

ENTERGY OPERATIONS
Arkansas Nuclear One
1448 SR 333
Russellville, AR 72801

FAX COVER SHEET

DATE: 7/31/01 TIME:
TO: Russ Bywater PHONE: 3113
Kathy Weaver FAX:
FROM: Woody Walker PHONE: 4923
FAX:
RE: Fire Protection related questions
cc:

Number of pages including cover sheet: 8

Message

Per your request, please find the following documents :

- 1) Questions and responses
- 2) ER973993E101
- 3) FB-63-4

Please note, I attempted to contact you via phone but was unable to catch you in your office, prior to my leaving (early) for the day. I wanted to make you aware of the condition reports that were generated. If you have any questions, feel free to page me at 964-6368.

SDP

~~Stuf~~

BWST

Fire SDP Stuf

Richard Ellison

* e-mail
New codes
30 started
2 weeks
Dyr will
Dyr will
H H

Questions from NRC resident inspectors related to walkdown of Unit 1 Auxiliary building, elevations 354' and 335'.

1. **Contrary to the discussion in the pre-fire plans and the Fire Hazards Analysis, there is no 1-hour fire wrap installed in the Upper North Piping Penetration room (Zone 79-U) on the conduits associated with the redundant HPI injection valves.**

ER973993E101 (attached) performed an evaluation that determined the 1-hour fire wrap was not required. ER973993P101 was generated to remove the fire wrap and complete changes to the appropriate design documents. Although the physical work has been finished, the modification package closeout (i.e. update of all related documents) has yet to be completed.

2. **There is no 1-hour fire wrap installed in the Upper North Piping Penetration room (Zone 79-U) on the conduits associated with EFW isolation valves CV2627 and CV2670.**

As noted in the attachment to ER973993E101, the circuitry for the redundant valves of CV2627 and CV2670 (i.e. CV2620 and CV2626, respectively) are not located in Zone 79-U.

3. **In Zone 67-U, the sprinkler heads in the suppression system appear to be located below the required height (i.e. too far from the ceiling). In addition, one sprinkler head is located below the other sprinkler heads in the system.**

NFPA code specifies that the deflector shall be with 12 inches of the ceiling. Field measurements indicate the sprinkler heads are 10 inches from the ceiling. The sprinkler head that is significantly lower than other heads in the system is located beneath a ventilation duct. NFPA code specifies the installation of additional sprinkler heads beneath any obstruction that could affect the flow dispersion. The ventilation duct is within the proximity of a ceiling level sprinkler head such that an additional head is required to provide complete protection of the BWST valves.

4. **For the conduit associated with CV1407, there appears to be some firewrap that has 'slipped' down from the original installation.**

The subject firewrap is a collar that is utilized to protect a thermal short. The as-found condition of the fire wrap does not meet the installation criteria. CR-1-2001-0806 has been generated to correct the condition.

5. It is unclear why the barrier between Zone 67-U and Zone 53-Y is not designated as a fire barrier and why items that penetrate the wall are not classified as penetration seals.

FP-104, Note 5 denotes that the portion of the wall located on Column Line D and running from Column Line 1 to Column Line 4 is a 3-hour barrier from elevation 354' to elevation 360'. This wall separates Zone 79-U from Zone 67-U and Zone 67-U from Zone 53-Y. The floor of 79-U is at elevation 360'. Thus the ceiling of 53-Y is at 360' minus the thickness of the floor slab. The floor of Zone 67-U is at 354'. Zones 67-U and 79-U are both in Area B. Therefore, no separation is required between these zones. Zone 53-Y is located in Area C. Consequently, the portion of the wall that separates these two zones (i.e. between elevation 354' and 360') is required to be a 3-hour barrier. Drawings FB-63-4 (sh. 1) and FB-67-6 (sheets 1 & 2) depict the barrier and identify the associated penetrations. The raceways associated with the BWST valves are located below the floor of 67-U, which is Zone 20-Y. Since 20-Y and 53-Y are both in Area C, the wall between these two zones is not rated. As a result, no penetration numbers are assigned to the raceways associated with the BWST valves. Therefore, the statement in the FHA concerning the walls associated with Zone 53-Y is accurate. Note: An exemption has been granted for the open area that separates Area B (Zone 67-U) from Area C (Zone 20-Y).

