



# THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

ILLUMINATING BLDG. ■ PUBLIC SQUARE ■ CLEVELAND, OHIO 44101 ■ TELEPHONE (216) 623-1350 ■ MAIL ADDRESS: P.O. BOX 5000

*Serving The Best Location in the Nation*

October 21, 1980

Mr. Jack Hughes  
Site Resident Inspector, Region III  
U. S. Nuclear Regulatory Commission  
10 Center Road  
Perry, OH 44081

Dear Jack:

As requested, I am sending you a copy of our Deviation Analysis Report 035, with attachments, which concerns the Ruskin Manufacturing Company type N1BD23 fire dampers.

If you have further questions, please contact either Mr. Mike Brown (extension 202) or Mr. Gary Leidich (extension 538).

Sincerely,

*W. J. Kacer*

W. J. Kacer  
General Supervising Engineer  
Construction Quality Section

ksz  
Attachments

cc: B. L. Barkley  
M. A. Brown  
G. R. Leidich  
404.101.73

4

# PERRY NUCLEAR POWER PLANT DEVIATION ANALYSIS REPORT

ITEM Ruskin Fire Dampers	LOCATION Perry Nuclear Power Plant	QUANTITY 85
ORIGINATOR <i>MAB</i> M. A. Brown <i>RLV</i> <i>WJK</i>	ORGANIZATION Construction Quality Engineering	DATE 8/8/80
RESPONSIBLE ORGANIZATION Ruskin Manufacturing Company	SPECIFICATION SP-49/91	REFERENCE DOCUMENTS See Attached

## DESCRIPTION OF DEVIATION

Fire Dampers furnished by Ruskin Manufacturing Company are being modified because of failure of the brackets as explained on attached Ruskin letters to Robert Irsay Company SP-49/91. This problem has been reported by Ruskin under 10CFR21 to the Nuclear Regulatory Commission.

## SUMMARY ANALYSIS

The fire dampers in question are non-nuclear safety in all systems. The affected safety related system drawings will be revised to indicate this.

All but six (6) fire dampers have been modified and certified by Ruskin Manufacturing Company and verified by Robert Irsay Co.

The remaining six (6) dampers will be modified by the Robert Irsay Co. at such time that dampers are accessible. Ruskin will be notified, by Robert Irsay Co. after completion of modification.

Also See Attachments #1 and #2 dated 9-24-80 and 10-17-80 respectively. *BG*

SIGNIFICANT DEFICIENCY ☐ YES ☒ NO

REPORTABLE DEFECT ☐ YES ☒ NO

ENGINEERING ANALYSIS BY <i>BL Gally</i> 8-21-80 <i>Thad Friedman</i> 8-14-80 NAME/DATE <i>BL Gally</i> 10-17-80	QUALITY ASSURANCE <i>Mary Felt</i> 10/20/80 NAME/DATE	OTHER NAME/DATE
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## ATTACHMENTS

☐ YES

☐ NO

## ITEMS:



August 12, 1980

to: J. S. Holton  
from: K. R. Pech  
subject: Safety Related System Diagrams  
with Fire Dampers

It has been pointed out to us by the resident NRC inspector that while our philosophy is to consider all fire dampers as non-safety, there is no indication on the system diagrams of the safety related systems to this effect.

We committed to have a note added to the affected diagrams to identify the fact that the fire dampers are an exception to the safety related classification of the system. As we discussed on the phone the revised drawings should be on site by September 1. Please proceed with the required revisions.

The drawings to be changed are as follows:

<u>DWG. NO.</u>	<u>SYSTEM DESIGNATION</u>
D-912-605	1M15
D-912-609	M23 & M24
D-912-610	M25 & M26
D-912-617	M40
D-912-622	1M36
D-912-623	M28
D-962-605	2M15
D-962-622	2M36

Please call John Cichello or myself if you have any questions on this.



K. R. Pech

cc: P. B. Gudikunst  
J. P. Cichello

RECEIVED

SEP 25 1980

## THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

AND KAISER ENGINEERS, INC.

PN-6 REV. 8-79

## MEMORANDUM

PNPP-COS  
PAGE NO.

TO W. J. Kacer ROOM W115 FROM B. L. Barkley *BLB* DATE Sept. 24, 1980  
PHONE 212 ROOM W220  
SUBJECT DAR 01 Ruskin Fire Dampers

This information is provided to backup the DAR on Ruskin Fire Dampers SP-49/91, dated August 8, 1980. The DAR (based on a Ruskin 10CFR21 report to NRC) is not a significant deficiency since the fire dampers are not safety related. Here is the explanation of why the Fire Dampers in a safety related duct (or non-safety duct) are not safety related.

