

**Originator:** Walker, James W  
**Originator Group:** Eng P&C Fire Protection Staff  
**Supervisor Name:** Rispoli, Ronald D  
**Discovered Date:** 07/31/2001 08:59

**Originator Phone:** 4923  
**Initiated Date:** 07/31/2001 09:14

**Condition Description:**

The raceway tracking system (i.e. PDMS) does not identify all zones in which conduit EB2034 is routed. Consequently, the Safe Shutdown Capability Assessment does not identify that EB2034 is located in the same fire zone (i.e. Zone 53-Y, Lower North Piping Room) as EB1011. These two raceways contain the power cables for CV1407 and CV1408. The location of these raceways does not meet the separation requirements of 10CFR50 Appendix R, Section III.G.

**Immediate Action Description:**

Post a firewatch (hourly, if detection system in Zone 53-Y is operable).

**Suggested Action Description:**

Identify all zones in which EB2034 is routed. Update PDMS and the SSCA accordingly.  
Determine method for complying with the separation requirements associated with redundant safe shutdown equipment.

**EQUIPMENT:**

<u>Tag Name</u>	<u>Tag Suffix Name</u>	<u>Component Code</u>	<u>Process System Code</u>
CV1407	VALVE		DH
CV1408	VALVE		DH

**REFERENCE ITEMS:**

<u>Type Code</u>	<u>Description</u>
CONDITION REPORT	1-2001-0831
LICENSING BASIS DOC	10CFR50 Appendix R, Section III.G
ZZ ASSIGNMENT	Jones, Dennis

9/11/01  
-7

W

**Initiated Date:** 7/31/2001 9:14**Owner Group :**Eng Design Mgmt**Current Contact:** Jones, Dennie**Current Significance:** D - APPARENT CAUSE**Closed by:****Summary Description:**

The raceway tracking system (i.e. PDMS) does not identify all zones in which conduit EB2034 is routed. Consequently, the Safe Shutdown Capability Assessment does not identify that EB2034 is located in the same fire zone as EB1011 which does not meet the separation requirements of 10CFR50 Appendix R, Section III.G.

**Remarks Description:****Closure Description:**

**OperabilityVersion:** 1

**Operability Code:** EQUIPMENT OPERABLE

**Immediate Report Code:** NOT REPORTABLE

**Performed By:** Rehm,Philip E

07/31/2001 17:00

**Approved By:** Clement,Joe C

07/31/2001 17:20

**Operability Description:**

Per the attached operability provided by Fire Protection Engineering, CV-1407, CV-1408 and associated equipment remain operable.

**Approval Comments:**

**Attachments:**

Operability Description  
Operability

# Attachment Header

**Document Name:**

CR-ANO-1-2001-0804 Version - 001

**Document Location**

Operability Description

**Attach Title:**

Operability

### Operability for CR-1-2001-0804

The circuitry associated with the BWST outlet valves (i.e. CV1407 and CV1408) are routed through conduits located in Zone 53-Y, elevation 335'. The conduits penetrate the north wall of this zone, approximately 2 feet apart, at elevation 352' (approximate). After penetrating the wall, EB2034 runs vertically through the ceiling. EB1011 also runs vertically for approximately 10 feet before turning and running horizontally to the east (i.e. away from EB2034).

The subject conduits contain the power and position indication cables for the aforementioned valves. Fire damage to these circuits could prevent remote operation of the valves. At least one of the valves would need to be opened in order to provide a borated water supply for the Make-up pump(s). With RCS leakage within Tech Spec limits and timely isolation of Letdown, RCS inventory make-up will not be required for approximately 1 hour (reference Calculation 85-E-0072-02). Manual operation of the BWST outlet valves is specified in the Alternate Shutdown procedure, indicating that sufficient emergency lighting is available. An unrated, solid concrete wall separates Fire Zone 53-Y from Zone 20-Y (i.e. the location of the BWST outlet valves). There are no openings in the wall that would allow migration of smoke and/or heat from Zone 53-Y to Zone 20-Y. The pathway to the BWST valves is through Zone 67-U (elevation 354') and is separated from Zone 53-Y by a 3-hour rated barrier. Considering all of these factors, in the event that a fire in Zone 53-Y causes a loss of remote operation, sufficient time and adequate access are available to manually open the BWST outlet valve(s) and achieve safe shutdown.