6. It appears that the circuits for both BWST valves are located in the Lower North Piping Room (Zone 53-Y). However, neither conduit is protected by a 1-hour barrier.

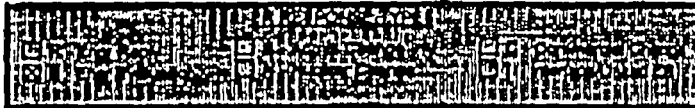
The circuitry for CV1407 is listed in PDMS as being routed through Zone 53-Y, via conduit EB1011. The circuitry for CV1408 is not listed in PDMS as being routed through Zone 53-Y. Since the Safe Shutdown Capability Assessment (i.e. Calculation 85-E-0086-01) zone impact report does not list a redundancy, no fire barrier was deemed to be required. However, the routing associated with the conduit (i.e. EB2034) is missing a fire zone (i.e. the routing jumps from elevation 335' to elevation 372' and is not listed as an embed). A field inspection has determined that EB2034 does indeed pass through Zone 53-Y as well as Zone 79-U. 79-U does not contain the redundant conduit (i.e. EB1011). CR-1-2001-0804 has been generated to address the condition of the redundant conduits in Zone 53-Y.

Note: ER973993E101, FB-63-4, FB-67-6 and the Safe Shutdown Capability Assessment are available on IDEAS for review of the Area resolutions and the zone impact reports.

Handwritten signature

ARKANSAS NUCLEAR ONE		Page 1
FORM TITLE: ENGINEERING REQUEST	FORM NO. 1000.153A	REV. 0 PC-1

This Document contains 1 Page.



ER 973983	E101	0
REQUEST #	RESPONSE #	REV #

Title: EVALUATE FIRE PROTECTION REQUIREMENTS IN FIRE ZONE 79-U

Request

(Issue/Proposed Solution/Justification/Proposed Priority/Proposed Due Date/Etc.)

The Initial Appendix R analysis identified redundant components (Make Up Isolation valves) in zone 79-U. Subsequent to analysis, additional injection paths (and corresponding valves) were added to the MUMPI system. The new valves are located in zone 63-Y, with the cable routing for at least one valve independent of zone 79-U. It would appear that the addition of the alternate injection paths would preclude the need to maintain the sprinkler system and 1-hour fire wrap material located in zone 79-U. Evaluate the necessity for maintaining these fire protection features.

(Attach additional pages as needed)

Plant Unit: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (Common)		Safety Classification: <input checked="" type="checkbox"/> Safety Related (Q/F/S) <input type="checkbox"/> Non-Safety Related (Other)	
System: FIRE		Outage: <input checked="" type="checkbox"/> N/A <input type="checkbox"/> #	
Safeguards? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		ESTER Project # (if applicable):	
Affected Components: FS-125			
Initiator	Woody Walker	4023	4/21/97
Reviewing Supervisor	William E. Converse	4033	
ER Meeting Review? <input type="checkbox"/> Yes (mark after review of ER meeting/assignment) <input type="checkbox"/> N/A (mark if review of the ER meeting is not required)			
1. _____ Assigned To (Supervisor)		2. _____ Assigned To (Engineer)	

Response

Document updates to be initiated after completion

DCP's 83-1010 and 83-1140 were reviewed to determine the design bases of the suppression system and the fire wrap in zone 79-U, Fire Area B. These fire protection systems were installed to provide adequate separation between CV1219 and CV1227. Since the installation of CV1278 & CV1279, these systems have not been required to meet the separation criteria of 10CFR50 Appendix R, Section III.G. CV1278 & CV1279 are located in Fire Area C and do not have any cables routed through zone 79-U. The fire wrap material located on JB443 and conduits EB1010 and EB1058 may be removed. Procedure 1000.152 should be revised to indicate that the suppression system in 79-U is no longer required. A PC will be generated.