1. The fire damper's function is to maintain the integrity of the fire wall it is installed in. As such, it is considered to be part of the fire protection system and to have the same non-safety related classification.
2. While the fire dampers are classified as non-safety related, they are required to be seismically qualified when they are to be installed in a nuclear safety related ductwork system. Proper documentation is available concerning the seismic qualification of fire dampers for the Perry Project. (In a seismic event they do not degrade the performance of the ductwork system. *i.e., they remain open.*) *BB*

GAI has added a note as requested, to each nuclear safety related system diagram to clarify that the fire dampers are non-safety related and seismic category I. This will remove the concern that the drawings indicate that the dampers are safety related. The spec clearly states they are non-safety.

BLB/jac

cc: H. W. Dieckmann  
J. D. Grier  
P. B. Gudikunst  
K. R. Pech  
S. W. Reid  
E. J. Turk  
NDS File

An investigation has been performed to determine the effect of the failure of a fire damper to close properly, on the ability to safely shutdown the reactor plants and to minimize radioactive releases to the environment. The investigation consisted of a review of fire damper locations throughout the plant and the fire analysis for the related areas as described in the Fire Protection Evaluation Report. The areas where a fire damper failure would result in the potential for a fire to affect redundant systems or equipment are detailed below along with an analysis of the significance of each.

I. HPCS Battery Room (620'-6" Control Complex)

Ventilation for this area is provided by two (2) ducts off of the main duct that supplies DIV 1 and DIV 2 MCC Areas. Air is relieved through wall openings in the walls to DIV 1 and DIV 2 MCC Areas. Separation of the fire dampers is at least 13 feet in this area and a fire loading of 21,130 BTU/sq. ft. (less than 30 minute fire) indicate that a fire could not traverse the duct to damage the other Division. Thus a safe shutdown of the reactor plants is not impaired.

II. Division 1/Division 2 Battery Rooms (638'-6" Control Complex)

Battery rooms for Division 1 and Division 2 have exhaust via fire dampered openings in the wall to a common corridor. The Fire Protection Evaluation Report indicates there are no combustibles in the corridor, hence no fire loading.

III. Vertical Cable Chase (638'-6" Control Complex)

Air supply ducting to the computer room is obtained via two (2) ducts originating from a common duct which penetrates the fire wall between divisionalized cable chases. Postulating a fire damper failure, the physical separation of the tray of divisions 1 and 2 is such that the ability to safely shutdown the reactor plants is maintained.

IV. Control Room (654'-6" Control Room)

The common plenums (3 places) serving both Units 1 and 2 contain fire dampers on the Unit 1 side and the Unit 2 side. The entire ventilation system is seismically supported. In the instance of fire damper failure, the arrangement is such that a fire in one control room will not spread through the duct in one control room through the failed fire damper and through the duct in the other control room.



V. HVAC Area (679'-6" Control Complex)

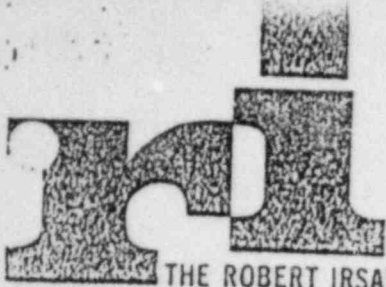
Physical separation of redundant equipment of at least 30 feet and a fire loading of 15,500 BTU/sq. ft. (less than 15 minute fire) indicate that a fire damper failure does not allow the fire to travel to the redundant equipment and does not effect the ability to safely shutdown the reactor plants.

VI. Plenum Area (693'-2" Control Complex)

Although the plenum area is common to Unit 1 and Unit 2, the physical separation of the supply ducts for the redundant electrical divisions and components is such that in the case of a fire, and fire damper failure, the fire will not travel through the duct to another divisional area and the ability to safely shutdown the reactor plants is maintained.

The fire dampers, in all cases, are seismically qualified and are supported from either a seismically constructed wall/floor or a seismically supported duct system. Additionally, the redundant areas are also separated by physical distance and/or seismic safety class ductwork. The analysis of the above areas indicate that the ability to safely shutdown the reactor plants is not impaired. Therefore, the deviation described on the DAR is not considered reportable as a significant deficiency.

B. Bulley  
10-17-80



THE ROBERT IRSAY COMPANY

SOL #786

July 21, 1980

Site Organization  
Perry Nuclear Power Plant  
10 Center Road  
Perry, Ohio 44081

Attention: Mr. H. Dieckmann

Cleveland Electric Illuminating Co.  
Perry Nuclear Power Plant  
HVAC Contract No. P-1527-V  
Modification of Vertical Spring  
Closure, N1BD23 Fire Dampers

Gentlemen:

The purpose of this letter is to inform you of the events which transpired after The Robert Irsay Company was notified of a necessary modification of dampers previously procured by Irsay. Of eighty-five (85) dampers, seventy-nine (79) complete.

