November 20, 1980

Docket No. 50-244
LS05-80-11-028

Mr. Leon D. White, Jr.
Vice President
Electric and Steam Production
89 East Avenue
Rochester, New York 14649

Dear Mr. White:

SUBJECT: INFORMATION REQUEST REGARDING CONTAINMENT SUMPS AND INSULATION FOR OPERATING REACTORS, TAP A-43

During our reviews of license applications we have identified concerns related to the containment sump design and its effect on long term cooling following a Loss of Coolant Accident (LOCA).

These concerns are related to: (1) creation of debris which would potentially block the sump screens and flow passages in the ECCS and the core, (2) inadequate NPSH of the pumps taking suction from the containment sump, (3) air entrainment from streams of water or steam which can cause loss of adequate NPSH, (4) formation of vortices which can cause loss of adequate NPSH, air entrainment and suction of floating debris into the ECCS and (5) inadequate emergency procedures and operator training to enable a correct response to these problems. Preoperational recirculation tests performed by utilities have consistently identified the need for plant modifications. The NRC has, therefore, begun a generic program to resolve these concerns.

As part of the Unresolved Safety Issue (USI) effort to evaluate the performance of containment sumps for operating reactors (TAP A-43, Containment Emergency Sump Reliability), a series of sump tests covering typical designs will be performed under contract by the Alden Research Laboratory. The test facility has been constructed and shakedown testing is underway. Information from operating reactor licensees is required to assist us in developing the appropriate range of test parameters and to evaluate the potential significance of debris formation from insulation materials within containment.

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Sincerely,

Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

Enclosure: As stated

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. Richard F. Cole
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
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Dr. Emmeth A. Luebke
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Mr. Thomas B. Cochran
Natural Resources Defense Council, Inc.
1725 I Street, N. W.
Suite 600
Washington, D. C. 20006

Information Request From Operating PWR Licensees

1. Provide a drawing of the containment sump showing important design features (e.g., debris screening, divider plates, etc.) and dimensions. Provide a drawing showing location in the containment building and the location relative to the reactor primary system. The location and configuration of the suction lines for recirculation, relative to the containment sump should also be shown. For facilities which have performed successful sump flow tests, reference to the docketed results of those tests will fulfill this request.

2. For each type of thermal insulation used in the containment (particularly within the crane wall envelope), provide the following information:

   a) type of material including composition and density;

   b) manufacturer and brand name;

   c) method of attachment;

   d) location and quantity in containment of each type.

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