(Attach additional pages as needed)

Plant Unit: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (Common)		Safety Classification: <input checked="" type="checkbox"/> Safety Related (Q/F/S) <input type="checkbox"/> Non-Safety Related (Other)	
System:		Outage: <input checked="" type="checkbox"/> N/A <input type="checkbox"/> #	
Safeguards? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Job Order <input type="checkbox"/> Job Request #	
CRB Approval Req'd? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		Licensing Impact: <input type="checkbox"/> Tech Spec Rev <input checked="" type="checkbox"/> LBD Update <input type="checkbox"/> NRC Commit #	
<input checked="" type="checkbox"/> Responsible Engineer	Woody Walker	<i>Woody Walker</i>	10/13/97
<input type="checkbox"/> Reviewer (Non-Safety Related)	N/A	<i>N/A</i>	
<input checked="" type="checkbox"/> Design Verification (Safety Related)	THOMAS D. ROBINSON	<i>Thomas D. Robinson</i>	10/13/97
<input checked="" type="checkbox"/> Responsible Supervisor	William E. Converse	<i>W.E. Converse</i>	10-19-97
<input type="checkbox"/> Responsible Manager	N/A	<i>N/A</i>	
<input type="checkbox"/> Quality	N/A	<i>N/A</i>	
<input type="checkbox"/> PSC Chairman	N/A	<i>N/A</i>	
<input type="checkbox"/> Other reviews/approvals (documented on other pages of this response)			

Unit 1 Fire Zone: 79-U

RED TRAIN		GREEN TRAIN	
Component	Description	Component	Description
Elec Bus		Elec Bus	
System		System	
***** PATH:	*****	***** PATH: DD-DG-MVP-P012 *****	
		FM16B	EMERGENCY DIESEL FUEL TRANSFER
		MCCB61	PUMP
		DG	
		Component in zone:	NO
		Cable(s):	GPB6114A
***** PATH:	*****	***** PATH: 1A-GG-SGS-P012 *****	
		CV2627	EMERGENCY FEEDWATER FROM P7A T
		MCCD15	O STEAM GENERATOR E24A ISOLATI
		EFW	ON VALVE
		Component in zone:	YES
		Cable(s):	RCD1522C RPD1522A1 RPD1522A2
			RPD1522A3 RPD1522A4 RPD1522A5
		CV2645	EMERGENCY FEEDWATER FROM P7A
		RA2	TO STEAM GENERATOR E24A CONTRO
		EFW	L VALVE
		Component in zone:	NO
		Cable(s):	GCRA206AA GJ424A1 GJ424D1
		CV2670	EMERGENCY FEEDWATER FROM P7B T
		MCCB61	O STEAM GENERATOR E24A ISOLATI
		EFW	ON VALVE
		Component in zone:	YES
		Cable(s):	GCB6141B GPB6141A
***** PATH:	*****	***** PATH: 1A-GG-SGS-P013 *****	
		CV2647	EMERGENCY FEEDWATER FROM P7A T
		RA2	O STEAM GENERATOR E24B CONTROL
		EFW	VALVE
		Component in zone:	NO
		Cable(s):	GCRA206AB GJ424B1 GJ424D2
***** PATH:	*****	***** PATH: 3A-GG-SGS-P014 *****	
		CV2870	EFW FLOW TEST ISOLATION FOR P7
		D25	A
		EFW	
		Component in zone:	NO
		Cable(s):	GCDZ513B
***** PATH:	*****	***** PATH: 2A-GG-SGS-P039 *****	
		FM7A	EMERGENCY FEEDWATER PUMP TURBI
		NONE	NE DRIVEN
		EFW	
		Component in zone:	NO
		Cable(s):	GCDZ130A GJ358A GJ428F
			GJ428G

Arkansas Nuclear One
Plant Data Management System
Unit: 1 Fire Zone: 79-U
RED TRAIN

Entergy Operations, Inc.

