

William J. Cahill, Jr.  
Vice President

Consolidated Edison Company of New York, Inc.  
4 Irving Place, New York, N Y 10003  
Telephone (212) 460-3819

March 14, 1980

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

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

Dear Mr. Eisenhut:

This is in response to your letter regarding LWR Primary Coolant System Pressure Isolation Valves, which was received in this office on February 25, 1980.

The Reactor Safety Study (RSS), WASH-1400, identified an inter system loss of coolant accident in a PWR which is a significant contribution to risk from core melt accidents (Event V). In the RSS, the five year average failure probability of check valves was calculated to be  $4 \times 10^{-6}$ /reactor year with an estimated error factor of 10. A plant specific reliability analysis, based on WASH-1400, has been performed for Indian Point Unit No. 2 as part of the Indian Point/Zion Near Site Studies. The base case analysis, performed to date for Event V, for Indian Point 2, resulted in a probability of  $2.8 \times 10^{-10}$ /reactor year. This was based on the assumption that check valves were tested only during refueling outages.

Subsequently, we committed to test these check valves whenever RCS pressure has decreased to within 100 psig of RHR system design pressure. This commitment was first made on January 11, 1980 as part of the Indian Point/Zion Near Site Studies presentation to the Staff. This commitment was reaffirmed in Con Edison's February 1, 1980 letter to Mr. Harold R. Denton (NRC) on Interim Actions. This commitment was also included in the NRC Confirmatory Order which was enclosed with Mr. A. Schwencer's February 11, 1980 letter. As a result of this change, the probability of Event V for Indian Point No. 2 has been reduced to  $6.2 \times 10^{-12}$ /reactor year.

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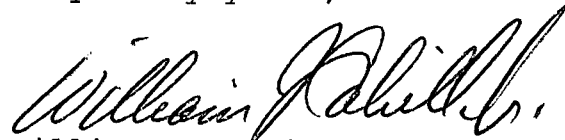
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Attachment A to this letter provides answers to the three specific questions from your letter.

This information is being submitted pursuant to 10 CFR 50.54(f) as requested and forty (40) copies of this submittal are being provided.

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

Very truly yours,



William J. Cahill, Jr.  
Vice President

attach.

Subscribed and sworn to  
before me this 14<sup>th</sup> day  
of March, 1980.

  
Notary Public

ELSIE B. WILSON  
NOTARY PUBLIC, State of New York  
No. 03-453332  
Qualified in New York County  
Commission Expires March 30, 1981

ATTACHMENT A

LWR PRIMARY COOLANT SYSTEM  
PRESSURE ISOLATION VALVES

Consolidated Edison Company of New York, Inc.  
Indian Point Unit No. 2  
Docket No. 50-247  
March, 1980

Question 1:

Describe the valve configuration at your plant and indicate if an Event V isolation valve configuration exists within the Class 1 boundary of the high pressure piping connecting PCS piping to low pressure system piping; e.g., (1) two check valves in series, or (2) two check valves in series with a MOV;

Response:

The piping arrangement between the Low Pressure Injection System and the Reactor Coolant System for Indian Point 2 is shown on Figure 1. As can be seen, the 600 psi and 2500 psi piping are separated by two check valves and a normally closed motor-operated valve. The system sketched on Page V-58 of WASH-1400 is similar insofar as check valve arrangement is concerned. A difference of fundamental importance is that the 2500 psi and 600 psi systems in Indian Point Unit 2 are separated by a normally closed motor-operated valve. Thus, check valve failure is meaningful only if the motor-operated valves are mispositioned. Another important difference is that much of the 600 psi piping in Indian Point 2 is inside containment; in the WASH-1400 system the interface between 2500 psi and 600 psi piping is outside containment. Additionally Indian Point 2 has a check valve in the 600 psi piping inside containment just prior to the containment penetration. For these reasons, a double check valve failure (assuming the motor-operated isolation valve to be incorrectly open) would probably only result in rupture of 600 psi piping inside containment with blowdown also inside containment.

Check valve testing is another important difference from the WASH-1400 Study. Indian Point 2 has test connections which permit verification of both check valves in the line to each loop.

The Event V, WASH-1400, scenario also is very conservative in that it neglects the possibility of terminating blowdown by successful closure of the motor-operated valve at the boundary between 2500 psi and 600 psi piping.