Please find enclosed three (3) letters from Ruskin Manufacturing Company to The Robert Irsay Company, dated January 21, 1980, April 4, 1980 and May 22, 1980.

The sequence of these letters should reveal our current status with the modification. You will be notified by letter upon completion and acceptance of the modification.

Should you have any questions regarding the above, please contact the undersigned.

Very truly yours,

RECEIVED

JUL 22 1980

THE ROBERT IRSAY COMPANY

CQS: QUALITY  
ENGINEERING

Richard G. Hughes  
Field Coordinator

RGH:eb  
Encl.

cc: T. E. O'Connell

D. Willman

S/O Doc. Center, Mike Brown, Joe Carey

HEATING • VENTILATING • AIR CONDITIONING

P.O. BOX 205, PERRY, OH. 44081 PERRY NUCLEAR POWER STATION (216) 259-5799 TWX (810) 427-2635  
CHICAGO, IL. TOLEDO, OH. JACKSON, MS. DENVER, CO.

**RUSKIN Manufacturing Company**

**RUSKIN**® air handling specialties

Box 129  
Grandview, Missouri 64030  
Phone 816 761 7476  
TWX 910 777 7041  
TELEX 42 4192

Factories: Parsons and Great Bend, Kansas  
Representatives in all Major Cities

January 21, 1980

Mr. Richard Reineck  
The Robert Irsay Company  
P. O. Box 205  
Perry, Ohio 44081

Reference: PERRY NUCLEAR STATION  
P.O.# FO-707-46-0

Subject: Ruskin's Vertical Spring Close IBD Fire Dampers

Vertical IBD type Fire Dampers with spring closure built by Ruskin after June 1979, have spring brackets installed with two rivets through the bottom of the frame and a tackweld holding the top of the bracket to the blade guide. Previous to this date, brackets had not been tackwelded to the blade guide. Addition of the tackweld came about after noting that repeated closings of the blade package during air test at our laboratory caused some bending in the brackets. Fastening of the bracket to the blade guide was to provide extra support for the bracket; however, it also alters the shape of the spring holding slot. This was discovered recently when we recieved a report from one job site of some springs coming out of brackets while the damper were being cycled. The engineering firm for this job has advised Ruskin that this problem is reportable under 10CFR part 21. Ruskin has reported it accordingly.

Ruskin, with the help and cooperation of the engineering firm for the project where this problem was discovered, has come up with a simple method for eliminating this problem. It consists of placing a #6 screw using a washer, star lockwasher and hex nut through the narrow portion of the spring slot (see drawing 5398 attached). This fix was successfully tested on a "worst case" damper at our laboratory, after duplicating the spring slipping problem.

Ruskin can furnish certified hardware for field installation where possible, and will help with alternatives if field installation seems impractical.

It should be noted that this situation does not alter the ability of Ruskin's fire dampers to survive a seismic event and remain intact and operable. However, it can possibly affect the complete closure of the damper and should be corrected.

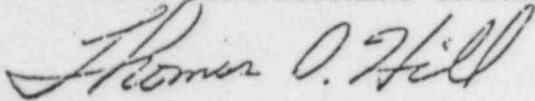


Ruskin's Vertical Spring Close IBD Fire Dampers  
January 21, 1980  
Page 2

Thank you for your cooperation in this matter.

Sincerely,

RUSKIN MANUFACTURING COMPANY



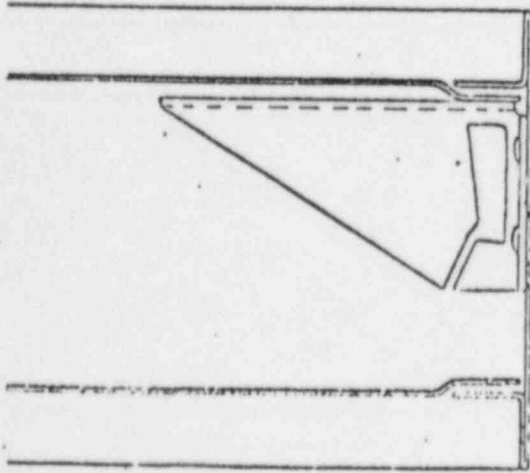
Thomas D. Hill  
Executive Vice President and  
General Manager

