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	On	3/31/85,	while	performing	the	HPCI	Pumo	Ope	rabil	ity	Flo	w Ra	ate	Test	(R	ef.	:		

On 3/31/85, while performing the HPCI Pump Operability Flow Rate lest (Ref.: Procedure 8.5.4.1), the HPCI turbine tripped on overspeed. Reactor power was approximately 100% at the time of the event.

Immediate corrective action was to initiate a maintenance investigation and proceed with surveillance testing required for an inoperable HPCI system.

Cause of the overspeed trip was found to be a faulty cable connector in the speed control system of the HPCI turbine. Specifically, the cable between the EG/M control assembly and the EG/R actuator assembly became disconnected at the EG/R. This was the result of a broken retaining ring in the female connector at the EG/R end of the cable. (A threaded collar at the end of the cable is tightened against the retaining ring to secure the connection.)

Corrective action was to replace the female connector which is manufactured by Amphenol and supplied by the Terry Turbine Co. Root cause of the retaining ring failure could not be determined. Replacement of the connector is considered adequate to preclude recurrence. A search of records identified no previous failures of a similar nature.

On 4/2/85, after replacement of the faulty connector, the HPCI operability test was rerun. During the test, a HPCI turbine exhaust high pressure alarm was received. Investigation found rupture disc PSD-68, the first in a series of two, was blown. The redundant second disc remained intact.

While replacing the rupture disc, a 6", 20 KIP snubber (Bergen Paterson Serial No. 2500-6-513) on the HPCI turbine exhaust line was observed to have a broken shaft at the point where it threaded into the clevis rod. Further investigation found the front baseplate of both snubbers in that hanger assembly in a degraded condition.

Cause of the blown rupture disc, broken snubber, and degraded baseplates is believed to be the result of an anomalous event (i.e., waterhammer). Root cause analysis is in progress and will be discussed in an update to this LER.

Corrective action was to restore the two baseplates, and, in addition, increase the length and diameter of the anchor bolts (Ref.: FRN 83-19B-219). The broken snubber was rebuilt. The second snubber of the hanger assembly tested satisfactorily in the as-found condition. To preclude recurrence, HPCI procedures (Ref.: 8.5.4.1, 8.5.4.3, and 8.5.4.6) were revised to increase the turbine exhaust line blowdown duration from 2 to 3 minutes following system operation and to require an inspection of the HPCI baseplates and pipe clamps (in addition to the snubbers) following system operation. In addition, a 3-minute N_2 blowdown of the turbine exhaust line is being performed once per day.

Redundant systems that were operable included Core Spray, LPCI, ADS, and RCIC. This event did not impact the health and safety of the public.

The HPCI system was successfully tested and returned to service on 4/7/85.

Unit No. 1

BOSTON EDISON COMPANY BOD BOYLSTON STREET BOSTON, MASSACHUSETTS 02199

WILLIAM D. HARRINGTON

April 26, 1985 BECo Ltr. #85-081

Document Control Desk U.S. Nuclear Regulatory Commission Washington, D.C. 20555

> Docket Number 50-293 License DPR-35

Dear Sir:

The attached Licensee Event Report 85-008-00, "HPCI System Inoperable," is hereby submitted in accordance with the requirements of 10CFR50.73.

If there are any questions on this subject, please do not hesitate to contact me.

Respectfully submitted,

annatos

W. D. Harrington

PH:caw

Enclosure: LER 85-008-00

cc: Dr. Thomas E. Murley
 Regional Administrator, Region I
 U.S. Nuclear Regulatory Commission
 631 Park Avenue
 King of Prussia, PA 19406

Standard BECo LER Distribution

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