

Final Report
on
Vertical Fire Dampers
for the
SNLPPS Project

Bechtel Power Corporation
Gaithersburg, Maryland
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8008190

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1.0 INTRODUCTION

In compliance with 10CFR50.55(e), this report is being issued due to failure of vertical fire dampers supplied to SNUPPS Project (Callaway and Wolf Creek Jobsites) by Ruskin Manufacturing Company, Grandview, Missouri, to close completely. The dampers had been delivered to Union Electric's Callaway Unit No. 1 and Kansas Gas & Electric's Wolf Creek Jobsites.

2.0 DESCRIPTION OF DEFICIENCY

A nonconformance report generated at Callaway Jobsite indicated failure of the lower end of the damper blade closure spring (flat ribbon coil type) to remain in place, resulting in incomplete closure of the vertical dampers. This failure was identified while the dampers were being operationally cycled. One end of spring, on dampers designed for vertical installation, becomes disconnected during cycling. Release of the spring interferes with full closure of the damper.

A bracket at the lower end of the vertical dampers holds the spring which is connected to the damper blade. The brackets were originally designed to be installed as shown in the left hand sketch of Ruskin Manufacturing Company Drawing No. 5398 (copy attached). To provide extra support for the bracket, Ruskin decided to tack weld the top edge of the bracket to the damper blade guide, as shown in the middle sketch on Ruskin Drawing No. 5398. The tack welding resulted in widening of the gap in the brackets and allowing the springs, in some instances, to slip out while they were recoiling during closure of the damper.

3.0 ANALYSIS OF SAFETY IMPLICATIONS

Fire dampers are provided for all HVAC system penetrations of fire rated walls to prevent spread of a fire through the ductwork from one area of the plant to another. Many of the fire rated walls provide separation of redundant safe shutdown equipment. Approximately 85 vertical fire dampers are used in the Auxiliary Building, 22 in the Fuel Building, 117 in the Control Building, and 2 in the Reactor Building in each of the SNUPPS Units.

Failure of a damper to fully close during a fire situation could potentially permit the fire to spread from one fire area to another area containing safety related equipment.

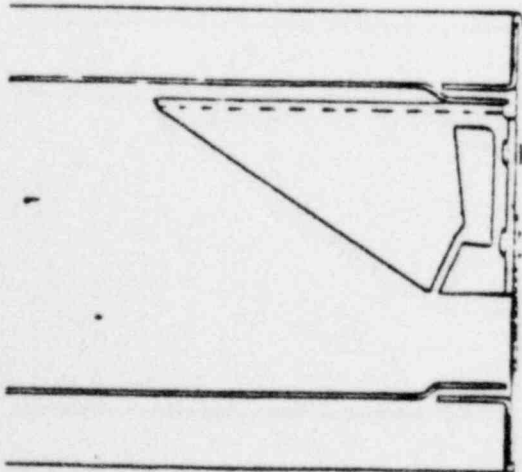
4.0 CORRECTIVE ACTION

A #6 screw using a washer, star lockwasher, and hex nut, will be installed in the narrow portion of the spring slot, as shown in the Ruskin Manufacturing Company Drawing No. 5398. The vertical fire dampers for Callaway Jobsite have been returned to Ruskin for necessary modification. Fire dampers for Wolf Creek, not yet installed, will either be returned to Ruskin for the necessary modification or else modified on site. Dampers already installed at Wolf Creek will be modified at the jobsite. Vertical fire dampers, not yet shipped to SNUPPS Units, will be modified prior to delivery. All vertical fire dampers modified per this report will be operationally cycled, prior to or during installation, to confirm acceptability.

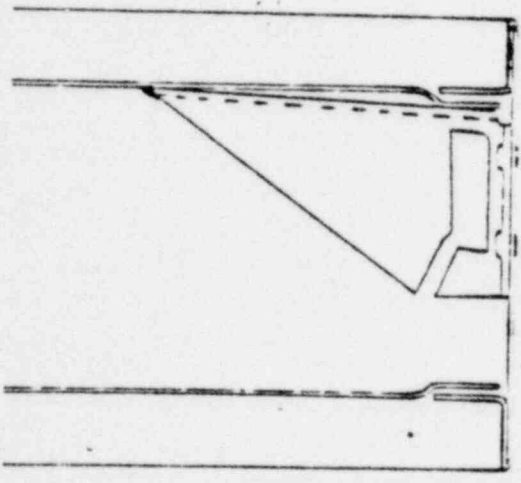
This deficiency has been reported to the NRC by Ruskin Manufacturing Company as a 10CFR Part 21 defect. The Ruskin report has provided the necessary generic information, required by 10CFR Part 21 reporting requirements.

5.0 CONCLUSION

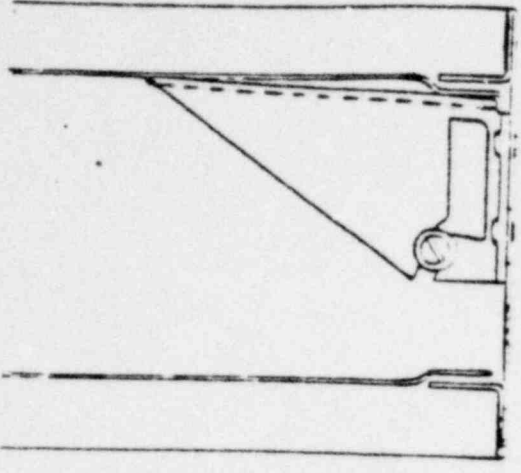
After modification, all vertical fire dampers will close completely, as intended, and will prevent spread of fire from one fire area to another area containing safety related equipment.



ORIGINAL INSTALLATION
(VERTICAL FIRE DAMPERS
WITH SPRING CLOSURE)



TOP EDGE OF BRACKET
TACKWELDED TO PROVIDE
EXTRA SUPPORT FOR
BRACKET & RESULTING
ALTERATION OF SPRING
SLOT



PROPOSED FIX - #6 SCREW,
WASHER, STAR LOCKWASHER
& HEX NUT TO KEEP
SPRING FROM SLIPPING
OUT OF SLOT

CHANGE LETTER	REVISION DESCRIPTION	OWN. BY	APP'VD. BY	DATE
	RUSKIN Mfg. Co.			
	P.O. Box 129			
	Grandview, Mo. 64030			
	TITLE			
	VERT. NIBD 23 SPRING			
	: BRACKET MODIFICATION			
	DWG. NO.			
				5398

OWN. BY:	APP'VD. BY:
T. LASHNER	AVE
DATE 1-14-80	DATE 1-14-80