BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.
Upton, New York 11973

Department of Nuclear Energy (516) 345- 2144

January 31, 1980

Mr. Robert L. Ferguson
Plant Systems Branch
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: Indian Point Unit 3, Fire Protection Review Items 3.1.8 (2) and 3.2.4 (partial)

Dear Bob:

Attached are the Brookhaven National Laboratory evaluations of items 3.1.8 (2) and 3.2.4 (partial); these items cover the criteria to be used in protecting the redundant trays in the cable spreading room/tunnel area.

These items were written as per telephone request with Hank George on January 31, 1980.

Respectfully yours,

R. E. Hall E.A.M.

Robert E. Hall, Group Leader
Reactor Engineering Analysis

REH:EAM:sd
attachment
cc.: R. Cerbone wo/att.
H. George
W. Kato wo/att.
E. MacDougall
V. Panciera wo/att.

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Fire Protection Review

On January 14, 1980 the licensee transmitted an informal letter describing the criteria to be used in protecting the redundant cable trays in the cable spreading room - tunnel area. These items are covered under items 3.1.8 and 3.2.4 of the SER.

The licensee will provide a three hour wall to separate the tunnels from the cable spreading area. The redundant cable trays between the proposed wall and the beginning of the tunnels will be protected by automatic sprinklers located over the trays. The feeds to the system will be independent, an impairment in one will not affect the adjacent sprinkler system. The sprinkler design with heads over the trays will extend 15 feet from the wall into the tunnel.

The initial review of the criteria indicates a number of items that should be either modified, incorporated within the design or added to the design.

The following is a list of these items:

1. Design density - 0.15 gpm/sq. ft. of tray surface area. In accordance with NFPA 15 as a minimum.

2. Extend newly designed sprinklers 15 feet into the tunnel starting at tunnel entrance.

3. Provide similar sprinkler protection for the cable trays on the spreading room side.

4. Relocate detectors for system actuation between cable trays in accordance with NFPA 72E as a minimum.

Based upon the above review and comments, we recommend that items 3.1.8(2) Sprinkler Systems and 3.2.4 Cable Spreading Room fire protection be accepted by the staff.