E-DOC TITLE: CALCULATION COVER AND REVISION SHEET	E-DOC NO. 5010.015-ATT-2	CHANGE NO. 002-00-0

ARKANSAS NUCLEAR ONE
CALCULATION COVER SHEET

Calc. No.:02-E-0004-02 Rev. No.: 0

Calc. Title: Zone 98-J PSA Analysis for Operator Action SDP

Unit: 1 Category: Non-Q
System(s):
Calc. Type: NS

Components:

Comp Tag	Suffix	Comp Code
N/A		

Topic(s): PRAS
Plt Area: Bldg. Elev.
Room Wall
Coordinates:

Config. Checklist (per 5010.004) completed? Y ☒ N ☐
Document Comment/Resolution Form completed? Y ☒ N ☐

Abstract (Included Purpose/Results): This calculation provides the PSA Conditional Core Damage Probabilities for a fire in Zone 98-J. These values can be combined with the fire frequency values to determine the delta risk for the SDP evaluation.

Pages Revised and/or Added: All 1 -92

Purpose of Revision: initial submittal

Initiating Document	Resulting Document	Key Design Input Document
CR-ANO-1-2001-0723 CA 8		See Reference Section

Verification Method: Design Review x Alternate Calculation ____ Qualification Testing ____

Amends Calc(s):

Supersedes Calc(s) / CRN (s):

Computer Software Used: PRAQuant 3.3bx, QRecover 1.5x

Preparer: Jessica Walker / 3/14/02 Reviewer: Michael Lloyd / 3-14-02

Vendor Reviewer: N/A / / (Print Name) (Initials) (Date)
Vendor Prepared Calculations Only

Approver: Daniel W. Fouts / / 3-14-02 (Print Name) (Initials) (Date)

Check if Additional Revisions: ☐

E-DOC TITLE: CONFIGURATION CHECKLIST	E-DOC NO. 5010.004-A	CHANGE NO. 006-00-0

Calc-02-E-0004-02, Rev 0

This Document Contains 1 Page(s)

Note:
The Configuration Checklist may not be used instead of a 50.59 Review when a 50.59 Review is required by NMM LI-101 or other governing procedures related to the affected documents.

Complete this form in accordance with the instructions provided in Procedure 5010.004, Attachment 3. For additional information, follow the "Configuration Checklist" link provided on EntergyNET's ANO Engineering home page.

AFFECTED?	LICENSING	DISPOSITION or BASIS FOR CONCLUSION
☐Yes[1] ☒No[2]	Any of the following: • Technical Specifications • Operating License • Confirmatory Orders • Safety Analysis Report / SAR Figures • Core Operating Limits Report • Fire Hazards Analysis • Tech Spec Bases • Technical Requirements Manual • NRC Safety Evaluation Reports • Ventilated Storage Cask Licensing Documents • Quality Assurance Program Manual • Emergency Plan	Evaluation of PSA results for fire SDP issue has no impact on licensing basis.

[1] If "Yes," a 10CFR50.59 Determination is required in accordance with NMM LI-101.
[2] If "No," the basis for this conclusion must be documented (e.g., LRS search criteria, LBD sections/figures reviewed, etc.)

AFFECTED?	DESIGN/OTHER	DISPOSITION (If applicable)
☐Yes ☒No	Drawings/DRNs/DTS Database	
☐Yes ☒No	Component Database	
☐Yes ☒No	Vendor Tech Manuals / VTM Database	
☐Yes ☒No	Upper Level Documents (ULDs)	
☐Yes ☒No	Calculations / Code Stress Reports	
☐Yes ☒No	Specifications	
☐Yes ☒No	Engineering Reports	
☐Yes ☒No	EQ Documentation	
☐Yes ☒No	Piping Class Summary	
☐Yes ☒No	Fire Barrier Penetration Log	
☐Yes ☒No	Cable, Raceway or Equipment Numbers (PDMS)	
☐Yes ☒No	ER Responses / Mods (in-progress only)	
☐Yes ☒No	Procedures	
☐Yes ☒No	Engineering Standards	
☐Yes ☒No	Component Labels	
☐Yes ☒No	Fuse Lists	
☐Yes ☒No	Repetitive Task Database	
☐Yes ☒No	Preventive Maintenance Engineering Evaluations and Tasks	
☐Yes ☒No	Simulator	
☐Yes ☒No	Training / System Training Manuals (STMs)	
☐Yes ☒No	MMIS	
☐Yes ☒No	Engineering Programs	
☐Yes ☒No	Lubrication Manual	

Completed By: _____ Date: 3-14-02

Zone 98-J PSA Analysis for Operator Action SDP

Table of Contents

Prepared By: Jessica Walker Initials: JW Date: 3-14-02

Reviewed By: Michael Lloyd Initials: MLL Date: 3-14-02

Purpose:

The purpose of this write up is to document the calculation of the conditional core damage probability (CCDP) for the ANO-1 model given a fire in zone 98-J.

The CCDP can then be used in combination with the fire ignition frequency to provide a total CDF for a fire in zone 98-J.

The secondary purpose of this write up is to provide the NRC review staff with the information they requested to perform their phase 3 of the Significance Determination Process (SDP) (Reference 3).

The NRC has requested the following CCDP values for zone 98-J:
1. The CCDP with current assumed cable failures given NO operator action
2. The CCDP with red cables wrapped given NO operator action

References:
1. ANO Calculation 95-E-0066-02,Rev. 1, "ANO-1 IPEEE Fire P2 Values".
2. ANO Calculation 98-E-0039-04,Rev. 0, "ANO-1 HUMAN RELIABILITY ANALYSIS WORK PACKAGE FOR THE ANO1 PSA MODEL REVISION 2":
3. ANO Condition Report: CR-ANO-1-2001-0723 Corrective Action 8.

Assumptions:
1. The ANO-1 IPEEE fire model was used for this evaluation. This model was taken from Reference 1. All quantification files used in the present analysis were either taken directly from or based on files from Ref. 1 (e.g., MUTEXC. was converted to MUTEXC.txt). The method of quantification used in the IPEEE fire evaluation was adhered to for this evaluation. It is important to note that this method does vary from the current PSA practices seen in the base PSA model. For example: the fire model has HRA values directly in the fault tree with their nominal values. The fire model also conservatively takes no credit for the station blackout diesel. The only deviation from the IPEEE fire method was the truncation value. The new technology will allow truncation at 1E-09 instead of the previous value of 1E-07. The lower truncation was used to ensure greater completeness of the cutset results.
2. The fire protection engineers provided the failures in the zone listed in Attachment 1-3. For most valves and breakers, no attempt was made to establish failure mode. Rather, all components listed by fire protection were failed in all of their failure modes unless specifically stated otherwise in the fire protection component listing.
3. Based on Reference 1, the main feedwater system was assumed to fail as a result of a fire in zone 98-J. However, the PSA model requires an operator action to prevent overfill by main feedwater. Since the main feedwater system is assumed to fail, this failure mode was eliminated from the PSA model for fire zone 98-J. This was accomplished by setting the following events to FALSE: EXCESSMFWA, EXCESSMFWB, XSMFWTOA, XSMFWTOB, and SGOFREC.

4. An operator action is placed in the model to manually stop overfill of the steam generators due to EFW. The recovery only appears with the P-7A pump. Since the P-7A pump will ONLY be operated and controlled with a local manual action, the operator action includes the requirement to prevent overfill and a secondary recovery is unnecessary. This was accomplished by setting the event SGOFREC2 to FALSE.
5. The EFW system has solenoid control valves that are normally open and are energized to close valves. Cables for the P-7B side control valves (CV-2646 and CV-2648) and the P-7A (CV-2645 and CV-2647) pass through zone 98-J. Based on the cables going through the zone, the fire could cause the either of the cables to short and cause it associated valve to go closed. The probability of this hotshort is considered higher than a typical hotshort probability for MOVs (6.8E-02, based on NUREG/CR-2258). A value of 0.25 has been used in this evaluation based on Attachment 12.
6. The NRC has requested an evaluation assuming green train cables are wrapped. However, the zone in question contains green train equipment. Since wrapping the green train cable would not protect the actual components in the zone, the components in the zone are considered failed when the green train equipment is wrapped. Therefore, the value for the green train wrapped would be equivalent to the value of the baseline case and is not calculated separately.
7. It is assumed that the NRC request for the CCDP without operator action refers to operator action OUTSIDE of the control room. This assumption is based on the fact that the available staff for ex-control room action will be diminished due to the fire brigade manpower requirements. Therefore, only operator actions outside of the control room will be set to TRUE in the no operator action analyses.
8. Room 98-J is a long corridor. The fire sources are separated on the two sides of the room. Fire protection engineering has divided the room into three scenarios for their analysis (98-J East, 8-J West-1, and 8-J West-2). Each scenario has specific equipment and cables that are unaffected by a fire in that area. Attachments 1 – 3 are the specific lists for the 3 scenarios. The CCDP was calculated for each scenario.
9. Room 98-J contains a suppression system. Fire protection engineering has determined that multiple cables would be spared damage when the suppression system actuates; however the suppression system is assumed to have a failure rate of 0.05. This analysis takes credit for the suppression system where possible by using the Qrecover computer program to add a 0.05 factor to the failures associated with the cables mentioned above.
10. Attachment 13 discusses the recoveries used in the analysis. All operator actions were reviewed against the previous IPEEE analysis. QP7BMANREC was not credited in the original analysis because P7B was assumed to fail due to the fire. Fire protection engineering has determined the cables in 98-J do not effect the operation of P-7B. Therefore, QP7BMANREC has been used in this analysis. MANEFWSTRT was also not used in the original analysis (i.e., it did not occur in the Ref. 1 98-J cutset file) because the control power for CV-2626 and CV-2670 is located in the zone. However, for the east end fire scenario, these cables would be undamaged and the in-control room recovery would work appropriately. The newly created QHFPWRSHT was also created in this analysis (see analysis section) and not used in the previous calculation. XHF1MEDXXX (OPERATOR FAILS TO BEGIN HPR FOLLOWING M-LOCA) was also not credited in the original analysis but this in control room action is not affected by the fire and can be used in this analysis.

11. Valves CV-1433 and CV-1432 are normally closed valves in the Decay Heat System. The PSA model needs these valves to remain closed. Based on discussions with system engineering and review of the system training manual, these valves would remain closed on loss of air and power. Therefore they were removed from the failure list provided from fire protection as well as their associated solenoid valves (SV-1432 and SV-1433).

Analysis:

Fire Protection provided lists of components either in 98-J or with cables in 98-J which are affected in each of three fire scenarios: 98-J East, 98-J West-1, and 98-J West-2.. These lists are provided as Attachments 1 - 3. Each attachment shows the components separated into 6 categories.

- Blue – fire modeling has shown the cable will not be affected by a fire so the component does not need to be failed even though it has a cable in the zone.
- Black – This component will fail regardless of which conduits are wrapped.
- Red – These components are considered protected when the red train cables are wrapped in the zone
- Green – These components are considered protected when the green train cables are wrapped in the zone.
- Orange – These are swing components. They typically have redundant power supply or control cables and are considered protected with either red or green train wrapped cables.
- Magenta – These are red train cables that would survive the fire assuming the suppression system activated appropriately.

Consistent with the NRC request specified in the Purpose, two cases will be evaluated:
1. All current failures: components coded Black, Red, Green and Orange will be failed
2. Red train wrapped: components coded Black and Green will be failed

Once these two lists of components were created, the associated lists of basic events were created. The mapping file from Reference 1 (betaga1.dbf) was used to create the list of basic events affected by a fire in zone 98-J. This mapping file relates a component with every basic event it affects in the model. Since the fire fault tree model also contains module events and since their constituent basic events have been pruned from the model, these module events are also listed in the mapping file.

A review of this information revealed that five fire scenarios must be evaluated:
1. a 98-J East fire scenario with red raceways not wrapped case,
2. a 98-J East fire scenario with red raceways wrapped case,
3. a 98-J West-1 fire scenario with red raceways not wrapped case,
4. a 98-J West-2 fire scenario with red raceways not wrapped case, and
5. a 98-J West-2 fire scenario with red raceways wrapped case.

Since the 98-J West-1 scenario does not affect red cables or red equipment, there was no need to evaluate a 98-J West-1 scenario with red raceways wrapped.

Using the Ref. 1 fault tree model as a starting point, a unique fault tree was created for each fire scenario: 98-J East, 98-J West-1, and 98-J West-2. The not wrapped and wrapped cases of a given scenario used the same fault tree model. The basic events were manipulated to account for the effect of the fire wrapping. Attachments 4 through 8 list the basic events (including module events) which will be set to TRUE in the fault tree model for each of the above scenario cases. Attachments 9 - 11 describe the changes made to the Ref. 1 fault tree model to create the 98-J East, 98-J West-1, and 98-J West-2 models.

Prior to using them, each of the mapping files were reviewed for appropriateness. The following errors in the Reference 1 tag file were found as part of this process. The following maps were removed from Attachment 4 - 8 lists of affected events for the reason given below.

- DMM1Y11IAC to B5141B, because breaker B5141B is actually a spare breaker with no function
- SMV13641XK to CV3641, because CV-3641 has been changed to a manual valve
- QMM1P7BTRF to CV2869, because valve CV-2888 is in the recirculation path for P-7B and failure of CV-2869 alone would not cause flow diversion and fail the pump.
- QMM1P7ATRF to CV2870, because valve CV-2888 is in the recirculation path for P-7A and failure of CV-2870 alone would not cause flow diversion and fail the pump.
- QCB152311R was set to B311 which does not exist. The basic event should have been set to A311 which is the correct breaker. Since A311 was identified by fire protection as a Blue cable (i.e., cable will not be affected by a fire) in all 98-J scenarios, QCB152311R was not affected by a fire.

For each scenario, a set of equivalence gates was created using the basic events in each basic event list. In this process, each basic event was set equal to ".T." in an equivalence gate. Events that could be saved by the suppression system and could create a success path if not trued were set to "SUP". (Note: some modules had failed events and events that were saved by the suppression system. These modules were appropriately set to ".T.")

Each set of equivalence gates was then input into the Reference 1 ANO-1 fire fault tree model to create 5 versions of the fault tree model. These models are then reviewed for possible recoveries or problems with the failed events. The various models required different model changes due to the difference in failed equipment. The changes as a whole are discussed below; Attachments 9 through 11 provide the detailed documentation of changes in each model.

For zone 98-J, many model changes had to be made to account for the number of hotshorts assumed in the fire analysis. CV-2800, CV-2670 and CV-2626 were assumed to fail due to a hotshort. New events were created for each of these events and then "OR"ed with the appropriate module. Since CV-2800, CV-2670 and CV-2626 are MOVs they will fail with the hotshort probability of 6.8E-2 as discussed in Assumption 5. CV-2645 and CV-2647 are the P-7A control valves that hotshort closed as discussed in Assumption 5. These valves are unrecoverable via manual operation of these valves, so a new event was placed above the P7AMANREC recovery to account for these hotshorts. Finally, CV-2646 and CV-2648 are the P7-B control valve that hotshorts closed and a separate event was created for it in the P-7B logic. However the pre-fire plan calls for operations staff to deenergize CV-2646 and CV-2648 as part

of the procedure following a fire in zone 98-J. Operator interviews were performed so that an operator recovery could be created using the format found in reference 2. Operations Procedure OP-1106.006 rev 062-03-0 provides discussion of these valves and instructs the operations staff on which panel provides the capability to de-energize and open the valves. The pre-fire plan for zone 98-J directs the operators to deenergize these valves as part of the actions needed for a fire in this zone. A printout of the HRA spreadsheet output for QHFPWRSHT is provided in Attachment 14. The recovery QHFPWRSHT was given a value of 1.36E-1 (see Attachment 14) and "AND"ed with the hotshort probability for CV-2646 or CV2648 depending on the generator path. NOTE: That in making the above changes certain ".T." events were removed from the basic events representing the valve failures, because the failure causing them to be trued was the newly modeled hot short.

