



Duquesne Light

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December 20, 1982

United States Nuclear Regulatory Commission
Region I
631 Park Avenue
King of Prussia, PA 19406

ATTENTION: Mr. R. Haynes
Administrator

SUBJECT: Beaver Valley Power Station - Unit No. 2
Docket No. 50-412
Potentially Defective Robertshaw Thermostatic Control Valves
Significant Deficiency 82-03, Interim Report No. 2

Gentlemen:

This letter is Interim Report No. 2 concerning Significant Deficiency 82-03, "Robertshaw Thermostatic Control Valves".

On August 17, 1982, Beaver Valley Power Station - Unit No. 2 (BVPS-2) submitted Interim Report No. 1 on this subject. Since that time, Robertshaw Controls Company has continued to work on the development of a procedure for correcting the deficiency.

When details of the corrective action taken are available, BVPS-2 will issue another report on this subject. It is expected that this report will be submitted to Region I by August 30, 1983.

DUQUESNE LIGHT COMPANY

By *E. J. Woollever*
E. J. Woollever
Vice President

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Attachment

cc: NRC Document Control Desk
Mr. G. Walton, NRC Resident Inspector (w/attachment)
Ms. L. Lazo, Project Manager (w/attachment)

SUBSCRIBED AND SWORN TO BEFORE ME
THIS 23rd DAY OF December, 1982.

Judith M. Nill
Notary Public

JUDITH M. NILL, NOTARY PUBLIC
ROSS TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES MAY 28, 1984
Member, Pennsylvania Association of Notaries

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COMMONWEALTH OF PENNSYLVANIA)

) SS:

COUNTY OF ALLEGHENY)

On this 23rd day of December, 1982, before me, a Notary Public in and for said Commonwealth and County, personally appeared E. J. Woolever, who being duly sworn, deposed and said that (1) he is Vice President of Duquesne Light, (2) he is duly authorized to execute and file the foregoing Submittal on behalf of said Company, and (3) the statements set forth in the Submittal are true and correct to the best of his knowledge.

Judith M. Hill

JUDITH M. HILL, NOTARY PUBLIC
ROSS TOWNSHIP, ALLEGHENY COUNTY
MY COMMISSION EXPIRES MAY 28, 1984
Member, Pennsylvania Association of Notaries

BEAVER VALLEY POWER STATION - UNIT NO. 2
DUQUESNE LIGHT COMPANY
REPORT ON POTENTIAL DEFICIENCY OF EMERGENCY
DIESEL GENERATOR THERMOSTATIC CONTROL VALVES

1. SUMMARY

Colt Industries has reported that the diesel engines of the BVPS-2 Emergency Diesel Generator Sets are equipped with potentially defective thermostatic control valves manufactured by Robertshaw Controls Company. Malfunction of these valves could cause extreme overcooling with attendant risk of engine damage.

2. IMMEDIATE ACTION TAKEN

Upon notification of the problem by Colt Industries, Stone & Webster Engineering Corporation issued a report of a problem and initiated an inspection of the BVPS-2 Emergency Diesel Generator Sets which confirmed that the diesels are equipped with the potentially defective valves. On July 26, 1982, Duquesne Light Company notified the Region I office of the problem by telephone. Colt Industries also filed a 10CFR21 report with the Director of the NRC's Region III Office of Inspection and Enforcement.

3. DESCRIPTION OF DEFICIENCY

The diesel engine of each BVPS-2 Emergency Diesel Generator is equipped with a Robertshaw Model I-1285-S25 thermostatic control valve. The 5-inch, 3-way control valve is located in the engine's intercooler water system. The valve's design incorporates a lower overrun assembly which absorbs movement generated by thermal assemblies under certain conditions. The overrun assembly consists of a spring restrained between two end pieces whose length and "breakdown" is set by an axial bolt and nut. Under normal conditions, this assembly acts as a rigid member. Should the nut not be firmly affixed in place and "backoff", the longer length of the overrun assembly results in a valve stroke which is not generated by the thermal assembly. This additional stroke makes the thermal assembly function at a lower temperature, thus, overcooling the system. In order to prevent the nut from backing off and allowing the valve to go into the full cooling position, Robertshaw has employed a design which stakes the retaining nut in place and a design in which the nut is soldered to the axial bolt. Neither of these designs has proved to be satisfactory in actual operating conditions.

4. ANALYSIS OF SAFETY IMPLICATIONS

The Emergency Diesel Generators are required during design basis events to supply electric power to the safety-related components when offsite power is not available. The potential malfunction of the thermostatic control valve and subsequent extreme overcooling of the diesel engine could cause the diesel generator to be unavailable or fail while carrying emergency loads and, therefore, could adversely affect the safety of plant operations.

5. CORRECTIVE ACTION TO REMEDY DEFICIENCIES

Robertshaw Controls Company, working in conjunction with Colt Industries, is in the process of developing a procedure for correcting the deficiency by swage locking the nut in position on the overrun assembly.

6. ADDITIONAL REPORTS

Duquesne Light Company will issue another report on this subject when details of the corrective action taken are available. It is expected that this report will be submitted to Region I by August 30, 1983.