Regulatory File Cy.

Commonwealth Edison Company

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Dresden Nuclear Power Station
R. R. #1
Morris, Illinois 60450

November 30, 1970

50-237

Dr. Peter A. Morris, Director
Division of Reactor Licensing
U.S. Atomic Energy Commission
Washington, D.C. 20545

SUBJECT: LICENSE DPR-19 DRESDEN NUCLEAR POWER STATION UNIT #2, SECTION 6.6.C.1 OF THE TECHNICAL SPECIFICATIONS

Dear Dr. Morris:

This is to report two conditions relating to the operation of the station in which, during the October and November Surveillance Tests of the Standby Liquid Control System, the sodium pentaborate solution failed to meet the requirements of Section 3.4.C of the Technical Specifications.

Problem, Investigation, and Corrective Action

During shutdown on October 20, 1970, at 3:20 p.m., a sodium pentaborate analysis of the Unit #2 Standby Liquid Control System indicated that the sodium pentaborate solution did not meet the requirements of Section 3.4.C of the Technical Specifications.

The reactor was in the shutdown mode from October 13, 1970, at 9:45 a.m. until October 25, 1970, at 6:45 a.m. Subsequent Analyses at 3:15 a.m. and at 6:00 a.m. on October 22, 1970, verified the October 20, 1970, analysis. The concentration of the solution was determined to be 11.2% by weight of sodium pentaborate, and the volume which could be injected to the reactor was 3,940 gallons. The September 30, 1970, surveillance analysis indicated a 12.0% solution with an injection volume of 3,990 gallons, which was in compliance with the DPR-19 license.

At 2:00 p.m. on October 22, 1970, a recommendation for chemical addition was made by the Radiation-Chemistry Group. The chemical addition was initiated at 4:00 p.m. on October 22, 1970, and was completed at 11:00 p.m. on October 22, 1970. After recirculation of the tank, analyses of the pentaborate solution at 4:15 a.m. and 5:45 a.m. on October 23, 1970, verified the solution concentration to be 12.9% by weight sodium pentaborate, and to have an injection volume of 3,940 gallons. These results demonstrated compliance with Section 3.4.C of the Technical Specifications.

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On November 13, 1970, at 10:50 a.m., sodium pentaborate analysis of the Unit #2 Standby Liquid Control System indicated non-compliance with Section 3.4.C of the Technical Specifications. At this time the pentaborate tank had been on Air Sparge for two hours. Paired samples were analyzed at 11:50 a.m., 12:50 p.m., and at 2:20 p.m. on November 13, 1970, in a special test to determine the optimum time for air sparge recirculation. Seven of the eight samples indicated a 12.1% solution and an injection volume of 3,800 gallons. At about 3:00 p.m., a pentaborate tank recirculation pump was placed in operation to determine if this recirculation technique was superior to the air sparge method. At 10:30 a.m. on November 14, 1970, the tank was resampled and yielded results similar to those on November 13, 1970. Following analysis of these samples, the recirculation on pump was shutdown. The reactor was in a scheduled shutdown mode from 1:30 a.m. on November 14, 1970, until 7:35 p.m. on November 18, 1970. At 6:00 p.m. on November 14, 1970, the Radiation-Chemistry Group had completed calculations and recommended the addition of chemicals to the tank. The chemical addition was initiated at 8:00 a.m. on November 15, 1970, and was completed by 4:00 p.m. on November 15, 1970. The recirculation pump was then placed in service until 1:00 p.m. on November 16, 1970. Samples taken at 8:00 a.m. and at 1:00 p.m. on November 16, 1970, yielded similar results. The sodium pentaborate concentration was 12.8% and the injection volume was 3,850 gallons which satisfied the requirements of Section 3.4.C of the Technical Specifications.

The corrective action initiated consisted of a procedural review and the development of several specific formulas which are applicable to the various pentaborate concentrations and injection volumes available at the time of sampling. Further corrective action already initiated requires duplicate sampling and analysis for corroboratory assurance of the monthly surveillance samples and the periodic standardization of reagents used in the testing procedure.

H. K. Hoyt
Superintendent

HKH:dmc