The combustible loading for Zone 53-Y is negligible and equates to a fire with a severity of less than 1 minute. Due to the room configuration and administrative controls, the accumulation of a significant transient combustible load in the vicinity of the conduits is precluded. A smoke detection system is installed in Zone 53-Y to provide early indication of fire conditions.

The combination of low combustible loading and the room configuration/location of the conduits provide favorable conditions such that redundant components would not be affected by a single fire. Furthermore, even if a fire in Zone 53-Y affected the remote operation of both BWST outlet valves (i.e. cause them to be inoperable), the fire protection features are judged to be sufficient to confine the fire to Zone 53-Y and allow personnel access to the flow control valves in Zone 20-Y.

Therefore, while the literal separation requirements specified by Appendix R have not been met in Fire Area C, the safe shutdown function (i.e. providing a borated water source) can be achieved and the minimum amount of redundant safe shutdown components are deemed to be operable for any credible fire scenario.

Prepared by W. Walker, Fire Protection Engineering

**Version: 1**

**Significance Code: D - APPARENT CAUSE**

**Classification Code: A GENERAL ITEM**

**Owner Group: Eng Design Mgmt**

**Performed By: Jones,Dennie D**

**08/03/2001 12:39**

**Assignment Description:**

The CRG has directed that this CR be Category "D" and assigned to Design Engineering EIC for Corrective Action Only.

**Reportability Version: 1**

**Report Number:**

**Report Code: NOT REPORTABLE**

**Boilerplate Code: NO REPORT - EQUIP**

**Performed By : Van Buskirk, Fred P**

**08/01/2001 09:25**

**Reportability Description:**

This condition involves equipment issues that do not cause a reportable condition. The operability evaluation provides a basis to conclude that redundant components would not be affected by a single fire as a result of this condition, and that the condition would not prevent the ability to achieve and maintain safe shutdown for any credible fire scenario. Therefore, this condition is not reportable (ref. TREDIS, SAF 1.6).



# CORRECTIVE ACTION

CR-ANO-1-2001-0804

CA Number: 1

Group

Name

Assigned By: Eng Design Mgmt

Turk, Charles H

Assigned To: Eng Design Mgmt

Turk, Charles H

Subassigned To: Eng DE Electrical Staff

Kulbeth, Randall G

Originated By: zz ANO CRG \*\*IHEA use only\*\*

8/3/01 12:37:41

Performed By: Bentley, Donald E

8/15/01 17:03:54

Subperformed By: Kulbeth, Randall G

8/15/01 07:07:15

Approved By:

Closed By: Bentley, Donald E

8/15/01 17:06:18

Current Due Date: 08/30/2001

Initial Due Date: 08/30/2001

CA Type: ASSIGN TO RESP MGR

Plant Constraint: NONE

### CA Description:

You have been assigned as the Responsible Manager for this Category "D", Non-Significant Condition Report by the CRG. Using the guidance provided in LI-102, determine cause (if possible) and develop and implement a corrective action plan to correct the condition.

CR Summary: The raceway tracking system (i.e. PDMS) does not identify all zones in which conduit EB2034 is routed. Consequently, the Safe Shutdown Capability Assessment does not identify that EB2034 is located in the same fire zone as EB1011 which does not meet the separation requirements of 10CFR50 Appendix R, Section III.G.

### Response:

I agree with the sub-response. Glenn Dobbs, 8/15/01. However, per Programs request, add the following additional corrective actions:

CA#5: Determine method for complying with separation requirements associated with redundant safe shutdown equipment and update prefire plan accordingly, to address the condition described in the CR initiation. (Programs/Fire protection--Due Date 9/15/01)

CA#6: Update the IPEEE analysis to incorporate the Appendix R safe shutdown cable and raceway zone corrections made under this condition report. (Programs/Fire Protection, Due Date 2/28/2002)

**Subresponse :**

In the initial issue to the Unit 1 SSCA, raceways that contain Safe Shutdown cables were assigned a Fire Zone(s). Conduit EB2034 which contains Green train cables for the (BWST Outlet Valve) CVI408, was at the time, inadvertently excluded from Fire Zone 53-Y. Fire Zone 53-Y also contains conduit EB1011, in which the Red train cables for the (BWST Outlet Valve) CVI407 populate. Therefore, this redundancy in the SSCA was never addressed.