Once these changes were made, all remaining ".T." events were set to TRUE and each of the three trees were compressed. The PRAQuant software was then used to quantify the TOP gate in each scenario model at a truncation of 1E-9. The Qrecover program was also utilized as discussed in Assumption 9 to account for the suppression system. The resulting cutsets then went through a short set of manipulations before the final answer was reached. The mutually exclusive file was then DELTermed from each of these cutsets. Then, all of the events discussed in Assumptions 3 and 4 were set to FALSE (i.e., EXCESSMFWA, EXCESSMFWB, XSMFWTOA, XSMFWTOB, SGOFREC, SGOFREC2). Finally, the recoveries not utilized in this analysis, which had been given values of 1 in the basic event file, were "TRUED" and the cutsets were subsumed.

The process followed was similar for all 4 models discussed above.

To generate the CCDP without credit for ex-Control Room operator recoveries, the recovery events listed in Attachment 13 were given a value of 1 in a new basic event file (98Jnrc.be). The fault trees were requantified using the NRC basic event file. Then these recoveries were set to TRUE in the cutsets and the cutsets were subsumed. This process helped to ensure all valid cutsets were obtained with no ex-control room operator action.

Results:

The following table shows the final results from the analysis of zone 98-J and the associated cutset file.

Zone 98-J- EAST Fire

	CCDP w no recoveries applied	ANO CCDP value with EFW recoveries applied
ALL Current Failures	1.13E-2	2.18E-4
RED train protected	8.10E-3	1.97E-4

Zone 98-J- WEST 1 Fire

	CCDP w no recoveries applied	ANO CCDP value with EFW recoveries applied
ALL Current Failures	5.38E-04	1.39E-04
RED train protected	5.38E-04	1.39E-04

Zone 98-J- WEST 2 Fire

	CCDP w no recoveries applied	ANO CCDP value with EFW recoveries applied
ALL Current Failures	2.49E-03	1.85E-04
RED train protected	5.38E-04	1.26E-04

Electronic Files:

The following files are included with this document. They are contained with this write up in a Winzip file called 98JSDP.zip.

File Name	Size (Bytes)	Date	Time	Description
98jsdp.zip		3/14/02		Zip File containing the following
98J.QNT	5,051	3/13/02	05:29p	Quantification File
98JFIRE.BE	531,456	3/13/02	07:20a	BE file created for Zone 98-J
98JFIRE.GT	1,111,040	3/12/02	02:28p	GT file created for Zone 98-J
98JFIRE.TC	108,544	12/20/95	06:34p	TC file created for Zone 98-J
98JNRC.BE	531,456	3/13/02	07:21a	BE file created for NRC no operator action evaluation
98JNRC.GT	1,111,040	2/28/02	10:52a	GT file created for NRC no operator action evaluation
98JNRC.TC	108,544	12/20/95	06:34p	TC file created for NRC no operator action evaluation
98jrec.txt	145	3/14/02	10:09a	Recover file used with Qrecover program
Calc-02-E-0004-02R0		3/14/02		Calculation document
CommentSheet.doc	53,760	3/14/02	09:41a	Calculation Comment Sheet
DATABASE.ZIP	272,273	11/7/01	03:25p	Zipped Database files from Ref1
DELTERM.CUT	350	11/9/01	10:00a	Delterm file created from Ref 1.
E98JRED.CUT	868,426	3/13/02	04:12p	Red Wrapped East cutset file
ECOMP.xls	68,096	3/12/02	02:55p	Excel file with SuperC comparison of model changes for East side model
EREDC.CAF	65,973	3/7/02	05:48p	East side red wrapped cafta file - with trues and falses compressed
EREDNRC.CUT	2,363,306	3/13/02	04:22p	Red Wrapped East cutset filewith NRC operator action values
ESTART.CAF	128,585	3/12/02	02:30p	East side baseline cafta fault tree
ESTARTC.CAF	64,917	3/12/02	02:31p	East side baseline cafta fault tree with trues and falses compressed
ESTARTR.CAF	128,241	3/7/02	05:47p	East side red wrapped cafta file
E_all.cut	1,216,038	3/13/02	04:10p	Baseline East cutset file
E_nrc.cut	4,070,214	3/13/02	04:19p	Baseline East cutset file with NRC operator action values
MODEL.ZIP	265,707	11/7/01	03:25p	Zipped Model Files from ref 1
MUTEXC.txt	7,794	2/26/02	01:22p	Text file of Mutually Exclusive used for PRAQuant
QHFPWROFF.XLS	33,792	2/11/02	04:05p	QHFPWRSHT human recovery spreadsheet.
W1COMP.xls	48,640	3/8/02	02:34p	Excel file with SuperC comparison of model changes for West 1 side model
W1NRC.CUT	1,396,054	3/13/02	04:13p	West 1 cutset file with NRC operator action values
W2ALL.CUT	464,038	3/13/02	04:08p	West 2 baseline cutset file
W2ALLNRC.CUT	1,175,894	3/13/02	04:14p	West 2 baseline cutset file with NRC operator action values
W2comp.xls	39,424	3/8/02	03:03p	Excel file with SuperC comparison of model changes for West 2 side model
W2RED.CUT	436,386	3/13/02	04:09p	West 2 red wrapped cutset file
W2REDNRC.CUT	1,112,054	3/13/02	04:15p	West 2 red wrapped cutset file with NRC operator action values
W2_ALL.CAF	127,409	3/8/02	12:25p	West 2 baseline cafta fault tree
W2_ALLC.CAF	72,881	3/8/02	12:26p	West 2 baseline cafta fault tree - with trues and falses compressed
W2_RED.CAF	127,393	3/8/02	12:32p	West 2 red wrapped cafta fault tree
W2_REDC.CAF	73,429	3/8/02	12:32p	West 2 red wrapped cafta fault tree - with trues and falses compressed
WALL.CUT	570,634	3/13/02	04:07p	West 1 cutset file
WSTART.CAF	127,441	3/7/02	06:23p	West 1 fault tree file
WSTARTC.CAF	73,477	3/7/02	06:24p	West 1 fault tree file with trues and falses compressed

Attachment 1

East Scenario List of Components Categorized as Provided by Fire Protection

* The first column has been added to show the color of the component on a black and white print out. This column was not provided by fire protection

	EQUIP_TAG	Cables in Zone	Data Source
Blue	A1	Y	Cables*
Blue	A102	Y	Cables
Blue	A103	N	
Blue	A105	N	
Blue	A106	N	
Black	A108	U	
Blue	A109	N	Cables
Blue	A110	N	
Blue	A111	Y	Cables
Blue	A112	Y	Cables
Blue	A113	N	Cables
Blue	A2	N	Cables*
Blue	A202	Y	Cables*
Blue	A203	N	
Blue	A205	N	
Black	A206	U	
Black	A208	U	
Blue	A209	N	Cables
Blue	A210	N	
Blue	A211	Y	Cables
Blue	A212	Y	Cables
Blue	A213	N	Cables
Blue	A3	Y	App R
Blue	A301	N	App R
Blue	A302	Y	App R
Blue	A305	Y	App R
Blue	A306	Y	App R
Blue	A307	Y	App R
Blue	A308	Y	App R
Blue	A309	N	App R
Blue	A311	Y	App R
Blue	A4	N	
Green	A401	Y	App R
Green	A403	Y	App R
Blue	A405	Y	App R
Blue	A406	Y	App R
Green	A408	Y	App R
Blue	A409	Y	App R
Orange	A601	Y	Cables
Red	A802	Y	App R
Blue	B0125	U	
Blue	B1	N	

Blue	B11	N	Cables
Blue	B112	N	
Blue	B1145	N	
Blue	B12	N	Cables
Blue	B1205	U	
Blue	B121	N	
Blue	B1212	U	
Blue	B1215	U	
Blue	B1218	U	
Black	B1232	U	
Black	B1233	U	
Blue	B1264	N	
Blue	B131	N	
Blue	B2	Y	
Blue	B21	N	Cables
Blue	B212	N	
Black	B2145	Y	
Blue	B22	N	Cables
Blue	B221	N	
Blue	B2214	N	Cables
Blue	B222	N	Cables
Black	B2232	U	
Black	B2233	U	
Blue	B231	N	
Blue	B25	N	Cables
Black	B2553	Y	
Blue	B3	N	
Black	B311	U	WMS
Blue	B312	N	
Blue	B32	N	Cables
Blue	B3213A	N	PDMS
Blue	B3213B	N	PDMS
Blue	B322	N	
Blue	B3255	N	
Blue	B3256	N	
Blue	B4	N	
Blue	B412	N	
Blue	B42	N	Cables
Blue	B4213A	N	PDMS
Blue	B4213B	N	
Blue	B422	N	
Blue	B5	Y	App R
Blue	B51	N	App R
Blue	B51105	N	
Blue	B51112	N	
Blue	B5114	N	
Blue	B512	Y	App R
Blue	B5122	N	

Blue	B5123	N	App R
Magenta	B5124	Y	App R
Blue	B5141A	N	App R
Blue	B5143	U	
Blue	B5143A	N	
Blue	B5143B	N	
Blue	B5151	N	
Blue	B5152	N	
Blue	B5161	N	
Blue	B5164	N	
Blue	B5181	N	
Blue	B5182	N	
Blue	B52	N	App R
Blue	B521	N	App R
Blue	B5213	N	
Blue	B5214	N	
Blue	B522	N	App R
Blue	B5222	N	
Blue	B523	N	
Blue	B5231	Y	
Blue	B5244	N	
Black	B5254A	Y	
Black	B5254B	Y	
Blue	B53	N	Cables
Blue	B5311	N	
Blue	B532	N	App R
Blue	B533	N	
Blue	B5334	N	
Blue	B55	N	App R
Blue	B56	N	App R
Black	B5622B	U	
Blue	B5652	N	
Blue	B5653	Y	
Blue	B5731	N	linked
Blue	B6	Y	App R
Blue	B61	N	App R
Blue	B61103	Y	
Black	B61105	Y	
Blue	B6114	N	
Blue	B612	Y	App R
Green	B6121A	Y	App R
Green	B6121B	Y	App R
Green	B6122	Y	
Green	B6123	Y	
Green	B6124	Y	
Blue	B614	N	Cables
Green	B6142	Y	linked

Blue	B6143A	N	
Blue	B6143B	N	
Green	B6151	Y	
Green	B6152	Y	
Green	B6164	Y	linked
Green	B6166	Y	linked
Black	B6182	Y	
Green	B6183	Y	linked
Black	B6194	Y	linked
Blue	B62	N	App R
Blue	B621	N	App R
Blue	B6213	N	
Blue	B6214	N	
Blue	B622	N	App R
Black	B6222	Y	
Black	B623	Y	Cables
Green	B6231	Y	
Black	B6252	Y	
Black	B6254A	Y	
Black	B6254B	Y	
Blue	B63	N	Cables
Black	B633	Y	Cables
Blue	B6331	N	
Blue	B6532	N	linked
Blue	C186	N	
Green	C187	Y	Cables
Blue	C20	N	
Blue	C28A	N	
Blue	C28B	N	
Blue	C2A	N	Access
Black	C2B	Y	Access
Blue	C30	N	
Blue	C3A	N	
Black	C3B	Y	
Blue	C46	N	
Blue	C47	N	
Blue	C86	N	
Blue	C87	N	
Blue	C88	N	
Blue	C89	N	
Blue	C90	N	
Blue	C91	N	
Blue	C92	N	
Green	CV1000	Y	App R
Black	CV1206	Y	Cables
Blue	CV1219	N	App R
Blue	CV1220	N	App R
Green	CV1227	Y	App R

Green	CV1228	Y	App R
Blue	CV1275	N	PDMS
Blue	CV1276	N	App R
Blue	CV1277	N	App R
Blue	CV1278	N	App R
Blue	CV1279	N	App R
Blue	CV1284	N	App R
Blue	CV1285	N	App R
Black	CV1300	Y	PDMS
Blue	CV1301	N	PDMS
Blue	CV1405	N	App R
Blue	CV1406	Y	App R
Blue	CV1407	N	App R
Blue	CV1408	Y	App R
Blue	CV1414	N	
Black	CV1415	Y	Cables
Blue	CV1428	N	App R
Blue	CV1429	N	App R
Blue	CV1432	N	App R
Blue	CV1433	N	App R
Blue	CV1436	N	App R
Blue	CV1437	Y	App R
Black	CV2228	Y	PDMS
Black	CV2241	U	
Green	CV2613	Y	App R
Blue	CV2617	Y	App R
Blue	CV2618	Y	
Magenta	CV2620	Y	App R
Black	CV2624	Y	Cables
Black	CV2625	Y	Cables
Blue	CV2626	Y	App R
Magenta	CV2627	Y	App R
Green	CV2630	Y	App R
Blue	CV2645	Y	App R
Magenta	CV2646	Y	App R
Blue	CV2647	Y	App R
Magenta	CV2648	Y	App R
Magenta	CV2663	Y	App R
Magenta	CV2667	Y	App R
Magenta	CV2668	Y	App R
Blue	CV2670	Y	App R
Black	CV2674	Y	Cables
Black	CV2675	Y	Cables
Magenta	CV2680	Y	App R
Magenta	CV2800	Y	App R
Blue	CV2802	Y	App R
Magenta	CV2803	Y	App R
Blue	CV2806	Y	App R

Black	CV2827	Y	Cables
Blue	CV3617	N	
Blue	CV3621	N	
Blue	CV3625	N	
Blue	CV3629	N	
Blue	CV3640	N	App R
Blue	CV3642	Y	App R
Blue	CV3643	Y	App R
Blue	CV3644	Y	App R
Blue	CV3645	N	
Blue	CV3646	N	App R
Blue	CV3806	Y	App R
Green	CV3807	Y	App R
Black	CV3811	Y	Cables
Blue	CV3812	N	App R
Black	CV3813	Y	PDMS
Blue	CV3820	N	Cables
Green	CV3821	Y	App R
Blue	CV3822	N	App R
Blue	CV3840	N	App R
Green	CV3841	Y	App R
Magenta	CV3850	Y	App R
Green	CV3851	Y	App R
Blue	CV5403A	N	
Blue	CV5420	N	See SV5420
Black	CV5422	Y	See SV5422
Blue	CV6227	U	Valve has been deleted
Blue	CV7470	N	
Blue	CV7471	N	
Black	CV7472	Y	Cables
Black	CV7473	Y	Cables
Blue	D01	N	App R
Blue	D0112	N	App R
Blue	D0121A	N	
Blue	D0122A	N	App R
Blue	D0122B	N	
Blue	D0123	N	App R
Blue	D0152A	N	App R
Green	D02	Y	App R
Green	D0212	Y	App R
Green	D0221A	Y	
Green	D0222A	Y	App R
Green	D0223	Y	App R
Green	D0242A	Y	App R
Blue	D03	N	App R
Green	D04	Y	App R

