

William J. Cahill, Jr.  
Vice President

Consolidated Edison Company of New York, Inc.  
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August 1, 1979

Re: Indian Point Unit No. 2  
Docket No. 50-247

Mr. Darrell G. Eisenhut  
Acting Director  
Division of Operating Reactors  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Eisenhut:

This letter is an update of my letter of July 18, 1979 in response to IE Bulletins 79-01A and 79-01. Attached is a written report as discussed in that letter.

Should you or your staff have any questions, please contact us.

Very truly yours,



William J. Cahill, Jr.  
Vice President

cc: Mr. Boyce H. Grier, Director  
Office of Inspection and Enforcement  
Region I  
U. S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, Pennsylvania, 19406

Mr. Ted Rebelowski, Resident Inspector  
U. S. Nuclear Regulatory Commission  
P. O. Box 38  
Buchanan, N. Y. 10511

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ATTACHMENT 1

ASCO SOLENOID VALVES

I.E. Bulletin 79-01A

Docket No. 50-247

Indian Point Unit No. 2

Consolidated Edison Co. of New York, Inc.

4 Irving Place, New York, N. Y. 10003

In response to IE Bulletin 79-01A an investigation of solenoid valves in containment and an analysis of their environmental qualification was initiated. The investigation included review of drawings and documentation, a review of safety system functions, field inspections for visual verification and telephone conversations with representatives of the Automatic Switch Co.

The results of the investigation indicated that ASCO solenoid valves are in use in safety related systems at Indian Point Unit No. 2. These are not the new NP-1 versions of the ASCO solenoid valves, referenced in the Bulletin. However, previous documentation, Westinghouse Topical Report WCAP 7744 and Westinghouse's August 15, 1975 letter NS-CE-755, addressed the operation of safety systems with these types of ASCO solenoid valves and the failure modes of the ASCO solenoid valves. Our investigation concludes that the capability of air operated valves in safety systems to assume their fail safe positions on an S.I. signal will not be impeded by these ASCO solenoid valves nor will the ability of the air operated valves to maintain their fail safe positions be impeded.

The following evaluation was presented in NS-CE-755 which analyzed the possible failure modes of the solenoids and showed that the air operated valves which are actuated by the solenoids are able to perform their function:

The potential modes of failure for a solenoid valve are loss of air supply, electrical failure, environmentally caused degradation of materials of construction, and plunger binding due to thermal expansion. The air operated valves and the solenoid valves are designed such that any failure of the solenoid valves would cause the air operated valves to go to the safe position.

In the event of an interruption or loss of the air supply or failure of the solenoid, itself, the air would be removed from the air operated valve making it go to the safe mode.

Potential electrical failure modes in the solenoid coil are short or open circuits. Either failure would make the coil drop out which would shut off air to the actuator and position the valve in the safe mode.

The potential for binding of the plunger to the core due to thermal expansion was evaluated by the manufacturer and Westinghouse, and determined that clearances used in the solenoid valve are acceptable in order to prevent its failure.

In addition, the design of the engineered safeguards actuation systems is such that electric power to solenoid valves is removed from a point outside of containment at the start of a loss of coolant accident. Furthermore, the instrument air supply to the solenoid valves is isolated in response to an S.I. signal.

In summary, the degradation of the internals of the solenoid valves would not cause a safeguard component to fail in an unsafe mode. In particular, if the solenoids coils associated with the containment building purge and exhaust valves fail the valves would not go open. Failure of the non-metallic internal parts of the solenoid would not allow enough air supply pressure to build up in the actuator to open the valve. Also failure of the solenoid would make the valve go to the closed position.

We have placed an order for NP-1 ASCO solenoid valves and upon receipt we will initiate a maintenance/replacement program as recommended by the manufacturer. In addition, due to the unique circumstances of the Three Mile Island incident, we will replace the ASCO solenoids associated with the pressurizer PORV's (PCV 455C and PCV 456) during the current refueling/maintenance outage with NP-1 ASCO solenoid valves.