Corrective Action Item 2 of this CR was issued to administratively close CR 1-2001-0831 to this CR. CR 1-2001-0831 noted that one train of the Diesel Fuel Transfer Pump cables (P16B) was not listed in the SSCA zone impact report for 53Y due to an inadvertent omission from PDMS, since the SSCA reports are generated from PDMS. The original issue of the Unit 1 SSCA recognized the presence of the subject cables in 53Y and did address the resultant redundancy of red and green fuel oil transfer pump cables in this zone by crediting use of the Unit 1 and 2 fuel oil crosstie. However, this issue of the SSCA did not assign the 53Y zone location to the conduit for the green transfer pump's cables in this zone. Subsequently, when the Appendix R cable and raceway data were electronically transferred from the NUS database used for the initial SSCA to CYGNA (now General Physics) for the ANO cable and raceway schedule (now called PDMS), this created an omission of the affected conduit in Zone 53Y.

Therefore, the following corrective actions are being issued and are as follows:

(Action Item #3) EIC Design to make corrections to the PDMS database and perform an amending calc to the Unit 1 SSCA to reflect the Fire Zone routing changes.

(Action Item #4) Perform a random sampling per MIL-STD-105D for the percentage required of unit 1 conduits containing Safe Shutdown cables for proper Fire Zone routing

**Closure Comments:**



# CORRECTIVE ACTION

CR-ANO-1-2001-0804

CA Number: 2

Group

Name

Assigned By: Eng Design Mgmt

Turk, Charles H

Assigned To: Eng Design Mgmt

Turk, Charles H

Subassigned To : Eng DE Electrical Staff

Kulbeth, Randall G

Originated By: zz ANO CRG \*\*IHEA use only\*\*

8/13/01 14:58:16

Performed By: Turk, Charles H

8/24/01 11:25:04

Subperformed By: Kulbeth, Randall G

8/23/01 08:28:45

Approved By:

Closed By: Turk, Charles H

8/24/01 11:25:46

Current Due Date: 09/08/2001

Initial Due Date: 09/08/2001

CA Type: A GENERAL ITEM

Plant Constraint: NONE

**CA Description:**

CR 1-2001-0831 has been Administratively Closed to this CR.

As Responsible Manager for this CR, ensure that the condition documented in CR 1-2001-0831 is appropriately addressed within the scope of this CR's Corrective Action Plan.

CR 1-2001-0831 Summary: One train of the Diesel Fuel Transfer Pump cables (P16B) was not listed in the SSCA (Safe Shutdown Capability Assessment, Calculation 85-E-0086-01) zone impact report due to an inadvertent omission from the PDMS database (raceway tracking system) since the SSCA reports are generated from PDMS.

CR 1-2001-0804 Summary: The raceway tracking system (i.e. PDMS) does not identify all zones in which conduit EB2034 is routed. Consequently, the Safe Shutdown Capability Assessment does not identify that EB2034 is located in the same fire zone as EB1011 which does not meet the separation requirements of 10CFR50 Appendix R, Section III.G.

**Response:**

I concur that the corrective action plan under item #1 will address this item.-CHT

**Subresponse :**

Refer to Action Item #1 sub-response, which addresses the Action Plan for this CR.

**Closure Comments:**

This action may be closed.-CHT



# CORRECTIVE ACTION

CR-ANO-1-2001-0804

CA Number: 3

Group

Name

Assigned By: Eng Design Mgmt

Turk, Charles H

Assigned To: Eng Design Mgmt

Turk, Charles H

Subassigned To : Eng DE Electrical Staff

Kulbeth, Randall G

Originated By: Kulbeth, Randall G

8/15/01 08:40:25

Performed By:

Subperformed By:

Approved By:

Closed By:

Current Due Date: 11/15/2001

Initial Due Date: 11/15/2001

CA Type: A GENERAL ITEM

Plant Constraint: NONE

**CA Description:**

Make corrections to the PDMS database and perform an amending calc to the Unit 1 SSCA to reflect the Fire Zone routing changes to address the deficiencies noted in CA #1.