Black	D05		
Green	D06	Y	App R
Blue	D07	Y	Cables
Blue	D11	N	
Blue	D1101	Y	
Blue	D1103	Y	
Blue	D1104	Y	App R
Blue	D1114	N	App R
Blue	D1120	Y	PDMS
Blue	D1124	Y	PDMS
Blue	D15	N	App R
Green	D21	Y	App R
Black	D2101	Y	
Black	D2103	Y	
Green	D2104	Y	App R
Green	D2114	Y	App R
Green	D25	Y	App R
Black	E/P2622	Y	Access
Black	E/P2623	Y	Access
Black	E/P2672	Y	Access
Black	E/P2673	Y	Access
Black	H1	Y	Access
Black	H13	Y	Cables
Blue	H14	N	Cables
Blue	H15	N	Cables
Blue	H2	N	
Blue	H23	N	Cables
Blue	H24	N	Cables
Blue	H25	N	Cables
Blue	IA806A	N	
Blue	IA806B	N	
Blue	K2A	N	Access
Blue	K2B	N	Access
Blue	K4A	Y	App R
Green	K4B	Y	App R
Black	LT2613	Y	App R
Blue	LT2617	Y	Cables
Blue	LT2618	N	App R
Blue	LT2620	N	App R
Blue	LT2621	N	
Blue	LT2622	Y	App R
Green	LT2624	Y	App R
Black	LT2653	Y	PDMS
Blue	LT2667	N	App R
Blue	LT2668	Y	Cables
Blue	LT2669	N	App R
Green	LT2671	Y	App R

Blue	LT2672	N	
Green	LT2673	Y	App R
Blue	P16A	N	App R
Blue	P16B	N	App R
Blue	P2A	N	Access
Blue	P2B	N	Access
Blue	P2C	N	Access
Blue	P33A	N	Access
Blue	P33B	N	Access
Blue	P33C	N	Access
Blue	P34A	N	App R
Blue	P34B	Y	App R
Blue	P36A	Y	App R
Blue	P36B	Y	App R
Blue	P36C	Y	App R
Blue	P3A	N	Access
Blue	P3B	N	Access
Blue	P3C	N	Access
Blue	P3D	N	Access
Blue	P4A	Y	App R
Blue	P4B	Y	App R
Blue	P4C	Y	App R
Blue	P75	Y	Access
Green	P7A	Y	App R
Blue	P7B	Y	App R
Black	PDIS2228	Y	Cables
Black	PDT2700	Y	Cables
Black	PDT2701	Y	Cables
Black	PS2229	U	
Blue	PS2230	N	
Blue	PS2829	N	Access
Blue	PS2830	N	
Blue	PS2837	N	Access
Blue	PS2842	N	
Blue	PS2898	N	
Blue	PS5408	N	
Blue	PS5430	N	
Black	PS5432	Y	Cables
Blue	PS5434	N	
Black	PS5436	Y	Cables
Blue	PSV5418	N	Mechanical Valve
Black	PT1020	Y	Cables
Green	PT1022	Y	App R
Blue	PT1040	Y	Access
Blue	PT2405	Y	Cables
Blue	PT2406	Y	Cables

Blue	PT2407	Y	Cables
Blue	PT2617A	Y	Cables
Blue	PT2617B	N	
Blue	PT2618A	N	App R
Green	PT2618B	Y	App R
Blue	PT2633	Y	Cables
Green	PT2667B	Y	App R
Blue	PT2668A	Y	Cables
Blue	PT2668B	N	
Blue	PT2683	Y	Cables
Blue	RA1	N	App R
Green	RA2	Y	App R
Blue	RS1	Y	App R
Blue	RS102	N	PDMS
Blue	RS104	N	PDMS
Blue	RS112	N	
Green	RS2	Y	App R
Blue	RS202	N	PDMS
Blue	RS204	N	PDMS
Blue	RS3	Y	App R
Green	RS4	Y	App R
Blue	SG1	N	App R
Blue	SG2	N	App R
Blue	SG3	N	App R
Blue	SG4	N	App R
Black	SV0611	U	
Black	SV0621	U	
Black	SV0711	U	
Black	SV0721	U	
Black	SV1432	Y	PDMS
Magenta	SV1433	Y	PDMS
Black	SV2228	Y	
Black	SV2229	Y	Cables
Blue	SV2238	N	Cables
Blue	SV2240	N	Cables
Black	SV2250	Y	Cables
Blue	SV2251	N	
Black	SV2252	Y	Cables
Blue	SV2253	N	
Black	SV2254	Y	Cables
Blue	SV2255	N	
Blue	SV2645	N	WMS
Blue	SV2646	N	WMS
Blue	SV2647	N	WMS
Blue	SV2648	N	WMS
Blue	SV3814	N	Access
Blue	SV3815	Y	Access

Blue	SV3840	N	Cables
Blue	SV3841	Y	Cables
Blue	SV5218	N	Access
Blue	SV5233	N	Access
Black	SV5237	Y	Access
Black	SV5239	Y	Access
Blue	SV5400	N	Cables
Blue	SV5420	N	PDMS
Black	SV5422	Y	PDMS
Blue	SV7410	N	Cables
Blue	SV7411	N	Cables
Black	SV7412	Y	Cables
Black	SV7413	Y	Cables
Black	TBWE6608	Y	Access
Black	TBWE6620	Y	Access
Blue	TS5400	N	
Blue	TS5401	N	
Blue	TS5402	N	
Black	TS5403	Y	Cables
Blue	TS5404	N	
Blue	TS5405	N	
Blue	TS5406	N	
Black	TS5407	Y	Cables
Blue	TS5410	N	
Blue	TS7901	Y	Cables
Blue	TS7902	Y	Cables
Black	TS7903	Y	Cables
Black	TS7904	Y	Cables
Blue	TV7901A	N	App R
Blue	TV7901B	N	App R
Blue	TV7902A	N	App R
Blue	TV7902B	N	App R
Blue	VEFM24A	N	App R
Blue	VEFM24B	N	App R
Green	VEFM24C	Y	App R
Green	VEFM24D	Y	App R
Blue	VSF1A	N	Access
Blue	VSF1B	N	Access
Black	VSF1C	Y	Access
Black	VSF1D	Y	Access
Blue	X03	Y	Cables
Blue	X04	Y	Cables
Blue	X1	N	Plant knowledge
Blue	X2	N	Plant knowledge
Blue	X3	Y	
Blue	X4	Y	

Blue	X5	N	App R
Blue	X51	N	Access
Blue	X6	N	App R
Blue	X61	N	Access
Blue	Y01	N	
Blue	Y0118	N	PDMS
Blue	Y02	N	
Black	Y0209	U	ICW pumps -- C09
Blue	Y11	N	App R
Green	Y22	Y	App R

Attachment 2

West Scenario 1 (EJ2012) list of Components Categorized as Provided by Fire protection

* The first column has been added to show the color of the component on a black and white print out. This column was not provided by fire protection

	EQUIP_TAG	Cables in Zone	Data Source
Blue	A1	Y	Cables*
Blue	A102	Y	Cables
Blue	A103	N	
Blue	A105	N	
Blue	A106	N	
Black	A108	U	
Blue	A109	N	Cables
Blue	A110	N	
Blue	A111	Y	Cables
Blue	A112	Y	Cables
Blue	A113	N	Cables
Blue	A2	N	Cables*
Blue	A202	Y	Cables*
Blue	A203	N	
Blue	A205	N	
Black	A206	U	
Black	A208	U	
Blue	A209	N	Cables
Blue	A210	N	
Blue	A211	Y	Cables
Blue	A212	Y	Cables
Blue	A213	N	Cables
Blue	A3	Y	App R
Blue	A301	N	App R
Blue	A302	Y	App R
Blue	A305	Y	App R
Blue	A306	Y	App R
Blue	A307	Y	App R
Blue	A308	Y	App R
Blue	A309	N	App R
Blue	A311	Y	App R
Blue	A4	N	
Blue	A401	Y	App R
Green	A403	Y	App R
Blue	A405	Y	App R
Blue	A406	Y	App R
Green	A408	Y	App R
Blue	A409	Y	App R
Blue	A601	Y	Cables
Blue	A802	Y	App R
Blue	B0125	U	

Blue	B1	N	
Blue	B11	N	Cables
Blue	B112	N	
Blue	B1145	N	
Blue	B12	N	Cables
Blue	B1205	U	
Blue	B121	N	
Blue	B1212	U	
Blue	B1215	U	
Blue	B1218	U	
Black	B1232	U	
Black	B1233	U	
Blue	B1264	N	
Blue	B131	N	
Blue	B2	Y	
Blue	B21	N	Cables
Blue	B212	N	
Black	B2145	Y	
Blue	B22	N	Cables
Blue	B221	N	
Blue	B2214	N	Cables
Blue	B222	N	Cables
Black	B2232	U	
Black	B2233	U	
Blue	B231	N	
Blue	B25	N	Cables
Black	B2553	Y	
Blue	B3	N	
Black	B311	U	WMS
Blue	B312	N	
Blue	B32	N	Cables
Blue	B3213A	N	PDMS
Blue	B3213B	N	PDMS
Blue	B322	N	
Blue	B3255	N	
Blue	B3256	N	
Blue	B4	N	
Blue	B412	N	
Blue	B42	N	Cables
Blue	B4213A	N	PDMS
Blue	B4213B	N	
Blue	B422	N	
Blue	B5	Y	App R
Blue	B51	N	App R
Blue	B51105	N	
Blue	B51112	N	
Blue	B5114	N	
Blue	B512	Y	App R

Blue	B5122	N	
Blue	B5123	N	App R
Blue	B5124	Y	App R
Blue	B5141A	N	App R
Blue	B5143	U	
Blue	B5143A	N	
Blue	B5143B	N	
Blue	B5151	N	
Blue	B5152	N	
Blue	B5161	N	
Blue	B5164	N	
Blue	B5181	N	
Blue	B5182	N	
Blue	B52	N	App R
Blue	B521	N	App R
Blue	B5213	N	
Blue	B5214	N	
Blue	B522	N	App R
Blue	B5222	N	
Blue	B523	N	
Blue	B5231	Y	
Blue	B5244	N	
Black	B5254A	Y	
Black	B5254B	Y	
Blue	B53	N	Cables
Blue	B5311	N	
Blue	B532	N	App R
Blue	B533	N	
Blue	B5334	N	
Blue	B55	N	App R
Blue	B56	N	App R
Black	B5622B	U	
Blue	B5652	N	
Blue	B5653	Y	
Blue	B5731	N	linked
Blue	B6	Y	App R
Blue	B61	N	App R
Black	B61103	Y	
Black	B61105	Y	
Blue	B6114	N	
Blue	B612	Y	App R
Green	B6121A	Y	App R
Green	B6121B	Y	App R
Green	B6122	Y	
Green	B6123	Y	
Green	B6124	Y	
Blue	B614	N	Cables
Green	B6142	Y	linked

Blue	B6143A	N	
Blue	B6143B	N	
Green	B6151	Y	
Green	B6152	Y	
Green	B6164	Y	linked
Green	B6166	Y	linked
Black	B6182	Y	
Green	B6183	Y	linked
Black	B6194	Y	linked
Blue	B62	N	App R
Blue	B621	N	App R
Blue	B6213	N	
Blue	B6214	N	
Blue	B622	N	App R
Black	B6222	Y	
Black	B623	Y	Cables
Green	B6231	Y	
Black	B6252	Y	
Black	B6254A	Y	
Black	B6254B	Y	
Blue	B63	N	Cables
Black	B633	Y	Cables
Blue	B6331	N	
Blue	B6532	N	linked
Blue	C186	N	
Blue	C187	Y	Cables
Blue	C20	N	
Blue	C28A	N	
Blue	C28B	N	
Blue	C2A	N	Access
Black	C2B	Y	Access
Blue	C30	N	
Blue	C3A	N	
Black	C3B	Y	
Blue	C46	N	
Blue	C47	N	
Blue	C86	N	
Blue	C87	N	
Blue	C88	N	
Blue	C89	N	
Blue	C90	N	
Blue	C91	N	
Blue	C92	N	
Green	CV1000	Y	App R
Black	CV1206	Y	Cables
Blue	CV1219	N	App R
Blue	CV1220	N	App R
Green	CV1227	Y	App R

Green	CV1228	Y	App R
Blue	CV1275	N	PDMS
Blue	CV1276	N	App R
Blue	CV1277	N	App R
Blue	CV1278	N	App R
Blue	CV1279	N	App R
Blue	CV1284	N	App R
Blue	CV1285	N	App R
Black	CV1300	Y	PDMS
Blue	CV1301	N	PDMS
Blue	CV1405	N	App R
Green	CV1406	Y	App R
Blue	CV1407	N	App R
Green	CV1408	Y	App R
Blue	CV1414	N	
Black	CV1415	Y	Cables
Blue	CV1428	N	App R
Blue	CV1429	N	App R
Blue	CV1432	N	App R
Blue	CV1433	N	App R
Blue	CV1436	N	App R
Blue	CV1437	Y	App R
Black	CV2228	Y	PDMS
Black	CV2241	U	
Green	CV2613	Y	App R
Green	CV2617	Y	App R
Blue	CV2618	Y	
Blue	CV2620	Y	App R
Black	CV2624	Y	Cables
Black	CV2625	Y	Cables
Green	CV2626	Y	App R
Blue	CV2627	Y	App R
Green	CV2630	Y	App R
Green	CV2645	Y	App R
Blue	CV2646	Y	App R
Green	CV2647	Y	App R
Blue	CV2648	Y	App R
Blue	CV2663	Y	App R
Blue	CV2667	Y	App R
Blue	CV2668	Y	App R
Green	CV2670	Y	App R
Black	CV2674	Y	Cables
Black	CV2675	Y	Cables
Blue	CV2680	Y	App R
Blue	CV2800	Y	App R
Green	CV2802	Y	App R
Blue	CV2803	Y	App R
Green	CV2806	Y	App R

Black	CV2827	Y	Cables
Blue	CV3617	N	
Blue	CV3621	N	
Blue	CV3625	N	
Blue	CV3629	N	
Blue	CV3640	N	App R
Blue	CV3642	Y	App R
Blue	CV3643	Y	App R
Blue	CV3644	Y	App R
Blue	CV3645	N	
Blue	CV3646	N	App R
Blue	CV3806	Y	App R
Green	CV3807	Y	App R
Black	CV3811	Y	Cables
Blue	CV3812	N	App R
Black	CV3813	Y	PDMS
Blue	CV3820	N	Cables
Green	CV3821	Y	App R
Blue	CV3822	N	App R
Blue	CV3840	N	App R
Green	CV3841	Y	App R
Blue	CV3850	Y	App R
Green	CV3851	Y	App R
Blue	CV5403A	N	
Blue	CV5420	N	See SV5420
Black	CV5422	Y	See SV5422
Blue	CV6227	U	Valve has been deleted
Blue	CV7470	N	
Blue	CV7471	N	
Black	CV7472	Y	Cables
Black	CV7473	Y	Cables
Blue	D01	N	App R
Blue	D0112	N	App R
Blue	D0121A	N	
Blue	D0122A	N	App R
Blue	D0122B	N	
Blue	D0123	N	App R
Blue	D0152A	N	App R
Blue	D02	Y	App R
Blue	D0212	Y	App R
Green	D0221A	Y	
Blue	D0222A	Y	App R
Blue	D0223	Y	App R
Blue	D0242A	Y	App R
Blue	D03	N	App R
Blue	D04	Y	App R
Black	D05		

