



Duquesne Light

Nuclear Construction Division
Robinson Plaza, Building 2, Suite 210
Pittsburgh, PA 15205

2NRC-6-050
(412) 787-5141
(412) 923-1960
Telecopy (412) 787-2829
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United States Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

ATTENTION: Dr. Thomas E. Murley
Administrator

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Colt PC-2 Emergency D/G Fuel Rack Boost Vent Piping
Potential Significant Deficiency Report 86-07

REFERENCE: Colt Part 21 Report from J. M. Moriarty
To Mr. James G. Keppler, dated 2/4/86

Gentlemen:

This potentially Reportable Significant Deficiency Report relating to Colt PC-2 Emergency Diesel Generator Sets Fuel Rack Boost Vent Piping is being submitted pursuant to the requirements of 10CFR50.55(e). This is a final report. It is anticipated that no additional reports will be submitted.

DUQUESNE LIGHT COMPANY

By

J. J. Carey
Vice President

SDH/ijr
Attachment
AR/NAR

cc: Mr. P. Tam, Project Manager (w/a)
Mr. J. M. Taylor, Director (3) (w/a)
Mr. W. Trokoski, Sr. Resident Inspector (w/a)
Mr. L. Privity NRC Resident Inspector (w/a)
INPO Records Center (w/a)
NRC Document Control Desk (w/a)

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ATTACHMENT 1

BEAVER VALLEY POWER STATION - UNIT NO. 2 DUQUESNE LIGHT COMPANY REPORT ON POTENTIALLY REPORTABLE DEFICIENCY OF THE EMERGENCY DIESEL GENERATOR SETS FUEL RACK BOOST VENT PIPING

1. Summary

An overspeed trip of the emergency diesel generators on startup occurred at Public Service of New Hampshire, Seabrook Unit 1. Reports indicate that the starting air pressure which actuates the governor rack boost, was not being vented from the rack boost promptly after the start signal had been terminated. This caused the rack boost to not respond to the governor, to control the speed. Colt indicated that BV-2 has similar emergency diesel generators and the same venting configuration as Seabrook.

2. Immediate Action Taken

The Seabrook vent piping schematics were examined which confirmed this could happen. An alternate vent piping arrangement was suggested and a field change was initiated by Colt Industries. In addition DLC requested from Colt, via telecon, additional information regarding the cause of the overspeed trips at Seabrook-1. DLC asked why the lube oil pressure shuttle valve had not vented the fuel rack boost and prevented overspeed. Colt replied that they do not think the lube oil shuttle valve always operated in time to provide proper venting if lube oil is at keep warm temperature for long periods of time. Colt also stated that there is no need for this shuttle valve once the modification is made, as described in Colt's Part 21 report (Reference).

The modification corrects the problem experienced at Seabrook. Retaining the lube oil shuttle valve will not be deleterious to proper D/G operation.

S. D. Hall, Sr. Project Engineer, DLC notified Jane Grant, NRC Region I on May 2, 1986 under the requirements of 10CFR50.55(e) of this potentially reportable deficiency.

3. Description of Deficiency

Air pressure from the diesel air start system is used through a series of shuttle valves to put the fuel rack boost in the "Max Fuel" position upon initiation of a diesel start. This will start the engine running and increase the governor oil pressure so the governor can control the fuel rack position and therefore engine speed. At the point where the governor takes control of the fuel rack, the air start solenoid valves are vented. This is intended to vent all the air start lines downstream of the solenoid valves. The present arrangement has the air shuttle valves piped into the air start lines far downstream of the vent location and have the main air start valves between them and the vent. Because of this, the air shuttle valves may not be vented quickly enough.

During discussions with Colt, DLC was advised that spurious overspeeds during starting similar to the Seabrook problem were experienced at other facilities. It was noted that the lube oil pressure shuttle valves may have been the vent path to release the fuel rack boost in the majority of start procedures.

4. Analysis of Safety Implications

The emergency diesel generators are required during design basis events to supply electric power to the safety-related components. Improper venting of the air shuttle valves could cause improper operation of the fuel rack boost. This could result in an overspeed trip of the emergency diesel generators and attendant delays in providing emergency power to vital plant components.

5. Corrective Action to Remedy Potential Deficiencies

Colt is initiating a field change order for BVPS-2 to move the air shuttle valve vent connections to a point close to the air start solenoid valves which do the venting. This change was made at Seabrook and test proved its operability. In addition, DLC will revise Section 9.5.6 and Fig. 9.5-10 of the FSAR to be consistent with the Air Start System Modification in Amendment 13 scheduled to be submitted January 1987.

6. Additional Reports

This is a final report. No further reports are anticipated.