Response:

Subresponse :

Closure Comments:

CA Number: 4

Group

Name

Assigned By: Eng Design Mgmt

Turk, Charles H

Assigned To: Eng Design Mgmt

Turk, Charles H

Subassigned To : Eng DE Electrical Staff

Kulbeth, Randall G

Originated By: Dobbs, J G

8/15/01 08:51:59

Performed By: Turk, Charles H

9/4/01 13:17:30

Subperformed By: Kulbeth, Randall G

8/31/01 07:44:07

Approved By:

Closed By: Turk, Charles H

9/4/01 13:18:14

Current Due Date: 09/30/2001

Initial Due Date: 09/30/2001

CA Type: A GENERAL ITEM

Plant Constraint: NONE

**CA Description:**

Perform a random sampling per MIL-STD-105D for the percentage required of unit 1 conduits containing Safe Shutdown cables for proper Fire Zone routing.

**Response:**

I agree with the sub-response. Glenn Dobbs, 8/31/01.

**Subresponse :**

To determine the degree of accurateness and confidence that Fire Zone(s) assignments to conduits in the PDMS database is correct, a random sampling of Unit One conduits containing Safe Shutdown cables has been performed per Military Standard MIL-STD-105D. Per the guidelines specified in this standard regarding significance of deficiencies, the PDMS database conduit Fire Zone routing accuracy falls within the acceptance criteria therein and no scope expansion of further sampling is required. See attachment for the table documenting the random sampling effort.

**Closure Comments:**

This action may be closed.-CHT

**Attachments:**

Subresp Description

Random sampling table

# Attachment Header

**Document Name:**

CR-ANO-1-2001-0804 CA-004

**Document Location**

Subresp Description

**Attach Title:**

Random sampling table

Attachment to CR 1-2001-0804 CA# 04  
Unit 1 conduit Fire Zone sampling

#	Conduit #	Fire Zone Per PDMS	Fire Zone Per Drawing	Dwg #, Rev.
1	EB1289	100-N	100-N	E661-2, REV.15
2	EC1520	46-Y	46-Y	E669-2, REV.29
3	EC1088	99-M, 100-N	99-M, 100-N	E669-1&2, REV.77&29
4	EC1093	99-M	99-M	E669-2, REV.29
5	B4312	128-E	128-E	E670-2, REV.12
6	C9688	98-J	98-J	E669-4,
7	C9712	100-N	100-N	E669-2, REV.29
8	EC1043	20-Y	20-Y	E675-1, REV.32-1
9	EA2023	99-M, 100-N	99-M, 100-N	E669-2, REV.29
10	EB1290	110-L	110-L	E669-3
11	EB2221	38-Y	38-Y	E661-2, REV.15
12	EB2169	99-M, 128-E	99-M, 128-E	E670-2, REV.12
13	EC1362	129-F	129-F	E670-1, REV.98
14	EB2121	86-G	86-G	E669-3, REV.16
15	EJ1018	38-Y	38-Y	E661-2, REV.15
16	EC1284	129-F	129-F	E690-1, REV.65
17	EB1100	14-EE	14-EE	E666-1, REV.45
18	EC1215	14-EE	14-EE	E666-1, REV.45
19	EB1073	20-Y	20-Y	E675-1, REV.32-1
20	EA2010	99-M	99-M	E669-2, REV.29
21	EB2227	149-E	149-E	E686-1, REV.59
22	EB2226	149-E, 112-I	149-E, 112-I	E686-1, REV.59
23	EB2270	46-Y	46-Y	E661-2, REV.15
24	EB2288	46-Y, 77-V	46-Y, 77-V	E661-2, REV.15
25	EB2123	86-G	86-G	E669-4, REV.33
26	EC2482	38-Y	38-Y	E661-2, REV.15
27	EJ1012	20-Y, 38-Y	20-Y, 38-Y	E661-2, REV.15
28	EJ1016	20-Y	20-Y	E661-2, REV.15
29	EJ2019	38-Y	38-Y	E661-2, REV.15
30	SC2050	32-K	32-K	E681-1, REV.36
31	EB2124	86-G	86-G	E669-3, REV.16
32	EC2801	38-Y	38-Y	E661-2, REV.15
33	EC2311	86-G	86-G	E669-4, REV.33
34	EC2779	129-F	129-F	E670-1, REV.98

