

Appendix

NOTICE OF VIOLATION

Commonwealth Edison Company

Docket No. 50-454
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As a result of the inspection conducted on February 24, 25, 28, March 1-4, 7-9, 1983, and in accordance with the NRC Enforcement Policy, 47 FR 9987 (March 9, 1982), the following violations were identified:

1. 10 CFR 50, Appendix B, Criterion III, design control states, "Measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions."

Paragraph 5.2.5.1.a of the Byron/Braidwood FSAR states, "The containment floor drain sump contains a weir box for detecting and monitoring unidentified leakage. Leakage is routed to the unidentified leakage weir box through the containment floor drain system. In the unidentified leakage weir box no normal leakage is expected and therefore its design allows detection and monitoring of 1 gpm of leakage. Weir box design will allow the detection system to respond to a 1 gpm increase in leakage within 1 hour."

Contrary to the above, the licensee designed the containment floor drain sump and associated weir such that leakage must pass through an oil separator box before reaching the containment floor drain sump weir box. The oil separator holds approximately 180 gallons below the bottom of the pipe which serves to transport water to the floor drain sump weir. In a situation where the separator is initially dry and normal leakage is 0, a 1 gpm leak would require 3 hours to fill the oil separator before water even started to fill the sump weir box. In this case, the designed and built system would not meet the stated requirements of the FSAR.

This is a Severity Level 7 violation (Supplement II).

2. 10 CFR 50, Appendix B, Criterion XI, Test Control states, in part, that "A test program shall be established to assure that all testing required

to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents."

Regulatory Guide 1.68, "Initial Test Programs for Water-cooled Nuclear Power Plants", in Appendix A under Pre-operational Testing states, "Pre-Operational tests should demonstrate that structures, systems, and components will operate in accordance with design in all operating modes and through out the full design range."

The Byron Startup Manual states in Chapter 2.0, Definitions, that Pre-Operational Tests "will demonstrate the capability of structures, systems, and components to meet safety-related performance requirements." In paragraph 2.4.3, the Byron Startup Manual described Project Engineering as responsible for reviewing and approving all Pre-Operational Tests, and for providing Test Acceptance Criteria, and for ensuring Test Objectives are properly stated and met by Acceptance Criteria.

Contrary to the above, a test procedure was prepared, reviewed and approved by the licensee which failed to demonstrate the capability of the system to meet performance requirements in the following examples:

- a. Paragraph 5.2.5.1.a of the Byron/Braidwood FSAR states, "In the unidentified leakage weir box no normal leakage is expected and therefore its design allows detection and monitoring of 1 gpa of leakage. Weir box design will allow the detection system to respond to a 1 gpm increase in leakage within 1 hour." The containment floor drain sump and associated weir (which the above paragraph is describing) is designed such that leakage must first pass through an oil separator box before reaching the containment floor drain sump weir box. In the preoperational test 2.66.10, "Containment Drains", the licensee introduced a 1 gpm source of water directly to the containment floor drain sump weir box and monitored the time to produce an alarm. This test method completely bypasses the oil separator portion of the "system" and only results in a test of a portion of the system.
- b. Paragraph 5.2.5.1.b of the Byron/Braidwood FSAR in describing the reactor cavity sump weir states, "The weir will detect and monitor a leakage rate of 1 gpm above the normal leakage rate. The weir box design will allow the detection system to respond to a 1 gpm increase in leakage within 1 hour." The reactor cavity sump weir

box is an approximately 1 cubic foot box located at the extreme north end of the reactor cavity floor. The reactor cavity floor is stated by the licensee to contain approximately 504 square feet. In a situation where the cavity floor was initially dry and a leak occurred at or near the far end of the cavity floor, the whole cavity floor area may have to be covered before the leak would reach the weir box. The preoperational test introduced a 1 gpm leak rate directly into the weir and did not account for the cavity floor area at all. The preoperational test failed to demonstrate the ability to detect a 1 gpm leak within 1 hour when the normal leakage rate is zero and occurs at the far end of the cavity.

This is a Severity Level V violation (Supplement II).

Pursuant to the provisions of 10 CFR 2.201, you are required to submit to this office within thirty days of the date of this Notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further noncompliance; and (3) the date when full compliance will be achieved. Consideration may be given to extending your response time for good cause shown.

APR 13 1983

Dated _____

W. S. Little 15

W. S. Little, Chief
Engineering Branch