Blue	D06	Y	App R
Blue	D07	Y	Cables
Blue	D11	N	
Blue	D1101	Y	
Blue	D1103	Y	
Blue	D1104	Y	App R
Blue	D1114	N	App R
Blue	D1120	Y	PDMS
Blue	D1124	Y	PDMS
Blue	D15	N	App R
Blue	D21	Y	App R
Blue	D2101	Y	
Blue	D2103	Y	
Blue	D2104	Y	App R
Green	D2114	Y	App R
Green	D25	Y	App R
Black	E/P2622	Y	Access
Black	E/P2623	Y	Access
Black	E/P2672	Y	Access
Black	E/P2673	Y	Access
Black	H1	Y	Access
Black	H13	Y	Cables
Blue	H14	N	Cables
Blue	H15	N	Cables
Blue	H2	N	
Blue	H23	N	Cables
Blue	H24	N	Cables
Blue	H25	N	Cables
Blue	IA806A	N	
Blue	IA806B	N	
Blue	K2A	N	Access
Blue	K2B	N	Access
Blue	K4A	Y	App R
Green	K4B	Y	App R
Black	LT2613	Y	App R
Blue	LT2617	Y	Cables
Blue	LT2618	N	App R
Blue	LT2620	N	App R
Blue	LT2621	N	
Blue	LT2622	Y	App R
Green	LT2624	Y	App R
Black	LT2653	Y	PDMS
Blue	LT2667	N	App R
Blue	LT2668	Y	Cables
Blue	LT2669	N	App R
Green	LT2671	Y	App R
Blue	LT2672	N	
Green	LT2673	Y	App R

Blue	P16A	N	App R
Blue	P16B	N	App R
Blue	P2A	N	Access
Blue	P2B	N	Access
Blue	P2C	N	Access
Blue	P33A	N	Access
Blue	P33B	N	Access
Blue	P33C	N	Access
Blue	P34A	N	App R
Blue	P34B	Y	App R
Blue	P36A	Y	App R
Blue	P36B	Y	App R
Blue	P36C	Y	App R
Blue	P3A	N	Access
Blue	P3B	N	Access
Blue	P3C	N	Access
Blue	P3D	N	Access
Blue	P4A	Y	App R
Blue	P4B	Y	App R
Blue	P4C	Y	App R
Blue	P75	Y	Access
Green	P7A	Y	App R
Blue	P7B	Y	App R
Black	PDIS2228	Y	Cables
Black	PDT2700	Y	Cables
Black	PDT2701	Y	Cables
Black	PS2229	U	
Blue	PS2230	N	
Blue	PS2829	N	Access
Blue	PS2830	N	
Blue	PS2837	N	Access
Blue	PS2842	N	
Blue	PS2898	N	
Blue	PS5408	N	
Blue	PS5430	N	
Black	PS5432	Y	Cables
Blue	PS5434	N	
Black	PS5436	Y	Cables
Blue	PSV5418	N	Mechanical Valve
Black	PT1020	Y	Cables
Green	PT1022	Y	App R
Blue	PT1040	Y	Access
Blue	PT2405	Y	Cables
Blue	PT2406	Y	Cables
Blue	PT2407	Y	Cables
Blue	PT2617A	Y	Cables

Blue	PT2617B	N	
Blue	PT2618A	N	App R
Green	PT2618B	Y	App R
Blue	PT2633	Y	Cables
Green	PT2667B	Y	App R
Blue	PT2668A	Y	Cables
Blue	PT2668B	N	
Blue	PT2683	Y	Cables
Blue	RA1	N	App R
Blue	RA2	Y	App R
Blue	RS1	Y	App R
Blue	RS102	N	PDMS
Blue	RS104	N	PDMS
Blue	RS112	N	
Blue	RS2	Y	App R
Blue	RS202	N	PDMS
Blue	RS204	N	PDMS
Blue	RS3	Y	App R
Blue	RS4	Y	App R
Blue	SG1	N	App R
Blue	SG2	N	App R
Blue	SG3	N	App R
Blue	SG4	N	App R
Black	SV0611	U	
Black	SV0621	U	
Black	SV0711	U	
Black	SV0721	U	
Black	SV1432	Y	PDMS
Blue	SV1433	Y	PDMS
Black	SV2228	Y	
Black	SV2229	Y	Cables
Blue	SV2238	N	Cables
Blue	SV2240	N	Cables
Black	SV2250	Y	Cables
Blue	SV2251	N	
Black	SV2252	Y	Cables
Blue	SV2253	N	
Black	SV2254	Y	Cables
Blue	SV2255	N	
Blue	SV2645	N	WMS
Blue	SV2646	N	WMS
Blue	SV2647	N	WMS
Blue	SV2648	N	WMS
Blue	SV3814	N	Access
Blue	SV3815	Y	Access
Blue	SV3840	N	Cables
Blue	SV3841	Y	Cables
Blue	SV5218	N	Access

Blue	SV5233	N	Access
Black	SV5237	Y	Access
Black	SV5239	Y	Access
Blue	SV5400	N	Cables
Blue	SV5420	N	PDMS
Black	SV5422	Y	PDMS
Blue	SV7410	N	Cables
Blue	SV7411	N	Cables
Black	SV7412	Y	Cables
Black	SV7413	Y	Cables
Black	TBWE6608	Y	Access
Black	TBWE6620	Y	Access
Blue	TS5400	N	
Blue	TS5401	N	
Blue	TS5402	N	
Black	TS5403	Y	Cables
Blue	TS5404	N	
Blue	TS5405	N	
Blue	TS5406	N	
Black	TS5407	Y	Cables
Blue	TS5410	N	
Blue	TS7901	Y	Cables
Blue	TS7902	Y	Cables
Black	TS7903	Y	Cables
Black	TS7904	Y	Cables
Blue	TV7901A	N	App R
Blue	TV7901B	N	App R
Blue	TV7902A	N	App R
Blue	TV7902B	N	App R
Blue	VEFM24A	N	App R
Blue	VEFM24B	N	App R
Green	VEFM24C	Y	App R
Green	VEFM24D	Y	App R
Blue	VSF1A	N	Access
Blue	VSF1B	N	Access
Black	VSF1C	Y	Access
Black	VSF1D	Y	Access
Blue	X03	Y	Cables
Blue	X04	Y	Cables
Blue	X1	N	Plant knowledge
Blue	X2	N	Plant knowledge
Blue	X3	Y	
Blue	X4	Y	
Blue	X5	N	App R
Blue	X51	N	Access
Blue	X6	N	App R

Blue	X61	N	Access
Blue	Y01	N	
Blue	Y0118	N	PDMS
Blue	Y02	N	
Black	Y0209	U	ICW pumps - C09
Blue	Y11	N	App R
Blue	Y22	Y	App R

Attachment 3

West Scenario 2 (Remainder) list of Components Categorized as Provided by Fire protection

* The first column has been added to show the color of the component on a black and white print out. This column was not provided by fire protection

	EQUIP_TAG	Cables in Zone	Data Source
Blue	A1	Y	Cables*
Blue	A102	Y	Cables
Blue	A103	N	
Blue	A105	N	
Blue	A106	N	
Black	A108	U	
Blue	A109	N	Cables
Blue	A110	N	
Blue	A111	Y	Cables
Blue	A112	Y	Cables
Blue	A113	N	Cables
Blue	A2	N	Cables*
Blue	A202	Y	Cables*
Blue	A203	N	
Blue	A205	N	
Black	A206	U	
Black	A208	U	
Blue	A209	N	Cables
Blue	A210	N	
Blue	A211	Y	Cables
Blue	A212	Y	Cables
Blue	A213	N	Cables
Blue	A3	Y	App R
Blue	A301	N	App R
Blue	A302	Y	App R
Blue	A305	Y	App R
Blue	A306	Y	App R
Blue	A307	Y	App R
Blue	A308	Y	App R
Blue	A309	N	App R
Blue	A311	Y	App R
Blue	A4	N	
Blue	A401	Y	App R
Green	A403	Y	App R
Blue	A405	Y	App R
Blue	A406	Y	App R
Green	A408	Y	App R
Blue	A409	Y	App R
Blue	A601	Y	Cables
Blue	A802	Y	App R

Blue	B0125	U	
Blue	B1	N	
Blue	B11	N	Cables
Blue	B112	N	
Blue	B1145	N	
Blue	B12	N	Cables
Blue	B1205	U	
Blue	B121	N	
Blue	B1212	U	
Blue	B1215	U	
Blue	B1218	U	
Black	B1232	U	
Black	B1233	U	
Blue	B1264	N	
Blue	B131	N	
Blue	B2	Y	
Blue	B21	N	Cables
Blue	B212	N	
Black	B2145	Y	
Blue	B22	N	Cables
Blue	B221	N	
Blue	B2214	N	Cables
Blue	B222	N	Cables
Black	B2232	U	
Black	B2233	U	
Blue	B231	N	
Blue	B25	N	Cables
Black	B2553	Y	
Blue	B3	N	
Black	B311	U	WMS
Blue	B312	N	
Blue	B32	N	Cables
Blue	B3213A	N	PDMS
Blue	B3213B	N	PDMS
Blue	B322	N	
Blue	B3255	N	
Blue	B3256	N	
Blue	B4	N	
Blue	B412	N	
Blue	B42	N	Cables
Blue	B4213A	N	PDMS
Blue	B4213B	N	
Blue	B422	N	
Blue	B5	Y	App R
Blue	B51	N	App R
Blue	B51105	N	
Blue	B51112	N	
Blue	B5114	N	

Blue	B512	Y	App R
Blue	B5122	N	
Blue	B5123	N	App R
Blue	B5124	Y	App R
Blue	B5141A	N	App R
Blue	B5143	U	
Blue	B5143A	N	
Blue	B5143B	N	
Blue	B5151	N	
Blue	B5152	N	
Blue	B5161	N	
Blue	B5164	N	
Blue	B5181	N	
Blue	B5182	N	
Blue	852	N	App R
Blue	B521	N	App R
Blue	B5213	N	
Blue	B5214	N	
Blue	B522	N	App R
Blue	B5222	N	
Blue	B523	N	
Red	B5231	Y	
Blue	B5244	N	
Black	B5254A	Y	
Black	B5254B	Y	
Blue	853	N	Cables
Blue	B5311	N	
Blue	B532	N	App R
Blue	B533	N	
Blue	B5334	N	
Blue	B55	N	App R
Blue	B56	N	App R
Black	B5622B	U	
Blue	B5652	N	
Blue	B5653	Y	
Blue	B5731	N	linked
Blue	B6	Y	App R
Blue	B61	N	App R
Black	B61103	Y	
Black	B61105	Y	
Blue	B6114	N	
Blue	B612	Y	App R
Green	B6121A	Y	App R
Green	B6121B	Y	App R
Green	B6122	Y	
Green	B6123	Y	
Green	B6124	Y	
Blue	B614	N	Cables

Green	B6142	Y	linked
Blue	B6143A	N	
Blue	B6143B	N	
Green	B6151	Y	
Green	B6152	Y	
Green	B6164	Y	linked
Green	B6166	Y	linked
Black	B6182	Y	
Green	B6183	Y	linked
Black	B6194	Y	linked
Blue	B62	N	App R
Blue	B621	N	App R
Blue	B6213	N	
Blue	B6214	N	
Blue	B622	N	App R
Black	B6222	Y	
Black	B623	Y	Cables
Green	B6231	Y	
Black	B6252	Y	
Black	B6254A	Y	
Black	B6254B	Y	
Blue	B63	N	Cables
Black	B633	Y	Cables
Blue	B6331	N	
Blue	B6532	N	linked
Blue	C186	N	
Blue	C187	Y	Cables
Blue	C20	N	
Blue	C28A	N	
Blue	C28B	N	
Blue	C2A	N	Access
Black	C2B	Y	Access
Blue	C30	N	
Blue	C3A	N	
Black	C3B	Y	
Blue	C46	N	
Blue	C47	N	
Blue	C86	N	
Blue	C87	N	
Blue	C88	N	
Blue	C89	N	
Blue	C90	N	
Blue	C91	N	
Blue	C92	N	
Green	CV1000	Y	App R
Black	CV1206	Y	Cables
Blue	CV1219	N	App R
Blue	CV1220	N	App R

Green	CV1227	Y	App R
Green	CV1228	Y	App R
Blue	CV1275	N	PDMS
Blue	CV1276	N	App R
Blue	CV1277	N	App R
Blue	CV1278	N	App R
Blue	CV1279	N	App R
Blue	CV1284	N	App R
Blue	CV1285	N	App R
Black	CV1300	Y	PDMS
Blue	CV1301	N	PDMS
Blue	CV1405	N	App R
Green	CV1406	Y	App R
Blue	CV1407	N	App R
Green	CV1408	Y	App R
Blue	CV1414	N	
Black	CV1415	Y	Cables
Blue	CV1428	N	App R
Blue	CV1429	N	App R
Blue	CV1432	N	App R
Blue	CV1433	N	App R
Blue	CV1436	N	App R
Blue	CV1437	Y	App R
Black	CV2228	Y	PDMS
Black	CV2241	U	
Green	CV2613	Y	App R
Green	CV2617	Y	App R
Blue	CV2618	Y	
Blue	CV2620	Y	App R
Black	CV2624	Y	Cables
Black	CV2625	Y	Cables
Green	CV2626	Y	App R
Blue	CV2627	Y	App R
Green	CV2630	Y	App R
Blue	CV2645	Y	App R
Blue	CV2646	Y	App R
Blue	CV2647	Y	App R
Blue	CV2648	Y	App R
Blue	CV2663	Y	App R
Blue	CV2667	Y	App R
Blue	CV2668	Y	App R
Green	CV2670	Y	App R
Black	CV2674	Y	Cables
Black	CV2675	Y	Cables
Blue	CV2680	Y	App R
Blue	CV2800	Y	App R
Green	CV2802	Y	App R
Blue	CV2803	Y	App R

Green	CV2806	Y	App R
Black	CV2827	Y	Cables
Blue	CV3617	N	
Blue	CV3621	N	
Blue	CV3625	N	
Blue	CV3629	N	
Blue	CV3640	N	App R
Blue	CV3642	Y	App R
Blue	CV3643	Y	App R
Blue	CV3644	Y	App R
Blue	CV3645	N	
Blue	CV3646	N	App R
Red	CV3806	Y	App R
Green	CV3807	Y	App R
Black	CV3811	Y	Cables
Blue	CV3812	N	App R
Black	CV3813	Y	PDMS
Blue	CV3820	N	Cables
Green	CV3821	Y	App R
Blue	CV3822	N	App R
Blue	CV3840	N	App R
Green	CV3841	Y	App R
Blue	CV3850	Y	App R
Green	CV3851	Y	App R
Blue	CV5403A	N	
Blue	CV5420	N	See SV5420
Black	CV5422	Y	See SV5422
Blue	CV6227	U	Valve has been deleted
Blue	CV7470	N	
Blue	CV7471	N	
Black	CV7472	Y	Cables
Black	CV7473	Y	Cables
Blue	D01	N	App R
Blue	D0112	N	App R
Blue	D0121A	N	
Blue	D0122A	N	App R
Blue	D0122B	N	
Blue	D0123	N	App R
Blue	D0152A	N	App R
Blue	D02	Y	App R
Blue	D0212	Y	App R
Green	D0221A	Y	
Blue	D0222A	Y	App R
Blue	D0223	Y	App R
Blue	D0242A	Y	App R
Blue	D03	N	App R
Blue	D04	Y	App R

