

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 23 – MAAP Runs**

MAAP Run Identifier	Description
SSBO-015	Models success path SSBO-015
SSBO-018	Models success path SSBO-018
SSBO-019	Models success path SSBO-019
SSBO-023	Models success path SSBO-023
SSBO-026	Models success path SSBO-026
SSBO-028	Models success path SSBO-028
SSBO-032	Models success path SSBO-032
SSBO-035	Models success path SSBO-035
SteadyState	steady state case verified that the parameter file was running as expected
TLOF_A	Models success path GTRAN-005, GTRAN-012
TLOF_B	Models success path GTRAN-002, GTRAN-009
TLOF_C	High pressure recirculation times
Note: Identifier preface "L2" refers to MAAP runs performed for the Level 2 Analysis.	
Reference 43, Tables 4-2, 7-2 through 7-10.	
Reference 40, Tables 5-4, 5-6, 5-8, 5-9, 5-13, 6-22, 6-26, 6-29, 6-33, 6-37, and 6-39.	

	Time to CD with 21 gpm / pump leak	Time to CD with 182 gpm / pump leak	Time to CD with 480 gpm / pump leak
Open 1 SG PORV at 30 minutes, Batteries lost at 4 hours (TD AFW = 200 gpm)	26.7 hours	17.0 hours	6.4 hours
Open 1 SG PORV at 30 minutes, Batteries lost at 8 hours (TD AFW = 150 gpm)	44 hours	29.5 hours	6.3 hours
TD AFW = 200 gpm, Batteries lost at 4 hours	10.8 hours	4.2 hours	2.0 hours
TD AFW = 150 gpm, Batteries lost at 8 hours	15.88 hours	4.2 hours	2.0 hours
Without TD AFW	2.3 hours	2.1 hours	1.7 hours
Reference 43, Table 7-11			

RCP Seal Leakage (gpm per pump)	Probability
21	0.79
182	0.2075
480	0.0025
Reference 43, Table 7-25	

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 26 -- Time to HPR**

With Containment Spray		Without Containment Spray	
MLOCA S	35 min	MLOCA A	6 hours
MLOCA T	39 min	MLOCA B	16 hours
MLOCA U	35 min	MLOCA C	6 hours
MLOCA R	39 min	MLOCA D	18 hours
SLOCA T	38 min	SLOCA A	15.3 hours
SLOCA U	2.0 hours	SLOCA B	N/A (+24 hours)
SLOCA V	39 min	SLOCA C	14.6 hours
SLOCA W	3.0 hours	SLOCA D	N/A (+24 hours)

Reference 43, Tables 7-16, 7-20

Table 27 -- Time to LPR

With Containment Spray		Without Containment Spray	
MLOCA H	69 min	MLOCA P	16.8 hr.
MLOCA K	65 min.	MLOCA Q	6.8 hr.
MLOCA M	65 min.	MLOCA G	6.7 hr.
MLOCA N	69 min.	MLOCA E	18.5 hr.
SLOCA GCS	2.9 hours	SLOCA G	34 hours
SLOCA HCS	4.4 hours	SLOCA H	15 hours
SLOCA ECS	1.2 hours	SLOCA E	15 hours
SLOCA FCS	3.5 hours	SLOCA F	N/A (+24 hours)
SLOCA MCS	N/A (+24 hours)	SLOCA M	N/A (+24 hours)
SLOCA NCS	41 min	SLOCA N	5 hours

Reference 43, Tables 7-17, 7-21

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Table 28 -- HRA Support Timings

HRA Action	Initiator	Cue Information			Irreversible Damage	
		Cue	T _{delay}	(Reference)	Irreversible Damage	T _{sw}
AFWOP1	MLOCA with high pressure SI failed	RCS cooldown and depressurization	26 min	Section 7.3.2	CD due to inventory loss	100 min
AFWOP2	SLOCA with high pressure SI failed	RCS cooldown and depressurization	Note 1		CD due to inventory loss	74 min
AFWOP3	SLOCA with HPR failed	Failure of automatic switchover to containment sump recirculation	27 min	Section 7.3.3	CD due to inventory loss	97 min
AFWOP5	SGTR	Depressurize SG given successful identification and isolation of the ruptured SG	Note 1		CD due to inventory loss	8.0 hr
HAAF1	LOSP	Loss of Shutdown Boards	0	Scenario definition is SBO at time zero.	CD due to secondary side loss	1.7 hours
HAAF2	SLOCA	CST unavailable for AFW makeup	Note 1		CD due to unavailable AFW	CST depleted in 13 hours CD occurs at 18.9 hours
HACD1	TLOFW	AFW fails and attempt to recover MFW	0	The TLOFW initiating event occurs at time zero.	CD due to unavailable MFW/AFW and failed bleed and feed	1.42 hr

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Table 28 -- HRA Support Timings

HRA Action	Initiator	Cue Information			Irreversible Damage	
		Cue	T _{delay}	(Reference)	Irreversible Damage	T _{sw}
HAFR1	GTRAN	Loss of PCA	Note 1		CD due to CST depletion	CST depleted in 10.3 hours CD occurs at 14.5 hours
HAI1	ISLOCA	ISLOCA initiator	Note 1		CD due RWST depletion	11.9 hr
HAMU1	SGTR	Low RWST level (27%)	13.7 hours	ZWRWST HAMU1.d31	CD due to unavailable inventory control	RWST depleted in 18 hours CD occurs at 37.4 hours
HAMU2	ISLOCA	Low RWST level (27%)	1 hour	ZWRWST HAMU2.d88	CD due to unavailable RWST inventory	RWST depleted in 1.34 hours CD occurs at 2.3 hours
HAMU3	GTRAN	Low CST level	Note 1		CD due to unavailable AFW	CST depleted in 10.8 hours CD occurs at 14.4 hours
HAMU4	SLOCA	Low RWST level (27%)	30 minutes	SLOCA_L.d31	CD due to inventory loss	101 minutes
HAOB1	TLOFW	26% WR of SG	15 minutes	Table 7-28 (CCP available)	CD due to failure of bleed and feed	30 minutes

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Table 28 -- HRA Support Timings

HRA Action	Initiator	Cue Information			Irreversible Damage	
		Cue	T _{delay}	(Reference)	Irreversible Damage	T _{sw}
HAOB2	TLOFW	26% WR of SG	15 minutes	Table 7-28 (SI pump available)	CD due to failure of bleed and feed	30 minutes
HAOF1	TLOFW	AFW fails and attempt to recover MFW	Note 1		CD due to failure of AFW and MFW recoveries	1.4 hours
HAOF2	TLOFW	AFW fails and attempt to recover MFW	Note 1		CD due to failure of AFW and MFW recoveries	1.4 hours
HAOS1	LLOCA	ESFAS fails	Note 1		CD due to inventory loss	6.9 minutes
HAOS2	SLOCA	ESFAS fails	Note 1		CD due to inventory loss	1.24 hours
HAOS3	GTRAN	AFW fails to automatically initiate	Note 1		CD due to unavailable AFW	1.73 hours
HAPR1	GTRAN	Pressurizer PORV open	Note 1		If the operator closes the pressurizer PORV within 1.4 hours, core uncover is prevented.	1.4 hours
HARD1	SGTR	RCS conditions support RHR shutdown cooling	1 hour	To maintain core cooling, RHR shutdown starts approximately 1 hour after the SGTR occurs.	CD due to unavailable shutdown cooling	28.7 hours
HARH1	LLOCA	LLOCA	3 hours	Three hours has past since the initiating event and switchover to containment sump is complete. (Section 2.0, Reference 9)	Boron buildup preventing core cooling	4.177 hours
HARL1	LLOCA	Auto swapover failure during LLOCA	16 minutes	Section 7.3.1 (This is the limiting case.)	RWST depletion causes pump cavitation.	24.5 minutes

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Table 28 -- HRA Support Timings

HRA Action	Initiator	Cue Information			Irreversible Damage	
		Cue	T _{delay}	(Reference)	Irreversible Damage	T _{sw}
HARR1	MLOCA	RWST level less than 34%	26 minutes	Section 7.3.2	RWST depletion causes pump cavitation.	38 minutes
HASL1/HASL3	SGTR	Successful identification and isolation of the ruptured SG	Note 1		CD due to inventory loss	23 hours
HASL4	Secondary Side Break	Secondary Side Break	Note 1		Continual blowdown of faulted SG and CD occurs without CST refill.	17.9 hours
HTPR1	SBO	TD AFW fails during an SBO	0	TD AFW should automatically start from SBO conditions	CD due to unavailable AFW	1.7 hours
RSIOP	SSBI/SSBO	CST depleted	8.3 hours	IEVNT(191) is true. SSBI-005.sum	CD due to failed SI re-initiation.	18 hours
SSIOP	SGTR	Pressurizer level high (92% span)	10.2 hours	ZPWZ (> 48.6 ft) SSBI-010.d31	Pressurizer PORV fails to reseal because of water challenge	11.5 hours
Note 1: Cue is not available via MAAP 4.0.5. The cue is identified in some other plant specific documentation and is included in the HRA.						
Note 2: Reference sections pertain to Reference 43						
Reference 43, Table 8-1						

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 29 -- WBN PRA System Notebooks**

System	Notebook
Auxiliary Feedwater System	MDN-000-003-2008-0124
Component Cooling System	MDN-000-070-2008-0132
Condensate and Feedwater System	MDN-000-002-2008-0123
Containment Spray System	MDN-000-072-2008-0133
Containment Systems	MDN-000-999-2008-0139
Chemical and Volume Control System	MDN-000-062-2008-0127
Electric Power System	MDN-000-999-2008-0137
Electric Power Recovery	MDN-000-999-2008-0138
Essential Raw Cooling Water System	MDN-000-067-2008-0130
Engineered Safety Features Actuation System	MDN-000-099-2008-0136
Main Steam System	MDN-000-001-2008-0122
Plant Compressed Air System	MDN-000-032-2008-0126
Pressurizer Power-Operated Relief Valves and Safety Valves	MDN-000-068-2008-0131
RCP Seal Injection and Thermal Barrier Cooling	MDN-000-062-2008-0128
Reactor Protection System	MDN-000-099-2008-0135
Residual Heat Removal System	MDN-000-074-2008-0134
Safety Injection System	MDN-000-063-2008-0129
Steam Generator Isolation	MDN-000-003-2008-0125

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Table 30 – Component Failure Rates

Type Code	Description	Prior Distribution		Plant Specific Data		Posterior Distribution	
		Mean	EF	Failures	Exposure	Rate	EF
AOCFC	AIR OPERATED VALVE FAILS TO CLOSE (CLEAN WATER)	1.11E-03	4.3	4	8749	5.09E-04	2.04
AOCFO	AIR OPERATED VALVE FAILS TO OPEN (CLEAN WATER)	1.11E-03	4.3	0	8703	8.83E-05	4.30
AOC SO	AIR OPERATED VALVES SPURIOUS OPERATION (CLEAN WATER)	1.82E-07	18.80	0	1195740	3.02E-08	18.80
DDPFD	DIESEL DRIVEN PUMP (STANDBY) FAILS TO START OR DURING FIRST HOUR OF OPERATION	5.54E-03	3.39	--	--	--	--
DDPFR	DIESEL DRIVEN PUMP (STANDBY) FAILS TO RUN AFTER FIRST HOUR	9.48E-05	18.8	--	--	--	--
DGGFD	DIESEL GENERATOR FAILS TO START OR DURING FIRST HOUR OF OPERATION	7.43E-03	2.75	5	711	7.15E-03	1.81
DGGFR	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR	8.48E-04	2.8	0	1582	5.16E-04	2.80
MOCR P	MOTOR OPERATED VALVE RUPTURE OR LEAK INTERNAL < 50 GPM (CLEAN WATER)	1.67E-07	10.2	1	3775108	2.45E-07	3.66
MOC SO	MOTOR OPERATED VALVE SPURIOUS OPERATION (CLEAN WATER)	4.45E-08	8.4	0	3775108	2.58E-08	8.40

Table 30 – Component Failure Rates

Type Code	Description	Prior Distribution		Plant Specific Data		Posterior Distribution	
		Mean	EF	Failures	Exposure	Rate	EF
DGGFD	DIESEL GENERATOR FAILS TO START OR DURING FIRST HOUR OF OPERATION	7.43E-03	2.75	5	711	7.15E-03	1.81
DGGFR	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR	8.48E-04	2.8	0	1582	5.16E-04	2.80
MOCXC	MOTOR OPERATED VALVE TRANSFER CLOSED (CLEAN WATER)	4.50E-08	8.40	0	2403958	2.82E-08	8.40
MOCXO	MOTOR OPERATED VALVE TRANSFERS OPEN (CLEAN WATER)	4.45E-08	8.40	--	--	--	--
MORFC	MOTOR OPERATED VALVE FAILS TO CLOSE (RAW WATER)	1.07E-03	3.6	0	1158	5.26E-04	3.60
MORFO	MOTOR OPERATED VALVE FAILS TO OPEN (RAW WATER)	1.07E-03	3.6	1	1146	9.70E-04	2.74
MORRP	MOTOR OPERATED VALVE RUPTURE OR LEAK INTERNAL < 50 GPM (RAW WATER)	1.67E-07	10.2	0	644534	9.93E-08	10.20
MORXC	MOTOR OPERATED VALVE TRANSFERS CLOSED (RAW WATER)	4.45E-08	8.40	--	--	--	--
PCBFD	CONDENSATE BOOSTER PUMP FAILS ON DEMAND	2.23E-03	4.80	0	93	1.70E-03	4.80
PCBFD	CONDENSATE BOOSTER PUMP FAILS ON DEMAND	2.23E-03	4.8	0	132	1.55E-03	4.80
PCBFR	CONDENSATE BOOSTER PUMP FAILS DURING OPERATION	4.54E-06	3.1	0	100432	3.56E-06	3.10

Table 30 – Component Failure Rates

Type Code	Description	Prior Distribution		Plant Specific Data		Posterior Distribution	
		Mean	EF	Failures	Exposure	Rate	EF
PCCFD	CENTRIFUGAL CHARGING PUMP FAILS TO START ON DEMAND	2.23E-03	4.8	0	397	9.61E-04	4.81
PCCFR	CENTRIFUGAL CHARGING PUMP FAILS DURING OPERATION	4.54E-06	3.1	0	87400	3.66E-06	3.10
PCOFD	COMPONENT COOLING WATER PUMP FAILS ON DEMAND	2.23E-03	4.8	0	326	1.07E-03	4.81
PCOFR	COMPONENT COOLING WATER PUMP FAILS DURING OPERATION	4.54E-06	3.1	0	93603	3.61E-06	3.10
PCSF1	CONTAINMENT SPRAY PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	1.86E-03	3.35	2	181	3.65E-03	2.30
PCSFR	CONTAINMENT SPRAY PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.80E-06	8.40	--	--	--	--
PCWFD	CONDENSER COOLING WATER PUMP FAILS ON DEMAND	2.23E-03	4.8	0	109	1.64E-03	4.80
PCWFR	CONDENSER COOLING WATER PUMP FAILS DURING OPERATION	4.54E-06	3.1	0	306260	2.47E-06	3.10
PMAF1	MOTOR DRIVEN AUX. FEEDWATER PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	1.86E-03	3.35	0	537	1.08E-03	3.35
PMAFR	MOTOR DRIVEN AUXILIARY FEEDWATER PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.80E-06	8.4	0	3457	5.34E-06	8.40