TDH:esh

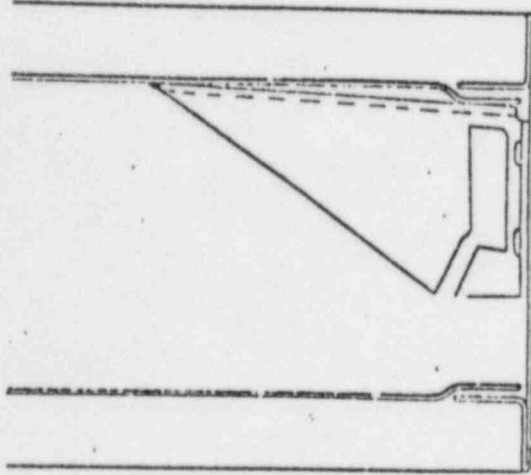
Enclosure: Drawing 5398

RECEIVED  
JAN 24 1980

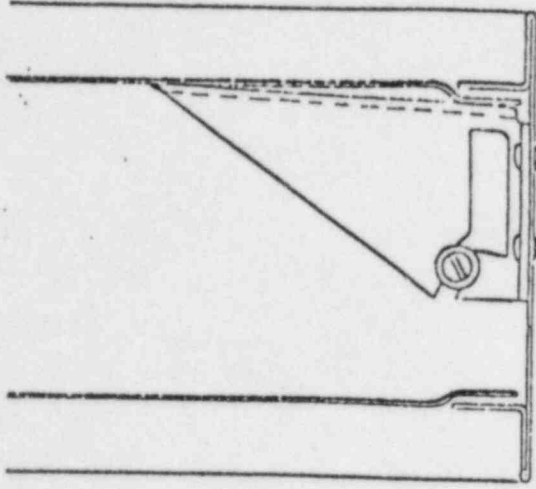
IRSAY CO.



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

OWN. BY: T. LASHER DATE 1-14-80	CKD. BY: TA DATE 1-17-80	APP'V'D. BY: RVB DATE 1-14-80	CHANGE LETTER	REVISION DESCRIPTION	OWN. BY	APP'V'D. BY	DATE
				RUSKIN MFG. CO. P.O. Box 129 Grandview, Mo. 64030	SCALE 1/4"	ISSUE 1	
				TITLE VERT. NIB023 SPRING BRACKET MODIFICATION	DWG. NO. 5398		

**RUSKIN Manufacturing Company**

**RUSKIN** air handling specialties

Box 129  
Grandview, Missouri 64030  
Phone 816 761 7476  
TWX 910 777 7041  
TELEX 42 4192

Factories: Parsons and Great Bend, Kansas  
Representatives in all Major Cities

May 22, 1980

The Robert Irsay Company  
P. O. Box 205  
Perry, OH 44081

Attention: Mr. Richard Hughes

Subject: Modification of Vertical Fire Dampers

RECEIVED

JUL 22 1980

COST QUALITY  
ENGINEERING

Enclosed you will find a copy of Field Rework Plan.

Please locate these dampers in the list and let us know what do we have to have in order to get to the plant and do the modification.

Ruskin Service Contact is Mr. Earnie Reed. You can contact him and make the arrangement for these modifications.

If there are any questions please contact me.

RUSKIN MANUFACTURING COMPANY

*Hossein Ali Novin*

Hossein A. Novin  
Project Manager

HAN:skh

FIELD REWORK PLAN

1. Customer:

Name The Robert Irsay Company

Address P. O. Box 205

Perry, OH 44081

Individuals to Contact

Phone

Richard Hughes

216-259-5799

2. Project Information:

Job Name Perry Nuclear Power Station

Contract/P.O. # F0-707-46-0

Customer Identification #                      Ruskin # 0038

3. Equipment to Which This Plan Applies:

Vertical Fire Dampers (see Attachment 2)

4. Supplier:

Name: Ruskin Manufacturing Company

Address: Box 129  
Grandview, Missouri 64030

Telephone: 816-761-7476

TWX: 910 777 7041  
Telex: 42 4192

Project Manager: Hossein A. Novin

! Nature of Problem/Scope of Work:

See Attachment 1

#0038

FO-707-46-0

Perry Nuclear

6 Documents Required to Accomplish Work:

Ruskin Dwg./Document No.

Customer Document No.

5566

5567

4311

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Repair Material Certification Required:

Yes     X    

No                     

8. Special Site Services/Equipment to be Provided Ruskin by the Site Constructor:

9. Ruskin Service Contact:

Earnie Reed  
(816) 761-7476

10. Site Contacts:

Richard Hughes

11. Remarks/Special Instructions:



FIELD REWORK PLAN

## 5.a. NATURE OF PROBLEM

- 5.a.1 It was observed that the negator springs of type NIBD23 vertical fire dampers can slip out of their spring slots if the bracket is bent or deformed, thereby preventing full closure of the damper.
- 5.a.2 It was observed that the damper curtain did not always close completely on dampers 9" high and less.

## 5.b. SCOPE OF WORK

- 5.b.1 Problem a.1 is considered to be generic to all type NIBD23 vertical fire dampers furnished to nuclear plants since June 1979.
- 5.b.2 Problem a.2 is considered to be generic to all small vertical fire dampers furnished 9" high and less.