Black	D05		
Blue	D06	Y	App R
Blue	D07	Y	Cables
Blue	D11	N	
Blue	D1101	Y	
Blue	D1103	Y	
Blue	D1104	Y	App R
Blue	D1114	N	App R
Blue	D1120	Y	PDMS
Blue	D1124	Y	PDMS
Blue	D15	N	App R
Blue	D21	Y	App R
Blue	D2101	Y	
Blue	D2103	Y	
Blue	D2104	Y	App R
Green	D2114	Y	App R
Green	D25	Y	App R
Black	E/P2622	Y	Access
Black	E/P2623	Y	Access
Black	E/P2672	Y	Access
Black	E/P2673	Y	Access
Black	H1	Y	Access
Black	H13	Y	Cables
Blue	H14	N	Cables
Blue	H15	N	Cables
Blue	H2	N	
Blue	H23	N	Cables
Blue	H24	N	Cables
Blue	H25	N	Cables
Blue	IA806A	N	
Blue	IA806B	N	
Blue	K2A	N	Access
Blue	K2B	N	Access
Blue	K4A	Y	App R
Green	K4B	Y	App R
Black	LT2613	Y	App R
Blue	LT2617	Y	Cables
Blue	LT2618	N	App R
Blue	LT2620	N	App R
Blue	LT2621	N	
Blue	LT2622	Y	App R
Green	LT2624	Y	App R
Black	LT2653	Y	PDMS
Blue	LT2667	N	App R
Blue	LT2668	Y	Cables
Blue	LT2669	N	App R
Green	LT2671	Y	App R
Blue	LT2672	N	

Green	LT2673	Y	App R
Blue	P16A	N	App R
Blue	P16B	N	App R
Blue	P2A	N	Access
Blue	P2B	N	Access
Blue	P2C	N	Access
Blue	P33A	N	Access
Blue	P33B	N	Access
Blue	P33C	N	Access
Blue	P34A	N	App R
Blue	P34B	Y	App R
Blue	P36A	Y	App R
Blue	P36B	Y	App R
Blue	P36C	Y	App R
Blue	P3A	N	Access
Blue	P3B	N	Access
Blue	P3C	N	Access
Blue	P3D	N	Access
Blue	P4A	Y	App R
Blue	P4B	Y	App R
Blue	P4C	Y	App R
Blue	P75	Y	Access
Green	P7A	Y	App R
Blue	P7B	Y	App R
Black	PDIS2228	Y	Cables
Black	PDT2700	Y	Cables
Black	PDT2701	Y	Cables
Black	PS2229	U	
Blue	PS2230	N	
Blue	PS2829	N	Access
Blue	PS2830	N	
Blue	PS2837	N	Access
Blue	PS2842	N	
Blue	PS2898	N	
Blue	PS5408	N	
Blue	PS5430	N	
Black	PS5432	Y	Cables
Blue	PS5434	N	
Black	PS5436	Y	Cables
Blue	PSV5418	N	Mechanical Valve
Black	PT1020	Y	Cables
Green	PT1022	Y	App R
Blue	PT1040	Y	Access
Blue	PT2405	Y	Cables
Blue	PT2406	Y	Cables
Blue	PT2407	Y	Cables

Blue	PT2617A	Y	Cables
Blue	PT2617B	N	
Blue	PT2618A	N	App R
Green	PT2618B	Y	App R
Blue	PT2633	Y	Cables
Green	PT2667B	Y	App R
Blue	PT2668A	Y	Cables
Blue	PT2668B	N	
Blue	PT2683	Y	Cables
Blue	RA1	N	App R
Blue	RA2	Y	App R
Blue	RS1	Y	App R
Blue	RS102	N	PDMS
Blue	RS104	N	PDMS
Blue	RS112	N	
Blue	RS2	Y	App R
Blue	RS202	N	PDMS
Blue	RS204	N	PDMS
Blue	RS3	Y	App R
Blue	RS4	Y	App R
Blue	SG1	N	App R
Blue	SG2	N	App R
Blue	SG3	N	App R
Blue	SG4	N	App R
Black	SV0611	U	
Black	SV0621	U	
Black	SV0711	U	
Black	SV0721	U	
Black	SV1432	Y	PDMS
Blue	SV1433	Y	PDMS
Black	SV2228	Y	
Black	SV2229	Y	Cables
Blue	SV2238	N	Cables
Blue	SV2240	N	Cables
Black	SV2250	Y	Cables
Blue	SV2251	N	
Black	SV2252	Y	Cables
Blue	SV2253	N	
Black	SV2254	Y	Cables
Blue	SV2255	N	
Blue	SV2645	N	WMS
Blue	SV2646	N	WMS
Blue	SV2647	N	WMS
Blue	SV2648	N	WMS
Blue	SV3814	N	Access
Blue	SV3815	Y	Access
Blue	SV3840	N	Cables
Blue	SV3841	Y	Cables

Blue	SV5218	N	Access
Blue	SV5233	N	Access
Black	SV5237	Y	Access
Black	SV5239	Y	Access
Blue	SV5400	N	Cables
Blue	SV5420	N	PDMS
Black	SV5422	Y	PDMS
Blue	SV7410	N	Cables
Blue	SV7411	N	Cables
Black	SV7412	Y	Cables
Black	SV7413	Y	Cables
Black	TBWE6608	Y	Access
Black	TBWE6620	Y	Access
Blue	TS5400	N	
Blue	TS5401	N	
Blue	TS5402	N	
Black	TS5403	Y	Cables
Blue	TS5404	N	
Blue	TS5405	N	
Blue	TS5406	N	
Black	TS5407	Y	Cables
Blue	TS5410	N	
Blue	TS7901	Y	Cables
Blue	TS7902	Y	Cables
Black	TS7903	Y	Cables
Black	TS7904	Y	Cables
Blue	TV7901A	N	App R
Blue	TV7901B	N	App R
Blue	TV7902A	N	App R
Blue	TV7902B	N	App R
Blue	VEFM24A	N	App R
Blue	VEFM24B	N	App R
Green	VEFM24C	Y	App R
Green	VEFM24D	Y	App R
Blue	VSF1A	N	Access
Blue	VSF1B	N	Access
Black	VSF1C	Y	Access
Black	VSF1D	Y	Access
Blue	X03	Y	Cables
Blue	X04	Y	Cables
Blue	X1	N	Plant knowledge
Blue	X2	N	Plant knowledge
Blue	X3	Y	
Blue	X4	Y	
Blue	X5	N	App R
Blue	X51	N	Access

Blue	X6	N	App R
Blue	X61	N	Access
Blue	Y01	N	
Blue	Y0118	N	PDMS
Blue	Y02	N	
Black	Y0209	U	ICW pumps - - C09
Blue	Y11	N	App R
Blue	Y22	Y	App R

Attachment 4

List of affect events for 98-J East End of the Room Baseline Case

TRAIN SEPARATION	EQUIP TAG	BE NAME
B	PT1020	AMM1A1TBIF
B	D2101	DCD12101XR
B	D2103	DCD12103XR
B	D05	DMM1000D05
B	D05	DMM1000D05
B	B5622B	DMM1000D05
B	H13	EMM1CB13XX
B	H13	EMM1CB13XX
B	SV5237	EMM1DG2SAC
B	SV5239	EMM1DG2SAD
B	H1	EMM1H1XXXX
B	H1	EMM1H1XXXX
B	TS7903	EMM1RMCLCA
B	TS7904	EMM1RMCLDA
B	H13	ERE113SRXR
B	H1	ERE1H11UXE
B	H1	ERE1H11XUE
B	H1	ERE1H1LXXK
B	B1232	FCB1B1232R
B	B1233	FCB1B1233R
B	B2232	FCB1B2232R
B	B2233	FCB1B2233R
B	E/P2622	FMM1CV2622
B	B5254B	FMM1CV2624
B	CV2624	FMM1CV2624
B	CV2624	FMM1CV2624
B	B6254A	FMM1CV2625

B	CV2625	FMM1CV2625
B	CV2625	FMM1CV2625
B	E/P2672	FMM1CV2672
B	B6254B	FMM1CV2674
B	CV2674	FMM1CV2674
B	CV2674	FMM1CV2674
B	CV2675	FMM1CV2675
B	B5254A	FMM1CV2675
B	CV2675	FMM1CV2675
B	TBWE6620	FMM1FWP1AF
B	TBWE6620	FMM1FWP1AF
B	PDT2700	FMM1FWP1AF
B	PDT2701	FMM1FWP1BF
B	TBWE6608	FMM1FWP1BF
B	TBWE6608	FMM1FWP1BF
B	PDT2700	FMM1ICSCOM
B	PDT2701	FMM1ICSCOM
B	LT2653	FMM1SGASUC
B	E/P2623	FMM1SGASUC
B	LT2653	FMM1SGASUC
B	LT2613	FMM1SGBSUC
B	LT2613	FMM1SGBSUC
B	E/P2673	FMM1SGBSUC
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	B2553	FMM1XTIEVF
B	CV3813	GMM1TRAN2M
B	CV3813	GMM1TRAN2M
B	B623	GMM1VSF1CM

B	B6222	GMM1VSF1CM
B	SV7412	GMM1VSF1CM
B	CV7472	GMM1VSF1CM
B	VSF1C	GMM1VSF1CM
B	VSF1C	GMM1VSF1CM
B	SV7412	GMM1VSF1CM
B	VSF1D	GMM1VSF1DM
B	B6252	GMM1VSF1DM
B	SV7413	GMM1VSF1DM
B	VSF1D	GMM1VSF1DM
B	CV7473	GMM1VSF1DM
B	B633	GMM1VSF1DM
B	SV7413	GMM1VSF1DM
B	CV1206	HMM1CV1206
B	B6194	HMM1CV1300
B	CV1300	HMM1CV1300
B	B6194	HMM1CV1300
B	CV1300	HMM1CV1300
B	CV5422	IMM1PMPC2B
B	TS5403	IMM1PMPC2B
B	B61105	IMM1PMPC2B
B	PS5432	IMM1PMPC2B
B	C2B	IMM1PMPC2B
B	C2B	IMM1PMPC2B
B	SV5422	IMM1PMPC2B
B	CV1415	LMM1CV1406
B	PS5436	MMM1PMPC3B
B	C3B	MMM1PMPC3B
B	C3B	MMM1PMPC3B
B	B2145	MMM1PMPC3B

B	TS5407	MMM1PMPC3B
B	A108	QCD172108R
B	A206	QCD172206R
B	A208	QCD172208R
B	CV2645	QMM12645OF
B	SV0611	QSV100611C
B	SV0621	QSV100621C
B	SV0711	QSV100711C
B	SV0721	QSV100721C
B	CV3811	SMM1S2ICWH
B	B6182	SMM1S2ICWH
B	CV3811	SMM1S2ICWH
B	CV3811	SMV103811K
B	CV2241	XAV102241K
B	SV2252	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV2252	XMM1CWC2BF
B	SV2250	XMM1CWC3BF
B	SV2250	XMM1CWC3BF
B	PS2229	XMM1TKBLVL
B	SV2229	XMM1TKBLVL
B	SV2229	XMM1TKBLVL
B	SV2228	XMM1TNKLVL
B	CV2228	XMM1TNKLVL
B	CV2228	XMM1TNKLVL
B	SV2228	XMM1TNKLVL
B	PDIS2228	XMM1TNKLVL
B	Y0209	XMM1TRNBPC
G	PT1022	AMM1A2TBIF

G	RS2	DB4100RS2F
G	D02	DBD100D02F
G	D21	DBD100D21F
G	D06	DBT100D06F
G	D06	DBT1DSCD06
G	D2104	DCD12104XR
G	D2114	DCD12114XR
G	D06	DCF100D06R
G	D0212	DCF1D0212R
G	D04	DMM1000D04
G	D04	DMM1000D04
G	D0222A	DMM1000D04
G	D25	DMM1000D25
G	D0221A	DMM1000D25
G	RA2	DMM1000RA2
G	RA2	DMM1000RA2
G	D0223	DMM1000RA2
G	Y22	DMM1000Y22
G	Y22	DMM1000Y22
G	Y22	DMM1000Y22
G	Y22	DMM1000Y22
G	Y22	DMM1Y22AAC
G	B6121A	DMM1Y22AAC
G	Y22	DMM1Y22AAC
G	Y22	DMM1Y22AAC
G	Y22	DMM1Y22IAC
G	Y22	DMM1Y22IAC
G	Y22	DMM1Y22IAC
G	Y22	DMM1Y22IAC
G	Y22	DMM1Y22IAC

G	B6121B	DMM1Y22IAC
G	D0242A	DMM1Y22IDC
G	Y22	DMM1Y22IDC
G	Y22	DMM1Y22IDC
G	Y22	DSI100Y22F
G	Y22	DSI100Y22X
G	K4B	EDG1A4XXXO
G	K4B	EDG1DG2XXA
G	K4B	EDG1DG2XXF
G	A401	EMM1B6XXXX
G	CV3807	EMM1DG2SWC
G	CV3807	EMM1DG2SWC
G	B6231	EMM1DG2SWC
G	B6122	EMM1RMCLCA
G	VEFM24C	EMM1RMCLCA
G	VEFM24C	EMM1RMCLCF
G	B6123	EMM1RMCLDA
G	VEFM24D	EMM1RMCLDA
G	VEFM24D	EMM1RMCLDF
G	K4B	ERE1DG2LXK
G	K4B	ERE1DG2UXK
G	RS4	FMM1NNIYPO
G	RS4	FMM1NNIYPO
G	RS4	FMM1NNIYPO
G	RS4	FMM1NNIYPO
G	CV2630	FMM1SGBBVC
G	CV2630	FMM1SGBBVC
G	CV1227	HMM1MU1214
G	CV1227	HMM1MU1214
G	B6151	HMM1MU1214

G	CV1228	HMM1MU1215
G	CV1228	HMM1MU1215
G	B6152	HMM1MU1215
G	B6166	LMM1CV1406
G	B6166	LMM1CV1406
G	B6164	LMM1CV1408
G	B6164	LMM1CV1408
G	C187	QBI1L2618N
G	C187	QBI1L2622N
G	C187	QBI1L2667N
G	C187	QBI1L2671N
G	C187	QLC1INAPXD
G	C187	QLC1INAXXD
G	C187	QLC1INBPXD
G	C187	QLC1INBXXD
G	C187	QLC1INCPXD
G	C187	QLC1INCXXD
G	C187	QLC1INDPXD
G	C187	QLC1INDXXD
G	C187	QMM12645OA
G	C187	QMM12645OA
G	LT2624	QMM12645OF
G	C187	QMM12647OA
G	C187	QMM12647OA
G	LT2673	QMM12647OF
G	LT2671	QMM12647OF
G	C187	QMM1L2617H
G	C187	QMM1L2617H
G	C187	QMM1L2618H
G	C187	QMM1L2620H

G	C187	QMM1L2621H
G	C187	QMM1L2621H
G	C187	QMM1L2622H
G	LT2624	QMM1L2624H
G	C187	QMM1L2624H
G	C187	QMM1L2668H
G	C187	QMM1L2668H
G	C187	QMM1L2669H
G	LT2671	QMM1L2671H
G	C187	QMM1L2672H
G	C187	QMM1L2672H
G	LT2673	QMM1L2673H
G	C187	QMM1L2673H
G	C187	QMM1MSAATP
G	C187	QMM1MSABTP
G	C187	QMM1MSBATP
G	C187	QMM1MSBBTP
G	B6124	QMM1MSLIBA
G	CV2630	QMM1MSLIBA
G	CV2630	QMM1MSLIBF
G	C187	QMM1P2617A
G	C187	QMM1P2617A
G	C187	QMM1P2617B
G	C187	QMM1P2617B
G	C187	QMM1P2618A
G	C187	QMM1P2618A
G	C187	QMM1P2618B
G	C187	QMM1P2618B
G	PT2618B	QMM1P2618B
G	C187	QMM1P2667A