Table 30 – Component Failure Rates

Type Code	Description	Prior Distribution		Plant Specific Data		Posterior Distribution	
		Mean	EF	Failures	Exposure	Rate	EF
PMOFD	STANDBY MOTOR DRIVEN MAIN FEEDWATER PUMP FAILS TO START	1.86E-03	3.35	1	67	2.93E-03	2.64
PMOFR	STANDBY MOTOR DRIVEN MAIN FEEDWATER PUMP FAILS TO RUN	5.80E-06	8.4	0	27881	3.41E-06	8.40
POBF1	BORIC ACID TRANSFER PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	1.86E-03	3.35	0	6110	2.03E-04	3.35
POBFR	BORIC ACID PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.80E-06	8.4	0	167109	1.12E-06	8.40
POEFD	ESSENTIAL RAW COOLING WATER PUMP FAILS TO START ON DEMAND	2.23E-03	4.8	1	1612	8.73E-04	3.08
POEFR	ESSENTIAL RAW COOLING WATER PUMP FAILS DURING OPERATION	4.54E-06	3.1	2	260468	5.85E-06	2.25
POHFD	HOTWELL PUMP FAILS TO START ON DEMAND	2.23E-03	4.8	0	113	1.62E-03	4.80
POHFR	HOTWELL PUMP FAILS DURING OPERATION	4.54E-06	3.1	0	112642	3.47E-06	3.10
PSRF1	RESIDUAL HEAT REMOVAL PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	1.86E-03	3.35	0	482	1.13E-03	3.35
PSRFR	RESIDUAL HEAT REMOVAL PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.80E-06	8.4	0	5357	5.11E-06	8.40

Table 30 – Component Failure Rates

Type Code	Description	Prior Distribution		Plant Specific Data		Posterior Distribution	
		Mean	EF	Failures	Exposure	Rate	EF
PSSF1	SAFETY INJECTION PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	1.86E-03	3.35	1	413	2.06E-03	2.64
PSSFR	SAFETY INJECTION PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.80E-06	8.40	--	--	--	--
PTSF1	TURBINE DRIVEN AUXILIARY FEEDWATER PUMP FAILS DURING OPERATION (FIRST HOUR)	9.38E-03	4.56	3	279	1.05E-02	2.23
PTSFR	TURBINE DRIVEN AUXILIARY FEEDWATER PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	7.35E-05	8.40	--	--	--	--
Reference 38, Tables 5.1-1, 5.1-2, 5.3.1-2, 5.3.2-1, and 5.3.2-2							

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Table 31 – Component Failure Rate Comparison

Type Code	Description	CAFTA R1 Distribution		CAFTA R0 Distribution	
		Mean	EF	Mean	EF
CHRFD	RUNNING CHILLER FAILS TO START ON DEMAND	9.83E-03	5.00	3.26E-03	1.9
CHRFR	RUNNING CHILLER FAILS DURING OPERATION	9.42E-05	8.70	1.50E-04	2
DGGFD	DIESEL GENERATOR FAILS TO START OR DURING FIRST HOUR OF OPERATION	7.15E-03	1.81	9.09E-03	2.58
DGGFR	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR	5.16E-04	2.80	6.09E-04	2.8
PCCFD	CENTRIFUGAL CHARGING PUMP FAILS TO START ON DEMAND	9.61E-04	4.81	1.33E-03	4.81
PCCFR	CENTRIFUGAL CHARGING PUMP FAILS DURING OPERATION	3.66E-06	3.10	4.05E-06	3.1
PCOFR	COMPONENT COOLING WATER PUMP FAILS DURING OPERATION	3.61E-06	3.10	3.28E-06	3.1
PCSF1	CONTAINMENT SPRAY PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	3.65E-03	2.30	8.30E-03	2.17
PCSFR	CONTAINMENT SPRAY PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.78E-06	8.40	5.80E-06	8.4
PMAF1	MOTOR DRIVEN AUX. FEEDWATER PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	1.08E-03	3.35	5.77E-03	2.17
PMAFR	MOTOR DRIVEN AUXILIARY FEEDWATER PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.34E-06	8.40	5.80E-06	8.4
POEFD	ESSENTIAL RAW COOLING WATER PUMP FAILS TO START ON DEMAND	8.73E-04	3.08	5.97E-04	4.81
POEFR	ESSENTIAL RAW COOLING WATER PUMP FAILS DURING OPERATION	5.85E-06	2.25	3.40E-06	3.1

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Table 31 – Component Failure Rate Comparison

Type Code	Description	CAFTA R1 Distribution		CAFTA R0 Distribution	
		Mean	EF	Mean	EF
PSRF1	RESIDUAL HEAT REMOVAL PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	1.13E-03	3.35	3.17E-03	2.84
PSRFR	RESIDUAL HEAT REMOVAL PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.11E-06	8.40	5.80E-06	8.4
PSSF1	SAFETY INJECTION PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	2.06E-03	2.64	5.05E-03	2.41
PSSFR	SAFETY INJECTION PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	5.76E-06	8.40	5.80E-06	8.4

Reference: CAFTA R0 values taken from R0 Data Notebook Tables 5.1-1 and 5.3.2-1.

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Table 32 -- Unavailability Results

Variable Name	Description	Total Hours	Total Hours Unavailable	Total Events	Mean	5th %	Median	95th %	EF
!MTM_PMAA	AFW pump train A unavailable due to maintenance	67475	240.8	16	3.93E-03	2.05E-03	3.68E-03	6.62E-03	1.8
!TTM_PMAA	AFW pump train A unavailable due to testing	67475	8.9	5	1.82E-04	5.10E-05	1.46E-04	4.28E-04	2.9
!MTM_PMAB	AFW pump train B unavailable due to maintenance	67475	414	30	6.45E-03	4.08E-03	6.24E-03	9.56E-03	1.53
!TTM_PMAB	AFW pump train B unavailable due to testing	67475	8.6	19	1.38E-04	7.67E-05	1.31E-04	2.25E-04	1.71
!MTM_PTO	AFW pump train C unavailable due to maintenance	67330	663.1	42	1.02E-02	6.95E-03	9.97E-03	1.43E-02	1.43
!TTM_PTO	AFW pump train C unavailable due to testing	67330	44	40	6.79E-04	4.58E-04	6.62E-04	9.57E-04	1.45
!MTM_PCO1	CCS train A unavailable due to maintenance	71425	47.5	21	7.15E-04	4.09E-04	6.81E-04	1.13E-03	1.67
!TTM_PCOA	CCS train A unavailable due to testing	71425	10.4	44	1.50E-04	1.03E-04	1.47E-04	2.09E-04	1.42
!MTM_PCO2	CCS train B unavailable due to maintenance	70717	47.4	17	7.33E-04	3.91E-04	6.90E-04	1.22E-03	1.76
!TTM_PCOB	CCS train B unavailable due to testing	70717	29.8	60	4.32E-04	3.14E-04	4.25E-04	5.74E-04	1.35
!MTM_PCO1A	CCS Pump 1A unavailable due to maintenance	61849	40.5	7	8.18E-04	2.89E-04	7.04E-04	1.73E-03	2.44

Table 32 -- Unavailability Results

Variable Name	Description	Total Hours	Total Hours Unavailable	Total Events	Mean	5th %	Median	95th %	EF
!MTM_PCO1B	CCS Pump 1B unavailable due to maintenance	61849	84.4	11	1.57E-03	7.05E-04	1.43E-03	2.91E-03	2.03
!MTM_PCOCS	CCS Pump C-S unavailable due to maintenance	61141	171.5	12	3.19E-03	1.49E-03	2.93E-03	5.77E-03	1.97
!MTM_PCSA	CSS train A unavailable due to maintenance	67327	410.9	31	6.41E-03	4.08E-03	6.20E-03	9.44E-03	1.52
!TTM_PCSA	CSS train A unavailable due to testing	67327	126.5	44	1.94E-03	1.34E-03	1.90E-03	2.70E-03	1.42
!MTM_PCSB	CSS train B unavailable due to maintenance	54499	413	22	8.12E-03	4.71E-03	7.75E-03	1.28E-02	1.65
!TTM_PCSB	CSS train B unavailable due to testing	54499	90.1	33	1.73E-03	1.12E-03	1.68E-03	2.52E-03	1.5
!MTM_PCCA	CVCS train A unavailable due to maintenance	67213	283.8	22	4.52E-03	2.63E-03	4.32E-03	7.11E-03	1.65
!TTM_PCCA	CVCS train A unavailable due to testing	67213	16.9	31	2.64E-04	1.68E-04	2.55E-04	3.89E-04	1.52
!MTM_PCCB	CVCS train B unavailable due to maintenance	67283	178.5	14	2.96E-03	1.47E-03	2.75E-03	5.15E-03	1.87
!TTM_PCCB	CVCS train B unavailable due to testing	67283	27.4	11	4.68E-04	2.10E-04	4.26E-04	8.67E-04	2.03
!MTM_POEA	ERCW train A unavailable due to maintenance	69618	16.1	3	4.05E-04	6.98E-05	2.75E-04	1.14E-03	4.03

Table 32 – Unavailability Results

Variable Name	Description	Total Hours	Total Hours Unavailable	Total Events	Mean	5th %	Median	95th %	EF
!TTM_POEA	ERCW train A unavailable due to testing	69618	0	1	--	--	--	--	--
!MTM_POEB	ERCW train B unavailable due to maintenance	69594	5.9	2	2.11E-04	2.03E-05	1.09E-04	6.61E-04	5.7
!TTM_POEB	ERCW train B unavailable due to testing	69594	0	0	--	--	--	--	--
!MTM_POEAA	ERCW Pump A unavailable due to maintenance	60114	4418.8	20	7.93E-02	4.47E-02	7.54E-02	1.27E-01	1.69
!MTM_POEBA	ERCW Pump B unavailable due to maintenance	60114	1576.7	19	2.84E-02	1.58E-02	2.69E-02	4.61E-02	1.71
!MTM_POECA	ERCW Pump C unavailable due to maintenance	60114	2963.1	19	5.34E-02	2.96E-02	5.06E-02	8.66E-02	1.71
!MTM_POEDA	ERCW Pump D unavailable due to maintenance	60114	1429.6	19	2.58E-02	1.43E-02	2.44E-02	4.18E-02	1.71
!MTM_POEEB	ERCW Pump E unavailable due to maintenance	60114	1401.7	19	2.53E-02	1.40E-02	2.39E-02	4.10E-02	1.71
!MTM_POEFB	ERCW Pump F unavailable due to maintenance	60114	1222.6	13	2.29E-02	1.10E-02	2.11E-02	4.06E-02	1.92
!MTM_POEGB	ERCW Pump G unavailable due to maintenance	60114	1982.5	17	3.61E-02	1.93E-02	3.40E-02	6.00E-02	1.76
!MTM_POEHB	ERCW Pump H unavailable due to maintenance	60114	1038.9	16	1.90E-02	9.94E-03	1.78E-02	3.21E-02	1.8

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Table 32 – Unavailability Results

Variable Name	Description	Total Hours	Total Hours Unavailable	Total Events	Mean	5th %	Median	95th %	EF
!MTM_PSRA	RHR train A unavailable due to maintenance	70208	324.7	31	4.86E-03	3.09E-03	4.70E-03	7.15E-03	1.52
!TTM_PSRA	RHR train A unavailable due to testing	70208	89.9	96	1.30E-03	1.02E-03	1.29E-03	1.63E-03	1.27
!MTM_PSRB	RHR train B unavailable due to maintenance	70275	187.2	14	2.97E-03	1.48E-03	2.76E-03	5.17E-03	1.87
!TTM_PSRB	RHR train B unavailable due to testing	70275	113.7	94	1.64E-03	1.28E-03	1.63E-03	2.07E-03	1.27
!MTM_PSSA	SIS train A unavailable due to maintenance	67279	230.2	17	3.74E-03	2.00E-03	3.52E-03	6.22E-03	1.76
!TTM_PSSA	SIS train A unavailable due to testing	67279	36.2	83	5.48E-04	4.19E-04	5.41E-04	6.99E-04	1.29
!MTM_PSSB	SIS train B unavailable due to maintenance	67319	202	17	3.28E-03	1.75E-03	3.09E-03	5.46E-03	1.76
!TTM_PSSB	SIS train B unavailable due to testing	67319	36	89	5.44E-04	4.20E-04	5.38E-04	6.89E-04	1.28
!MTM_DDG1A	EDG 1A unavailable due to maintenance	69913	783	74	1.14E-02	8.60E-03	1.13E-02	1.48E-02	1.31

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Table 32 – Unavailability Results

Variable Name	Description	Total Hours	Total Hours Unavailable	Total Events	Mean	5th %	Median	95th %	EF
!TTM_DD1A	EDG 1A unavailable due to testing	69913	9.8	29	1.48E-04	9.27E-05	1.43E-04	2.21E-04	1.54
!MTM_DD1B	EDG 1B unavailable due to maintenance	70282	848.1	67	1.23E-02	9.15E-03	1.22E-02	1.62E-02	1.33
!TTM_DD1B	EDG 1B unavailable due to testing	70282	10.8	25	1.63E-04	9.78E-05	1.56E-04	2.49E-04	1.6
!MTM_DD2A	EDG 2A unavailable due to maintenance	69913	941.6	72	1.38E-02	1.03E-02	1.36E-02	1.78E-02	1.32
!TTM_DD2A	EDG 2A unavailable due to testing	69913	12.5	26	1.90E-04	1.16E-04	1.83E-04	2.89E-04	1.58
!MTM_DD2B	EDG 2B unavailable due to maintenance	70282	697.9	66	1.02E-02	7.51E-03	1.00E-02	1.33E-02	1.33
!TTM_DD2B	EDG 2B unavailable due to testing	70282	7.9	26	1.20E-04	7.29E-05	1.15E-04	1.82E-04	1.58

Table 32 -- Unavailability Results

Variable Name	Description	Total Hours	Total Hours Unavailable	Total Events	Mean	5th %	Median	95th %	EF
!MTM_RTBA	Reactor trip breaker A train unavailable due to maintenance	66140	13	7	2.45E-04	8.67E-05	2.11E-04	5.18E-04	2.44
!TTM_RTBA	Reactor trip breaker train A unavailable due to testing	66140	69.7	32	1.10E-03	7.09E-04	1.07E-03	1.62E-03	1.51
!MTM_RTBB	Reactor trip breaker B train unavailable due to maintenance	66119	10.4	7	1.97E-04	6.97E-05	1.70E-04	4.16E-04	2.44
!TTM_RTBB	Reactor trip breaker train B unavailable due to testing	66119	76.6	35	1.21E-03	7.92E-04	1.17E-03	1.74E-03	1.48
!MTM_SSPA	Solid state protection system train A unavailable due to maintenance	67327	38	9	6.70E-04	2.73E-04	5.96E-04	1.31E-03	2.19
!TTM_SSPA	Solid state protection system train A unavailable due to testing	67327	93.9	33	1.46E-03	9.43E-04	1.42E-03	2.13E-03	1.5
!MTM_SSPB	Solid state protection system train B unavailable due to maintenance	67327	33.4	8	6.03E-04	2.30E-04	5.29E-04	1.22E-03	2.3
!TTM_SSPB	Solid state protection system train B unavailable due to testing	67327	97	35	1.50E-03	9.85E-04	1.46E-03	2.17E-03	1.48

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Table 32 -- Unavailability Results

