measurements, is uncertain. However, based upon the previous results, it is ComEd's expectation that the examination results, if the examinations are done, would continue to show that the hydrogen water chemistry at Dresden Unit 2 does not have an adverse effect on the zircaloy components.

If there are any questions concerning this matter, please contact this office.

Respectfully,



Peter L. Piet
Nuclear Licensing Administrator

cc: J. B. Martin, Regional Administrator - RIII
J. F. Stang, Project Manager - NRR
M. N. Leach, Senior Resident Inspector - Dresden
Office of Nuclear Facility Safety - IDNS