G	C187	QMM1P2667A
G	C187	QMM1P2667B
G	C187	QMM1P2667B
G	PT2667B	QMM1P2667B
G	C187	QMM1P2668A
G	C187	QMM1P2668A
G	C187	QMM1P2668B
G	C187	QMM1P2668B
G	P7A	QMM1P7ATRA
G	P7A	QMM1P7ATRF
G	CV2613	QMM1TBSADM
G	CV2613	QMM1TBSADM
G	C187	QMM1TMAEFW
G	C187	QMM1TMAEFW
G	C187	QMM1TMBEFW
G	C187	QMM1TMBEFW
G	C187	QMM1TMBEFW
G	C187	QMM1TMBEFW
G	C187	QMM1VMAORD
G	C187	QMM1VMAORD
G	C187	QMM1VMBORC
G	C187	QMM1VMBORC
G	CV2613	QSV102613N
G	CV2613	QTD1C2613F
G	CV1000	RMM1B1000C
G	CV1000	RMM1B1000C
G	B6142	RMM1B1000C
G	CV1000	RMM1CV1000
G	CV1000	RMM1CV1000
G	B6142	RMM1CV1000

G	A403	SCB1A403XR
G	CV3841	SMM1AV3841
G	CV3841	SMM1AV3841
G	B6183	SMM1E35BSW
G	CV3821	SMM1E35BSW
G	CV3821	SMM1E35BSW
G	B6183	SMM1E35BSW
G	A403	SMM1P4BXXA
O	A802	HMM1P36BFR
O	A802	HMM1P36BFS
O	A601	SCB1A601XR
S	CV2680	FMM1SGABVC
S	CV2680	FMM1SGABVC
S	CV2668	QAV102668C
S	CV2680	QMM1MSLIAA
S	B5124	QMM1MSLIAA
S	CV2680	QMM1MSLIAF
S	CV2800	QMM1P7BTRA
S	CV2627	QMM1SGAP7A
S	CV2627	QMM1SGAP7A
S	CV2646	QMM1SGAP7B
S	CV2667	QMM1SGASTM
S	CV2620	QMM1SGBP7A
S	CV2620	QMM1SGBP7A
S	CV2648	QMM1SGBP7B
S	CV2663	QMM1TASADM
S	CV2663	QMM1TASADM
S	CV2663	QSV102663N
S	CV2663	QTD1C2663F

Attachment 5

List of Basic Events for 98-J East End of the Room Red Train Wrapped

TRAIN SEPARATION	EQUIP TAG	BE NAME
B	PT1020	AMM1A1TBIF
G	PT1022	AMM1A2TBIF
G	RS2	DB4100RS2F
G	D02	DBD100D02F
G	D21	DBD100D21F
G	D06	DBT100D06F
G	D06	DBT1DSCD06
B	D2101	DCD12101XR
B	D2103	DCD12103XR
G	D2104	DCD12104XR
G	D2114	DCD12114XR
G	D06	DCF100D06R
G	D0212	DCF1D0212R
G	D04	DMM1000D04
G	D04	DMM1000D04
G	D0222A	DMM1000D04
B	B5622B	DMM1000D05
B	D05	DMM1000D05
B	D05	DMM1000D05

G	D25	DMM1000D25
G	D0221A	DMM1000D25
G	RA2	DMM1000RA2
G	D0223	DMM1000RA2
G	RA2	DMM1000RA2
G	Y22	DMM1000Y22
G	Y22	DMM1000Y22
G	Y22	DMM1000Y22
G	Y22	DMM1000Y22
G	Y22	DMM1Y22AAC
G	Y22	DMM1Y22AAC
G	B6121A	DMM1Y22AAC
G	Y22	DMM1Y22AAC
G	Y22	DMM1Y22IAC
G	Y22	DMM1Y22IAC
G	B6121B	DMM1Y22IAC
G	Y22	DMM1Y22IAC
G	Y22	DMM1Y22IAC
G	Y22	DMM1Y22IAC
G	Y22	DMM1Y22IDC
G	Y22	DMM1Y22IDC
G	D0242A	DMM1Y22IDC

G	Y22	DSI100Y22F
G	Y22	DSI100Y22X
G	K4B	EDG1A4XXXO
G	K4B	EDG1DG2XXA
G	K4B	EDG1DG2XXF
G	A401	EMM1B6XXXX
B	H13	EMM1CB13XX
B	H13	EMM1CB13XX
G	A408	EMM1CB408X
B	SV5237	EMM1DG2SAC
B	SV5239	EMM1DG2SAD
G	CV3807	EMM1DG2SWC
G	CV3807	EMM1DG2SWC
G	B6231	EMM1DG2SWC
B	H1	EMM1H1XXXX
B	H1	EMM1H1XXXX
B	TS7903	EMM1RMCLCA
G	B6122	EMM1RMCLCA
G	VEFM24C	EMM1RMCLCA
G	VEFM24C	EMM1RMCLCF
B	TS7904	EMM1RMCLDA
G	VEFM24D	EMM1RMCLDA

G	B6123	EMM1RMCLDA
G	VEFM24D	EMM1RMCLDF
B	H13	ERE113SRXR
G	K4B	ERE1DG2LXK
G	K4B	ERE1DG2UXK
B	H1	ERE1H11UXE
B	H1	ERE1H11XUE
B	H1	ERE1H1LXXK
B	B1232	FCB1B1232R
B	B1233	FCB1B1233R
B	B2232	FCB1B2232R
B	B2233	FCB1B2233R
B	E/P2622	FMM1CV2622
B	B5254B	FMM1CV2624
B	CV2624	FMM1CV2624
B	CV2624	FMM1CV2624
B	CV2625	FMM1CV2625
B	CV2625	FMM1CV2625
B	B6254A	FMM1CV2625
B	E/P2672	FMM1CV2672
B	CV2674	FMM1CV2674
B	CV2674	FMM1CV2674

B	B6254B	FMM1CV2674
B	CV2675	FMM1CV2675
B	CV2675	FMM1CV2675
B	B5254A	FMM1CV2675
B	PDT2700	FMM1FWP1AF
B	TBWE6620	FMM1FWP1AF
B	TBWE6620	FMM1FWP1AF
B	PDT2701	FMM1FWP1BF
B	TBWE6608	FMM1FWP1BF
B	TBWE6608	FMM1FWP1BF
B	PDT2701	FMM1ICSCOM
B	PDT2700	FMM1ICSCOM
G	RS4	FMM1NNIYPO
G	RS4	FMM1NNIYPO
G	RS4	FMM1NNIYPO
G	RS4	FMM1NNIYPO
B	E/P2623	FMM1SGASUC
B	LT2653	FMM1SGASUC
B	LT2653	FMM1SGASUC
G	CV2630	FMM1SGBBVC
G	CV2630	FMM1SGBBVC
B	LT2613	FMM1SGBSUC

B	E/P2673	FMM1SGBSUC
B	LT2613	FMM1SGBSUC
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	B2553	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	CV3813	GMM1TRAN2M
B	CV3813	GMM1TRAN2M
B	B623	GMM1VSF1CM
B	SV7412	GMM1VSF1CM
B	B6222	GMM1VSF1CM
B	VSF1C	GMM1VSF1CM
B	SV7412	GMM1VSF1CM
B	VSF1C	GMM1VSF1CM
B	CV7472	GMM1VSF1CM
B	VSF1D	GMM1VSF1DM
B	VSF1D	GMM1VSF1DM
B	B633	GMM1VSF1DM
B	CV7473	GMM1VSF1DM
B	B6252	GMM1VSF1DM
B	SV7413	GMM1VSF1DM
B	SV7413	GMM1VSF1DM

B	CV1206	HMM1CV1206
B	B6194	HMM1CV1300
B	CV1300	HMM1CV1300
B	CV1300	HMM1CV1300
B	B6194	HMM1CV1300
G	B6151	HMM1MU1214
G	CV1227	HMM1MU1214
G	CV1227	HMM1MU1214
G	B6152	HMM1MU1215
G	CV1228	HMM1MU1215
G	CV1228	HMM1MU1215
B	SV5422	IMM1PMPC2B
B	B61105	IMM1PMPC2B
B	CV5422	IMM1PMPC2B
B	TS5403	IMM1PMPC2B
B	PS5432	IMM1PMPC2B
B	C2B	IMM1PMPC2B
B	C2B	IMM1PMPC2B
G	B6166	LMM1CV1406
B	CV1415	LMM1CV1406
G	B6166	LMM1CV1406
G	B6164	LMM1CV1408

G	B6164	LMM1CV1408
B	PS5436	MMM1PMPC3B
B	TS5407	MMM1PMPC3B
B	B2145	MMM1PMPC3B
B	C3B	MMM1PMPC3B
B	C3B	MMM1PMPC3B
G	C187	QBI1L2618N
G	C187	QBI1L2622N
G	C187	QBI1L2667N
G	C187	QBI1L2671N
B	A108	QCD172108R
B	A206	QCD172206R
B	A208	QCD172208R
G	C187	QLC1INAPXD
G	C187	QLC1INAXXD
G	C187	QLC1INBPXD
G	C187	QLC1INBXXD
G	C187	QLC1INCPXD
G	C187	QLC1INCXXD
G	C187	QLC1INDPXD
G	C187	QLC1INDXXD
G	C187	QMM12645OA

G	C187	QMM12645OA
G	LT2624	QMM12645OF
G	C187	QMM12647OA
G	C187	QMM12647OA
G	LT2673	QMM12647OF
G	LT2671	QMM12647OF
G	C187	QMM1L2617H
G	C187	QMM1L2617H
G	C187	QMM1L2618H
G	C187	QMM1L2620H
G	C187	QMM1L2621H
G	C187	QMM1L2621H
G	C187	QMM1L2622H
G	C187	QMM1L2624H
G	LT2624	QMM1L2624H
G	C187	QMM1L2668H
G	C187	QMM1L2668H
G	C187	QMM1L2669H
G	LT2671	QMM1L2671H
G	C187	QMM1L2672H
G	C187	QMM1L2672H
G	C187	QMM1L2673H

G	LT2673	QMM1L2673H
G	C187	QMM1MSAATP
G	C187	QMM1MSABTP
G	C187	QMM1MSBATP
G	C187	QMM1MSBBTP
G	B6124	QMM1MSLIBA
G	CV2630	QMM1MSLIBA
G	CV2630	QMM1MSLIBF
G	C187	QMM1P2617A
G	C187	QMM1P2617A
G	C187	QMM1P2617B
G	C187	QMM1P2617B
G	C187	QMM1P2618A
G	C187	QMM1P2618A
G	C187	QMM1P2618B
G	C187	QMM1P2618B
G	PT2618B	QMM1P2618B
G	C187	QMM1P2667A
G	C187	QMM1P2667A
G	PT2667B	QMM1P2667B
G	C187	QMM1P2667B
G	C187	QMM1P2667B

G	C187	QMM1P2668A
G	C187	QMM1P2668A
G	C187	QMM1P2668B
G	C187	QMM1P2668B
G	P7A	QMM1P7ATRA
G	P7A	QMM1P7ATRF
G	CV2613	QMM1TBSADM
G	CV2613	QMM1TBSADM
G	C187	QMM1TMAEFW
G	C187	QMM1TMAEFW
G	C187	QMM1TMBEFW
G	C187	QMM1TMBEFW
G	C187	QMM1TMBEFW
G	C187	QMM1TMBEFW
G	C187	QMM1VMAORD
G	C187	QMM1VMAORD
G	C187	QMM1VMBORC
G	C187	QMM1VMBORC
B	SV0611	QSV100611C
B	SV0621	QSV100621C
B	SV0711	QSV100711C
B	SV0721	QSV100721C

G	CV2613	QSV102613N
G	CV2613	QTD1C2613F
G	B6142	RMM1B1000C
G	CV1000	RMM1B1000C
G	CV1000	RMM1B1000C
G	CV1000	RMM1CV1000
G	B6142	RMM1CV1000
G	CV1000	RMM1CV1000
G	A403	SCB1A403XR
G	CV3841	SMM1AV3841
G	CV3841	SMM1AV3841
G	CV3821	SMM1E35BSW
G	CV3821	SMM1E35BSW
G	B6183	SMM1E35BSW
G	B6183	SMM1E35BSW
G	A403	SMM1P4BXXA
B	CV3811	SMM1S2ICWH
B	CV3811	SMM1S2ICWH
B	B6182	SMM1S2ICWH
B	CV3811	SMV103811K
B	CV2241	XAV102241K
B	SV2252	XMM1CWC2BF

B	SV2254	XMM1CWC2BF
B	SV2252	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV2250	XMM1CWC3BF
B	SV2250	XMM1CWC3BF
B	SV2229	XMM1TKBLVL
B	SV2229	XMM1TKBLVL
B	PS2229	XMM1TKBLVL
B	SV2228	XMM1TNKLVL
B	PDIS2228	XMM1TNKLVL
B	SV2228	XMM1TNKLVL
B	CV2228	XMM1TNKLVL
B	CV2228	XMM1TNKLVL
B	Y0209	XMM1TRNBPC

Attachment 6

List of Basic Events for the 98-J West End (1 – EJ0212) of the Room Baseline

Train	EQUIP_TAG	BE_NAME
B	PT1020	AMM1A1TBIF
G	PT1022	AMM1A2TBIF
G	D2114	DCD12114XR
B	B5622B	DMM1000D05
B	D05	DMM1000D05
B	D05	DMM1000D05
G	D0221A	DMM1000D25
G	D25	DMM1000D25
G	B6121A	DMM1Y22AAC
G	B6121B	DMM1Y22IAC
G	K4B	EDG1A4XXXO
G	K4B	EDG1DG2XXA
G	K4B	EDG1DG2XXF
B	H13	EMM1CB13XX
B	H13	EMM1CB13XX
G	A408	EMM1CB408X
G	A408	EMM1CB408X
B	SV5237	EMM1DG2SAC
B	SV5239	EMM1DG2SAD
G	B6231	EMM1DG2SWC
G	CV3807	EMM1DG2SWC
G	CV3807	EMM1DG2SWC
B	H1	EMM1H1XXXX
B	H1	EMM1H1XXXX
G	B6122	EMM1RMCLCA
B	TS7903	EMM1RMCLCA
G	VEFM24C	EMM1RMCLCA

G	VEFM24C	EMM1RMCLCF
G	B6123	EMM1RMCLDA
B	TS7904	EMM1RMCLDA
G	VEFM24D	EMM1RMCLDA
G	VEFM24D	EMM1RMCLDF
B	H13	ERE113SRXR
G	K4B	ERE1DG2LXK
G	K4B	ERE1DG2UXK
B	H1	ERE1H11UXE
B	H1	ERE1H11XUE
B	H1	ERE1H1LXXK
B	B1232	FCB1B1232R
B	B1233	FCB1B1233R
B	B2232	FCB1B2232R
B	B2233	FCB1B2233R
B	E/P2622	FMM1CV2622
B	B5254B	FMM1CV2624
B	CV2624	FMM1CV2624
B	CV2624	FMM1CV2624
B	B6254A	FMM1CV2625
B	CV2625	FMM1CV2625
B	CV2625	FMM1CV2625
B	E/P2672	FMM1CV2672
B	B6254B	FMM1CV2674
B	CV2674	FMM1CV2674
B	CV2674	FMM1CV2674
B	B5254A	FMM1CV2675
B	CV2675	FMM1CV2675
B	CV2675	FMM1CV2675
B	PDT2700	FMM1FWP1AF