## 5.c. DAMPERS REQUIRING REWORK

- 5.c.1 The type NIBD23 vertical fire dampers requiring rework are listed on Attachment 2 to this work plan.

## 5.d. WORK TO BE PERFORMED

- 5.d.1 Ruskin shall remove number six (6) screw, washer and hex nut from each type NIBD23 vertical fire damper listed on Attachment 2 to this work plan if previously installed. Ruskin shall furnish and install new clamps (replacing #6 screws) per Drawing No. 5566.
- 5.d.2 Ruskin shall furnish and install a "snap-in-strip" on each type NIBD23 small (9" high & less) vertical fire damper identified by an asterisk on Attachment 2 to this work plan per Drawing No. 5567.
- 5.d.3 Ruskin shall verify the removal of the original number six (6) screw if previously installed, and the installation of a new clamp in each spring slot in each type NIBD23 vertical fire damper listed on Attachment 2 to this work plan. In addition, new "snap-in-strip" shall be attached to each small (9" high & less) vertical fire damper identified by an asterisk on Attachment 2 to this work plan. After verification of clamp installation on all vertical fire dampers, and verification of new "snap-in-strip" installation on all small (9" high & less) vertical fire dampers, Ruskin will operationally test vertical fire damper by releasing the blade package by hand. If a damper does not close properly by hand, it will be retested by [unclear] link simulating fire condition. The

hand release will be attempted first since it allows for a greater margin of safety for verifying proper closure due to a less uniform release of the blades. Ruskin must be afforded necessary access to perform this work.

# VERTICAL FIRE DAMPER LIST

Document No. 2  
 Perry Nuclear  
 FO-707-46-0  
 #0038

Page 1 of 4

Damper Identification	Size	Sections	Rework Complete	Verified	Comments
FD-RB-101	16 x 14	1 x 1	EC	OK	
FD-RB-102	16 x 14	1 x 1	EC	OK	
FD-IB-303	14 x 16	1 x 1	EC	OK	
FD-IB-304	16 x 14	1 x 1	EC	OK	
FD-IB-307	16 x 14	1 x 1	EC	OK	
FD-IB-308	16 x 14	1 x 1	EC	OK	
FD-RB-318	16 x 14	1 x 1	EC	OK	
FD-IB-401	14 x 16	1 x 1			
FD-IB-402	14 x 16 ✓	1 x 1			
FD-RB-601	16 x 14	1 x 1	EC	OK	
FD-IB-141	29 x 17	1 x 1	EC	OK	
FD-IB-142	29 x 17	1 x 1	EC	OK	
FD-IB-143	27 x 37	1 x 2	EC	OK	
FD-IB-247	22 x 10	1 x 1			
FD-IB-248	22 x 10	1 x 1			
FD-IB-347	30 x 18	1 x 1			
FD-IB-348	30 x 18	1 x 1	EC	OK	
FD-IB-349	30 x 18	1 x 1	EC	OK	
FD-IB-350	30 x 18	1 x 1	EC	OK	
FD-IB-641A	40 x 40	2 x 2	EC	OK	
FD-IB-641B	40 x 20	2 x 1	EC	OK	
FD-CC-301	30 x 36	1 x 2	EC	OK	
FD-CC-304	30 x 36	1 x 2	EC	OK	

\* 9" high or smaller - requires snap-in strip

VERTICAL FIRE DAMPER LIST

Damper Identification	Size	Sections	Rework Complete	Verified	Comments
FD-CC-307	30 x 36	1 x 2	EC	PSH	
FD-CC-310	30 x 36	1 x 2	EC	PSH	
FD-CC-409	18 x 10	1 x 1	EC	PSH	
FD-CC-410	36 x 34	<del>1 x 2</del> 2 x 2	EC	PSH	
FD-CC-415	18 x 10	1 x 1	EC	PSH	
FD-CC-416	36 x 34	<del>1 x 2</del> 2 x 2	EC	PSH	
FD-CC-421	18 x 10	1 x 1	EC	PSH	
FD-CC-422	36 x 34	<del>1 x 2</del> 2 x 2	EC	PSH	
FD-CC-427	18 x 10	1 x 1	EC	PSH	
FD-CC-428	36 x 34	<del>1 x 2</del> 2 x 2	EC	PSH	
FD-CC-451	18 x 10	1 x 1	EC	PSH	
FD-CC-453	18 x 10	1 x 1	EC	PSH	
FD-CC-455	18 x 10	1 x 1	EC	PSH	
FD-CC-457	18 x 10	1 x 1	EC	PSH	
FD-CC-101	42 x 16	2 x 1	EC	PSH	
FD-CC-102	38 x 14	2 x 1	EC	PSH	
FD-CC-103	38 x 14	2 x 1	EC	PSH	
FD-RB-103	16 x 14	1 x 1	EC	PSH	
FD-RB-104	16 x 14	1 x 1	EC	PSH	
FD-RB-319	16 x 14	1 x 1	EC	PSH	
FD-RB-602	16 x 14	1 x 1	EC	PSH	
FD-CC-302	12 x 10	1 x 1	EC	PSH	
FD-CC-303	11 x 11	1 x 1	EC	PSH	