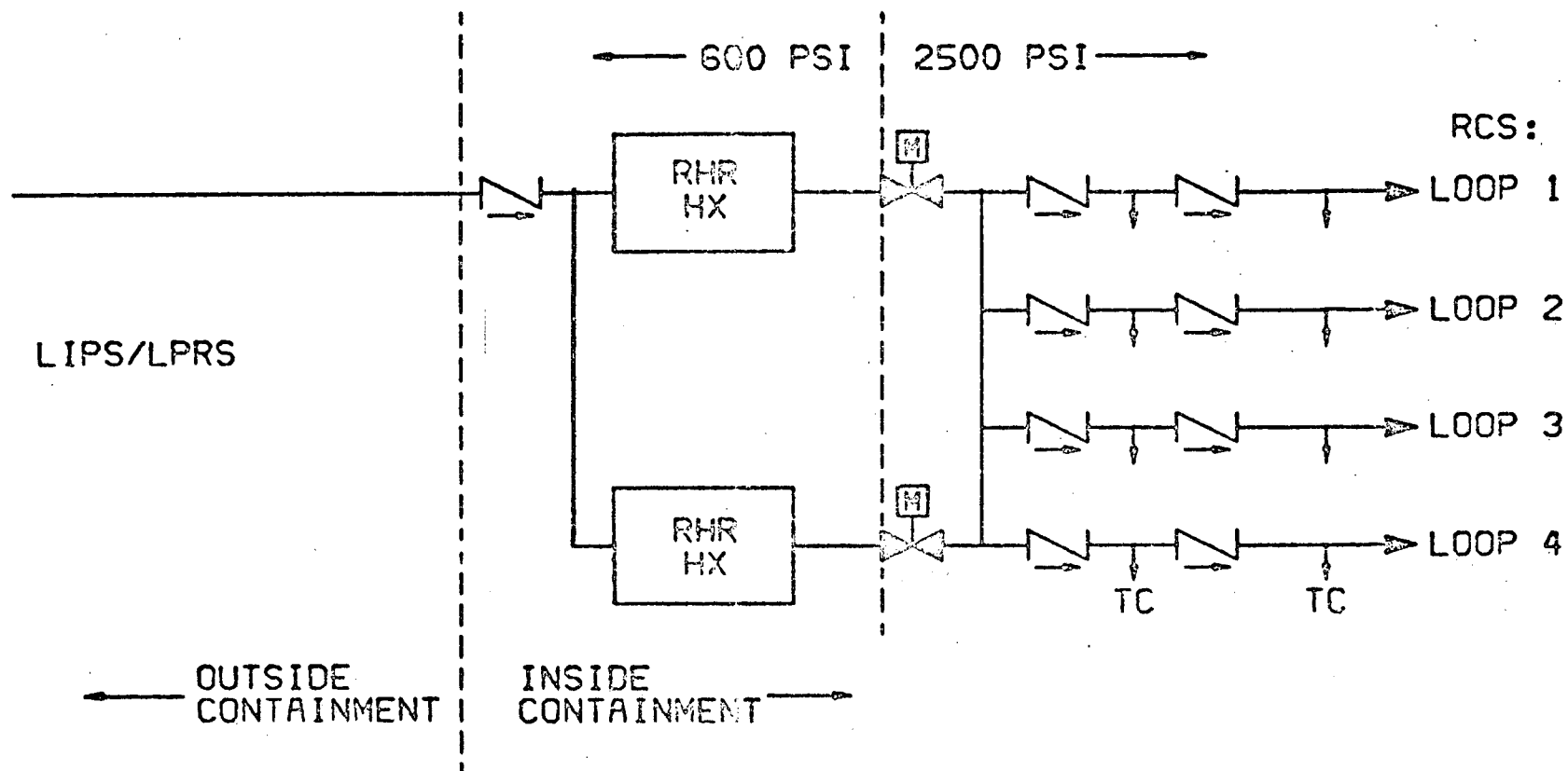


DIAGRAM OF INTERFACING CHECK VALVES

FIGURE 1 : INDIAN POINT 2

Question 2:

If either of the above Event V configurations exist at your facility, indicate whether continuous surveillance or periodic tests are being accomplished on such valves to ensure integrity. Also indicate whether valves have been known, or found, to lack integrity.

Response:

As discussed previously Con Edison had a commitment to test these check valves every refueling outage. As a result of the probability analysis performed for the Indian Point/Zion Near Site Studies, we committed on January 11, 1980 to test these check valves whenever RCS pressure has decreased to within 100 psig of RHR system design pressure. This commitment was reaffirmed in Con Edison's February 1, 1980 letter to Mr. Harold R. Denton on Interim Actions. No lack of component integrity has been observed.

Question 3:

If either of the above Event V configurations exist at your facility, indicate whether plant procedures should be revised or if plant modifications should be made to increase reliability.

Response:

In view of the already extremely low probability of an Event V occurrence as indicated by a plant specific WASH-1400 analysis, and our prior commitment to increase the frequency of testing additional procedure revisions or plant modifications are not necessary to increase reliability for Event V.