B	TBWE6620	FMM1FWP1AF
B	TBWE6620	FMM1FWP1AF
B	PDT2701	FMM1FWP1BF
B	TBWE6608	FMM1FWP1BF
B	TBWE6608	FMM1FWP1BF
B	PDT2700	FMM1ICSCOM
B	PDT2701	FMM1ICSCOM
B	E/P2623	FMM1SGASUC
B	LT2653	FMM1SGASUC
B	LT2653	FMM1SGASUC
G	CV2630	FMM1SGBBVC
G	CV2630	FMM1SGBBVC
B	E/P2673	FMM1SGBSUC
B	LT2613	FMM1SGBSUC
B	LT2613	FMM1SGBSUC
B	B2553	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	B61103	GMM1TRAN2M
B	CV3813	GMM1TRAN2M
B	CV3813	GMM1TRAN2M
B	B6222	GMM1VSF1CM
B	B623	GMM1VSF1CM
B	CV7472	GMM1VSF1CM
B	SV7412	GMM1VSF1CM
B	SV7412	GMM1VSF1CM
B	VSF1C	GMM1VSF1CM
B	VSF1C	GMM1VSF1CM
B	B6252	GMM1VSF1DM

B	B633	GMM1VSF1DM
B	CV7473	GMM1VSF1DM
B	SV7413	GMM1VSF1DM
B	SV7413	GMM1VSF1DM
B	VSF1D	GMM1VSF1DM
B	VSF1D	GMM1VSF1DM
B	CV1206	HMM1CV1206
B	B6194	HMM1CV1300
B	B6194	HMM1CV1300
B	CV1300	HMM1CV1300
B	CV1300	HMM1CV1300
G	B6151	HMM1MU1214
G	CV1227	HMM1MU1214
G	CV1227	HMM1MU1214
G	B6152	HMM1MU1215
G	CV1228	HMM1MU1215
G	CV1228	HMM1MU1215
B	B61105	IMM1PMPC2B
B	C2B	IMM1PMPC2B
B	C2B	IMM1PMPC2B
B	CV5422	IMM1PMPC2B
B	PS5432	IMM1PMPC2B
B	SV5422	IMM1PMPC2B
B	TS5403	IMM1PMPC2B
B	SV1432	LMM101432R
G	B6166	LMM1CV1406
G	B6166	LMM1CV1406
G	CV1406	LMM1CV1406
G	CV1406	LMM1CV1406
B	CV1415	LMM1CV1406

G	B6164	LMM1CV1408
G	B6164	LMM1CV1408
G	CV1408	LMM1CV1408
G	CV1408	LMM1CV1408
B	B2145	MMM1PMPC3B
B	C3B	MMM1PMPC3B
B	C3B	MMM1PMPC3B
B	PS5436	MMM1PMPC3B
B	TS5407	MMM1PMPC3B
B	A108	QCD172108R
B	A206	QCD172206R
B	A208	QCD172208R
G	CV2645	QMM12645OF
G	LT2624	QMM12645OF
G	CV2647	QMM12647OF
G	LT2671	QMM12647OF
G	LT2673	QMM12647OF
G	LT2624	QMM1L2624H
G	LT2671	QMM1L2671H
G	LT2673	QMM1L2673H
G	B6124	QMM1MSLIBA
G	CV2630	QMM1MSLIBA
G	CV2630	QMM1MSLIBF
G	PT2618B	QMM1P2618B
G	PT2667B	QMM1P2667B
G	CV2802	QMM1P7ATRA
G	P7A	QMM1P7ATRA
G	P7A	QMM1P7ATRF
G	CV2645	QMM1SGAP7A
G	CV2670	QMM1SGAP7B

G	CV2670	QMM1SGAP7B
G	CV2647	QMM1SGBP7A
G	CV2626	QMM1SGBP7B
G	CV2626	QMM1SGBP7B
G	CV2617	QMM1SGBSTM
G	CV2613	QMM1TBSADM
G	CV2613	QMM1TBSADM
B	SV0611	QSV100611C
B	SV0621	QSV100621C
B	SV0711	QSV100711C
B	SV0721	QSV100721C
G	CV2613	QSV102613N
G	CV2613	QTD1C2613F
G	B6142	RMM1B1000C
G	CV1000	RMM1B1000C
G	CV1000	RMM1B1000C
G	B6142	RMM1CV1000
G	CV1000	RMM1CV1000
G	CV1000	RMM1CV1000
G	A403	SCB1A403XR
G	CV3841	SMM1AV3841
G	CV3841	SMM1AV3841
G	B6183	SMM1E35BSW
G	B6183	SMM1E35BSW
G	CV3821	SMM1E35BSW
G	CV3821	SMM1E35BSW
G	A403	SMM1P4BXXA
B	B6182	SMM1S2ICWH
B	CV3811	SMM1S2ICWH
B	CV3811	SMM1S2ICWH

B	CV3811	SMV103811K
B	CV2241	XAV102241K
B	SV2252	XMM1CWC2BF
B	SV2252	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV2250	XMM1CWC3BF
B	SV2250	XMM1CWC3BF
B	PS2229	XMM1TKBLVL
B	SV2229	XMM1TKBLVL
B	SV2229	XMM1TKBLVL
B	CV2228	XMM1TNKLVL
B	CV2228	XMM1TNKLVL
B	PDIS2228	XMM1TNKLVL
B	SV2228	XMM1TNKLVL
B	SV2228	XMM1TNKLVL
B	Y0209	XMM1TRNBPC

Attachment 7

List of Basic Events for the 98-J West End (2 – Remainder) of the Room Baseline

TRAIN	EQUIP_TAG	BE_NAME
B	A108	QCD172108R
B	A206	QCD172206R
B	A208	QCD172208R
B	B1232	FCB1B1232R
B	B1233	FCB1B1233R
B	B2145	MMM1PMPC3B
B	B2232	FCB1B2232R
B	B2233	FCB1B2233R
B	B2553	FMM1XTIEVF
B	B5254A	FMM1CV2675
B	B5254B	FMM1CV2624
B	B5622B	DMM1000D05
B	B61103	GMM1TRAN2M
B	B61105	IMM1PMPC2B
B	B6182	SMM1S2ICWH
B	B6194	HMM1CV1300
B	B6194	HMM1CV1300
B	B6222	GMM1VSF1CM
B	B623	GMM1VSF1CM
B	B6252	GMM1VSF1DM
B	B6254A	FMM1CV2625
B	B6254B	FMM1CV2674
B	B633	GMM1VSF1DM
B	C2B	IMM1PMPC2B
B	C2B	IMM1PMPC2B
B	C3B	MMM1PMPC3B
B	C3B	MMM1PMPC3B
B	CV1206	HMM1CV1206
B	CV1300	HMM1CV1300
B	CV1300	HMM1CV1300
B	CV1415	LMM1CV1406
B	CV2228	XMM1TNKLVL
B	CV2228	XMM1TNKLVL

B	CV2241	XAV102241K
B	CV2624	FMM1CV2624
B	CV2624	FMM1CV2624
B	CV2625	FMM1CV2625
B	CV2625	FMM1CV2625
B	CV2674	FMM1CV2674
B	CV2674	FMM1CV2674
B	CV2675	FMM1CV2675
B	CV2675	FMM1CV2675
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	CV3811	SMM1S2ICWH
B	CV3811	SMM1S2ICWH
B	CV3811	SMV103811K
B	CV3813	GMM1TRAN2M
B	CV3813	GMM1TRAN2M
B	CV5422	IMM1PMPC2B
B	CV7472	GMM1VSF1CM
B	CV7473	GMM1VSF1DM
B	D05	DMM1000D05
B	D05	DMM1000D05
B	E/P2622	FMM1CV2622
B	E/P2623	FMM1SGASUC
B	E/P2672	FMM1CV2672
B	E/P2673	FMM1SGBSUC
B	H1	EMM1H1XXXX
B	H1	EMM1H1XXXX
B	H1	ERE1H11UXE
B	H1	ERE1H11XUE
B	H1	ERE1H1LXXK
B	H13	EMM1CB13XX
B	H13	EMM1CB13XX
B	H13	ERE113SRXR
B	LT2613	FMM1SGBSUC
B	LT2613	FMM1SGBSUC
B	LT2653	FMM1SGASUC
B	LT2653	FMM1SGASUC

B	PDIS2228	XMM1TNKLVL
B	PDT2700	FMM1FWP1AF
B	PDT2700	FMM1ICSCOM
B	PDT2701	FMM1FWP1BF
B	PDT2701	FMM1ICSCOM
B	PS2229	XMM1TKBLVL
B	PS5432	IMM1PMPC2B
B	PS5436	MMM1PMPC3B
B	PT1020	AMM1A1TBIF
B	SV0611	QSV100611C
B	SV0621	QSV100621C
B	SV0711	QSV100711C
B	SV0721	QSV100721C
B	SV1432	LMM101432R
B	SV2228	XMM1TNKLVL
B	SV2228	XMM1TNKLVL
B	SV2229	XMM1TKBLVL
B	SV2229	XMM1TKBLVL
B	SV2250	XMM1CWC3BF
B	SV2250	XMM1CWC3BF
B	SV2252	XMM1CWC2BF
B	SV2252	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV5237	EMM1DG2SAC
B	SV5239	EMM1DG2SAD
B	SV5422	IMM1PMPC2B
B	SV7412	GMM1VSF1CM
B	SV7412	GMM1VSF1CM
B	SV7413	GMM1VSF1DM
B	SV7413	GMM1VSF1DM
B	TBWE6608	FMM1FWP1BF
B	TBWE6608	FMM1FWP1BF
B	TBWE6620	FMM1FWP1AF
B	TBWE6620	FMM1FWP1AF
B	TS5403	IMM1PMPC2B
B	TS5407	MMM1PMPC3B
B	TS7903	EMM1RMCLCA

B	TS7904	EMM1RMCLDA
B	VSF1C	GMM1VSF1CM
B	VSF1C	GMM1VSF1CM
B	VSF1D	GMM1VSF1DM
B	VSF1D	GMM1VSF1DM
B	Y0209	XMM1TRNBPC
G	A403	SCB1A403XR
G	A403	SMM1P4BXXA
G	A408	EMM1CB408X
G	A408	EMM1CB408X
G	B6121A	DMM1Y22AAC
G	B6121B	DMM1Y22IAC
G	B6122	EMM1RMCLCA
G	B6123	EMM1RMCLDA
G	B6124	QMM1MSLIBA
G	B6142	RMM1B1000C
G	B6142	RMM1CV1000
G	B6151	HMM1MU1214
G	B6152	HMM1MU1215
G	B6164	LMM1CV1408
G	B6164	LMM1CV1408
G	B6166	LMM1CV1406
G	B6166	LMM1CV1406
G	B6183	SMM1E35BSW
G	B6183	SMM1E35BSW
G	B6231	EMM1DG2SWC
G	CV1000	RMM1B1000C
G	CV1000	RMM1B1000C
G	CV1000	RMM1CV1000
G	CV1000	RMM1CV1000
G	CV1227	HMM1MU1214
G	CV1227	HMM1MU1214
G	CV1228	HMM1MU1215
G	CV1228	HMM1MU1215
G	CV1406	LMM1CV1406
G	CV1406	LMM1CV1406
G	CV1408	LMM1CV1408
G	CV1408	LMM1CV1408

G	CV2613	QMM1TBSADM
G	CV2613	QMM1TBSADM
G	CV2613	QSV102613N
G	CV2613	QTD1C2613F
G	CV2617	QMM1SGBSTM
G	CV2626	QMM1SGBP7B
G	CV2630	FMM1SGBBVC
G	CV2630	FMM1SGBBVC
G	CV2630	QMM1MSLIBA
G	CV2630	QMM1MSLIBF
G	CV2670	QMM1SGAP7B
G	CV2802	QMM1P7ATRA
G	CV3807	EMM1DG2SWC
G	CV3807	EMM1DG2SWC
G	CV3821	SMM1E35BSW
G	CV3821	SMM1E35BSW
G	CV3841	SMM1AV3841
G	CV3841	SMM1AV3841
G	D0221A	DMM1000D25
G	D2114	DCD12114XR
G	D25	DMM1000D25
G	K4B	EDG1A4XXXO
G	K4B	EDG1DG2XXA
G	K4B	EDG1DG2XXF
G	K4B	ERE1DG2LXK
G	K4B	ERE1DG2UXK
G	LT2624	QMM12645OF
G	LT2624	QMM1L2624H
G	LT2671	QMM12647OF
G	LT2671	QMM1L2671H
G	LT2673	QMM12647OF
G	LT2673	QMM1L2673H
G	P7A	QMM1P7ATRA
G	P7A	QMM1P7ATRF
G	PT1022	AMM1A2TBIF
G	PT2618B	QMM1P2618B
G	PT2667B	QMM1P2667B
G	VEFM24C	EMM1RMCLCA

G	VEFM24C	EMM1RMCLCF
G	VEFM24D	EMM1RMCLDA
G	VEFM24D	EMM1RMCLDF
R	B5231	EMM1DG1SWC
R	CV3806	EMM1DG1SWC
R	CV3806	EMM1DG1SWC

Attachment 8

List of Basic Events for the 98-J West End (2 – Remainder) of the Room Red Train Wrapped

TRAIN	EQUIP TAG	BE NAME
B	A108	QCD172108R
B	A206	QCD172206R
B	A208	QCD172208R
B	B1232	FCB1B1232R
B	B1233	FCB1B1233R
B	B2145	MMM1PMPC3B
B	B2232	FCB1B2232R
B	B2233	FCB1B2233R
B	B2553	FMM1XTIEVF
B	B5254A	FMM1CV2675
B	B5254B	FMM1CV2624
B	B5622B	DMM1000D05
B	B61103	GMM1TRAN2M
B	B61105	IMM1PMPC2B
B	B6182	SMM1S2ICWH
B	B6194	HMM1CV1300
B	B6194	HMM1CV1300
B	B6222	GMM1VSF1CM
B	B623	GMM1VSF1CM
B	B6252	GMM1VSF1DM
B	B6254A	FMM1CV2625
B	B6254B	FMM1CV2674
B	B633	GMM1VSF1DM
B	C2B	IMM1PMPC2B
B	C2B	IMM1PMPC2B
B	C3B	MMM1PMPC3B
B	C3B	MMM1PMPC3B
B	CV1206	HMM1CV1206

B	CV1300	HMM1CV1300
B	CV1300	HMM1CV1300
B	CV1415	LMM1CV1406
B	CV2228	XMM1TNKLVL
B	CV2228	XMM1TNKLVL
B	CV2241	XAV102241K
B	CV2624	FMM1CV2624
B	CV2624	FMM1CV2624
B	CV2625	FMM1CV2625
B	CV2625	FMM1CV2625
B	CV2674	FMM1CV2674
B	CV2674	FMM1CV2674
B	CV2675	FMM1CV2675
B	CV2675	FMM1CV2675
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	CV2827	FMM1XTIEVF
B	CV3811	SMM1S2ICWH
B	CV3811	SMM1S2ICWH
B	CV3811	SMV103811K
B	CV3813	GMM1TRAN2M
B	CV3813	GMM1TRAN2M
B	CV5422	IMM1PMPC2B
B	CV7472	GMM1VSF1CM
B	CV7473	GMM1VSF1DM
B	D05	DMM1000D05
B	D05	DMM1000D05
B	E/P2622	FMM1CV2622
B	E/P2623	FMM1SGASUC
B	E/P2672	FMM1CV2672
B	E/P2673	FMM1SGBSUC

B	H1	EMM1H1XXXX
B	H1	EMM1H1XXXX
B	H1	ERE1H11UXE
B	H1	ERE1H11XUE
B	H1	ERE1H1LXXK
B	H13	EMM1CB13XX
B	H13	EMM1CB13XX
B	H13	ERE113SRXR
B	LT2613	FMM1SGBSUC
B	LT2613	FMM1SGBSUC
B	LT2653	FMM1SGASUC
B	LT2653	FMM1SGASUC
B	PDIS2228	XMM1TNKLVL
B	PDT2700	FMM1FWP1AF
B	PDT2700	FMM1ICSCOM
B	PDT2701	FMM1FWP1BF
B	PDT2701	FMM1ICSCOM
B	PS2229	XMM1TKBLVL
B	PS5432	IMM1PMPC2B
B	PS5436	MMM1PMPC3B
B	PT1020	AMM1A1TBIF
B	SV0611	QSV100611C
B	SV0621	QSV100621C
B	SV0711	QSV100711C
B	SV0721	QSV100721C
B	SV1432	LMM101432R
B	SV2228	XMM1TNKLVL
B	SV2228	XMM1TNKLVL
B	SV2229	XMM1TKBLVL
B	SV2229	XMM1TKBLVL
B	SV2250	XMM1CWC3BF