Attachment to CR 1-2001-0804 CA# 04  
Unit 1 conduit Fire Zone sampling

#	Conduit #	Fire Zone Per PDMS	Fire Zone Per Drawing	Dwg #, Rev
35	EC2238	86-G	86-G	E669-4, REV.33
36	EC2758	97-R	97-R	E690-1, REV.65
37	EC2042	32-K	33-K	E681-1, REV.36
38	ER2023	97-R	97-R	E690-1, REV.65
39	EB2156	112-I	112-I	E669-4, REV.33
40	EC2804	97-R	97-R	E690-1, REV.65
41	EB2282	1E, 120E, 149-E	1E, 120E, 149-E	E670-3 & 4, REV.26 & 10
42	EC2312	86-G	86-G	E669-4, REV.33
43	SC2040	32-K	32-K	E681-1, REV.36
44	EC2151	97-R	97-R	E690-1, REV.65
45	EB2096	34-Y, 73-W, 99-M	34-Y, 73-W, 99-M	E661-1, REV.62 & E667-2, REV.14 & E668-2, REV.16
46	VC041	97-R, 129-F	97-R, 129-F	E690-1, REV.65
47	SR2030	32-K	32-K	E679-1, REV.40
48	EC2837	97-R	97-R	E690-1, REV.65
49	EC1100	129-F	129-F	E690-1, REV.65
50	EC2813	149-E, 163-B, 170-Z	149-E, 163-B, 170-Z	E670-3, REV.26, E671-1, REV.63
51	EB1016	1MH04, YARD	1MH04, YARD	E613-1
52	EC1275	99-M, 100-N	99-M, 100-N	E669-1, REV.29
53	EC1190	99-M	99-M	E669-1, REV.77 & E669-2, REV.29
54	EB1200	100-N	100-N	E669-2, REV.29
55	EC1615	99-M, 100-N	99-M, 100-N	E669-2, REV.29
56	EC2022	97-R, 98-J, 99-M	97-R, 98-J, 99-M	E669-1, REV.77 & E685-1, REV.21
57	EC2488	112-I	112-I	E686-1, REV.59
58	EB1201	100-N	100-N	E669-2, REV.29
59	EC1227	129-F	129-F	E690-1, REV.65
60	EB2146	10-EE	10-EE	E666-1, REV.45
61	EC1453	100-N	100-N	E673-1, REV.24
62	EC1289	100-N	100-N	E669-2, REV.29
63	C5605	32-K	32-K	E-677-1
64	C2075	197-X	197-X	E-651-1, REV.59
65	EC2151	97-R	97-R	E690-1, REV.65
66	EJ2003	128-E, 129-F	128-E, 129-F	E670-3, REV.26
67	EB1284	100-N	100-N	E669-2, REV.29
68	EA1030	197-X, 100-N, 104-S	197-X, 100-N, 104-S	E669-2, REV.29 & E663-1, REV.77

Attachment to CR 1-2001-0804 CA# 04  
Unit 1 conduit Fire Zone sampling

#	Conduit #	Fire Zone Per PDMS	Fire Zone Per Drawing	Dwg #, Rev
69	EA2011	99-M	99-M	E669-2, REV.29
70	EB1009	110-L, 104-S, EBD	110-L, 104-S, EBD	E669-1, REV.77 & E669-2, REV.29 & E663-1, REV.77
71	EB1095	YARD	YARD	E630-1
72	EB1099	14-EE	14-EE	E666-1, REV.45
73	EB1104	4-EE, 14-EE	4-EE, 14-EE	E666-1, REV.45
74	EC2774	112-I, 149-E	112-I, 149-E	E686-1, REV.59
75	EB1076	110-L	110-L	E669-2, REV.29
76	EA1013	100-N	100-N	E669-2, REV.29
77	EB1008	104-S, 110-L, EBD	104-S, 110-L, EBD	E669-2, REV.29 & E663-1, REV.77
78	EC2250	99-M	99-M	E669-2, REV.29
79	EJ2002	128-E, 129-F	128-E, 129-F	E670-3, REV.26
80	EC2161	97-R	97-R	E690-1, REV.65
81	EC1493	104-S, 105-T, 129-F, 97-R	104-S, 105-T, 129-F, 97-R, 128-E	E607-1REV. 13, E664-1, REV.54 , E670-2, REV.12, E687-1, REV.