Variable Name	Description	Total Hours	Total Hours Unavailable	Total Events	Mean	5th %	Median	95th %	EF
!MTM_ACAA	ACA compressor A unavailable due to maintenance	68111	178.6	17	2.87E-03	1.53E-03	2.70E-03	4.77E-03	1.76
!MTM_ACAB	ACA compressor B unavailable due to maintenance	68111	312.2	21	4.93E-03	2.82E-03	4.69E-03	7.83E-03	1.67
!TTM_ACA	ACA compressor unavailable due to testing	68111	0	0	--	--	--	--	--
!MTM_CARA	Containment air return fan A unavailable due to maintenance	68400	195.1	34	2.98E-03	1.94E-03	2.89E-03	4.32E-03	1.49
!TTM_CARA	Containment air return fan A unavailable due to testing	68400	10	2	3.65E-04	3.52E-05	1.89E-04	1.14E-03	5.7
!MTM_CARB	Containment air return fan B unavailable due to maintenance	68400	151.8	35	2.32E-03	1.52E-03	2.25E-03	3.34E-03	1.48
!TTM_CARB	Containment air return fan B unavailable due to testing	68400	7	3	1.79E-04	3.09E-05	1.21E-04	5.02E-04	4.03
!TTM_CAC	PCA (A, B, or C) unavailable due to testing	221615	0	0	--	--	--	--	--
MTM_CAC	PCA compressor (A, B, or C) unavailable due to maintenance	221615	9025.4	92	4.14E-02	3.21E-02	4.09E-02	5.22E-02	1.27
!MTM_CAD	PCA compressor D unavailable due to maintenance	73872	3523.5	47	4.93E-02	3.43E-02	4.82E-02	6.77E-02	1.41
!TTM_CAD	PCA compressor D unavailable due to testing	73872	0	0	--	--	--	--	--

Table 32 – Unavailability Results

Variable Name	Description	Total Hours	Total Hours Unavailable	Total Events	Mean	5th %	Median	95th %	EF
!MTM_PMO	Standby MFW pump unavailable due to maintenance	67659	847.5	19	1.36E-02	7.52E-03	1.29E-02	2.20E-02	1.71
!TTM_PMO	Standby MFW pump unavailable due to testing	67659	0	0	--	--	--	--	--
!MTM_PRV	Steam generator PORVS or atmospheric dump valve unavailable due to maintenance	270577	69.8	6	3.35E-04	1.07E-04	2.81E-04	7.43E-04	2.63
!TTM_PRV	Steam generator PORVS or atmospheric dump valve unavailable due to testing	270577	0	0	--	--	--	--	--
!XPORV332	PORV block valve 332-B closed	65712.6	7762.5	102	1.20E-01	9.43E-02	1.19E-01	1.49E-01	1.26
!XPORV333	PORV block valve 333-B closed	65712.6	2503.1	101	3.87E-02	3.04E-02	3.83E-02	4.83E-02	1.26
!XPORVBOTH	Both PORV block valves 332-B and 333-B closed	65712.6	29.1	6	5.75E-04	1.84E-04	4.82E-04	1.28E-03	2.63
!TTM_TRP	Pzr PT Unavailable	65686	59	15	1.00E-03	5.07E-04	9.37E-04	1.74E-03	1.85

Reference 38, Tables 6.2-1, -2, -3, 6.4-1, and 6.5-1

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Table 33 -- Unavailability Comparison

Description	mean value		Percentage Change
	CAFTA R1	CAFTA R0	
CAS Compressor train unavailable due to test & maintenance, average across 4 trains	4.54E-02	3.34E-02	36%
CSS Pump train unavailable due to test & maintenance, average across 2 trains	9.10E-03	7.42E-03	23%
AFW Pump train unavailable due to test & maintenance, average across 3 trains	7.19E-03	5.95E-03	21%
RHR Pump train unavailable due to test & maintenance, average across 2 trains	5.39E-03	5.33E-03	1%
CCP train unavailable due to test & maintenance, average across 2 trains	4.11E-03	4.07E-03	1%
SI Pump train unavailable due to test & maintenance, average across 2 trains	3.99E-03	3.96E-03	1%
DG unavailable due to test & maintenance, average across 4 DGs	1.21E-02	1.25E-02	-3%
ACAS Compressor train unavailable due to test & maintenance, average across 2 trains	3.90E-03	4.30E-03	-9%

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Table 34 -- Common Cause Groups and MGL Variables



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Reference: CAFTA R1 Model

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Table 35 -- Comparison of MGL Variables

TYPE CODE	DESCRIPTION	CAFTA R1	CAFTA R0	Percent Change
		MEAN	MEAN	
#MOCFC_RHR3G	GAMMA-CCG=3-RHR MOTOR OPERATED VALVE FAILS TO CLOSE	1.00E-12	1.00E-10	9900%
#CKCFO_SI_4B	BETA-CCG=4-SI CHECK VALVE FAILS TO OPEN	3.30E-02	1.07E-01	224%
#CKRFO_ERC8B	BETA-CCG=8-GENERIC-ERCW CHECK VALVE FAILS TO OPEN	3.98E-02	1.18E-01	196%
#DGGFR_EP_4G	GAMMA-CCG=4-EP DIESEL GENERATOR FAILS TO RUN	2.13E-01	6.31E-01	196%
#CKCFO_RHR4B	BETA-CCG=4-RHR CHECK VALVE FAILS TO OPEN	3.03E-02	8.80E-02	190%
#DGGFD_EP_4B	BETA-CCG=4-EP DIESEL GENERATOR FAILS START	2.01E-02	5.21E-02	159%
#POEFR_ERC4B	BETA-CCG=4-GENERIC-ERCW PUMP FAILS TO RUN	2.31E-02	5.95E-02	158%
#PCOFR_CCS4B	BETA-CCG=4-GENERIC-COMPONENT COOLING PUMP FAILS TO RUN	2.31E-02	5.95E-02	158%
#PCWFR_LCV4B	BETA-CCG=4-GENERIC CONDENSER COOLING WATER PUMP FAILS DURING OPERATION	2.31E-02	5.95E-02	158%
#CKRFC_ERC8B	BETA-CCG=8-ERCW CHECK VALVE FAILS TO CLOSE	6.60E-02	1.68E-01	155%
#DGGFR_EP_4B	BETA-CCG=4-EP DIESEL GENERATOR FAILS TO RUN	2.86E-02	7.19E-02	151%
#FNSFD_EP_4B	BETA-CCG=4-GENERIC-EP FAN FAILS ON DEMAND	4.62E-02	1.15E-01	149%
#POEFD_ERC4B	BETA-CCG=4-GENERIC-ERCW PUMP FAILS ON DEMAND	4.62E-02	1.15E-01	149%
#PCOFD_CCS4B	BETA-CCG=4-GENERIC-COMPONENT COOLING PUMP FAILS ON DEMAND	4.62E-02	1.15E-01	149%
#PSFF1_EP_4B	BETA-CCG=4-EP FUEL OIL TRANSFER PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	4.62E-02	1.15E-01	149%
#CKCFO_CCS4B	BETA-CCG=4-GENERIC-CCS CHECK VALVE FAILS TO OPEN	4.62E-02	1.15E-01	149%
#CKCFO_RCP4B	BETA-CCG=4-GENERIC-RCP CHECK VALVE FAILS TO OPEN	4.62E-02	1.15E-01	149%
#CKCFO_CVC4B	BETA-CCG=4-GENERIC-CVCS CHECK VALVE FAILS TO OPEN	4.62E-02	1.15E-01	149%
#CKCFO_MF_4B	BETA-CCG=4-GENERIC-MF CHECK VALVE FAILS TO OPEN	4.62E-02	1.15E-01	149%
#CKCFO_MSS4B	BETA-CCG=4-GENERIC MSS CHECK VALVE FAILS TO OPEN	4.62E-02	1.15E-01	149%
#CKRFO_ERC4B	BETA-CCG=4-GENERIC-ERCW CHECK VALVE FAILS TO OPEN	4.62E-02	1.15E-01	149%
#AOCFC_MSS4B	BETA-CCG=4-GENERIC-MSS AIR OPERATED VALVE FAILS TO CLOSE	4.62E-02	1.15E-01	149%
#CKCFO_AFW4B	BETA-CCG=4-AFW CHECK VALVE FAILS TO OPEN	1.32E-01	3.21E-01	143%

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TYPE CODE	DESCRIPTION	CAFTA R1	CAFTA R0	Percent Change
		MEAN	MEAN	
#CKRFC_ERC4B	BETA-CCG=4-ERCW CHECK VALVE FAILS TO CLOSE	6.21E-02	1.49E-01	140%
#HXCPL_CCS3B	BETA-CCG=3-GENERIC-CCS HEAT EXCHANGER LOSS OF COOLING OR PLUGGING	2.46E-02	5.63E-02	129%
#RTBFO_RPS4B	BETA-CCG=4-RTB FAILS TO OPEN	1.10E-01	2.44E-01	122%
#SRVFO_POR3B	BETA-CCG=3-GENERIC-PORV SRV FAILS TO OPEN ON DEMAND	4.92E-02	1.09E-01	122%
#STRPL_ERC4B	BETA-CCG=4-ERCW STRAINER PLUGGED	1.95E-01	3.95E-01	103%
#STRPL_RCW4B	BETA-CCG=4-RCW STRAINER PLUGGED	1.95E-01	3.95E-01	103%
#MOCFC_RHR2B	BETA-CCG=2-RHR MOTOR OPERATED VALVE FAILS TO CLOSE	3.78E-03	7.53E-03	99%
#MOCFC_CVC2B	BETA-CCG=2-CVC MOTOR OPERATED VALVE FAILS TO CLOSE	3.78E-03	7.53E-03	99%
#PMAFR_AFW2B	BETA-CCG=2-AFW MOTOR DRIVEN PUMP FAILS DURING OPERATION	7.29E-03	1.45E-02	99%
#CKCFC_RHR2B	BETA-CCG=2-RHR CHECK VALVE FAILS TO CLOSE	1.20E-02	2.37E-02	98%
#PSSFR_SI_2B	BETA-CCG=2-SI PUMP FAILS DURING OPERATION (AFTER FIRST HOUR)	1.40E-02	2.76E-02	97%
#PCCFR_CVC2B	BETA-CCG=2-CVCS MOTOR DRIVEN PUMP FAILS TO RUN	1.40E-02	2.76E-02	97%
#MOCFO_POR2B	BETA-CCG=2-POR MOTOR OPERATED VALVE FAILS TO OPEN	1.67E-02	3.29E-02	97%
#MOCFO_AFW2B	BETA-CCG=2-AFW MOTOR OPERATED VALVE FAILS TO OPEN	1.52E-02	2.99E-02	97%
#MOCFO_RHR2B	BETA-CCG=2-RHR MOTOR OPERATED VALVE FAILS TO OPEN	2.10E-02	4.11E-02	96%
#MOCFO_CVC2B	BETA-CCG=2-CVC MOTOR OPERATED VALVE FAILS TO OPEN	2.10E-02	4.11E-02	96%
#PCOFR_CCS2B	BETA-CCG=2-GENERIC-COMPONENT COOLING PUMP FAILS TO RUN	2.52E-02	4.92E-02	95%
#FANFR_RCP2B	BETA-CCG=2-GENERIC-RCP FAN FAILS DURING OPERATION	2.52E-02	4.92E-02	95%
#CMPSR_PCA2B	BETA-CCG=2-GENERIC-PCA COMPRESSOR FAILS TO RUN	2.52E-02	4.92E-02	95%
#PAOFR_MF_2B	BETA-CCG=2-MFW AUXILIARY OIL PUMP FAILS TO RUN	2.52E-02	4.92E-02	95%
#PCVFR_LCV2B	BETA-CCG=2-GENERIC CONDENSATE VACUUM PUMP FAILS TO RUN	2.52E-02	4.92E-02	95%
#PDBFR_AFW2B	BETA-CCG=2-GENERIC-DEMINERALIZED WATER BOOSTER PUMP FAILS TO RUN	2.52E-02	4.92E-02	95%
#POTFR_RCP2B	BETA-CCG=2-GENERIC-THERMAL BARRIER BOOSTER PUMP FAILS TO RUN	2.52E-02	4.92E-02	95%
#FANFR_CNT2B	BETA-CCG=2-GENERIC-CNT FAN FAILS DURING OPERATION	2.52E-02	4.92E-02	95%
#FANFR_CSS2B	BETA-CCG=2-GENERIC-CSS FAN FAILS DURING OPERATION	2.52E-02	4.92E-02	95%
#FNSFR_CSS2B	BETA-CCG=2-GENERIC-CSS FAN FAILS DURING OPERATION	2.52E-02	4.92E-02	95%

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		MEAN	MEAN	
#FNSFR_CVC2B	BETA-CCG=2-GENERIC-CVCS FAN FAILS DURING OPERATION	2.52E-02	4.92E-02	95%
#FNSFR_RHR2B	BETA-CCG=2-GENERIC-RHR FAN FAILS DURING OPERATION	2.52E-02	4.92E-02	95%
#FNSFR_SI_2B	BETA-CCG=2-GENERIC-SI FAN FAILS DURING OPERATION	2.52E-02	4.92E-02	95%
#PCTFR_AFW2B	BETA-CCG=2-GENERIC CONDENSATE TRANSFER PUMP FAILS TO RUN	2.52E-02	4.92E-02	95%
#PIWFR_MF_2B	BETA-CCG=2-GENERIC-MF SEAL WATER INJECTION PUMP FAILS TO RUN	2.52E-02	4.92E-02	95%
#HXRPL_RHR2B	BETA-CCG=2-GENERIC-RHR HEAT EXCHANGER LOSS OF COOLING OR PLUGGING	2.52E-02	4.92E-02	95%
#PSSF1_SI_2B	BETA-CCG=2-SI PUMP FAILS DURING OPERATION (FIRST HOUR)	3.49E-02	6.74E-02	93%
#PCCFD_CVC2B	BETA-CCG=2-CVCS MOTOR DRIVEN PUMP FAILS TO START	3.49E-02	6.74E-02	93%
#AOCFO_AFW2B	BETA-CCG=2-AFW AIR OPERATED VALVES FAIL TO OPEN	3.66E-02	7.06E-02	93%
#PSRF1_RHR2B	BETA-CCG=2-RHR PUMP FAILS ON DEMAND	3.91E-02	7.53E-02	93%
#CKCFO_CSS2B	BETA-CCG=2-CSS CHECK VALVE FAILS TO OPEN	4.13E-02	7.93E-02	92%
#CKCFO_RHR2B	BETA-CCG=2-RHR CHECK VALVE FAILS TO OPEN	4.13E-02	7.93E-02	92%
#CBKFC_EP_2B	BETA-CCG=2-EP BREAKER FAILS TO CLOSE	4.13E-02	7.93E-02	92%
#PCSF1_CSS2B	BETA-CCG=2-CSS PUMP FAILS ON DEMAND	4.65E-02	8.89E-02	91%
#MOCFO_CSS2B	BETA-CCG=2-CSS MOTOR OPERATED VALVE FAILS TO OPEN	4.92E-02	9.38E-02	91%
#FANFD_RCP2B	BETA-CCG=2-GENERIC-RCP FAN FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#PCOFD_CCS2B	BETA-CCG=2-GENERIC-COMPONENT COOLING PUMP FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#MOCFC_CNT2B	BETA-CCG=2-GENERIC-CNT MOTOR OPERATED VALVE FAILS TO CLOSE	5.04E-02	9.60E-02	90%
#MOCFC_SGI2B	BETA-CCG=2-SGIV MOTOR OPERATED VALVE FAILS TO CLOSE	5.04E-02	9.60E-02	90%
#MOCFO_MF_2B	BETA-CCG=2-MF MOTOR OPERATED VALVE FAILS TO OPEN	5.04E-02	9.60E-02	90%
#MORFO_CSS2B	BETA-CCG=2-CSS MOTOR OPERATED VALVE FAILS TO OPEN	5.04E-02	9.60E-02	90%
#PCBFR_MF_2B	BETA-CCG=2-GENERIC-CONDENSATE BOOSTER PUMP FAILS TO RUN	5.04E-02	9.60E-02	90%
#CMPSD_PCA2B	BETA-CCG=2-GENERIC-PCA COMPRESSOR FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#PAOFD_MF_2B	BETA-CCG=2-MFW AUXILIARY OIL PUMP FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#PCBFD_MF_2B	BETA-CCG=2-GENERIC-CONDENSATE BOOSTER PUMP FAILS ON DEMAND	5.04E-02	9.60E-02	90%

