

INTERIM REPORT

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Responsible NRC Individual and NRC Office or Division: Mr. A. L. Ferguson  
Plant Systems Branch  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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for the  
U.S. Department of Energy

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INTERIM REPORT

NRC Research and Technical Assistance Report

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July 3, 1979

Division of Operating Reactors  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Mr. Robert L. Ferguson  
Plant Systems Branch

Dear Bob:

Subject: Fire Protection in Operating Nuclear Power Stations  
Dresden-1 Safety Evaluation Report Review

The Safety Evaluation Report, as developed jointly by the NRC staff and Brookhaven National Laboratory (BNL), adequately reflects the concerns and recommendations of the consultants. Throughout the reevaluation of Dresden-1, there has been general agreement between the NRC staff and the BNL consultants. Based on present data, the proposed fire protection, as set forth in the SER, will give reasonable assurance that the health and safety of the public is not endangered. The following exception represents a differing engineering point of view that should be evaluated by the NRC staff.

Valve Supervision - Section 4.3.1

Electrical valve supervision should be provided on all valves controlling fire water systems and sectionalizing valves. The present proposal of administrative controls or locks is unacceptable. See letter dated July 13, 1977 to Mr. R. L. Ferguson from Mr. R. E. Hall.

Ventilation System - Section 4.4.1

The present portable system consists of two 5200 CFM fans with ducting, and additional portable units available from the local fire department. We recommend an additional 5200 CFM be on hand at the site to be more consistent with the BNL recommended minimum portable ventilation.

Interior Hose Stations - Section 4.2.1.4

We recommend replacing the 1-1/2" nozzles with "Class C, all-spray electric type nozzles" where electrical shock hazard is a consideration for personnel safety. A suitable alternative is 1-1/2" adjustable nozzles providing a spray stream pattern without going through the straight stream made to open or close the nozzle.

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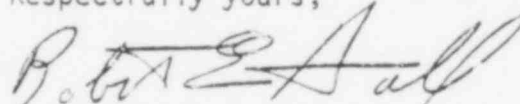
July 3, 1979

The preceding statements are based on a detailed reevaluation of the fire protection program as implemented by the Commonwealth Edison Co. at the Dresden-1 Nuclear Power Station. The analysis covered a review of the fire prevention, detection and suppression capabilities of the plant as interfaced with the nuclear systems requirements. This was accomplished by utilizing a review team concept with members from Brookhaven National Laboratory and the Nuclear Regulatory Commission Division of Operating Reactors staff.

The fire protection evaluation for the Dresden-1 Plant is based on an analysis of documents submitted by the Commonwealth Edison Co. to the Nuclear Regulatory Commission and a site visit. The site visit was conducted by Messrs. T. Dunning and L. Derderian of the NRC; Mr. M. Antonetti of Gage Babcock & Associates, Inc., under contract to Brookhaven National Laboratory, and Mr. J. Riopelle, consultant to BNL. Mr. Riopelle was under contract to BNL to review the manual firefighting capabilities of the station, along with administrative controls.

The Dresden-1 review has been conducted under the direction of Mr. E. A. MacDougall and myself of the Reactor Engineering Analysis Group at BNL. We have reviewed the analyses submitted by the licensee and have visited the facility to examine the relationship of safety-related components, systems and structures with both combustibles and the associated fire detection and suppression systems. Our review has been limited to the aspects of fire protection related to the protection of the public from the standpoint of radiological health and safety. We have not considered aspects of fire protection associated with life safety of onsite personnel and with property protection, unless they impact the health and safety of the public due to the release of radioactive material. The proposed modifications represent a significant increase in the level of protection against serious fire associated hazards.

Respectfully yours,



Robert E. Hall, Group Leader  
Reactor Engineering Analysis

REH/EAM/dt

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