



**Public Service Company of Colorado**

P. O. Box 361, Platteville, Colorado 80651

July 18, 1975



Mr. E. Morris Howard, Director  
Nuclear Regulatory Commission  
Region IV  
Office of Inspection and Enforcement  
Suite 1000  
Arlington, Texas 76012

Ref: Facility Operating License  
No. DPR-34

Docket No. 50-267

Dear Mr. Howard:

Enclosed please find a copy of Abnormal Occurrence Report No. 50-267/75/15,  
Final, submitted per the requirements of the Technical Specifications.

Very truly yours,

Frederic E. Swart  
Superintendent Nuclear Production  
Fort St. Vrain Nuclear  
Generating Station

FES:il

cc: Mr. Angelo Giambusso

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S PDR

50-267  
inquiry

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REPORT DATE: July 18, 1975

ABNORMAL OCCURRENCE

OCCURRENCE DATE: July 9, 1975

FORT ST. VRAIN NUCLEAR GENERATING STATION  
PUBLIC SERVICE COMPANY OF COLORADO  
P. O. BOX 361  
PLATTEVILLE, COLORADO 80651

REPORT NO. 50-267/75/15

Final

IDENTIFICATION OF  
OCCURRENCE:

While repairing a minor oil leak on the gasoline engine of the emergency fire pump (P-4501S) on July 9, 1975, the mechanic noticed that the inlet manifold piping was cracked.

This has been identified as an abnormal occurrence, as per paragraph 2.1, Section (F) of the Technical Specifications.

CONDITIONS PRIOR  
TO OCCURRENCE:

<u>                    </u>	Steady State Power	<u>                    </u>	Routine Shutdown
<u>                    </u>	Hot Shutdown	<u>                    </u>	Routine Load Change
<u>      X      </u>	Cold Shutdown	<u>                    </u>	Other (specify)
<u>                    </u>	Refueling Shutdown	<u>                                            </u>	
<u>                    </u>	Routine Startup	<u>                                            </u>	

The major plant parameters at the time of the event were as follows:

Power	PTR, <u>          0          </u>	MWth
	ELECT, <u>          0          </u>	MWe
Secondary Coolant	Pressure <u>          325          </u>	psig
	Temperature <u>          115          </u>	°F
	Flow <u>                  0          </u>	#/hr.
Primary Coolant	Pressure <u>          0.5          </u>	psig
	Temperature <u>          115          </u>	°F Core Inlet
	<u>          115          </u>	°F Core Outlet
	Flow <u>          32,500          </u>	#/hr.

DESCRIPTION OF  
OCCURRENCE:

Curing the repair of a small oil leak, inspection of the gasoline engine on the emergency fire pump (P-4501S) found what were thought to be a crack on one of the inlets of the inlet/exhaust manifold. Further checking with a dye-penetrant showed that the manifold had cracks (partial circumferential). At least four of the six cylinder inlets appear to have small cracks. The cracks were in each case located at the junction of the air passage with the mounting flange of the cast iron manifold.

APPARENT CAUSE  
OF OCCURRENCE:

_____ Design	_____ Unusual Service Cond. Including Environment
_____ Manufacture	_____ X _____ Component Failure
_____ Installation/Const.	_____ Other (specify)
_____ Operator	_____
_____ Procedure	_____

ANALYSIS OF  
OCCURRENCE:

The reason for the cracks in the inlet passage of the manifold has not been identified. Three possible causes of the failure could be:

- 1) Cyclic temperature stresses, because the one piece manifold contains six inlet ports, six exhaust ports, and cooling water passage ways.
- 2) Possibly the manifold was misaligned when installed.
- 3) Combination of vibration and size of the manifold.

The engine was, and is, operable with these cracks. Even with further cracking the engine would be operable but at reduced power.

CORRECTIVE  
ACTION:

A new manifold has been ordered and the defective casting will be replaced. The quarterly preventive maintenance inspection procedure will be revised to make a visual inspection of the manifold. A dye-penetrant check of any suspected cracks will be made during the annual preventive maintenance inspection.

FAILURE DATA/SIMILAR REPORTED OCCURRENCES:

None

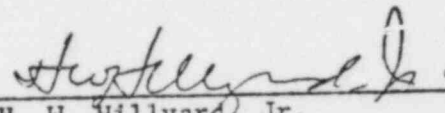
PROGRAMMATIC IMPACT:

None

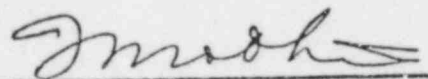
CODE IMPACT:

None

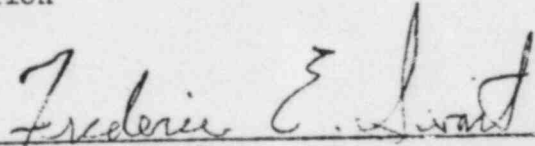
Submitted by:

  
H. W. Hillyard, Jr.  
Technical Services Supervisor  
Fort St. Vrain Nuclear  
Generating Station

Reviewed by:

  
Frank M. Mathie  
Superintendent, Maintenance  
Fort St. Vrain Nuclear  
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Approved by:

  
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