A random sampling of 1,130 Unit 1 conduits containing Safe Shutdown cables was performed in accordance with MIL-STD-105D to determine if the correct Fire Zone/ Zones are assigned to these conduits in PDMS. Per Table III.1 of the MIL Standard, the appropriate sample size for between 501 to 1,200 is 80. 81 conduits were sampled, and of the 81 conduits sampled, one conduit was found to have an identified nonconformance. The nonconformance identified was the absence of Fire Zone 128-E in the Fire Zone routing for conduit EC1493. However, since this omission will not effect the Fire Area routing of this conduit, and thus not affect the SSCA Fire Area analysis and the results of the SSCA calculation, this will be considered a minor nonconformance as defined in the MIL standard. According to the MIL standard, a "MINOR NONCONFORMANCE" is defined as, problem(s) identified with the specific calculation under review are minor such that, when corrected, the conclusion is not changed. Per Table III.1 of the MIL Standard, the acceptance threshold for minor nonconformances is 90% of the sample and it is acceptable to have up to 14 rejects in this category of the sample population.



# CORRECTIVE ACTION

CR-ANO-1-2001-0804

CA Number: 5

Group	Name
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Assigned By: Eng Design Mgmt

Turk, Charles H

Assigned To: Eng P&C Mgmt

Smith, Mark A

Subassigned To: Eng P&C Fire Protection Staff

Rispoli, Ronald D

Originated By: Dobbs, J G

8/15/01 09:20:40

Performed By:

Subperformed By:

Approved By:

Closed By:

Current Due Date: 02/07/2002

Initial Due Date: 09/15/2001

CA Type: A GENERAL ITEM

Plant Constraint: NONE

**CA Description:**

Determine method for complying with separation requirements associated with redundant safe shutdown equipment and update prefire plan, accordingly, to address the condition described in the CR initiation.

Response:

Subresponse :

Closure Comments:



Entergy

CA DUE DATE EXTENSION

CR-ANO-1-2001-0804

Corrective Action : CR-ANO-1-2001-0804 CA-005

Version: 1

Approved:

Requested Duedate: 02/07/2002

Previous Duedate: 09/15/2001

Requested By: Walker, James W

09/10/2001

Approved By: Turk, Charles H

09/11/2001

**Request Description:**

Fire Protection is of the opinion that the proper method of compliance is to credit a manual action to open the BWST valve, when required. However, the current position of the NRC is that manual actions cannot be credited to meet the separation requirements of Appendix R, Section III.G. This position is contrary to the understanding of the industry and will likely become a generic issue that will require several months (if not years) to resolve. This CR action cannot be completed until the issue of manual actions is resolved.

**Approved Description:**

The request is appropriate.-CHT

**CORRECTIVE ACTION**

CR-ANO-1-2001-0804

CA Number: 6

Group

Name

Assigned By: Eng Design Mgmt

Turk, Charles H

Assigned To: Eng P&amp;C Mgmt

Smith, Mark A

Subassigned To: Eng P&amp;C Fire Protection Staff

Rispoli, Ronald D

Originated By: Dobbs, J G

8/15/01 09:23:09

Performed By:

Subperformed By:

Approved By:

Closed By:

Current Due Date: 02/28/2002

Initial Due Date: 02/28/2002

CA Type: A GENERAL ITEM

Plant Constraint: NONE

**CA Description:**

Update the IPEEE analysis to incorporate the Appendix R safe shutdown cable and raceway zone corrections made under this condition report.

Response:

Subresponse :

Closure Comments: