

03/01/02

Workorder: 02-000550-000

Status: I

Entry Date: 01/18/2002 15:24

Planner/Supv: JOHN THOMAS

Requested By: BRENDA F. SIMRIL 843-8515

## \*\*\*\*\* SUPERVISOR \*\*\*\*\*

PER Level Rev Level 00

Identified By LINE ORGANIZATION

Self Revealing Y

Problem Description As part of the extent of condition for PER  
00-007928-000, the following issue has been identified.

While verifying specified Appendix R manual actions and timelines associated with mitigation of spurious operation of valves 1,2-FCV-63-072 & -073, it has been determined that all technical issues were not considered. Specifically, manual actions specified for closure of valve 1,2-FCV-63-001 did not alert the operator to the potential for requiring local manual operation of the valve. Additionally, emergency lights have not been provided for local operation. Follow up walkdowns have been performed and accessibility of 1,2-FCV-63-1 has been confirmed.

Pit Process Equip Y

Potential Oper Issue Y

Potential Reportable Y

Potential Degrad/Noncon(91-18) Y

ASME N

Systems Affected N/A

Systems Affected

Systems Affected

Systems Affected

Units Affected 1&amp;2

Recommendation Process PER

No action, Justify

If Process, PER Level D

If Utilize ACP, No

Immed Action Taken Performed walkdowns of 1,2-FCV-63-1, -2 to determine  
accessibility for manual operation.

Provided guidance to operations to revise AOP-N.01 to  
respond to spurious operation of 1,2 FCV-063-072, -73  
by manually closing 1,2-FCV-74-3, -21 as appropriate.

BBB-9  
1/18

Specified appropriate equipment to ensure manual actions can be completed within required time frame.

Contacted operations to re-evaluate minimum operator staffing requirements for responding to an Appendix R fire.

Revised AOP-N.01 to allow manual closure of FCV-63-1 for areas where RHR valves are inaccessible.

Recommended Resp Org ENG/MECH  
Coordinated With John Thomas  
Init Sup-First Last John Thomas  
Init Sup Phone 8224  
Init Department ENG/MECH  
Init Sup Review Date 01/18/2002

\*\*\*\*\* LEVEL D INFORMATION \*\*\*\*\*

Lvl D Causing Org  
Lvl D Causing Crew  
Human Perf Proc Code  
Apparent Cause  
Lvl D Process/Proced  
Hardware Disposition  
Technical Justify  
Init Supv-First Last  
Init Supv Phone  
Init Sup Review Date

\*\*\*\*\* OPS \*\*\*\*\*

Functional Eval (FE) Y  
FE Due Date 01/22/2002  
Affect Operability  
If Yes,Units/Actions  
Offsite OP Review Y  
Op Review BFN N  
Op Review BLN N  
Op Review SQN N  
Op Review WBN Y  
Reportable Y

If Yes, List Basis It was determined that sufficient lighting did not exist to provide for local, manual operation of FCV-63-1 on Unit 1 or Unit 2. This condition was reported in accordance with License Condition 2.H for Unit 1 and 2 operating license to the Region II Director.

Ops SRO/STA-Fst Last Toney Whitten

Ops SRO/STA Rev Date 01/18/2002

\*\*\*\*\* FE \*\*\*\*\*

Functional Maint N

Potential Degrad/Noncon(91-18) Y

FE/Eval Due Date

Initial Evaluation A review of the condition identified revealed that this condition is in non-compliance with SQN's current licensing basis for maintaining Appendix R lighting and is therefore, reportable.

91-18 Degrad Nonconf Y

Functional/Eval Basis Actions associated with FOR 3.7.14.a taken to provide alternate lighting.

AOP-N.01 revised via the 50.59 process, therefore, functional evaluation not required per SPP3.1.

Immed/Comp Measures Y

List Action/Measures Notified NRC of condition within required 24 hours.

Revised procedure AOP-N.01 to manually/locally close 1,2-FCV-74-3 and -21 to mitigate the spurious opening of 1,2-FCV-63-72, -73 and subsequent draining of RWST into containment.

Provided tooling to assist operator in manually closing isolation valves.

Issued standing order to require use of hand held lighting when manually closing 1,2-FCV-3, and -21 to mitigate an Appendix R fire.

Engineer John Thomas

Date 02/11/2002

Supervisor John Thomas

Date 02/11/2002

OPS SRO/STA-Fst Last

OPS SRO/STA Rev Date

\*\*\*\*\* MRC \*\*\*\*\*

Process PER Level C

Interim Action Req'd N

If YES, Specify

RCA Required N

Site Qual Conc/Ver N

Assigned Resp Org ENG/MECH  
A Develop Due Date 02/20/2002  
RC Directions  
RC CAP Review N  
RC-First Last John Hamilton  
RC Review Date 01/22/2002

\*\*\*\*\* Resp Org \*\*\*\*\*

A Develop Due Date 02/20/2002  
Action ENG/MECH  
OC-First Last Brenda Simril  
OC Phone 8515  
Activity Mgt Issue N  
B-LER N  
ER No.  
Control of NonConfor N  
Yes, Scope  
Hardware Disposition  
Disposition RIM/EDMS  
Offsite Generic Rev Y  
Generic Rev BFN  
Generic Rev BLN  
Generic Rev Corp  
Generic Rev SQN  
Generic Rev WBN Y  
Process/Procedures

\*\*\*\*\* CAUSE DATA \*\*\*\*\*

Apparent Cause Engineering failed to identify design requirements for qualified lighting to perform manual actions to mitigate a fire in accordance with Appendix R.

Root Cause  
Causing Org ENG/ELECT  
Causing Crew  
Human Perf Proc Code  
HP Perf Second Code  
Prev/Similar Event N/A  
Specify Search Basis  
Extent of Condition

\*\*\*\*\* PER HUMAN PERF \*\*\*\*\*

\*\*\*\*\* PER CA/RC ITEMS \*\*\*\*\*

1 Action Item Issue design change documentation to rewire the control circuit for FCV-63-72 and -73 such that spurious operation of the valves from an Appendix R fire will not occur.

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1 Action Type CORRECTIVE ACTION  
1 Assigned Org ENG/ELECT  
1 CA Due Date 03/30/2002  
1 AO Concur-Fst Last  
1 AO POC Fst Last RON GLADNEY  
1 CA Performed  
1 Date Completed  
2 Action Item Verify implementation of DCN for Unit 1  
2 Action Type CORRECTIVE ACTION  
2 Assigned Org ENG/MECH  
2 CA Due Date 05/30/2003  
2 AO Concur-Fst Last JOHN THOMAS  
2 AO POC-Fst Last BRENDA SIMRIL  
2 CA Performed  
2 Date Completed  
3 Action Item Verify implementation of DCN for unit 2  
3 Action Type CORRECTIVE ACTION  
3 Assigned Org ENG/MECH  
3 CA Due Date 05/30/2002  
3 AO Concur-Fst Last JOHN THOMAS  
3 AO POC Fst Last BRENDA SIMRIL  
3 CA Performed  
3 Date Completed

\*\*\*\*\* CLOSURE COMMENTS FROM CA \*\*\*\*\*

\*\*\*\*\* CAP CONCUR \*\*\*\*\*

PER Completion Date 05/30/2003  
Prep-First Last John Thomas  
Preparer Date 02/20/2002  
Telephone No 8224  
(C) Supv-First Last John Thomas  
(C) Supv Ext 8224  
(C) Supv Date 02/20/2002  
(B) DptMgr-Frst Last  
(B) DptMgr Date  
MRC Reqd N  
MRC Concurrence  
Reason for N  
MRC-First Last  
MRC Date  
(A) SiteSr-Fst Last  
(A) SiteSr Date  
(A) PltMgr-Fst Lst  
(A) PltMgr Date

React Eng-Fst Lst  
React Eng Date  
Site Qual Conc Reqd. N  
Site Qual Concur  
Reason for N  
Site Qual First Last  
Site Qual Date

\*\*\*\*\* VERIFICATION \*\*\*\*\*

Final Rev Level  
Tags Rem-First Last  
Tags Date  
RO Verify Comp  
RO Verify Date  
ANI/ANII Required N  
ANI/ANII Concurrence  
Reason for N  
ANI/ANII-First Last  
ANI/ANII Date  
Site Qual Concur  
Reason for N  
Site Qual First Last  
Site Qual Date  
RO Supv Clos-Fst Lst  
Closure Date

\*\*\*\*\* EXTENSIONS \*\*\*\*\*

\*\*\*\*\* REVISIONS \*\*\*\*\*

\*\*\*\*\* GENERIC REVIEWS \*\*\*\*\*

BFN Resp Org  
BFN Due Date  
BFN Gen Rev Results  
BFN Review-Fst Lst  
BFN Review Date  
BLN Resp Org  
BLN Due Date  
BLN Gen Rev Results  
BLN Review-Fst Lst  
BLN Review Date  
CORP Resp Org  
CORP Due Date  
CORP Gen Rev Result

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CORP Review-Fst Lst  
CORP Review Date  
SQN Resp Org  
SQN Due Date  
SQN Gen Rev Results  
SQN Review-Fst Lst  
SQN Review Date  
WBN Resp Org ENG/MECH  
WBN Due Date 02/13/2002  
WBN Gen Rev Results Copy to CR Allen 02/13/02 for information only review.  
WBN Review-Fst Lst TERESA WILSON  
WBN Review Date 02/13/2002

## \*\*\*\*\* OPERABILITY REVIEWS \*\*\*\*\*

BFN Notified-Fst Lst  
BFN Notified Date  
BFN Op Rev Results  
BFN Review-Fst Lst  
BFN Review Date  
SQN Notified-Fst Lst  
SQN Notified Date  
SQN Op Rev Results  
SQN Review-Fst Lst  
SQN Review Date  
WBN Notified-Fst Lst DUNCAN BENNETT  
WBN Notified Date 01/25/2002  
WBN Op Rev Results A review of WBN AOI-30.2 did not identify any local  
manual actions taken at the valve for 1-FCV-63-1.  
Therefor this PER is not applicable to WBN.  
WBN Review-Fst Lst DUNCAN BENNETT  
WBN Review Date 01/25/2002