B	SV2250	XMM1CWC3BF
B	SV2252	XMM1CWC2BF
B	SV2252	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV2254	XMM1CWC2BF
B	SV5237	EMM1DG2SAC
B	SV5239	EMM1DG2SAD
B	SV5422	IMM1PMPC2B
B	SV7412	GMM1VSF1CM
B	SV7412	GMM1VSF1CM
B	SV7413	GMM1VSF1DM
B	SV7413	GMM1VSF1DM
B	TBWE6608	FMM1FWP1BF
B	TBWE6608	FMM1FWP1BF
B	TBWE6620	FMM1FWP1AF
B	TBWE6620	FMM1FWP1AF
B	TS5403	IMM1PMPC2B
B	TS5407	MMM1PMPC3B
B	TS7903	EMM1RMCLCA
B	TS7904	EMM1RMCLDA
B	VSF1C	GMM1VSF1CM
B	VSF1C	GMM1VSF1CM
B	VSF1D	GMM1VSF1DM
B	VSF1D	GMM1VSF1DM
B	Y0209	XMM1TRNBPC
G	A403	SCB1A403XR
G	A403	SMM1P4BXXA
G	A408	EMM1CB408X
G	A408	EMM1CB408X
G	B6121A	DMM1Y22AAC
G	B6121B	DMM1Y22IAC

G	B6122	EMM1RMCLCA
G	B6123	EMM1RMCLDA
G	B6124	QMM1MSLIBA
G	B6142	RMM1B1000C
G	B6142	RMM1CV1000
G	B6151	HMM1MU1214
G	B6152	HMM1MU1215
G	B6164	LMM1CV1408
G	B6164	LMM1CV1408
G	B6166	LMM1CV1406
G	B6166	LMM1CV1406
G	B6183	SMM1E35BSW
G	B6183	SMM1E35BSW
G	B6231	EMM1DG2SWC
G	CV1000	RMM1B1000C
G	CV1000	RMM1B1000C
G	CV1000	RMM1CV1000
G	CV1000	RMM1CV1000
G	CV1227	HMM1MU1214
G	CV1227	HMM1MU1214
G	CV1228	HMM1MU1215
G	CV1228	HMM1MU1215
G	CV1406	LMM1CV1406
G	CV1406	LMM1CV1406
G	CV1408	LMM1CV1408
G	CV1408	LMM1CV1408
G	CV2613	QMM1TBSADM
G	CV2613	QMM1TBSADM
G	CV2613	QSV102613N
G	CV2613	QTD1C2613F
G	CV2617	QMM1SGBSTM

G	CV2626	QMM1SGBP7B
G	CV2630	FMM1SGBBVC
G	CV2630	FMM1SGBBVC
G	CV2630	QMM1MSLIBA
G	CV2630	QMM1MSLIBF
G	CV2670	QMM1SGAP7B
G	CV2802	QMM1P7ATRA
G	CV3807	EMM1DG2SWC
G	CV3807	EMM1DG2SWC
G	CV3821	SMM1E35BSW
G	CV3821	SMM1E35BSW
G	CV3841	SMM1AV3841
G	CV3841	SMM1AV3841
G	D0221A	DMM1000D25
G	D2114	DCD12114XR
G	D25	DMM1000D25
G	K4B	EDG1A4XXXO
G	K4B	EDG1DG2XXA
G	K4B	EDG1DG2XXF
G	K4B	ERE1DG2LXK
G	K4B	ERE1DG2UXK
G	LT2624	QMM12645OF
G	LT2624	QMM1L2624H
G	LT2671	QMM12647OF
G	LT2671	QMM1L2671H
G	LT2673	QMM12647OF
G	LT2673	QMM1L2673H
G	P7A	QMM1P7ATRA
G	P7A	QMM1P7ATRF
G	PT1022	AMM1A2TBIF
G	PT2618B	QMM1P2618B

G	PT2667B	QMM1P2667B
G	VEFM24C	EMM1RMCLCA
G	VEFM24C	EMM1RMCLCF
G	VEFM24D	EMM1RMCLDA
G	VEFM24D	EMM1RMCLDF

ATTACHMENT 9

Super C listing of Model Changes for 98-J East Side Model

I	-	3Q060	OR	3Q062F	3Q110	QCV1FW56AN	HSCV2800	3QP7B-AMAN	CNTVLV2	1880	INSERT(NEW)	1754
D	-	3Q060	OR	3Q062F	3Q110	QCV1FW56AN	3QP7B-AMAN	1881	DELETED(OLD)	1754		
I	-	CNTVLV2	AND	QHFPWRSHT	HSCV2646	1891	INSERT(NEW)	1763				
I	-	3Q090	OR	3Q092F	3Q110	QCV1FW56BN	3QP7B-BMAN	HSCV2800	CNTLVLV	1892	INSERT(NEW)	1764
D	-	3Q090	OR	3Q092F	3Q110	QCV1FW56BN	3QP7B-BMAN	1893	DELETED(OLD)	1764		
I	-	CNTLVLV	AND	HSCV264648	QHFPWRSHT	1899	INSERT(NEW)	1770				

Attachment 10

Super C listing of Model Changes for 98-J West Side (1) Model

I -	3Q070	OR	3Q080OPF4	3Q070OPF2	3Q070NOPR	HSCV2645		1670	INSERT(NEW)		1608	
D -	3Q070	OR	3Q080OPF4	3Q070OPF2	3Q070NOPR		1671	DELETED(OLD)		1608		
I -	3Q080	OR	3Q080OPF4	3Q080OPF2	3Q080NOPR	HSCV2647		1797	INSERT(NEW)		1720	
D -	3Q080	OR	3Q080OPF4	3Q080OPF2	3Q080NOPR		1798	DELETED(OLD)		1720		
I -	3Q060	OR	3Q062F	3Q110	QCV1FW56AN	3QP7B-AMAN	HSCV2670		1835	INSERT(NEW)		1754
D -	3Q060	OR	3Q062F	3Q110	QCV1FW56AN	3QP7B-AMAN		1836	DELETED(OLD)		1754	
I -	3Q090	OR	3Q092F	3Q110	QCV1FW56BN	3QP7B-BMAN	HSCV2626		1845	INSERT(NEW)		1764
D -	3Q090	OR	3Q092F	3Q110	QCV1FW56BN	3QP7B-BMAN		1846	DELETED(OLD)		1764	

Attachment 11

Super C listing of Model Changes for 98-J West Side (2 - Remainder) Model

```
I - 3Q060 OR 3Q062F 3Q110 QCV1FW56AN 3QP7B-AMAN HSCV2670          1836 INSERT(NEW) 1754
D - 3Q060 OR 3Q062F 3Q110 QCV1FW56AN 3QP7B-AMAN       1837 DELETED(OLD)      1754
I - 3Q090 OR 3Q092F 3Q110 QCV1FW56BN 3QP7B-BMAN HSCV2626          1846 INSERT(NEW) 1764
D - 3Q090 OR 3Q092F 3Q110 QCV1FW56BN 3QP7B-BMAN       1847 DELETED(OLD)      1764
```

Attachment 12

Estimation of the Probability that a Hotshort will Close CV-2645, CV-2646, CV-2647 or CV-2648

CV-2646 and CV-2648 are both normally-open solenoid-operated valves (SOVs). The inadvertent closure of either valve will cause the loss of flow from one EFW pump to one Steam Generator. The control power cables for CV-2646 and CV-2648 both run through zone 98-J. The motive power cables for these valves are conservatively assumed to be unaffected by the fire, since loss of its motive power will cause these valves to fail open. The control cable for each valve contains two conductors (F1 and F2). The two conductors form a current loop through the valve controller. The current flow in the loop modulates the valve position. When the current is 4 ma or less, the valve is fully open; when the current is between 4 ma and 20 ma, the valve is partially open; and, when the current is 20 ma, the valve is fully closed.

The fire is assumed to independently affect the cables and, as such, they are treated separately. In addition, it is assumed that one outcome is possible as a net effect of the fire. Given this, there are six possible outcomes of the fire on the conductors of a given valve.

1. [F1 and F2 are not in contact] and [F1 is not grounded (i.e., normally energized) and F2 is not grounded (i.e., normally energized)]. For this case, the fire has no effect on the conductors and the valve remains fully open.
2. [F1 and F2 are not in contact] and [F1 is grounded and F2 is not grounded (i.e., normally energized)]. For this case, the valve closes.
3. [F1 and F2 are not in contact] and [F1 is not grounded and F2 is grounded]. For this case, the valve remains fully open or opens, if closed or partially closed.
4. [F1 and F2 are not in contact] and [F1 is grounded and F2 is grounded]. For this case, the valve remains fully open or opens, if closed or partially closed.
5. [F1 and F2 are in contact] and [F1 is not grounded and F2 is not grounded]. For this case, the valve remains fully open or opens, if closed or partially closed.
6. [F1 and F2 are in contact] and [F1 is grounded and F2 is grounded]. For this case, the valve remains fully open or opens, if closed or partially closed.

Given that the probability associated with each case is not known, it is assumed that each is equally likely. Since only Case 2 results in the valve going closed due to the fire, the probability that the valve will close is estimated to be 1 in 6 (i.e., 0.167). This value is rounded up to 0.25 for conservatism. It is noted that the assumption that only one outcome is possible as a net effect of the fire is conservative, since most states drive the valve to an open state.

Attachment 13

Recoveries

The following recoveries were used in the original IPEEE analysis:

AFWFEEDREC	OPERATOR FAILS TO START AND ALIGN AFW PUMP P75 AFTER LOSS OF EFW
MANESSTART	OPERATOR FAILS TO START ES UPON ACTUATION AT PROPER SETPOINT.
QHF1HPITR1	OPERATOR FAILS TO THROTTLE HPI TO PREVENT RCS PRESSURE RELIEF
QHF1HPITRD	OPERATOR FAILS TO THROTTLE HPI TO PREVENT SRV LIQUID RELEASE
QHF1RCPTRP	OPERATOR FAILS TO TRIP RCPS ON 30 MINUTES
SGOFREC	OPERATOR FAILS TO PREVENT SG OVERFILL DUE TO EXCESSIVE MAIN FEEDWATER FLOW
SGOFREC2	OPERATOR FAILS TO PREVENT SG OVERFILL DUE TO EXCESSIVE EFW
UHF1THPIAD	OPERATOR FAILS TO ATTEMPT HPI COOLING
XHF1SMALLX	OPERATOR FAILS TO BEGIN HPR FOLLOWING S-LOCA
ICWCLGISO	OPERATOR FAILS TO ISOLATE ICW AFTER AUTO SW ISO. FAILS ON ES;
MANDREC	OPERATOR FAILS TO OPEN BRKR LOCALLY AT A1 FROM UAT (A212 OR A211)
MANEDGREC	OPERATOR FAILS TO MANUALLY CLOSE BREAKER 152-308 OR 152-408
P7AMANREC	OPERATOR FAILS TO START AND CONTROL P7A MANUALLY WHEN OFFSITE POWER IS AVAIL.

Note that Section 4.6 of Reference 1 listed only some of these recoveries; the others were located in the cutset file associated with zone 98-J.

The following post-initiator recoveries were not found in the original IPEEE cutsets for zone 98-J and were set to true in our analysis as well.

OPER-13	OPERS FAIL TO RE-ENERGIZE A1/A2 FROM ST2 GIVEN TRANS EVENT
RHF1BLOCKD	OPERATOR FAILS TO CLOSE BLOCK VALVE AFTER PRESS. RELIEF
SWECPREC	OPERATOR FAILS TO ALIGN SW PUMPS TO ECP UPON LOSS OF SW SUCTION FLOW
SWSWINGREC	OPERATOR FAILS TO START AND ALIGN OP SW PUMP INCLUDING AVAILABLE POWER SOURCE
OPER-15	OPER DOES NOT XFER TO D01 BACKUP CHRGR (D03) W/ENERGIZED SRC
OPER-16	OPER DOES NOT XFER TO D02 BACKUP CHRGR (D05) W/ENERGIZED SRC
SWEDGMOV	OPERATOR FAILS TO MANUALLY OPEN SW CLG JKT VALVES UPON AN MOV SIGNAL FAILURE
OPER-F1	OPERATOR FAILS TO CLOSE SW CROSSOVER VALVES TO PREVENT FLOW DIVERSION
RHF1B1000X	OPERATOR FAILS TO OPEN CV-1000
OPER-13H	OPERS FAIL TO RE-ENERGIZE H1/H2 FROM ST2 GIVEN TRANS EVENT

As discussed in assumption 8 of the calculation the following post initiator recoveries were credited in our assessment but not in the original IPEEE analysis.

QP7BMANREC	OPERATOR FAILS TO START AND CONTROL P7B MANUALLLY DURING FIRE
MANEFWSTRT	OPERATOR FAILS TO OVERRID FALSE EFW SIGNAL AND MANUALLY OPEN P7B ISO VLVS
XHF1MEDXXX	OPERATOR FAILS TO BEGIN HPR FOLLOWING M-LOCA
QHFPWRSHT	Operator Fails to deenergize CV-2646 and 2648

Of the recoveries listed above the following are ex-control room recoveries and were set to true in order to provide the numbers needed for the NRC reviewer.

ICWCLGISO
MANDREC
MANEDGREC
P7AMANREC
QP7BMANREC
QHFPWRSHT

Attachment 14

HRA Spreadsheet for QHFPWRSHT

Ex-Control Room Model

1. EVENT	QHFPWRSHT	
2. EVENT IDENTIFICATION		
2.1 Descriptor	Operator fails to switch power off to CV-2646 and CV-2648	
2.2 Comment	Pre-Fire Plan	
3. EVENT CATEGORIZATION		
3.1 Event type	post-initiator recovery	
3.2 Location of action(s)	ex-control room	
3.3 Failure mode	mistake	
4. METHOD USED	SAIC TRC system	
5. INPUT PARAMETERS		
5.1 Mean response time (min), m1	no default	10
5.2 Additions to response time	default is 0	0
5.3 Model error factor, f1	generic is 4.3905	default
5.4 Adjustments to error factor	default is 0	1
5.5 Model uncertainty error factor, fU	generic is 1.68	default
5.6 Available time (min), t	no default	36
6. CALCULATED PARAMETERS		
6.1 Adjusted mean response time, mean		10.0
6.2 Adjusted error factor, fR		6.332
6.3 Median response time, m		9.5
7. EVENT OCCURENCE PROBABILISTIC ESTIMATES		
7.1 Mean (explicitly includes associated equipment failures)		1.4E-01
7.2 95th percentile		2.4E-01
7.3 5th percentile		5.6E-02
7.4 Error Factor		2.08
8. ASSOCIATED EQUIPMENT RELIABILITY TREATMENT		
8.1 Human reliability event mean failure probability		1.4E-01
8.2 Associated equipment reliability limited (1=yes,0=no)		1
8.3 Associated equipment failure probability (see E49)		
8.4 Combined human and equipment failure probability		1.36E-01

ATTACHMENT 9.10 HARD COPY STORAGE FORM

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