

BROOKHAVEN NATIONAL LABORATORY  
ASSOCIATED UNIVERSITIES, INC.

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Department of Nuclear Energy

May 13, 1980

Mr. Robert L. Ferguson  
Chemical Engineering  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

RE: Dresden 1, Fire Protection Review, Item 3.1.1 and 3.1.5

Dear Bob:

Attached is the Brookhaven National Laboratory (BNL) input to you addressing the licensee's letter of April 8, 1980.

Item 3.1.1, Fire Detections Systems, has been addressed by BNL on February 20, 1980.

Item 3.1.5., Water Suppression Systems, is made up of nine parts, five of which were addressed by the licensee and are responded to herein.

Respectfully yours,

Robert E. Hall, Group Leader  
Reactor Engineering Analysis

REH:EAM:bf  
attachment

cc.: W. Benaroya      wo/att.  
      W. Kato            "  
      M. Levine         "  
      E. MacDougall

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Dresden I  
Fire Protection Review

Item 3.1.5 Water Suppression Systems -

1. a) The design density of 0.15 gpm per sq. ft. over the entire tray surface is acceptable.
- b) The drawings legibility was satisfactory but the content of the drawing did not adequately describe the system to be installed.
- c) The design concept of one preaction system supplying water to another preaction system is unacceptable. Please refer to BNL letter of 2/21/80.
- d) NRC in their April 15, 1980 letter is requiring the utility to 1) reroute any cables which could cause a containment isolation due to a fire in the cable penetration area or 2) barriers to enclose cables causing containment isolation or 3) provide a check valve on the preaction system line inside containment and removal of the isolation valve inside containment and provide manual override for the motorized valve outside containment.

We concur with these requirements.

- e) The addition of heat collectors on the sprinkler heads is acceptable.
  - f) The addition of low air supervision in the preaction system piping is acceptable.
2. The drawings were never received from NRC. Please refer to our letter of 2/21/80.
  3. Automatic Deluge - Hydrogen Seal Oil Unit.
    - a) The density of 0.25 gpm per sq. ft. over the entire surface of the tank is acceptable.
    - b) The location of the remote actuation station for the deluge system outside the entrance to the room is acceptable.
  4. Automatic Preaction Deluge System - Cable Tunnel
    - a) Relocation of the spray head to the center of the tray is acceptable.
    - b) Since low air supervision is unacceptable to the utility due to piping design, we recommend that a redundant detection system be provided in the tunnel.

5-8 Accepted by Licensee

9. Extra Hazard Automatic Sprinkler Clean & Dirty Oil Room.
  - a) The utility will provide 0.3 gpm per sq. ft. over the entire room. This water density is acceptable.