\* 9" high or smaller - requires snap-in strip

# VERTICAL FIRE DAMPER LIST

10038  
FD-707-46-0  
Perry Nuclear

Page 3 of 4

Damper Identification	Size	Sections	Rework Complete	Verified	Comments
FD-CC-305	12 x 10	1 x 1	ER	REIT	
FD-CC-306	11 x 11	1 x 1	ER	REIT	
FD-CC-308	12 x 10	1 x 1	ER	REIT	
FD-CC-712A	48 x 48	2 x 2	ER	REIT	
FD-CC-712B	48 x 48	2 x 2	ER	REIT	Blade guides bent on one section about 5' from top - replaced c/c
FD-CC-452	18 x 10	1 x 1	ER	REIT	
FD-CC-454	18 x 10	1 x 1	ER	REIT	
FD-CC-456	18 x 10	1 x 1	ER	REIT	
FD-CC-458	18 x 10	1 x 1	ER	REIT	
FD-CC-719	24 x 24	1 x 1	ER	REIT	
FD-CC-720	24 x 24	1 x 1	ER	REIT	Frame twisted - Blade guides sides of frame bent - replaced c/c
FD-CC-721	10 x 12	1 x 1	ER	REIT	
FD-CC-722	10 x 12	1 x 1	ER	REIT	
FD-CC-723	10 x 12	1 x 1	ER	REIT	Installed - frame bent in and not cyclic spring insulation - As to 1/2"
FD-CC-309	11 x 11	1 x 1	ER	REIT	
FD-CC-311	12 x 10	1 x 1	ER	REIT	
FD-CC-312	11 x 11	1 x 1	ER	REIT	
FD-CC-313	10 x 6 *	1 x 1	ER	REIT	
FD-CC-314	11 x 11	1 x 1	ER	REIT	
FD-CC-315	10 x 6 *	1 x 1	ER	REIT	
FD-CC-316	11 x 11	1 x 1	ER	REIT	
FD-CC-412	18 x 14	1 x 1	ER	REIT	
FD-CC-413	29 x 17	1 x 1	ER	REIT	

\* 9" high or smaller - requires snap-in strip



## Page 4 of 4

\* 9" high or smaller - requires snap-in strip

**RUSKIN Manufacturing Company**  
**RUSKIN** air handling specialties

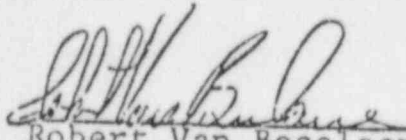
Box 129  
Grandview, Missouri 64030  
Phone 816 761 7476  
TWX 910 777 7041  
TELEX 42 4192

Factories: Parsons and Great Bend, Kansas  
Representatives in all Major Cities

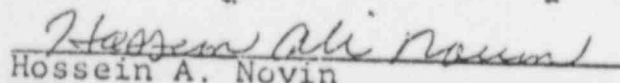
CERTIFICATION OF CONFORMANCE

Purchase Order Number: FO-707-46-0  
Project Name: Perry Nuclear Power Station  
Customer Name: The Robert Irsay Company

We hereby certify that all material supplied under this certification (Fuse Links, S-hooks, and Spring Bracket Clips, etc.) are in strict accordance with the drawings and specifications covered under the above purchase order requirements. Evidence to this effect is on file and subject to examination at our facility.

  
Robert Van Becelaere  
Vice President, Engineering

5-30-80  
Date

  
Hossein A. Novin  
Project Manager

5-30-80  
Date

CONTROL DAMPERS • FIRE DAMPERS • BACKDRAFT DAMPERS • LOUVERS

CERTIFICATE OF CONFORMANCE

I certify that the identified work was performed correctly and meets the requirements of this plan.

Richard D. Hughes  
Signature

Edward L. Reed  
Signature

Robert T. Tracy Co.  
Company

Ruskin Manufacturing Company  
Company

Field Coordinator  
Title

Senior Manager  
Title

6-6-80  
Date

6-6-80  
Date

COMMENTS: See comments in attachment #2. Also IB 401, 402, 247  
248, 347 cannot be done at this time, will be done by Tracy later and we  
will be notified by letter as we will be when dampers are accessible. Item  
#CC723 to be repaired and Q.C. will check and notify Ruskin by letter.