October 09, 1997 - 14:49:17
Sheet: 0002

GREEN TRAIN

Component Elec Bus System	Description	Component Elec Bus System	Description
*****	PATH: 0C-GR-SGS-P045 *****	*****	PATH: *****
LT4204	Cond. Storage TK T41B Level to		
CS39/RS1	LRS4204 or SPDS.		
CFW			
	Component in zone: NO		
	Cable(s): RJ432A		
*****	PATH: *****	*****	PATH: 1A-LG-MPS-P002 *****
		CV1274	RCP CONTROLLED BLEEDOFF ISOLAT
		MCCB61	ION VALVE
		MPS	
			Component in zone: YES
			Cable(s): GCB6153C GPB6153A
*****	PATH: *****	*****	PATH: 1A-LG-MPS-P004 *****
		CV1221	LETDOWN LINE CONTAINMENT ISOLA
		MCCB61	TION VALVE
		MPS	
			Component in zone: YES
			Cable(s): GCB6154C GCB6154C1 GPB6154A
*****	PATH: 1A-MR-MPS-P021 *****	*****	PATH: 1A-MG-MPS-P021 *****
CV1219	RCS LOOP A HIGH PRESSURE SAFET	CV1284	RCS Loop B High Pressure Safet
MCCB51	Y INJECTION ISOLATION VLV	B62	y Injection Isolation Valve
MPS		MPS	
	Component in zone: YES		Component in zone: NO
	Cable(s): RCB5151C RPB5151A		Cable(s): GCB6213C GCB6213D GCB6213F
			GPB6213A
*****	PATH: 2A-MR-MPS-P022 *****	*****	PATH: 2A-MG-MPS-P022 *****
CV1220	RCS LOOP A HP SAFETY INJECTION	CV1285	RCS Loop B High Pressure Safet
MCCB51	ISOLATION VALVE	B62	y Injection Isolation Valve
MPS		MPS	
	Component in zone: YES		Component in zone: NO
	Cable(s): RCB5152C RPB5152A		Cable(s): GCB6214C GCB6214D GCB6214F
			GPB6214A
*****	PATH: *****	*****	PATH: 3A-MG-MPS-P023 *****
		CV1228	RCS LOOP B HP SAFETY INJECTION
		MCCB61	ISOLATION VLV
		MPS	
			Component in zone: YES
			Cable(s): GCB6152C GPB6152A
*****	PATH: *****	*****	PATH: 4A-MG-MPS-P024 *****
		CV1227	RCS LOOP B HP SAFETY INJECTION
		MCCB61	ISOLATION VLV
		MPS	
			Component in zone: YES
			Cable(s): GCB6151C GPB6151A

Arkansas Nuclear One
Plant Data Management System
Flowpath/Train Analysis Report - (As-Built ONLY)
Unit: 1 Fire Zone: 79-U

Entergy Operations, Inc.

October 09, 1997 - 14:42:17
Sheet: 0003
Revision:

RED TRAIN

GREEN TRAIN

Component Description
Elec Bus
System

Component Description
Elec Bus
System

***** PATH: *****

***** PATH: 1A-MG-MPS-P062 *****

CV1406
B61
DHR
Component in zone: NO
Cable(s): GCB6166D GPB6165A

***** PATH: 0A-SC-RHR-P010 *****

***** PATH: 0A-SC-RHR-P010 *****

CV1050 DECAy HEAT REMOVAL HEADER CCA-
MCCB52 8-12 ISO VLV
RCS
Component in zone: NO
Cable(s): RCB5255E RCB5255H

CV1050 DECAy HEAT REMOVAL HEADER CCA-
MCCB52 8-12 ISO VLV
RCS
Component in zone: NO
Cable(s): RCB5255E RCB5255H

CV1404 DECAy HEAT COOLING RETURN ISOL
MCCB56 ATION VALVE
DHR
Component in zone: YES
Cable(s): B5651A B5651D