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TYPE CODE	DESCRIPTION	CAFTA R1	CAFTA R0	Percent Change
		MEAN	MEAN	
#PCTFD_AFW2B	BETA-CCG=2-GENERIC CONDENSATE TRANSFER PUMP FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#PDBFD_AFW2B	BETA-CCG=2-GENERIC DEMINERALIZED WATER BOOSTER PUMP FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#PIWFD_MF_2B	BETA-CCG=2-GENERIC-MF SEAL WATER INJECTION PUMP FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#POTFD_RCP2B	BETA-CCG=2-GENERIC-THERMAL BARRIER BOOSTER PUMP FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#RELFD_POR2B	BETA-CCG=2-GENERIC-PORV & SV RELAY FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#RELFD_RHR2B	BETA-CCG=2-GENERIC-RHR RELAY FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#SOVFO_PCA2B	BETA-CCG=2-GENERIC-PCA SOV FAILS TO OPEN ON DEMAND	5.04E-02	9.60E-02	90%
#AOCFO_POR2B	BETA-CCG=2-GENERIC-PORV AIR OPERATED VALVE FAILS TO OPEN	5.04E-02	9.60E-02	90%
#CKCFO_RCP2B	BETA-CCG=2-GENERIC-RCP CHECK VALVE FAILS TO OPEN	5.04E-02	9.60E-02	90%
#CKCFO_CCS2B	BETA-CCG=2-GENERIC-CCS CHECK VALVE FAILS TO OPEN	5.04E-02	9.60E-02	90%
#CKCFO_MF_2B	BETA-CCG=2-GENERIC-MF CHECK VALVE FAILS TO OPEN	5.04E-02	9.60E-02	90%
#CKCFO_POR2B	BETA-CCG=2-GENERIC-PORV & SV CHECK VALVE FAILS TO OPEN	5.04E-02	9.60E-02	90%
#CKRFO_CCS2B	BETA-CCG=2-GENERIC-CCS CHECK VALVE FAILS TO OPEN	5.04E-02	9.60E-02	90%
#FNSFD_CSS2B	BETA-CCG=2-GENERIC-CSS FAN FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#FNSFD_CVC2B	BETA-CCG=2-GENERIC-CVCS FAN FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#FNSFD_RHR2B	BETA-CCG=2-GENERIC-RHR FAN FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#FNSFD_SI_2B	BETA-CCG=2-GENERIC-SI FAN FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#FANFD_CNT2B	BETA-CCG=2-GENERIC-CNT FAN FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#FANFD_CSS2B	BETA-CCG=2-GENERIC-CSS FAN FAILS ON DEMAND	5.04E-02	9.60E-02	90%
#PSRFR_RHR2B	BETA-CCG=2-RHR PUMP FAILS DURING OPERATION	5.79E-02	1.09E-01	88%
#CKCFO_CVC2B	BETA-CCG=2-CVC CHECK VALVE FAILS TO OPEN	6.38E-02	1.20E-01	88%
#CKCFO_SI_2B	BETA-CCG=2-SI CHECK VALVE FAILS TO OPEN	6.38E-02	1.20E-01	88%
#PMAFD_AFW2B	BETA-CCG=2-AFW MOTOR DRIVEN PUMP FAILS ON DEMAND	6.55E-02	1.23E-01	88%
#CKCFO_AFW2B	BETA-CCG=2-AFW CHECK VALVE FAILS TO OPEN	1.64E-01	2.82E-01	72%
#MOCFC_CCS2B	BETA-CCG=2-CSS MOTOR OPERATED VALVE FAILS TO CLOSE	1.67E-01	2.86E-01	71%

TYPE CODE	DESCRIPTION	CAFTA R1	CAFTA R0	Percent Change
		MEAN	MEAN	
#CKRFC_ERC8G	GAMMA-CCG=8-ERCW CHECK VALVE FAILS TO CLOSE	4.52E-01	6.17E-01	37%
#STRPL_RCW4G	GAMMA-CCG=4-RCW STRAINER PLUGGED	4.44E-01	5.86E-01	32%
#STRPL_ERC4G	GAMMA-CCG=4-ERCW STRAINER PLUGGED	4.44E-01	5.86E-01	32%
#CBKFO_EP_4G	GAMMA-CCG=4-EP BREAKER FAILS TO OPEN	3.66E-01	4.73E-01	29%
#CBKFO_EP_4D	DELTA-CCG=4-EP BREAKER FAILS TO OPEN	1.12E-01	1.44E-01	29%
#AOCFO_AFW4G	GAMMA-CCG=4-AFW AIR OPERATED VALVES FAIL TO OPEN	4.11E-01	5.28E-01	28%
#CMPSD_PCA3G	GAMMA-CCG=3-GENERIC-PCA COMPRESSOR FAILSON DEMAND	3.66E-01	4.64E-01	27%
#CMPSR_PCA3G	GAMMA-CCG=3-GENERIC-PCA COMPRESSOR FAILS TO RUN	3.66E-01	4.64E-01	27%
#CBKFC_EP_4G	GAMMA-CCG=4-EP BREAKER FAILS TO CLOSE	4.72E-01	5.98E-01	27%
#AOCFO_AFW4D	DELTA-CCG=4-AFW AIR OPERATED VALVES FAIL TO OPEN	1.94E-01	2.43E-01	25%
#FNSFD_EP_4G	GAMMA-CCG=4-GENERIC-EP FAN FAILS ON DEMAND	5.02E-01	6.28E-01	25%
#POEFR_ERC4G	GAMMA-CCG=4-GENERIC-ERCW PUMP FAILS TO RUN	5.02E-01	6.28E-01	25%
#PCOFR_CCS4G	GAMMA-CCG=4-GENERIC-COMPONENT COOLING PUMP FAILS TO RUN	5.02E-01	6.28E-01	25%
#POEFD_ERC4G	GAMMA-CCG=4-GENERIC-ERCW PUMP FAILS ON DEMAND	5.02E-01	6.28E-01	25%
#PCOFD_CCS4G	GAMMA-CCG=4-GENERIC-COMPONENT COOLING PUMP FAILS ON DEMAND	5.02E-01	6.28E-01	25%
#AOCFC_MSS4G	GAMMA-CCG=4-GENERIC-MSS AIR OPERATED VALVE FAILS TO CLOSE	5.02E-01	6.28E-01	25%
#CKCFO_CVC4G	GAMMA-CCG=4-GENERIC-CVCS CHECK VALVE FAILS TO OPEN	5.02E-01	6.28E-01	25%
#CKCFO_MF_4G	GAMMA-CCG=4-GENERIC-MF CHECK VALVE FAILS TO OPEN	5.02E-01	6.28E-01	25%
#CKCFO_MSS4G	GAMMA-CCG=4-GENERIC-MSS CHECK VALVE FAILS TO OPEN	5.02E-01	6.28E-01	25%
#CKCFO_CCS4G	GAMMA-CCG=4-GENERIC-CCS CHECK VALVE FAILS TO OPEN	5.02E-01	6.28E-01	25%
#CKCFO_RCP4G	GAMMA-CCG=4-GENERIC-RCP CHECK VALVE FAILS TO OPEN	5.02E-01	6.28E-01	25%
#PCWFR_LCV4G	GAMMA-CCG=4-GENERIC CONDENSER COOLING WATER PUMP FAILS DURING OPERATION	5.02E-01	6.28E-01	25%
#PSFF1_EP_4G	GAMMA-CCG=4-EP FUEL OIL TRANSFER PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	5.02E-01	6.28E-01	25%
#CKRFC_ERC4G	GAMMA-CCG=4-ERCW CHECK VALVE FAILS TO CLOSE	4.93E-01	6.16E-01	25%
#DGGFD_EP_4D	DELTA-CCG=4-EP DIESEL GENERATOR FAILS START	2.76E-01	3.37E-01	22%
#DGGFD_EP_4G	GAMMA-CCG=4-EP DIESEL GENERATOR FAILS START	5.37E-01	6.55E-01	22%

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TYPE CODE	DESCRIPTION	CAFTA R1	CAFTA R0	Percent Change
		MEAN	MEAN	
#CKRFO_ERC8G	GAMMA-CCG=8-GENERIC-ERCW CHECK VALVE FAILS TO OPEN	6.36E-01	7.75E-01	22%
#CKRFC_ERC4D	DELTA-CCG=4-ERCW CHECK VALVE FAILS TO CLOSE	3.02E-01	3.66E-01	21%
#DGGFR_EP_4D	DELTA-CCG=4-EP DIESEL GENERATOR FAILS TO RUN	2.64E-01	3.18E-01	20%
#CKCFO_AFW4G	GAMMA-CCG=4-AFW CHECK VALVE FAILS TO OPEN	6.36E-01	7.66E-01	20%
#CBKFC_EP_4D	DELTA-CCG=4-EP BREAKER FAILS TO CLOSE	3.24E-01	3.89E-01	20%
#POEFD_ERC4D	DELTA-CCG=4-GENERIC-ERCW PUMP FAILS ON DEMAND	3.45E-01	4.13E-01	20%
#PCOFD_CCS4D	DELTA-CCG=4-GENERIC-COMPONENT COOLING PUMP FAILS ON DEMAND	3.45E-01	4.13E-01	20%
#FNSFD_EP_4D	DELTA-CCG=4-GENERIC-EP FAN FAILS ON DEMAND	3.45E-01	4.13E-01	20%
#PSFF1_EP_4D	DELTA-CCG=4-EP FUEL OIL TRANSFER PUMP FAILS TO START OR DURING FIRST HOUR OF OPERATION	3.45E-01	4.13E-01	20%
#RELFD_POR4D	DELTA-CCG=4-GENERIC-PORV & SV RELAY FAILS ON DEMAND	3.45E-01	4.13E-01	20%
#POEFR_ERC4D	DELTA-CCG=4-GENERIC-ERCW PUMP FAILS TO RUN	3.45E-01	4.13E-01	20%
#AOCFO_MF_4D	DELTA-CCG=4-GENERIC-MF AIR OPERATED VALVE FAILS TO OPEN	3.45E-01	4.13E-01	20%
#PCOFR_CCS4D	DELTA-CCG=4-GENERIC-COMPONENT COOLING PUMP FAILS TO RUN	3.45E-01	4.13E-01	20%
#AOCFC_MSS4D	DELTA-CCG=4-GENERIC-MSS AIR OPERATED VALVE FAILS TO CLOSE	3.45E-01	4.13E-01	20%
#CKCFO_CCS4D	DELTA-CCG=4-GENERIC-CCS CHECK VALVE FAILS TO OPEN	3.45E-01	4.13E-01	20%
#CKCFO_RCP4D	DELTA-CCG=4-GENERIC-RCP CHECK VALVE FAILS TO OPEN	3.45E-01	4.13E-01	20%
#CKCFO_CVC4D	DELTA-CCG=4-GENERIC-CVCS CHECK VALVE FAILS TO OPEN	3.45E-01	4.13E-01	20%
#CKCFO_MF_4D	DELTA-CCG=4-GENERIC-MF CHECK VALVE FAILS TO OPEN	3.45E-01	4.13E-01	20%
#CKCFO_MSS4D	DELTA-CCG=4-GENERIC-MSS CHECK VALVE FAILS TO OPEN	3.45E-01	4.13E-01	20%
#CKRFO_ERC4D	DELTA-CCG=4-GENERIC-ERCW CHECK VALVE FAILS TO OPEN	3.45E-01	4.13E-01	20%
#CKCFO_RHR4D	DELTA-CCG=4-RHR CHECK VALVE FAILS TO OPEN	3.54E-01	4.22E-01	19%
#CKRFC_ERC8D	DELTA-CCG=8-ERCW CHECK VALVE FAILS TO CLOSE	6.00E-01	6.94E-01	16%
#CKRFO_ERC8D	DELTA-CCG=8-GENERIC-ERCW CHECK VALVE FAILS TO OPEN	6.05E-01	6.99E-01	16%
#CKCFO_SI_4D	DELTA-CCG=4-SI CHECK VALVE FAILS TO OPEN	5.00E-01	5.71E-01	14%
#STRPL_ERC4D	DELTA-CCG=4-ERCW STRAINER PLUGGED	5.70E-01	6.38E-01	12%
#STRPL_RCW4D	DELTA-CCG=4-RCW STRAINER PLUGGED	5.70E-01	6.38E-01	12%
#CKCFO_RHR4G	GAMMA-CCG=4-RHR CHECK VALVE FAILS TO OPEN	8.00E-01	8.70E-01	9%

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		MEAN	MEAN	
#CKCFO_AFW4D	DELTA-CCG=4-AFW CHECK VALVE FAILS TO OPEN	7.49E-01	7.98E-01	7%
#CKCFO_SI_4G	GAMMA-CCG=4-SI CHECK VALVE FAILS TO OPEN	9.99E-01	9.99E-01	0%
#RTBFO_RPS2B	BETA-CCG=2-RPS REACTOR TRIP BREAKER FAIL TO OPEN	4.30E-02	4.30E-02	0%
#UVDCF_ESF2B	BETA-CCG=2-ESFAS UNDERVOLTAGE DRIVER CARD FAILS	2.90E-02	2.90E-02	0%
#UVDCF_RPS2B	BETA-CCG=2-RPS UNDERVOLTAGE DRIVER CARD FAILS	2.90E-02	2.90E-02	0%
#UNLCF_ESF2B	BETA-CCG=2-ESFAS UNIVERSAL LOGIC CARD FAILS	4.40E-02	4.40E-02	0%
#UNLCF_RPS2B	BETA-CCG=2-RPS UNIVERSAL LOGIC CARD FAILS	4.40E-02	4.40E-02	0%
References: CAFTA R1 Model, CAFTA R0 Model				

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Table 36 -- Summary of Pre-Initiator Actions and Probabilities

Event ID	Basic Event Description	P_{cog}	P_{exe}	Total HEP	Error Factor
WHEAFW	Turbine Driven AFW Isolation Test Error	N/A	6.0e-05	6.0e-05	10
WHEBLK	Ice Condenser Lower Inlet Doors Blocked Closed	N/A	2.10E-04	2.10E-04	10
WHECLM	Calibration Test Error Alignment for AFW Suction Header Pressure Switches	N/A	1.70E-02	1.70E-02	5
WHECSA	RWST Purification Flow Interference - (Containment Spray Diversion Path)	N/A	1.00E-03	1.00E-03	5
WHEMC_1	Miscalibration of RWST level-Channel 1	N/A	2.90E-03	2.90E-03	5
WHEMC_2	Miscalibration of RWST level-Channel 2	N/A	2.90E-03	2.90E-03	5
WHEMC_3	Miscalibration of RWST level-Channel 3	N/A	2.90E-03	2.90E-03	5
WHEMC_4	Miscalibration of RWST level-Channel 4	N/A	2.90E-03	2.90E-03	5
WHEISH	Isolation of Containment Spray Header	N/A	4.3e-04	4.3e-05	10
WHEMDA_1	Motor Driven AFW Pump Train A Isolation Test Error	N/A	1.2e-04	1.2e-04	10
WHEMDA_2	Motor Driven AFW Pump Train B Isolation Test Error	N/A	1.2e-04	1.2e-04	10
WHEPOR	Calibration Error in PORV relief setpoint	N/A	1.70E-03	8.60E-04	10
WHESDB_1	6.9kV Shutdown Board 1-A Automatic Features Disabled	N/A	3.3e-03	2.0e-06	10
WHESDB_2	6.9kV Shutdown Board 1-B Automatic Features Disabled	N/A	3.3e-03	2.0e-06	10
WHESDB_3	6.9kV Shutdown Board 1-A Automatic Features Disabled	N/A	3.3e-03	2.0e-06	10
WHESDB_4	6.9kV Shutdown Board 1-B Automatic Features Disabled	N/A	3.3e-03	2.0e-06	10
WHESGS	Miscalibration of Steam Generator Safety Valves	N/A	1.9e-02	1.4e-02	5
WHESUM	Remove Drain Plugs from Refueling Canal After Refueling	N/A	2.1e-06	3.5e-07	10

Reference 37, Table 10-1.