I certify that the reworked equipment meets all the requirements of the Purchase Order for the original equipment, including warranty. If the original equipment is environmentally and/or seismically qualified, the modification performed utilizing this plan does not alter the qualification of the identified equipment.

Edward L. Reed  
Signature of Supplier Representative

RUSKIN MANUFACTURING COMPANY  
Company

Senior Manager  
Title

6-6-80  
Date

COMMENTS: See comments on Attachment #2. Also IB 401, 402, 247, 248, 347  
cannot be done at this time. Will be done by Irsay later and we will be  
notified by letter as we will do when dampers are accessible. Item  
#CC723 to be repaired and Q.C. will check and notify Ruskin by letter.

**RUSKIN Manufacturing Company**

**RUSKIN** air handling specialties

Box 129  
Grandview, Missouri 64030  
Phone 816 761 7476  
TWX 910 777 7041  
TELEX 42 4192

Factories: Parsons, Great Bend and Paola, Kansas;  
Anaheim, California; and Minden, Louisiana

April 4, 1980

Robert Irsay Company  
P. O. Box 205  
Perry, Ohio 44081

Attention: Mike Szabo

Reference: PERRY NUCLEAR STATION  
P.O.# FO-707-46-0  
106 Units

RECEIVED

JUL 22 1980

CQS: QUALITY  
ENGINEERING

Subject: Vertical Spring Closure NIBD23 Fire Dampers

In our notice to you dated January 21, 1980, we addressed a problem relating to Ruskin's vertical, spring close, NIBD23 Fire Dampers and a fix or correction was suggested which consisted of fastening a #6 screw in the narrow portion of the slot in the spring brackets.

Although it appears that this method should have eliminated the problem, an engineering firm has indicated to us that some of the screws worked loose during shipment. This raises the possibility that the use of screws as a fix is questionable. We therefore request that you stop any activity relative to the installation of this fix.

Ruskin has now developed an alternate fix consisting of a small metal clamp which attaches to the spring bracket and provides a positive stop for the spring (see drawing 5564).

A second problem has also been brought to our attention. If the blade package in vertical units less than 9" high is shifted such that the leading edge of the bottom blade rests higher than the trailing edge, the blades may jam when released.

Ruskin has developed a snap-in strip which when installed will hold the bottom blade in the proper orientation and insure complete and consistent closure (see drawing 5565).

April 4, 1980

Page 2

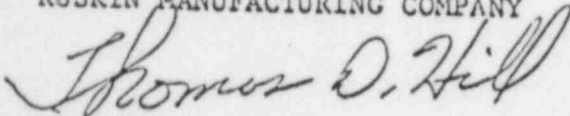
Ruskin recognizes that under the terms of its contract with you it is obligated to remedy deficiencies. Under the assumption that the problems are deficiencies or non-conformances (Ruskin has reported both these matters to the NRC in accordance with the requirements of 10 CFR part 21) Ruskin stands ready to perform the necessary work at the job site itself. Ruskin desires to make certain that the deficiencies or non-conformances are remedied.

Ruskin will in the near future contact you so that an appointment will be set for Ruskin's personnel to appear to the job site to perform the corrections referred to. In the meantime, Ruskin suggests that installation of the NIBD23 Fire Dampers not already installed be delayed until Ruskin's personnel have had the opportunity to make the corrections.

Thank you for your cooperation.

Sincerely,

RUSKIN MANUFACTURING COMPANY



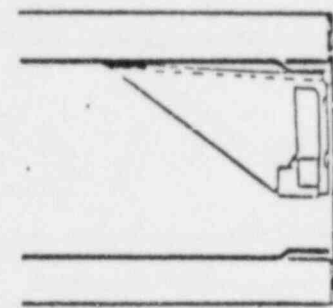
Thomas D. Hill  
Executive Vice President and  
General Manager