CV1404 DECAy HEAT COOLING RETURN ISOL
MCCB56 ATION VALVE
DHR
Component in zone: YES
Cable(s): B5651A B5651D

***** PATH: 0A-SR-RHR-P031 *****

***** PATH: 0A-SG-RHR-P031 *****

CV1401 LP SAFETY INJECTION HEADER ISO
MCCB51 LATION VLV
DHR
Component in zone: YES
Cable(s): RCB51114F RPB51114A RPB51114B
RPB51114C

CV1400 LP SAFETY INJECTION HEADER ISO
MCCB61 LATION VALVE
DHR
Component in zone: YES
Cable(s): GCB6161F GPB6161A GPB6161B
GPB6161C

CV1429 DECAy HEAT COOLER E35B OUTLET
B63 CONTROL VALVE
DHR
Component in zone: NO
Cable(s): GCB6326F GPB6326A

***** PATH: *****

***** PATH: 0A-SG-RHR-P050 *****

CV3121 DECAy HEAT COOLER E35B SW INLE
MCCB61 T VALVE
SW
Component in zone: NO
Cable(s): GCB6183C GPB6183A

***** PATH: 1A-WR-SWS-P031 *****

***** PATH: *****

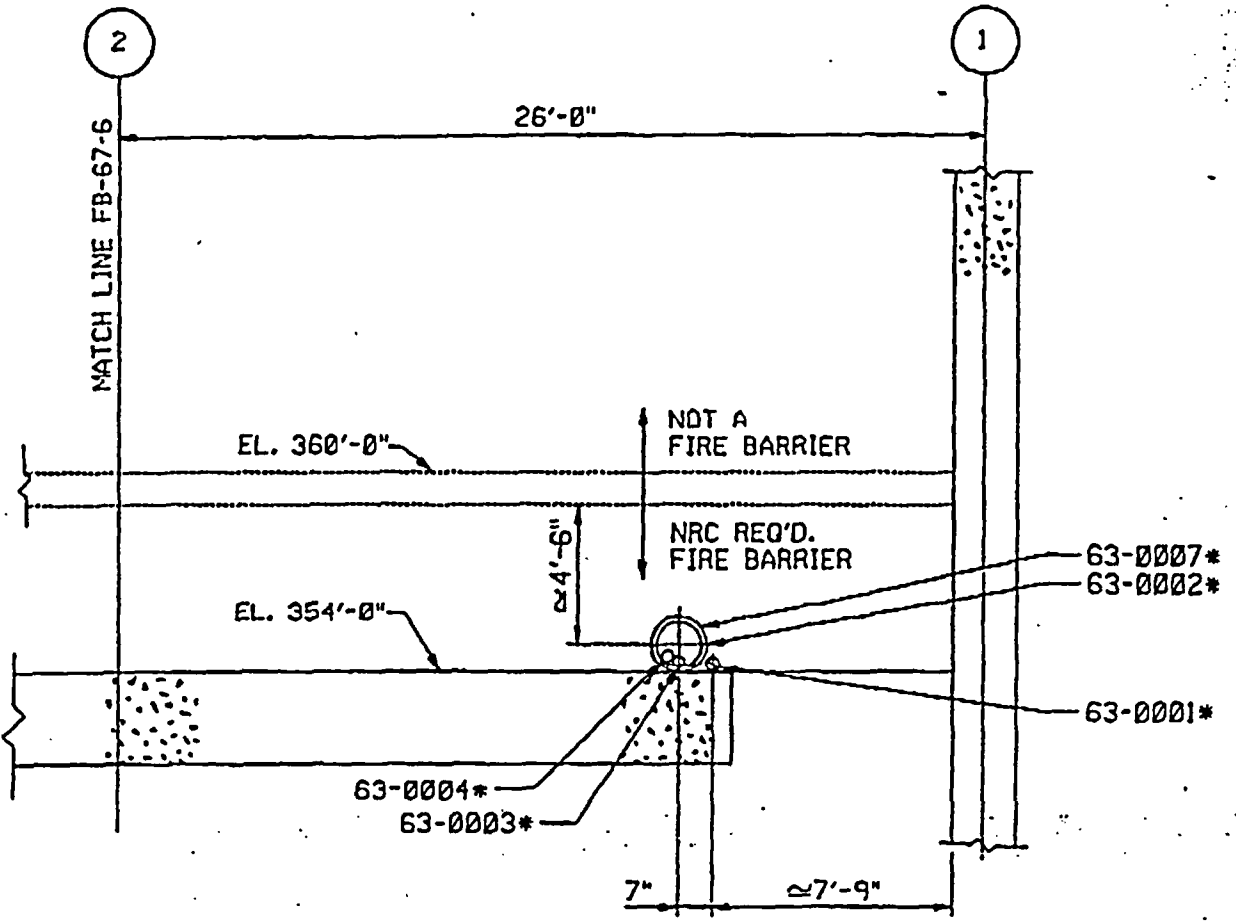
SG1 SLUICE GATE DARDANELLE TO BAY
MCCB51 A
SW
Component in zone: NO
Cable(s): RCB5253F1