Table 37 -- Summary of Post-Initiator Actions and Probabilities

Event ID	Basic Event Description	P_{cog}	P_{exe}	Total HEP	Error Factor
AFWOP1	Depressurize/cooldown to low pressure injection following MLOCA	1.20E-04	2.10E-02	2.10E-02	5
AFWOP2	Depressurize/cooldown to LPI following small break LOCA with failure of HPI	1.20E-04	2.40E-02	2.40E-02	5
AFWOP3	Depressurize/cooldown to low pressure injection following small LOCA with failure of HP recirc	1.20E-04	1.10E-02	1.10E-02	5
AFWOP5	Depressurize Steam generator during SGTR following isolation	1.20E-04	5.20E-03	5.30E-03	5
DHAAC2	Isolate Spent Fuel Pool Cooling to minimize heat load on RH	3.00E-04	1.20E-02	1.20E-02	5
DHAAE2	Start ERCW pumps on LOSP for DG cooling	1.60E-02	2.60E-02	4.20E-02	5
DHAERCWS	Operators fail to clear ERCW screens before plant trip	3.00E-04	3.50E-03	3.80E-03	5
HA6190SDX3	WBN operator actions to align portable diesel generator to 6090V shutdown board	1.90E-03	3.40E-03	5.30E-03	5
HAAE1	Start standby ERCW pump - running pump fails (non-SI)	2.00E-04	2.90E-06	2.00E-04	10
HAAEIE	Start standby ERCW pump - operating pump fails - normal ops	1.00E-04	1.70E-03	1.80E-03	5
HAAF1	Locally operate TD AFW valves to control flow on SBO	3.20E-04	2.10E-02	2.20E-02	5
HAAF2	Align ERCW supply to AFW pumps	7.50E-04	2.10E-03	2.90E-03	5
HAAF3	Align HPFP to provide makeup to the SGs	4.00E-04	2.60E-03	3.00E-03	5
HACAR	Manually initiate containment air return fan system	2.30E-04	1.30E-03	1.50E-03	5
HACD1	Perform cooldown with main feedwater, following AFW failure	1.00E-02	2.40E-02	3.40E-02	5
HACH1	Transfer Containment Spray to Sump (RHR Swap Successful)	1.20E-04	1.10E-02	1.10E-02	5
HACH2	Transfer Containment Spray to Sump (RHR Swap Failed)	1.60E-03	3.30E-03	4.80E-03	5
HACI1	Backup Containment Isolation, Given Loss of All AC Power	1.00E-04	7.00E-05	1.70E-04	10

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Table 37 -- Summary of Post-Initiator Actions and Probabilities

Event ID	Basic Event Description	P_{cog}	P_{exe}	Total HEP	Error Factor
HACS1	Manually initiate containment spray	1.00E-03	1.40E-04	1.10E-03	5
HACV2	Manually start standby CCP, given running pump fails (plant trip, no SI)	1.00E-04	1.80E-03	1.90E-03	5
HAEB2	Initiate emergency boration during ATWS	1.10E-03	3.60E-02	3.70E-02	5
HAERCW1A	Crosstie Opposite Unit & Train ERCW Headers (1B-B strainer plugged)	1.00E-04	9.80E-03	9.90E-03	5
HAERCW2	WBN operator actions to crosstie portable 5,000 GPM fire pump to ERCW header	4.70E-04	7.80E-02	7.80E-02	5
HAERCW3	WBN operator actions to crosstie permanent 2,500 GPM fire pump to ERCW header (1-4d)	4.70E-04	4.90E-02	5.00E-02	5
HAFR1	Restore AFW control following initiator and loss of air	9.50E-04	2.70E-03	3.70E-03	5
HAHH1	Place Hydrogen igniters in service	1.00E-03	1.30E-03	2.30E-03	5
HAI51	Isolate LOCA outside containment (IS LOCA)	2.00E-03	4.30E-02	4.40E-02	5
HAL21	Operator uses S/G PORVs to control SG pressure (high RCS Pressure, Dry S/G)	1.10E-03	1.90E-03	3.00E-03	5
HAMU1	Makeup to RWST Inventory Following a SGTR Event	6.50E-04	1.10E-03	1.70E-03	5
HAMU2	Makeup to RWST during IS LOCA	3.20E-03	1.70E-02	2.00E-02	5
HAMU2B	Makeup to RWST using containment spray test recirc from sump during small LOCA	3.10E-03	1.90E-03	5.00E-03	5
HAMU3	Makeup to CST Inventory Following Reactor Trip with AFW	4.00E-04	5.20E-04	9.20E-04	10
HAOB1	Establish RCS Bleed and Feed cooling	5.50E-04	1.60E-02	1.60E-02	5
HAOB2	Establish RCS Bleed and Feed cooling given no CCPS running	5.50E-04	1.60E-02	1.60E-02	5
HAOF1	Restore main feedwater, following AFW failure GT no SI req'd	9.50E-04	5.20E-03	6.20E-03	5

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Table 37 -- Summary of Post-Initiator Actions and Probabilities

Event ID	Basic Event Description	P _{cog}	P _{exe}	Total HEP	Error Factor
HAOF2	Restore main feedwater, following AFW failure GT & SI req'd	1.30E-03	1.30E-02	1.40E-02	5
HAOS1	Align ECCS to protect core (ESFAS fails/large break)	1.20E-03	8.50E-04	2.00E-03	5
HAOS2	Start ECCS (ESFAS fails/small RCS or SG break)	2.50E-04	1.80E-04	4.30E-04	10
HAOS3	Start AFW (Reactor trip, no SI)	1.00E-04	8.80E-05	1.90E-04	10
HAOSBF	Steam generator feed with manual level control fails	-	-	2.00E-01	1
HAPR1	Isolate open PORV with block valve after SI	1.00E-04	4.40E-03	4.50E-03	5
HAPRZ	Open pressurizer PORV to depressurize RCS and prevent TI-SGTR	3.00E-04	1.40E-04	4.40E-04	10
HARD1	Establish shutdown cooling (RHR in service) following SGTR	2.20E-04	2.70E-03	2.90E-03	5
HARH1	Transfer to hot leg recirculation - large LOCA	1.00E-04	2.80E-03	2.90E-03	5
HARL1	Recover from auto swapover failure	1.00E-04	2.20E-03	2.30E-03	5
HARR1	Align high pressure recirculation, given auto swapover works	1.20E-04	3.70E-03	3.80E-03	5
HARS1	Start RHR spray (1 hour into event/high cont pressure)	3.00E-04	6.70E-04	9.70E-04	10
HART1	Manually trip reactor, given SSPS fails	1.00E-03	4.30E-04	1.40E-03	5
HASBXT	Operator actions to cross tie shutdown boards during unit blackout	1.00E-04	1.10E-02	1.10E-02	5
HASE1	Stop RCPs on Phase B isolation (Non-LOCA Initiator)	1.00E-02	1.70E-03	1.20E-02	5
HASE2	Trip RCPs on loss of Component Cooling Water	1.00E-04	1.70E-03	1.80E-03	5
HASL1	Isolate ruptured steam generator	1.00E-04	1.10E-03	1.20E-03	5
HASL3	Isolate ruptured steam generator from TD AFW pump	3.00E-04	2.50E-04	5.50E-04	10
HASL4	Isolate steam generators during secondary (steamline) break	1.00E-02	6.30E-03	1.60E-02	5
HASLZ	Isolate dry steam generator (Level 2 action)	3.00E-04	1.90E-03	2.20E-03	5

Table 37 -- Summary of Post-Initiator Actions and Probabilities

Event ID	Basic Event Description	P _{cog}	P _{exe}	Total HEP	Error Factor
HASP1	Locally operate TD AFW pump after battery depletion	3.00E-05	1.90E-02	1.90E-02	5
HCCSR2	Align and Initiate Alternate Cooling to the Charging Pump	1.00E-04	1.60E-02	1.60E-02	5
HCCSR3	Crosstie Opposite Unit & Train ERCW Headers (1A-A strainer failed)	1.00E-04	3.40E-03	3.50E-03	5
HCCSR4	Align & Initiate Alternate Cooling to 1A-A CCP, 1B-B failed	1.00E-04	6.50E-02	6.50E-02	5
HCRL1	Inadvertently Reset SI Signal, Failure of Auto Sump Swapover	0.00E+00	3.80E-03	3.80E-03	5
HDAR1	Align spare battery charger following failure of normal charger	1.00E-04	7.20E-05	1.70E-04	10
HTPR1	Start TD AFW pump and control LCVs during LOSP (fails to start initially)	8.50E-04	8.30E-04	1.70E-03	5
OPCMPA	Start air compressors A and B following LOSP	3.00E-04	8.70E-03	9.00E-03	5
RSIOP	Operator Restarts Safety Injection to restore RCS makeup	4.00E-04	2.90E-04	6.90E-04	10
SSIOP	Terminate Safety Injection to prevent PORV water challenge	4.00E-03	2.70E-03	6.70E-03	5

Reference 37, Table 10-2

Table 38 -- Summary of Flooding Recovery Actions and Probabilities

Event ID	Basic Event Description	P _{cog}	P _{exe}	Total HEP	Error Factor
FLAB1R	Isolate ERCW pipe failure in Aux Building	2.50E-04	4.20E-02	4.20E-02	5
FLAB2R	Isolate ESF room cooling due to large (several thousand gpm flood) ERCW pipe failure in Aux Building	1.00E-04	1.70E-03	1.80E-03	5
FLAB2RS	Isolate ESF room cooling due to large (1 to 2 thousand gpm flood) ERCW pipe failure in Aux Building	1.00E-04	1.20E-03	1.30E-03	5
FLAB3C	Isolate a break in the CST discharge piping	1.00E-04	4.50E-02	4.50E-02	5
FLAB4F	Isolate break in HPFP line (supplied by RCW - HPFP diesel pump does not start)	1.00E-04	1.30E-01	1.30E-01	1
FLAB7R	Isolate RCW break in Aux Bldg	2.50E-04	3.80E-02	3.80E-02	5
FLAB8R	Isolate ERCW discharge line failure in Aux Building	1.80E-04	2.10E-01	2.10E-01	1
FLAB8RS	Isolate ERCW discharge line failure in Aux Building (small)	1.80E-04	6.70E-02	6.70E-02	5
FLAB9W	Isolate break in RWST piping in Aux Building (large)	1.20E-04	2.80E-03	2.90E-03	5
FLT1C	Isolate CCW following major break in Turbine Building	1.00E-04	9.90E-03	1.00E-02	5

Reference 37, Table 10-3

Table 39 -- Comparison of HEPs

Event ID	Basic Event Description	CAFTA R0	CAFTA R1	Percentage Change
FLAB1R	Isolate ERCW pipe failure in Aux Building	4.20E-02	4.20E-02	0%
HASE1	Stop RCPs on Phase B isolation (Non-LOCA Initiator)	1.20E-02	1.20E-02	0%
FLAB3C	Isolate a break in the CST discharge piping	4.50E-02	4.50E-02	0%
HARR1	Align high pressure recirculation, given auto swapover works	3.80E-03	3.80E-03	0%
HAOB1	Establish RCS Bleed and Feed cooling	1.60E-02	1.60E-02	0%
HAOF1	Restore main feedwater, following AFW failure GT no SI req'd	6.20E-03	6.20E-03	0%
HAOB2	Establish RCS Bleed and Feed cooling given no CCPS running	1.60E-02	1.60E-02	0%
HAOF2	Restore main feedwater, following AFW failure GT & SI req'd	1.40E-02	1.40E-02	0%
HAAEIE	Start standby ERCW pump - operating pump fails - normal ops	1.80E-03	1.80E-03	0%
HAPR1	Isolate open PORV with block valve after SI	4.50E-03	4.50E-03	0%
HACH1	Transfer Containment Spray to Sump (RHR Swap Successful)	1.10E-02	1.10E-02	0%
HAOS3	Start AFW (Reactor trip, no SI)	1.90E-04	1.90E-04	0%
HACH2	Transfer Containment Spray to Sump (RHR Swap Failed)	4.80E-03	4.80E-03	0%
HAEB2	Initiate emergency boration during ATWS	3.70E-02	3.70E-02	0%
HARD1	Establish shutdown cooling (RHR in service) following SGTR	2.90E-03	2.90E-03	0%
WHECLM	Calibration Test Error Alignment for AFW Suction Header Pressure Switches	1.70E-02	1.70E-02	0%
WHESUM	Remove Drain Plugs from Refueling Canal After Refueling	3.50E-07	3.50E-07	0%
HAAF1	Locally operate TD AFW valves to control flow on SBO	2.20E-02	2.20E-02	0%
HAMU2	Makeup to RWST during IS LOCA	2.00E-02	2.00E-02	0%
HAHH1	Place Hydrogen igniters in service	2.30E-03	2.30E-03	0%
HASE2	Trip RCPs on loss of Component Cooling Water	1.80E-03	1.80E-03	0%
HAMU1	Makeup to RWST Inventory Following a SGTR Event	1.70E-03	1.70E-03	0%
HART1	Manually trip reactor, given SSPS fails	1.40E-03	1.40E-03	0%
HAOS1	Align ECCS to protect core (ESFAS fails/large break)	2.00E-03	2.00E-03	0%
WHEEMC	Miscalibration of RWST level	--	--	--
WHEEMC_1	Miscalibration of RWST level-Channel 1	2.90E-03	2.90E-03	0%
WHEEMC_2	Miscalibration of RWST level-Channel 2	2.90E-03	2.90E-03	0%
WHEEMC_3	Miscalibration of RWST level-Channel 3	2.90E-03	2.90E-03	0%

Table 39 -- Comparison of HEPs				
Event ID	Basic Event Description	CAFTA R0	CAFTA R1	Percentage Change
WHEEMC_4	Miscalibration of RWST level-Channel 4	2.90E-03	2.90E-03	0%
HACI1	Backup Containment Isolation, Given Loss of All AC Power	1.70E-04	1.70E-04	0%
HASL1	Isolate ruptured steam generator	1.20E-03	1.20E-03	0%
HAAE1	Start standby ERCW pump - running pump fails (non-SI)	2.00E-04	2.00E-04	0%
HARS1	Start RHR spray (1 hour into event/high cont pressure)	9.70E-04	9.70E-04	0%
FLAB2R	Isolate ESF room cooling due to large (several thousand gpm flood) ERCW pipe failure in Aux Building	1.80E-03	1.80E-03	0%

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 40 -- Summary of Flood Sources Analyzed in IF-PRA

System #	System	Operating/ Standby	Inventory (gal)	Comments	Reactor trip/shutdown
1	Main Steam and Ancillary Steam Systems	Operating		Treated in baseline PRA as SLBOC	Steam Line break outside containment will induce a reactor trip.
2/3	Main Feedwater and Condensate systems	Operating		Treated in baseline PRA as TLMFW	Secondary line breaks outside containment will induce a reactor trip with loss of main feedwater.
3a	Auxiliary Feedwater System	Standby	395,000		Break in the Auxiliary Feedwater line will not induce an automatic reactor trip. LCO-3.7.6 allows for up to 7 days to restore CST level above 200,000 gal, provided that ERCW is available as a backup.
24	Raw Cooling Water System	Operating	Infinite	RCW flow rate is bounded by CCW flow rate for flood in Turbine Building.	Complete loss of RCW can induce turbine and reactor trip. If stator outlet temperature reaches 90°C (194°F) for 45 seconds with unit load greater than 15%, the turbine will trip. If the turbine trips above P-9 (50% power), the reactor will trip (see Reference 266, Section 2.3)
26	High Pressure Fire Protection System	Standby pressurized	Infinite		No reactor trip or emergency shutdown is expected following a loss of fire protection system.
27	Condenser Circulating Water System	Operating	Infinite	Includes piping and expansion joints (2 for water box)	Loss of Condenser Circulating Water System is expected to induce an initiating event.
29	Potable Water Distribution System	Operating	Infinite		Loss of the potable water system will not result in reactor trip or immediate shutdown need.
44	Building Heating System	Operating			Loss of the Building heating system will not induce any reactor trip or immediate shutdown.
59	Demineralized Water System	Operating	500,000	Small bore pipes	Loss of the Demineralized Water System will not induce any reactor trip or immediate shutdown.
62	Chemical Volume and Control System	Operating		Letdown orifices limit flow rate to 75 gpm in the section upstream of the VCT.	Loss of any portion of the purification/charging portion of the CVCS, including seal injection, is expected to induce an initiating event. Loss of the portion of the CVCS outside the purification/charging loop is not expected to induce any plant trip or forced shutdown.