## \*\*\*\*\* TRENDS \*\*\*\*\*

Program Code FP  
Program Code  
Program Code  
INPO Code FP1  
INPO Code  
NRC Code  
NRC Code  
Category PROCESS  
Short Term Code  
Impact 4.0  
Behavior Code

rg / Prog Code  
EMS  
ther  
AUSE CODES

Total records selected: 1

\*\*\* END OF REPORT \*\*\*



**APPENDIX A.1**

Fire Area	Valve with Spurious Possibility	Required Manual Action
FAA-098	1-FCV-063-073	Locally Close 1-FCV-74-21
FAA-099	1-FCV-063-072 & 1-FCV-063-073	Locally Close 1-FCV-74-3 and MCR Close 1-FCV-74-21 and then pull fuses/open breaker for valve
FAA-100	1-FCV-063-072 & 1-FCV-063-073	Locally Close 1-FCV-74-3, MCR Close 1-FCV-74-21 and then pull fuses/open breaker for valve
FAA-102	2-FCV-063-072	2-FCV-74-3 Close from the MCR and then pull fuses/open breaker for valve
FAA-103	2-FCV-063-072	2-FCV-74-3 Close from the MCR and then pull fuses/open breaker for valve
FAA-107	2-FCV-063-072 & 2-FCV-063-073	Locally Close 2-FCV-74-3 and -21
FAA-108	2-FCV-063-072	Locally Close 2-FCV-74-3

In each of the fire areas listed above, in addition to the specifically identified actions, in order to prevent further spurious valve actuations, the breakers should be opened at the MCC for the following valves:

FCV-063-072      FCV-063-073  
 FCV-072-020      FCV-072-023

For fires in FAA-94, -95, -107, or -108 (Rx MOV Board Rooms) breakers for the MOVs may be inaccessible. Therefore, the Rx MOV Boards may be de-energized from the 480V Shutdown Boards.

**APPENDIX A.1**

**Appendix A.1.(e)  
Spurious Opening of RCS Sump Suction Valves 63-72 & 63-73 in AB**

**NOTE:** The compliance strategies and manual actions specified in this Appendix are required until implementation of DCNs D-21152 (U1) and D-1153 (U2)

For each of the Fire Areas Listed in the Table below there is a potential spurious opening of the Containment Sump Valves 1,2-FCV-63-072 or -073. For each of these fire areas the valves which could spuriously open and the mitigating action are listed. Additionally, for each of these areas the following generic local manual operator actions within 25 minutes are required:

Fire Area	Valve with Spurious Possibility	Required Manual Action
FAA-001	1-FCV-063-072 & 1-FCV-063-073 2-FCV-063-072 & 2-FCV-063-073	Locally Close 1-FCV-63-1 OR 1-FCV-74-3 and -21 Locally Close 2-FCV-63-1 OR 2-FCV-74-3 and -21
FAA-013	1-FCV-063-072 & 1-FCV-063-073	Locally Close 1-FCV-74-3 and -21
FAA-026	2-FCV-063-072 & 2-FCV-063-073	Locally Close 2-FCV-74-3 and -21
FAA-029 A1-A6	1-FCV-063-072 & 1-FCV-063-073 2-FCV-063-073	Locally Close 1-FCV-74-3 and -21 Locally Close 2-FCV-74-21
FAA-029 A13-A15	2-FCV-063-072	Locally Close 2-FCV-74-3
FAA-044	2-FCV-063-072 & 2-FCV-063-073	Locally Close 2-FCV-74-3 and -21
FAA-054 - A2-A5 / Q-S & A5-A8 / Q-R	1-FCV-063-072 & 1-FCV-063-073 2-FCV-063-073	Locally Close 1-FCV-74-3 and -21 Locally Close 2-FCV-74-21
FAA-054 - A11-A14 / Q-S	2-FCV-063-072 & 2-FCV-063-073	Locally Close 2-FCV-74-3 and -21
FAA-067	1-FCV-063-072 & 1-FCV-063-073 2-FCV-063-073	Locally Close 1-FCV-74-3 and -21 Locally Close 2-FCV-74-21
FAA-070	1-FCV-063-073 2-FCV-063-073	Locally Close 1-FCV-74-21 Locally Close 2-FCV-74-21
FAA-074	1-FCV-063-073	1-FCV-74-21 Close from the MCR and then pull fuses/open breaker for valve
FAA-081	2-FCV-063-072 & 2-FCV-063-073	Locally Close 2-FCV-74-3 and -21
FAA-085	2-FCV-063-072 & 2-FCV-063-073	Locally Close 2-FCV-74-3 and MCR Close 2-FCV-74-21 and then pull fuses/open breaker for valve
FAA-094	1-FCV-063-072 & 1-FCV-063-073	Locally Close 1-FCV-74-3
FAA-095	1-FCV-063-073 2-FCV-063-073	Locally Close 1-FCV-74-21 Locally Close 2-FCV-74-21