END

*green
train*

*not wrapped green
CWHOS*

*red
1405*



LOOKING SOUTH
WALL 4-S-28

NOTES:

1. SEE DWG. NO FB-00-0 FOR GENERAL NOTES.
2. NRC-REQUIRED AS NOTED.
3. * DENOTES VISIBLE ON FAR SIDE ONLY.

REFERENCE DRAWINGS:

1. FP-104
2. A-322

0	JUN 03 1994	ISSUED AS-BUILT: DRN 92-03866 (LCP 90-5013)		BB						
REV	DATE	REVISION DESCRIPTION	BY	DFTG CHKR	ENGR	ENGR CHKR	APVD	APVD		
ARKANSAS NUCLEAR ONE UNIT 1 RUSSELLVILLE, ARKANSAS						SCALE : 3/16"=1'-0" DRAWN : S. MOORE DESIGN : M. COOMBS CAD NO : 00021378.cln				
FIRE BARRIER RENETRATION CORRIDOR				DRAWING NO FB-63-4			SHEET 1	REV 0		

RED "X" IF ORIGINAL

Section 1 DEFICIENCY DATA (To Be Completed By Requester)
 {2CAN068301}

Job Order # 50126	Job Request # _____	DCP # _____	Unit # 1
Building: AUX	Elevation: 33.5'	Room/Area: BNJST VALVE PIT (BACK OF T16 TANK RM)	
Description of Deficiency: FIRE WRAP ON CONDUIT EB1073 DAMAGED. (BACK OF T16 ROOM IN OVERHEAD AT VALVE PIT)			

Section 2 REQUESTER DATA (To Be Completed By Requesting Supervisor)

Requester: (Print Full Name) RONALD D HENDRIX	Badge # 1209
Requesting Supervisor: (Signature) <i>Ronald D Hendrix</i>	Phone # 5854
Emergency Manager: (Print Name) MARK A. SMITH	Badge # 1209
	Phone # 5854

Section 3 OPERATIONS CONCURRENCE (To Be Completed By Shift Superintendent)

Affected Fire Zone(s) 20-Y	Affected Fire Area _____
--------------------------------------	-----------------------------

A. FIRE DETECTION SYSTEM INOPERABLE (Check applicable Unit or N/A)

Unit 1 N/A	Fire Detection System Inoperable per procedure 1000.152	Unit 2 N/A
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B. FIRE SUPPRESSION SPRINKLER SYSTEM INOPERABLE (Check applicable Unit or N/A)

Unit 1 N/A	Fire Suppression Sprinkler System inoperable per procedure 1000.152	Unit 2 N/A
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C. FIRE BARRIERS DEGRADED OR BREACHED (Check applicable Unit or N/A)

Unit 1 <input checked="" type="checkbox"/>	Fire Barriers degraded or breached per procedure 1000.152	Unit 2 N/A
---	--	----------------------

Install a Caution Card or Placard on C-463 (Unit 1) or 2C-343/2C-22 (Unit 2) by the operable fire detection instrumentation.