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 40 -- Summary of Flood Sources Analyzed in IF-PRA

System #	System	Operating/ Standby	Inventory (gal)	Comments	Reactor trip/shutdown
63	Safety Injection System	Standby	380,000		Loss of one train of Safety Injection System is not expected to induce a forced shutdown. LCO 3.5.2 allows for up to 72 hours to re-align the unavailable train of Emergency Core Cooling System (ECCS). A break in the SIS line that has the potential for significant depletion of the RWST will result into entering TechSpec 3.5.4, which will require immediate action. Immediate shutdown of the reactor is postulated.
67	Essential Raw Cooling Water System	Operating	Infinite		Loss of either one train of ERCW would result in a reactor trip consistent with IE %1PLERCW, %2PLERCW and %OTLERCW.
70	Component Cooling System	Operating	500,000	Limited auto-makeup from Demineralized Water Storage Tank.	Loss of either one train of CCS would result in a reactor trip.
72	Containment Spray System	Standby	380,000		Loss of one train of Containment Spray System is not expected to induce a forced shutdown. LCO 3.6.6 allows for up to 72 hours to re-align the unavailable train of CSS. A break in the CSS line that has the potential for significant depletion of the RWST will result into entering TechSpec 3.5.4, which will require immediate action. Immediate shutdown of the reactor is postulated.
74	Residual Heat Removal System	Standby	380,000		Loss of one train of RHR is not expected to induce a forced shutdown. LCO 3.5.2 allows for up to 72 hours to re-align the unavailable train of ECCS. A break in the RHR line that has the potential for significant depletion of the RWST will result into entering TechSpec 3.5.4, which will require immediate action. Immediate shutdown of the reactor is postulated.

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Table 40 -- Summary of Flood Sources Analyzed in IF-PRA

System #	System	Operating/ Standby	Inventory (gal)	Comments	Reactor trip/shutdown
78	Spent Fuel Pool Cooling System	Operating	53,300		Loss of the SFPCS is not expected to induce reactor trip or immediate shutdown.

Reference 39, Table 4-9

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Table 42 -- Qualitative Screening Assessment of Flooding Sources, Auxiliary Building



Table 43 -- Qualitative Screening Assessment of Flooding Sources, Control Building



Table 44 -- Qualitative Screening Assessment of Flooding Sources, Diesel Generator Building



Table 45 -- Qualitative Screening Assessment of Flooding Sources, Intake Pumping Station



Table 46 -- Qualitative Screening Assessment of Flooding Sources, Turbine Building



Reference 39, Tables 4-57, 4-63, 4-65, 4-66, 4-67.

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Table 47 -- (Not Used)

The information previously provided in this table resides in Table 5-1 of the Internal Flooding Notebook (MDN-000-999-2008-0146, Ref 39).

Table 48 -- (Not Used)

The information previously provided in this table resides in Table 5-10 of the Internal Flooding Notebook (MDN-000-999-2008-0146, Ref 39).

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Table 49 -- (Not Used)

The information previously provided in this table resides in Table 5-15 and Table 5-18 of the Internal Flooding Notebook (MDN-000-999-2008-0146, Ref 39).

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Table 50 -- Sample Internal Flooding Walkdown Data Sheet

Subject:

WBN Probabilistic Risk Assessment - Internal Flooding Analysis Notebook

674.0-A1 - Waste hold up tank room

Drawing: 46W401-4 Rev.7

Free floor area (ft²): 1335 (WBN-OSG-4099 Rev.8, Pag. B1-5)

Flood indicators: None

Notes and References:

General information from WBN-OSG-4099 Rev.8, Page B1-5. Drain information from 1-47W852-1 (D-10: 3" FD LOC A9 & W) and from 47W479-1 Rev.11.

Walkdown notes:

Not accessible (RADCON limitations). The wiremesh door was observed from room 676.0-A1.

Doors in room:

Door ID	From Room	To Room	Door Type	Door Size	Curb	Gap
WBN-0-DOOR-410-A007	676.0-A1	674.0-A1	Wiremesh	Single	None	N/A

Floor drains in room:

Drain Size
3"

No floor penetrations present in this room.

No wall penetrations present in this room.

No significant components present in this room.

Potential sources in room:

Source ID	Physical Drawing	Flow Diagram	Source Description	Temperature and Pressure
WBN-0-TANK-077-0002	47W560-25 Rev.4	1-47W830-2 Rev.34	Waste Disposal System (syst. 77) Tritiated Drain Collector Tank	50-140 deg F, Atmospheric (N3-77A-4001C Rev.9 table 9.5)
674-A1-77-01	47W560-25 Rev.4	1-47W830-1 Rev.33	Waste Disposal System (syst. 77) piping - max 8" Ø header to the Tritiated Drain Collector Tank	50-140 deg F, Atmospheric (N3-77A-4001C Rev.9, table 9.5, value for Tritiated Drain Collector Tank)
674-A1-12-01	From MELB - WBN-OSG-4099 Rev.8, Page B1-5	N/A	Auxiliary Boiler System (syst. 12) piping - 2" Ø line	N/A

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 51 - Listing and Description of WBN PRA Model Files**

WBN_U1_U2_Flood - NEW.caf	Integrated fault tree model, including flooding initiating events. There is a gate for CDF (Ux_CDF) and a gate for LERF (Ux_L2LERFTOP) for each unit at WBN. Gate Ux_MUX provides logic for most mutually exclusive events.
WSBN2 - NEW.rr	Master database.
CAFTA.INI	Initialization file for CAFTA 5.4.
QUANTIFIERSETTINGS.INI	Quantifier configuration settings.
MUX.txt	Master mutually exclusive event file, for mutually exclusive events not modeled within the integrated fault tree.
FLAGSettings.TXT	Master flag file.
RecruleCDF.txt	Recovery rule file for CDF quantification.
RecruleLERF.txt	Recovery rule file for LERF quantification.
RECFILE.caf	Level 1 recovery fault tree, called from the recovery rule files.
U1-l2-rec.caf haosbf_RECFILE.caf	Unit 1 Level 2 recovery fault tree, called from the recovery rule files.
U2-l2-rec.caf	Unit 2 Level 2 recovery fault tree, called from the recovery rule files.
WBNU1-U2CDF.qnt WBNU1-U2LERF.qnt	These are the quantification files for the integrated WBN model.
CN_RAM_09_019_MC13.xmcd CN_RAM_09_019.xmcd	This is a Mathcad file, saved in 2 formats, that performs the electric power recovery convolution analysis. The title MC13 refers to Mathcad version 13.
U1_CDF.CUT U2_CDF.CUT U1_LERF.CUT U2_LERF.CUT	cutset files for CDF and LERF for each unit.
SYSIMP	This folder contains the files used to generate component and system importance values

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 52 - Listing and Description of Software Used for WBN PRA**

Software Package	Version	Description
CAFTA	5.4	Computer Aided Fault Tree Analysis System
PRAQuant	5.1	PRAQuant Accident Sequence Quantification
FTREX	1.6.0.1	Fault Tree Reliability Evaluation eXpert
HRA Calculator	4.2.1	Human Reliability Analysis Calculator
MAAP	4.0.5 4.0.7	Modular Accident Analysis Program. Version 4.0.5 was used for Level 1. Version 4.0.7 was used for Level 2.
UNCERT	3.0	Uncertainty Analysis
SYSIMP	2.1	Importance Calculator
XInit	1.1b	Flooding logic rule file
MathCad	14	Electric Power Recovery Convolution Analysis

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Table 53 – (Not Used)

All Finding Level F&Os have been addressed for the Capability Category II level.

Table 54 - Summary of CDF and LERF			
	Unit 1	Unit 2	Truncation
CDF (per reactor-year)	1.39E-05	1.43E-05	1.00E-13
Cutsets for CDF	553,634	529,082	
LERF (per reactor-year)	1.12E-06	1.16E-06	3.00E-13
Cutsets for LERF	74,798	82,920	
References: CDF and LERF values from Reference 44, Section 5.0. The numbers of cutsets are from the cutset files.			

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 55 -- CDF Results By Accident Sequence for Unit 1**

Percent Contribution	Accident Sequence	Accident Sequence Failures
4.48%	GTRAN-011	GENERAL TRANSIENT SEQUENCE 11 (AFW, BFCH)
4.47%	GTRAN-003	GENERAL TRANSIENT SEQUENCE 3 (LTHR, HPRCH)
4.47%	GTRAN-010	GENERAL TRANSIENT SEQUENCE 10 (AFW, HPRCH)
4.42%	GTRAN-006	GENERAL TRANSIENT SEQUENCE 6 (LTHR, CVCS, HPRSI)
4.41%	GTRAN-013	GENERAL TRANSIENT SEQUENCE 13 (AFW, CVCS, HPRSI)
4.39%	GTRAN-007	GENERAL TRANSIENT SEQUENCE 7 (LTHR, CVCS, BFSI)
4.39%	GTRAN-014	GENERAL TRANSIENT SEQUENCE 14 (AFW, CVCS, BFSI)
4.38%	GTRAN-008	GENERAL TRANSIENT SEQUENCE 8 (LTHR, CVCS, SI)
4.38%	GTRAN-015	GENERAL TRANSIENT SEQUENCE 15 (AFW, SI, CVCS)
4.15%	SLOCA-015	SMALL LOCA SEQUENCE 15 (CVCS, HPRSI, LPR)
4.10%	SLOCA-023	SMALL LOCA SEQUENCE 23 (CVCS, SI, LPR)
4.09%	GTRAN-004	GENERAL TRANSIENT SEQUENCE 4 (LTHR, BFCH)
4.09%	SLOCA-005	SMALL LOCA SEQUENCE 5 (HPRCH, LPR, MUSL)
4.06%	SLOCA-024	SMALL LOCA SEQUENCE 24 (CVCS, SI, LPI)
2.91%	SLOCAV-003	VERY SMALL LOCA SEQUENCE 3 (LTHR, HPRCH)
2.91%	SLOCAV-004	VERY SMALL LOCA SEQUENCE 4 (LTHR, BFCH)
2.91%	SLOCAV-011	VERY SMALL LOCA SEQUENCE 11 (AFW, BFCH)
2.91%	SLOCAV-014	VERY SMALL LOCA SEQUENCE 14 (AFW, CVCS, BFSI)
2.90%	SLOCAV-010	VERY SMALL LOCA SEQUENCE 10 (AFW, HPRCH)
2.90%	SLOCAV-007	VERY SMALL LOCA SEQUENCE 7 (LTHR, CVCS, BFSI)
2.90%	SLOCAV-006	VERY SMALL LOCA SEQUENCE 6 (LTHR, CVCS, HPRSI)
2.90%	SLOCAV-013	VERY SMALL LOCA SEQUENCE 13 (AFW, CVCS, HPRSI)
2.88%	SLOCAV-008	VERY SMALL LOCA SEQUENCE 8 (LTHR, CVCS, SI)
2.88%	SLOCAV-015	VERY SMALL LOCA SEQUENCE 15 (AFW, CVCS, SI)
1.24%	SLOCA-007	SMALL LOCA SEQUENCE 7 (HPRCH, AFW3, MUSL)
0.77%	SLOCA-002	SMALL LOCA SEQUENCE 2 (LTHR)
0.76%	SLOCA-004	SMALL LOCA SEQUENCE 4 (HPRCH, LTHR)
0.76%	SLOCA-009	SLOCA SEQUENCE 9 (AFW, HPRCH)
0.76%	SLOCA-010	SLOCA SEQUENCE 10 (AFW, HPR)
0.76%	SLOCA-020	SMALL LOCA SEQUENCE 20 (CVCS, AFW, BFSI)
0.76%	SLOCA-014	SMALL LOCA SEQUENCE 14 (CVCS, HPRSI, LTHR)
0.76%	SLOCA-019	SMALL LOCA SEQUENCE 19 (CVCS, AFW, HPRSI)
0.76%	SLOCA-022	SMALL LOCA SEQUENCE 22 (CVCS, SI, LTHR)
0.75%	SLOCA-012	SMALL LOCA SEQUENCE 12 (CVCS, LTHR)
0.75%	SLOCA-026	SMALL LOCA SEQUENCE 26 (CVCS, SI, AFW)
98.15%	Total	
Note: Unit 2 similar.		
Reference 44, Section 5.2		

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 56 -- Breakdown of CDF Cutsets in Each Frequency Range, Unit 2

Frequency Range (events per year)	Number of Cutsets	Percentage of CDF
$> 10^{-6}$	2	18.00%
10^{-7} to 10^{-6}	16	27.40%
10^{-8} to 10^{-7}	75	13.90%
10^{-9} to 10^{-8}	900	15.80%
10^{-10} to 10^{-9}	4,688	9.30%
10^{-11} to 10^{-10}	28,165	5.70%
10^{-12} to 10^{-11}	114,097	2.40%
Note: Unit 1 similar		

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Table 57 – Top 100 Cutsets for Unit 1 CDF



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Table 58 – Top 100 Cutsets for Unit 2 CDF



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Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 59 -- CDF By Initiator for Unit 1**

CDF (per reactor-year)	Percent Contribution	Initiating Event
1.71E-06	12.28%	Loss of Offsite Power (Grid Related)
1.65E-06	11.85%	Total Loss of Component Cooling System Unit 1
1.47E-06	10.57%	Loss of Offsite Power (Plant Centered)
1.39E-06	9.98%	Small LOCA Stuck Open Safety Relief Valve
1.29E-06	9.24%	Flood event induced by RCW rupture in 772.0-A8
1.29E-06	9.24%	Flood event induced by RCW rupture in 772.0-A9
1.08E-06	7.73%	Total Loss of ERCW
5.52E-07	3.97%	Loss of Offsite Power (Weather Induced)
3.43E-07	2.47%	Flood event induced by HPFP break in 757.0-A2
2.57E-07	1.85%	Flood event induced by HPFP break in 757.0-A24
2.06E-07	1.48%	Loss of Battery Board 2
1.90E-07	1.36%	Flood event induced by RCW rupture in 757.0-A17
1.90E-07	1.36%	Flood event induced by RCW rupture in 757.0-A9
1.71E-07	1.23%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 3
1.71E-07	1.23%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 4
1.71E-07	1.23%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 1
1.71E-07	1.23%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 2
1.30E-07	0.94%	Flood event induced by HPFP break in 757.0-A5
1.17E-07	0.84%	Loss of Component Cooling System Train 1A
1.01E-07	0.72%	Flood event induced by HPFP break in 757.0-A21
9.74E-08	0.70%	Turbine Trip
9.68E-08	0.70%	Flood event induced by HPFP break in 772.0-A7
9.63E-08	0.69%	Reactor Trip
9.42E-08	0.68%	Flood event induced by HPFP break in 772.0-A10
6.14E-08	0.44%	SLOCA ON COLD LEG 1

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 59 -- CDF By Initiator for Unit 1**

CDF (per reactor-year)	Percent Contribution	Initiating Event
6.14E-08	0.44%	SLOCA ON COLD LEG 2
6.14E-08	0.44%	SLOCA ON COLD LEG 3
6.14E-08	0.44%	SLOCA ON COLD LEG 4
5.69E-08	0.41%	Major flood in the Turbine Building
5.19E-08	0.37%	Partial Loss of Main Feedwater
4.84E-08	0.35%	Total Loss of Main Feedwater
4.58E-08	0.33%	Partial Loss of ERCW UNIT 1
3.84E-08	0.28%	Inadvertent Closure of 1 MSIV
2.94E-08	0.21%	EXCESSIVE LOCA (VESSEL RUPTURE)
2.74E-08	0.20%	Loss of Battery Board 1
2.51E-08	0.18%	Loss of 120V AC Vital Instrument Board I
2.39E-08	0.17%	Spray event on dryers
2.33E-08	0.17%	Loss of Condenser Vacuum
1.39E-05		TOTAL
Reference 44, Table 5.3-1		

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 60 -- Unit 1 CDF Comparison**

CDF (per reactor-year)		Difference	Initiating Event
CAFTA R1	CAFTA R0		
2.39E-08	6.28E-10	3704%	Spray event on dryers
2.57E-07	1.07E-07	140%	Flood event induced by HPFP break in 757.0-A24
1.30E-07	5.44E-08	140%	Flood event induced by HPFP break in 757.0-A5
1.01E-07	4.21E-08	139%	Flood event induced by HPFP break in 757.0-A21
9.42E-08	3.94E-08	139%	Flood event induced by HPFP break in 772.0-A10
9.68E-08	4.05E-08	139%	Flood event induced by HPFP break in 772.0-A7
3.43E-07	1.44E-07	138%	Flood event induced by HPFP break in 757.0-A2
6.14E-08	2.62E-08	134%	SLOCA ON COLD LEG 1
6.14E-08	2.62E-08	134%	SLOCA ON COLD LEG 2
6.14E-08	2.62E-08	134%	SLOCA ON COLD LEG 3
6.14E-08	2.62E-08	134%	SLOCA ON COLD LEG 4
3.84E-08	1.70E-08	126%	Inadvertent Closure of 1 MSIV
1.39E-06	6.93E-07	100%	Small LOCA Stuck Open Safety Relief Valve
1.90E-07	1.27E-07	49%	Flood event induced by RCW rupture in 757.0-A17
1.90E-07	1.27E-07	49%	Flood event induced by RCW rupture in 757.0-A9
1.29E-06	1.06E-06	21%	Flood event induced by RCW rupture in 772.0-A8
1.29E-06	1.06E-06	21%	Flood event induced by RCW rupture in 772.0-A9
1.08E-06	9.67E-07	11%	Total Loss of ERCW
1.17E-07	1.13E-07	3%	Loss of Component Cooling System Train 1A
1.65E-06	1.64E-06	1%	Total Loss of Component Cooling System Unit 1
2.06E-07	2.29E-07	-10%	Loss of Battery Board 2
1.71E-07	2.44E-07	-30%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 3
1.71E-07	2.44E-07	-30%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 4
1.71E-07	2.44E-07	-30%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 2
1.71E-07	2.44E-07	-30%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 1
2.51E-08	4.15E-08	-39%	Loss of 120V AC Vital Instrument Board I
4.84E-08	9.45E-08	-49%	Total Loss of Main Feedwater
1.47E-06	2.97E-06	-50%	Loss of Offsite Power (Plant Centered)
1.71E-06	3.46E-06	-51%	Loss of Offsite Power (Grid Related)
5.52E-07	1.13E-06	-51%	Loss of Offsite Power (Weather Induced)
9.63E-08	2.10E-07	-54%	Reactor Trip
9.74E-08	2.67E-07	-64%	Turbine Trip
2.74E-08	7.94E-08	-66%	Loss of Battery Board 1
5.19E-08	1.67E-07	-69%	Partial Loss of Main Feedwater
2.94E-08	1.00E-07	-71%	EXCESSIVE LOCA (VESSEL RUPTURE)
2.33E-08	8.79E-08	-73%	Loss of Condenser Vacuum
5.69E-08	2.24E-07	-75%	Major flood in the Turbine Building
4.58E-08	3.44E-07	-87%	Partial Loss of ERCW UNIT 1
1.39E-05	1.82E-05	-24%	TOTAL

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 61 -- CDF By Initiator for Unit 2**

CDF (per reactor-year)	Percent Contribution	Initiating Event
1.67E-06	11.72%	Loss of Offsite Power (Grid Related)
1.65E-06	11.53%	Total Loss of Component Cooling System Unit 2
1.44E-06	10.11%	Loss of Offsite Power (Plant Centered)
1.36E-06	9.54%	Small LOCA Stuck Open Safety Relief Valve
1.29E-06	9.00%	Flood event induced by RCW rupture in 772.0-A8
1.29E-06	9.00%	Flood event induced by RCW rupture in 772.0-A9
1.13E-06	7.90%	Total Loss of ERCW
5.51E-07	3.85%	Loss of Offsite Power (Weather Induced)
4.01E-07	2.81%	Partial Loss of ERCW UNIT 1
3.43E-07	2.40%	Flood event induced by HPFP break in 757.0-A2
2.57E-07	1.80%	Flood event induced by HPFP break in 757.0-A24
1.90E-07	1.33%	Flood event induced by RCW rupture in 757.0-A17
1.90E-07	1.33%	Flood event induced by RCW rupture in 757.0-A9
1.79E-07	1.25%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 1
1.67E-07	1.17%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 2
1.67E-07	1.17%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 3
1.67E-07	1.17%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 4
1.30E-07	0.91%	Flood event induced by HPFP break in 757.0-A5
1.23E-07	0.86%	Reactor Trip
1.23E-07	0.86%	Loss of Battery Board 4
1.17E-07	0.82%	Turbine Trip
1.01E-07	0.70%	Flood event induced by HPFP break in 757.0-A21
9.97E-08	0.70%	Major flood in the Turbine Building
9.68E-08	0.68%	Flood event induced by HPFP break in 772.0-A7
9.42E-08	0.66%	Flood event induced by HPFP break in 772.0-A10
8.51E-08	0.60%	Loss of Component Cooling System Train 2A
6.25E-08	0.44%	Partial Loss of Main Feedwater
6.03E-08	0.42%	SLOCA ON COLD LEG 1

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 61 -- CDF By Initiator for Unit 2

CDF (per reactor-year)	Percent Contribution	Initiating Event
6.03E-08	0.42%	SLOCA ON COLD LEG 2
6.03E-08	0.42%	SLOCA ON COLD LEG 3
6.03E-08	0.42%	SLOCA ON COLD LEG 4
5.73E-08	0.40%	Total Loss of Main Feedwater
4.92E-08	0.34%	Inadvertent Closure of 1 MSIV
3.02E-08	0.21%	Loss of Battery Board 3
2.94E-08	0.21%	EXCESSIVE LOCA (VESSEL RUPTURE)
2.91E-08	0.20%	Spray event on dryers
2.86E-08	0.20%	Loss of Condenser Vacuum
2.49E-08	0.17%	Flood event induced by unisolated ERCW break at EL 676' of AB
1.43E-05		TOTAL
Reference 44, Table 5.3-2		

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 62 -- Unit 1 System Importance for CDF, F-V > 0.5%**

ITEM	RAW	FV	RRW	BB
U1SYS082	260.94170	1.30E-01	1.14954	3.62E-03
U1SYS030	875.64820	1.17E-01	1.132875	1.22E-02
U2SYS082	42.70378	7.92E-02	1.08596	5.81E-04
U1SYS003	2487.45100	6.78E-02	1.07271	3.46E-02
U0SYS236	71749.02000	4.59E-02	1.048116	9.98E-01
U1SYS062	16.16366	4.50E-02	1.04715	2.12E-04
U2SYS030	42.70050	3.29E-02	1.034024	5.81E-04
U1SYS068	46.83577	3.18E-02	1.032853	6.38E-04
U0SYS067	48716.41000	2.19E-02	1.022442	6.78E-01
U1SYS070	35727.43000	2.02E-02	1.020567	4.97E-01
U1SYS211	30497.04000	1.55E-02	1.015728	4.24E-01
U1SYS085	6754.30500	1.16E-02	1.011709	9.39E-02
U1SYS212	17757.72000	8.59E-03	1.008667	2.47E-01
U2SYS068	1.14707	8.25E-03	1.008319	2.16E-06
U0SYS026	2.49869	6.65E-03	1.006698	2.09E-05
U2SYS211	43.19506	6.28E-03	1.006317	5.87E-04
U1SYS074	70.68874	5.26E-03	1.005289	9.69E-04

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 63 -- Unit 1 System Importance for CDF, RAW > 2**

ITEM	RAW	FV	RRW	BB
U0SYS235	206183.80000	4.16E-03	1.004181	2.87E+00
U0SYS236	71749.02000	4.59E-02	1.048116	9.98E-01
U0SYS067	48716.41000	2.19E-02	1.022442	6.78E-01
U1SYS070	35727.43000	2.02E-02	1.020567	4.97E-01
U1SYS211	30497.04000	1.55E-02	1.015728	4.24E-01
U1SYS099	26357.66000	3.94E-03	1.003954	3.67E-01
U1SYS212	17757.72000	8.59E-03	1.008667	2.47E-01
U1SYS085	6754.30500	1.16E-02	1.011709	9.39E-02
U0SYS032	2670.98400	9.44E-04	1.000945	3.71E-02
U1SYS003	2487.45100	6.78E-02	1.07271	3.46E-02
U1SYS001	2306.86200	3.42E-05	1.000034	3.21E-02
U1SYS030	875.64820	1.17E-01	1.132875	1.22E-02
U0SYS070	840.37300	4.60E-04	1.00046	1.17E-02
U1SYS214	420.06860	2.90E-03	1.002903	5.83E-03
U1SYS213	361.71610	5.56E-04	1.000557	5.02E-03
U1SYS063	360.16090	3.28E-03	1.003293	5.00E-03
U1SYS082	260.94170	1.30E-01	1.14954	3.62E-03
U1SYS074	70.68874	5.26E-03	1.005289	9.69E-04
U1SYS068	46.83577	3.18E-02	1.032853	6.38E-04
U0SYS226	45.29920	7.41E-05	1.000074	6.16E-04
U2SYS211	43.19506	6.28E-03	1.006317	5.87E-04
U2SYS082	42.70378	7.92E-02	1.08596	5.81E-04
U2SYS030	42.70050	3.29E-02	1.034024	5.81E-04
U2SYS212	28.76819	2.58E-04	1.000258	3.86E-04
U1SYS062	16.16366	4.50E-02	1.04715	2.12E-04
U1SYS018	15.83739	--	--	--
U2SYS070	12.28863	2.42E-04	1.000242	1.57E-04
U0SYS200	9.34536	1.05E-03	1.001053	1.16E-04
U1SYS002	6.26467	1.82E-03	1.001825	7.33E-05
U2SYS018	4.46311	--	--	--
U0SYS026	2.49869	6.65E-03	1.006698	2.09E-05
U1SYS031	2.38972	--	--	--
U1SYS278	2.28619	4.97E-06	1.000005	1.79E-05

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 64 -- Unit 2 System Importance for CDF, F-V > 0.5%

Item	RAW	FV	RRW	BB
U2SYS082	251.47360	1.31E-01	1.150446	3.58E-03
U2SYS030	828.62810	1.12E-01	1.125782	1.18E-02
U1SYS082	42.94064	7.07E-02	1.076117	6.00E-04
U2SYS003	2414.75300	6.77E-02	1.072606	3.45E-02
U2SYS068	76.20968	4.65E-02	1.048722	1.08E-03
U2SYS062	15.30373	4.37E-02	1.045723	2.05E-04
U0SYS067	47394.97000	4.10E-02	1.042745	6.77E-01
U1SYS030	42.94064	3.04E-02	1.03133	6.00E-04
U2SYS085	9121.34300	1.79E-02	1.018252	1.30E-01
U0SYS236	69865.05000	1.72E-02	1.017536	9.98E-01
U2SYS211	18874.98000	1.45E-02	1.014764	2.70E-01
U2SYS070	34630.84000	1.34E-02	1.013609	4.95E-01
U0SYS026	2.79627	1.07E-02	1.010831	2.58E-05
U1SYS211	49.47345	5.81E-03	1.00584	6.93E-04
U2SYS099	28696.71000	5.49E-03	1.005522	4.10E-01
U2SYS212	17144.07000	5.22E-03	1.005243	2.45E-01

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 65 -- Unit 2 System Importance for CDF, RAW > 2

Item	RAW	FV	RRW	BB
U0SYS235	200642.50000	4.04E-03	1.004061	2.87E+00
U0SYS236	69865.05000	1.72E-02	1.017536	9.98E-01
U0SYS067	47394.97000	4.10E-02	1.042745	6.77E-01
U2SYS070	34630.84000	1.34E-02	1.013609	4.95E-01
U2SYS099	28696.71000	5.49E-03	1.005522	4.10E-01
U2SYS211	18874.98000	1.45E-02	1.014764	2.70E-01
U2SYS212	17144.07000	5.22E-03	1.005243	2.45E-01
U2SYS085	9121.34300	1.79E-02	1.018252	1.30E-01
U0SYS032	2594.22000	4.82E-04	1.000482	3.70E-02
U2SYS003	2414.75300	6.77E-02	1.072606	3.45E-02
U2SYS001	2247.34800	3.31E-05	1.000033	3.21E-02
U0SYS070	1604.42700	2.53E-04	1.000253	2.29E-02
U2SYS030	828.62810	1.12E-01	1.125782	1.18E-02
U2SYS214	377.59340	4.99E-03	1.00502	5.38E-03
U2SYS063	352.77220	3.20E-03	1.003213	5.03E-03
U2SYS213	348.51780	4.49E-04	1.000449	4.96E-03
U2SYS082	251.47360	1.31E-01	1.150446	3.58E-03
U2SYS068	76.20968	4.65E-02	1.048722	1.08E-03
U2SYS074	69.04472	4.96E-03	1.00498	9.72E-04
U1SYS211	49.47345	5.81E-03	1.00584	6.93E-04
U1SYS030	42.94064	3.04E-02	1.03133	6.00E-04
U1SYS082	42.94064	7.07E-02	1.076117	6.00E-04
U0SYS030	18.37522	1.13E-03	1.00113	2.48E-04
U2SYS018	18.35087	--	--	--
U2SYS062	15.30373	4.37E-02	1.045723	2.05E-04
U1SYS070	12.69239	3.17E-03	1.003183	1.67E-04
U0SYS226	4.50942	5.98E-06	1.000006	5.01E-05
U1SYS018	4.24966	--	--	--
U0SYS200	2.92068	1.94E-04	1.000194	2.74E-05
U0SYS026	2.79627	1.07E-02	1.010831	2.58E-05
U2SYS031	2.30556	--	--	--
U2SYS278	2.20841	4.39E-06	1.000004	1.73E-05

