

Jersey Central Power & Light Company



MADISON AVENUE AT PUNCH BOWL ROAD • MORRISTOWN, N. J. 07960 • 539-6111

March 23, 1973

Mr. A. Giambusso
Deputy Director for Reactor Projects
Directorate of Licensing
United States Atomic Energy Commission
Washington, D. C. 20545



Dear Mr. Giambusso:

Subject: Oyster Creek Station
Docket No. 50-219
Technical Specification Violation

The purpose of this letter is to report a violation of our Technical Specifications, Paragraph 3.3.C.2 whereas a recirculation loop was started when its coolant temperature and the reactor coolant temperature exceeded a 50°F differential. This event is considered an abnormal occurrence as defined in Technical Specifications, Paragraph 1.15.B and Paragraph 1.15.C.

Notification of this event, as required by the Technical Specifications, was made to the AEC Region 1, Directorate of Regulatory Operations, on March 12, 1973.

On March 10, 1973, the B reactor recirculation pump was removed from service to permit replacement of worn brushes on its associated motor generator set. Upon completion of the maintenance work, the pump was restarted. During the restart, a flux spike was observed on the APRM channels along with a momentary rod block and high flux alarm. The shift foreman, upon investigating the flux spike, observed that the B loop temperatures had decreased to approximately 407°F from the normal 524°F during the time interval the pump was out of service. Since the plant was operating at reduced power at the time, only the high flux alarms were received even though APRM channels 4 and 7 recorded approximately an 8% flux spike and APRM channel 5 recorded approximately a 20% flux spike.

This event occurred due to the failure of operating personnel to use existing procedures which contain a precaution against starting a recirculation pump if its associated loop temperature is not within 50°F of the reactor coolant temperature.

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Mr. A. Grambusso

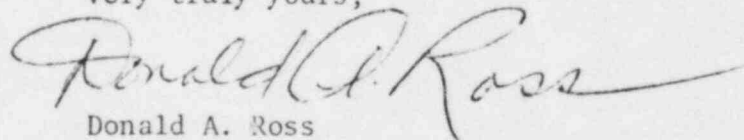
The mechanism which caused the temperature difference to occur is associated with the B recirculation loop piping connections associated with the cleanup system. Figure 1 shows a sketch of the B recirculation loop piping arrangement. When the recirculation pump was removed from service, the two-inch discharge bypass valve is opened, the discharge valve is closed, and the pump suction valve remains open. This valve line up normally allows reactor vessel water to flow back through the pump and associated piping to maintain its temperature at near reactor coolant temperatures. On the B recirculation loop, however, the cleanup system draws water from the pump suction line and returns same to the reactor vessel via the pump discharge line at a temperature of approximately 450°F. With the B recirculation pump in service, this water is mixed with circulating reactor coolant water at the pump discharge. It is now recognized that when the B pump is not in service, a flow path is set up which allows the cooler cleanup system return flow to be drawn back through the pump and into the suction piping leading back to the cleanup system thus causing that water volume to slowly cool down.

During the PORC review of this event and after questioning the individuals involved, it became evident that this situation has occurred on at least five previous occasions when the B recirculation pump was secured for brush maintenance or had tripped off due to other causes.

Subsequent action included contacting the reactor designer in an effort to evaluate the significance of the above event. By comparison with the Zimmer Station recirculation outlet nozzle analysis for improper start of a cold recirculation loop (400°F T for 26 seconds vs. Oyster Creek 117°F for approximately 5 seconds) showed only skin stresses, which were easily accounted for by the fatigue analysis. On this basis, we have been advised it can be concluded that the described transient for Oyster Creek is insignificant and may be ignored. This evaluation will be supported by calculations of recirculation loop nozzle stresses specific to the Oyster Creek design. We presently plan to have these calculations completed and made available to the AEC within ninety days from this date. Further, the recirculation system operating procedure and associated emergency procedure will be revised to include the precaution related to the observed effects of the cleanup system operation on the B recirculation loop.

We are enclosing forty copies of this report.

Very truly yours,



Donald A. Ross
Manager, Nuclear Generating Stations

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Enclosures

cc: Mr. J. P. O'Reilly, Director
Directorate of Regulatory Operations, Region 1

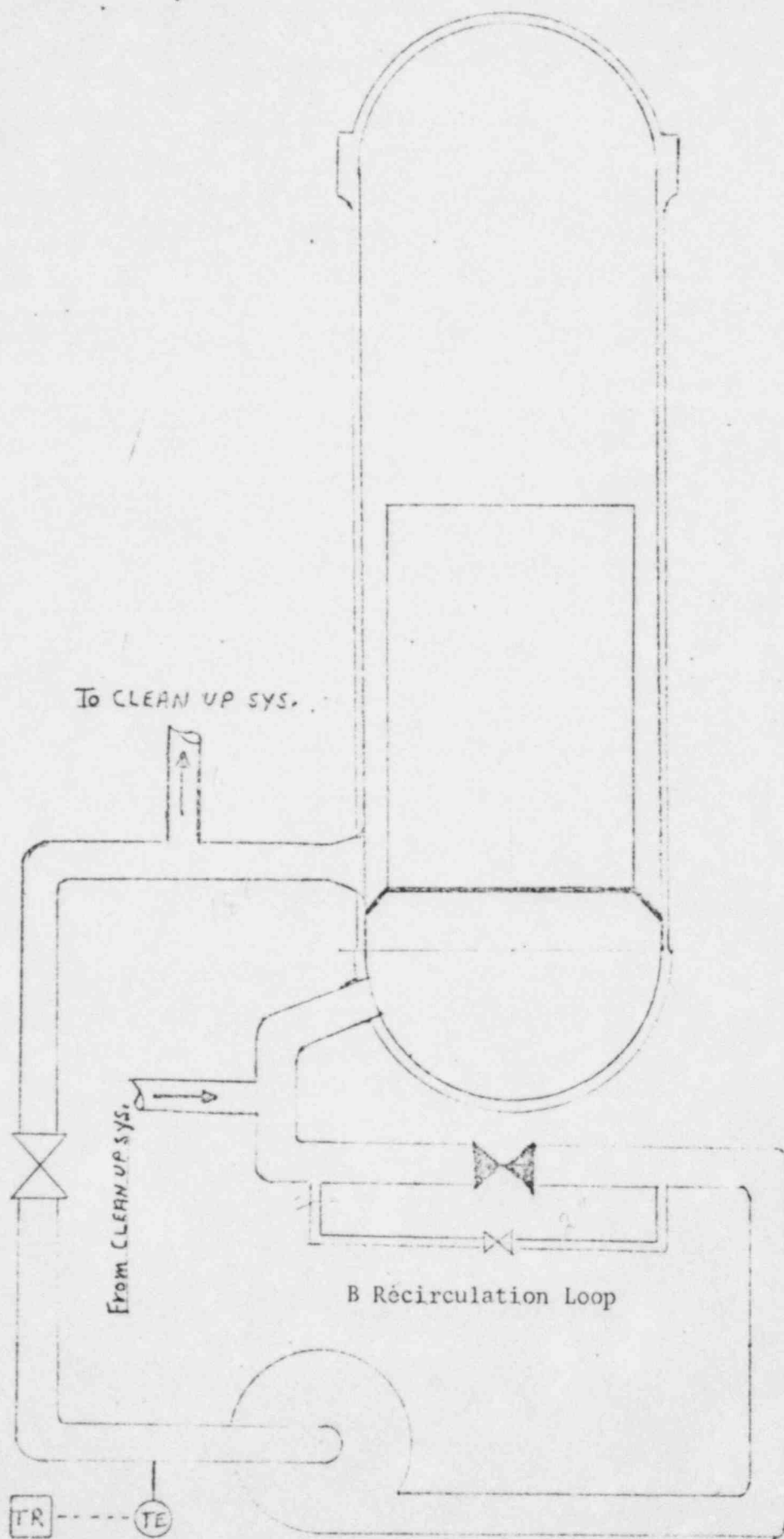


FIGURE 1