Caution Card Installed	Yes	No <input checked="" type="checkbox"/>	Caution Card # and location
------------------------	-----	---	-----------------------------

Placard Installed	Yes <input checked="" type="checkbox"/>	No	Placard Location
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D. TRANSIENT COMBUSTIBLES (Check applicable Unit or N/A)

Unit 1 N/A	Compensatory measures for Transient Combustibles established in accordance with procedure 1000.047 and/or the Fire Prevention Coordinator.	Unit 2 N/A
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Note: If an evaluation was performed by the Fire Prevention Coordinator, attach the evaluation to this form.

Type of Fire Watch Authorized: Continuous _____ Hourly Not Required _____
 Shift Superintendent *[Signature]* Date **7/31/01**

FORM TITLE: FIRE WATCH POSTING RECORD (PAGE 1 OF 2)	FORM NO. 1000.120A	CHANGE 009-02-0
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Section 1 DEFICIENCY DATA (To Be Completed By Requester)
 {202008201}

Job Order #	Job Request #	DCP #	Unit # 1
Building: <u>AUX</u>	Elevation: <u>325</u>	Room/Area: <u>LN PIPING ROOM (ZONE 53-Y)</u>	
Description of Deficiency: NORTHWEST CORNER OF ROOM, CONDUITS EB2034 & EB1011 ARE IN CLOSE PROXIMITY TO EACH OTHER WITH NO FIRE WRAP INSTALLED. THIS VIOLATES APPENDIX R SEPARATION REQUIREMENTS. REF TO CR-1-2001-0804			

Section 2 REQUESTER DATA (To Be Completed By Requesting Supervisor)

Requester: (Print Full Name) <u>Woody Walker</u>	Badge #: <u>1144</u> Phone #: <u>4925</u>
Requesting Supervisor: (Signature) <u>[Signature]</u>	Badge # Phone # <u>↓</u>
Emergency Manager: (Print Name) <u>MARK SMITH</u>	

Section 3 OPERATIONS CONCURRENCE (To Be Completed By Shift Superintendent)

Affected Fire Zone(s)	Affected Fire Area
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A. FIRE DETECTION SYSTEM INOPERABLE (Check applicable Unit or N/A)

Unit 1	Fire Detection System inoperable per procedure 1000.052	Unit 2
<u>N/A</u>		<u>N/A</u>

B. FIRE SUPPRESSION SPRINKLER SYSTEM INOPERABLE (Check applicable Unit or N/A)

Unit 1	Fire Suppression Sprinkler System inoperable per procedure 1000.152	Unit 2
<u>N/A</u>		<u>N/A</u>

C. FIRE BARRIERS DEGRADED OR BREACHED (Check applicable Unit or N/A)

Unit 1	Fire Barriers degraded or breached per procedure 1000.152	Unit 2
<input checked="" type="checkbox"/>		<u>N/A</u>
Install a Caution Card or Placard on P-469 (Unit 1) or 20-043/20-22 (Unit 2) by the operable fire detection instrumentation.		
Caution Card Installed	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Caution Card # and location
Placard Installed	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Placard location

D. TRANSIENT COMBUSTIBLES (Check applicable Unit or N/A)

Unit 1	Compensatory measures for transient combustibles established in accordance with procedure 1000.047 and/or the Fire Prevention Coordinator.	Unit 2
<u>N/A</u>		<u>N/A</u>

Note: If an evaluation was performed by the Fire Prevention Coordinator, attach the evaluation to this form.

Types of Fire Watch Authorized: Continuous Hourly Not Required

Shift Superintendent [Signature] Date 7/31/01

FORM TITLE: FIRE WATCH POSTING RECORD (PAGE 1 OF 2)	FORM NO. 1000.120A	CHANGE 009-02-0
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