TDH:esh

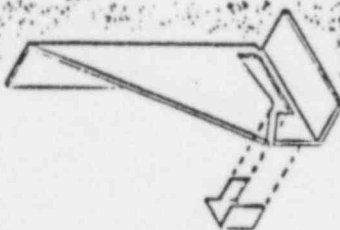
Enclosures: Drawings 5564  
5565



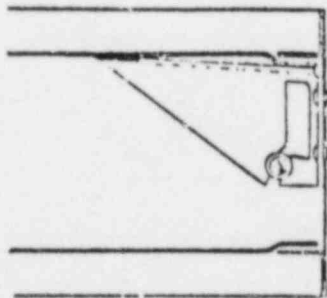
SPRING BRACKET  
BRACKET CLAMP  
INSTALLATION DETAIL



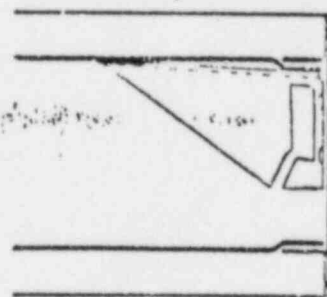
BRACKET WITH CLAMP  
INSTALLED



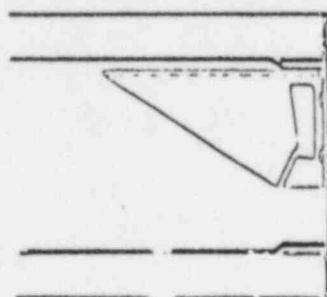
INSTALLATION OF  
PROPOSED BRACKET  
CLAMP (SEE DETAIL  
PAGE ALSO)



ORIGINAL FIX USING  
#6 SCREW, WASHER, NUT  
LOCKWASHER & NUT



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



ORIGINAL INSTALLATION  
(VERTICAL FIRE DAMPERS  
WITH SPRING CLOSURE)

OWN BY: T. LARSEN	DESIGN TA	SCALE 3-27-80	REVISED BY: RUB	DATE 4-2-80	CHANGE LETTER	REVISION DESCRIPTION	OWN BY	DATE
RUSKIN Mfg. Co.					P. J. Box 128 Grandview, Mo. 64030		SCALE 20:15	
3-27-80					4-2-80		DATE NO. 2-6-84	
TITLE VERTICAL FIRE DAMPER BRACKET INDICATIONS					ISSUE 2-6-84			

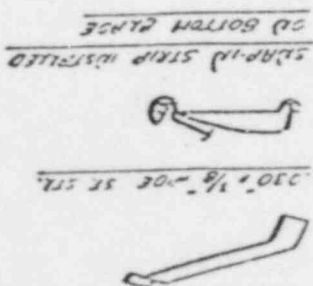
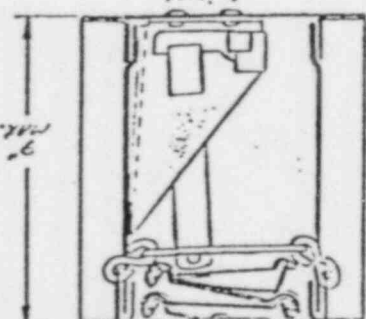
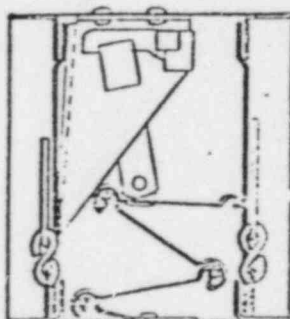
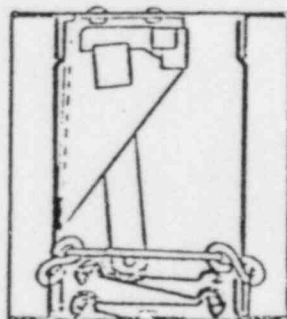
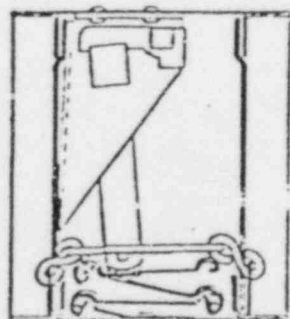
DATE 3-28-80 T. L. KASNER C.D. BY: T.A. P.D. BY: 208		FILE NO. 4-2-80 P.O. BOX 129 GRANDVIEW, MO. 64030		Dwg. No. 5 VERTICAL DIBOZ (9" NISH) AND LESS CLOSURE	
CHANGE LETTER REVISION DESCRIPTION Dwg. No. AS DATE		RUSKIN Mfg. Co. SCALE 1/8" = 1"			

VERTICAL DIBOZ  
AS SHOWN, THE ORIFER  
WILL CLOSE COMPLETELY  
AND CONSISTENTLY WHEN  
THE FUSE LINK MELTS

ABOVE THE GLASS PICKUP  
HAS BEEN SHIFTED PLACED  
THE LEADING EDGE OF  
THE BOTTOM BLADE TO BE  
ABOVE THE TRAILING  
EDGE - IF THE FUSE  
LINK MELTS WITH THE  
BLADES IN THIS POSITION,  
THEY WILL JAM AS IN  
THE NEXT DETAIL

BLADE PICKUP JAMMED

CAMPER WITH SLIP IN  
STRIP (SHOWN AT RIGHT)  
INSTALLED, SIDE LEADING  
EDGE IS HELD BELOW  
TRAILING EDGE OF BOTTOM  
BLADE, UNIT CLOSSES  
COMPLETELY & CONSISTENTLY



3/8" x 1/8" x 1/8" ST. STEEL

9" MAX.