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 66 -- Unit 1 Component Importance for CDF, F-V > 0.5%**

Item	RAW	FV	RRW	BB
WBN-1-GEN -082-0001A -A	24.99381	5.84E-02	1.062046	3.35E-04
WBN-1-PMP -003-0001A -S	5.56050	4.14E-02	1.043197	6.40E-05
WBN-1-GEN -082-0001B -B	13.90007	3.52E-02	1.03648	1.80E-04
WBN-1-FAN -030-0459 -A	24.99381	2.28E-02	1.02338	3.34E-04
WBN-1-FAN -030-0183	6.34303	1.70E-02	1.017311	7.46E-05
WBN-1-RFV -062-0636 -S	6.41593	1.40E-02	1.014201	7.55E-05
WBN-0-BD -236-0002 -E	38.35106	1.40E-02	1.014193	5.20E-04
WBN-1-FAN -030-0461 -B	13.90007	1.40E-02	1.014185	1.80E-04
WBN-1-BKR -211-1716/16 -A	31.82123	8.12E-03	1.008189	4.29E-04
WBN-1-FAN -030-0214	2.06351	6.50E-03	1.006545	1.49E-05
WBN-1-FAN -030-0447 -A	1.78280	6.00E-03	1.006035	1.10E-05
WBN-1-FAN -030-0451 -A	1.78280	6.00E-03	1.006035	1.10E-05
WBN-0-PMP -070-0051 -S	16.87529	5.93E-03	1.00597	2.21E-04
WBN-1-RFV -068-0563	7.78541	5.30E-03	1.005325	9.45E-05
WBN-1-RFV -068-0564	7.78541	5.30E-03	1.005325	9.45E-05
WBN-1-RFV -068-0565	7.78541	5.30E-03	1.005325	9.45E-05
WBN-1-BKR -211-1728/16 -B	38.28681	5.14E-03	1.005168	5.19E-04

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 67 -- Unit 1 Component Importance for CDF, RAW > 2**

Item	RAW	FV	RRW	BB
WBN-1-BD -211-A -A	257.74660	2.10E-03	1.002104	3.57E-03
WBN-1-STN -063-0200	225.70350	2.25E-03	1.002254	3.13E-03
WBN-0-CKV -067-0503D -A	117.20490	3.92E-04	1.000392	1.62E-03
WBN-0-CKV -067-0503B -A	117.20480	3.92E-04	1.000392	1.62E-03
WBN-1-BD -212-A001 -A	105.18980	1.08E-03	1.001085	1.45E-03
WBN-1-BKR -212-A001/1B -A	105.18980	4.25E-04	1.000425	1.45E-03
WBN-1-BKR -212-A1 -A	105.18980	4.25E-04	1.000425	1.45E-03
WBN-1-OXF -212-A001 -A	105.18980	2.26E-03	1.00227	1.45E-03
WBN-0-CKV -067-0503H -B	96.69701	6.37E-04	1.000637	1.33E-03
WBN-0-CKV -067-0503F -B	96.69575	6.36E-04	1.000636	1.33E-03
WBN-1-BD -212-A002 -A	86.99751	8.94E-04	1.000895	1.20E-03
WBN-1-BKR -212-A002/1B -A	86.99751	3.51E-04	1.000351	1.20E-03
WBN-1-BKR -212-A2 -A	86.99751	3.51E-04	1.000351	1.20E-03
WBN-1-OXF -212-A002 -A	86.99751	1.86E-03	1.001868	1.20E-03
ESFAS CABINETS U1	54.91207	5.52E-04	1.000552	7.50E-04
WBN-0-BD -236-0001 -D	45.45874	1.94E-03	1.001939	6.18E-04
WBN-1-FCV -067-0127 -A	42.60125	4.42E-07	1	5.79E-04
WBN-1-FCV -067-0022 -A	42.17598	4.28E-07	1	5.73E-04
WBN-1-FCV -067-0081 -A	42.17598	4.28E-07	1	5.73E-04
WBN-1-ISV -067-0505A -A	42.17598	4.28E-07	1	5.73E-04
WBN-0-BD -236-0002 -E	38.35106	1.40E-02	1.014193	5.20E-04
WBN-1-BKR -211-1728/16 -B	38.28681	5.14E-03	1.005168	5.19E-04
WBN-1-BD -211-B -B	37.85910	3.21E-04	1.000321	5.13E-04
WBN-0-BKR -236-0001/226-D	36.91167	1.42E-04	1.000142	5.00E-04
WBN-0-CHGR-236-0001 -D	36.91167	4.38E-03	1.004403	5.00E-04
WBN-0-FU -236-0001/210-D	36.91167	1.07E-04	1.000107	5.00E-04
WBN-0-SW -236-0001/SW1-S	36.91167	1.42E-04	1.000142	5.00E-04
WBN-1-BKR -211-1716/16 -A	31.82123	8.12E-03	1.008189	4.29E-04
WBN-1-FAN -030-0459 -A	24.99381	2.28E-02	1.02338	3.34E-04
WBN-1-GEN -082-0001A -A	24.99381	5.84E-02	1.062046	3.35E-04
WBN-1-FCO -030-0443 -A	24.94415	3.20E-03	1.003207	3.33E-04
WBN-1-FCO -030-0459 -A	24.94415	3.20E-03	1.003207	3.33E-04
WBN-1-TANK-063-0046	21.98278	1.00E-06	1.000001	2.92E-04
WBN-1-BD -235-0001 -D	17.61254	1.46E-03	1.001463	2.31E-04
WBN-1-XSW -235-0001 -D	17.61254	5.66E-04	1.000567	2.31E-04
WBN-1-SW -235-0001 -D	17.27349	6.17E-05	1.000062	2.26E-04
WBN-0-CKV -070-0504	16.87529	4.74E-05	1.000047	2.21E-04
WBN-0-PMP -070-0051 -S	16.87529	5.93E-03	1.00597	2.21E-04
WBN-0-ISV -070-0503	16.79294	2.38E-07	1	2.20E-04
WBN-0-ISV -070-0505	16.79294	2.38E-07	1	2.20E-04

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 67 -- Unit 1 Component Importance for CDF, RAW > 2

Item	RAW	FV	RRW	BB
WBN-0-FCV -067-0144 -B	16.77487	6.41E-06	1.000006	2.19E-04
WBN-0-FCV -070-0012 -B	16.77487	2.38E-07	1	2.19E-04
WBN-0-FCV -070-0022 -B	16.77487	2.38E-07	1	2.19E-04
WBN-0-HTX -070-0186	16.77487	2.87E-04	1.000287	2.19E-04
WBN-0-ISV -067-1009 -B	16.77487	2.38E-07	1	2.19E-04
WBN-0-ISV -067-1010 -B	16.77487	2.38E-07	1	2.19E-04
WBN-0-ISV -070-0510 -B	16.77487	2.38E-07	1	2.19E-04
WBN-1-BKR -099-L116/1B -A	14.93959	5.16E-04	1.000516	1.94E-04
WBN-1-BKR -099-L116/1C -B	14.32052	4.93E-04	1.000493	1.85E-04
WBN-1-FAN -030-0461 -B	13.90007	1.40E-02	1.014185	1.80E-04
WBN-1-GEN -082-0001B -B	13.90007	3.52E-02	1.03648	1.80E-04
WBN-1-FCO -030-0445 -B	13.87302	1.99E-03	1.001992	1.79E-04
WBN-1-FCO -030-0461 -B	13.87302	1.99E-03	1.001992	1.79E-04
WBN-1-BD -212-B001 -B	13.59942	1.23E-04	1.000123	1.75E-04
WBN-1-BKR -212-B001/1B -B	13.59942	4.36E-05	1.000044	1.75E-04
WBN-1-BKR -212-B1 -B	13.59942	4.36E-05	1.000044	1.75E-04
WBN-1-OXF -212-B001 -B	13.59942	2.70E-04	1.00027	1.75E-04
WBN-1-FCV -067-0024 -B	13.21900	3.53E-07	1	1.70E-04
WBN-1-FCV -067-0082 -B	13.21900	3.53E-07	1	1.70E-04
WBN-1-FCV -067-0128 -B	13.21900	3.53E-07	1	1.70E-04
WBN-1-ISV -067-0505B -B	13.21900	3.53E-07	1	1.70E-04
WBN-1-ISV -067-0506B -B	13.21900	9.99E-08	1	1.70E-04
WBN-0-ISV -067-0546 -B	12.26727	2.38E-07	1	1.57E-04
WBN-1-RFV -070-0551B -B	12.26727	4.84E-05	1.000048	1.57E-04
WBN-1-RFV -070-0556B -B	12.26727	4.84E-05	1.000048	1.57E-04
WBN-1-RFV -070-0561B -B	12.26727	4.84E-05	1.000048	1.57E-04
WBN-1-RFV -070-0565B -B	12.26727	4.84E-05	1.000048	1.57E-04
WBN-1-RFV -070-0570B -B	12.26727	4.84E-05	1.000048	1.57E-04
WBN-1-BD -212-B002 -B	11.83511	1.07E-04	1.000107	1.51E-04
WBN-1-BKR -212-B002/1B -B	11.83511	3.92E-05	1.000039	1.51E-04
WBN-1-BKR -212-B2 -B	11.83511	3.92E-05	1.000039	1.51E-04
WBN-1-OXF -212-B002 -B	11.83511	2.29E-04	1.000229	1.51E-04
WBN-1-BD -235-0002 -E	11.57498	9.76E-04	1.000977	1.47E-04
WBN-1-XSW -235-0002 -E	11.57498	3.60E-04	1.00036	1.47E-04
WBN-1-BKR -212-B001/10B-B	11.49103	3.80E-05	1.000038	1.46E-04
WBN-1-BKR -214-B001/1A1-B	11.49103	3.80E-05	1.000038	1.46E-04
WBN-1-MCC -214-B001 -B	11.49103	1.07E-04	1.000107	1.46E-04
WBN-1-SW -235-0002 -E	11.34602	3.85E-05	1.000039	1.44E-04
WBN-1-FCV -067-0143 -A	11.30402	2.69E-04	1.000269	1.43E-04
WBN-1-FCV -070-0008 -A	11.30402	1.27E-05	1.000013	1.43E-04
WBN-1-FCV -070-0025 -A	11.30402	1.27E-05	1.000013	1.43E-04

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 67 -- Unit 1 Component Importance for CDF, RAW > 2**

Item	RAW	FV	RRW	BB
WBN-1-HTX -070-0185	11.30402	4.70E-03	1.004721	1.43E-04
WBN-1-ISV -070-0510 -A	11.30402	1.27E-05	1.000013	1.43E-04
WBN-1-ISV -070-0544A -S	11.30402	1.27E-05	1.000013	1.43E-04
WBN-1-ISV -070-0544C -A	11.30402	1.27E-05	1.000013	1.43E-04
WBN-0-BKR -236-0002/226-E	10.72167	3.48E-05	1.000035	1.35E-04
WBN-0-CHGR-236-0002 -E	10.72167	1.18E-03	1.00118	1.35E-04
WBN-0-FU -236-0002/210-E	10.72167	2.58E-05	1.000026	1.35E-04
WBN-0-SW -236-0002/SW1-S	10.72167	3.48E-05	1.000035	1.35E-04
WBN-0-RFV -070-0527A	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-ISV -067-1009	10.51405	4.03E-07	1	1.32E-04
WBN-1-ISV -067-1010	10.51405	4.03E-07	1	1.32E-04
WBN-1-RFV -070-0521	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0551A -A	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0556A -A	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0561A -A	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0565A -A	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0570A -A	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0578	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0584	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0683A	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0683B	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0683C	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0683D	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0694	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0703	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0729A	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0729B	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0729C	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0741	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-RFV -070-0835	10.51405	4.54E-05	1.000045	1.32E-04
WBN-1-PMP -070-0046 -A	8.72067	2.76E-03	1.002767	1.07E-04
WBN-1-CKV -070-0504A -A	8.71946	2.26E-05	1.000023	1.07E-04
WBN-1-ISV -070-0503A -A	8.66861	3.92E-07	1	1.07E-04
WBN-1-ISV -070-0505A -A	8.66861	3.92E-07	1	1.07E-04
WBN-0-BKR -236-0001/204-D	8.48321	2.78E-05	1.000028	1.04E-04
WBN-0-FU -236-0001/201-D	8.48321	2.08E-05	1.000021	1.04E-04
WBN-1-RFV -068-0563	7.78541	5.30E-03	1.005325	9.45E-05
WBN-1-RFV -068-0564	7.78541	5.30E-03	1.005325	9.45E-05
WBN-1-RFV -068-0565	7.78541	5.30E-03	1.005325	9.45E-05
WBN-1-CKV -063-0586 -S	7.67775	8.78E-05	1.000088	9.29E-05
WBN-1-CKV -063-0587 -S	7.67775	8.78E-05	1.000088	9.29E-05

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 67 -- Unit 1 Component Importance for CDF, RAW > 2

Item	RAW	FV	RRW	BB
WBN-1-CKV -063-0588 -S	7.67775	8.78E-05	1.000088	9.29E-05
WBN-1-CKV -063-0589 -S	7.67775	8.78E-05	1.000088	9.29E-05
WBN-1-THV -063-0582 -S	7.67775	1.24E-07	1	9.29E-05
WBN-1-THV -063-0583 -S	7.67775	1.24E-07	1	9.29E-05
WBN-1-THV -063-0584 -S	7.67775	1.24E-07	1	9.29E-05
WBN-1-THV -063-0585 -S	7.67775	1.24E-07	1	9.29E-05
WBN-1-BKR -212-A001/10B-A	7.09434	2.26E-05	1.000023	8.48E-05
WBN-1-BKR -214-A001/1A1-A	7.09434	2.26E-05	1.000023	8.48E-05
WBN-1-MCC -214-A001 -A	7.09434	6.06E-05	1.000061	8.48E-05
WBN-1-CKV -062-0560 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0561 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0562 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0563 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0576 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0577 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0578 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0579 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0592 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0593 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0594 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-CKV -062-0595 -S	6.41593	2.28E-07	1	7.53E-05
WBN-1-FCV -062-0009	6.41593	2.23E-05	1.000022	7.53E-05
WBN-1-FCV -062-0022	6.41593	2.23E-05	1.000022	7.53E-05
WBN-1-FCV -062-0035	6.41593	2.23E-05	1.000022	7.53E-05
WBN-1-FCV -062-0048	6.41593	2.23E-05	1.000022	7.53E-05
WBN-1-FCV -062-0053	6.41593	3.42E-03	1.003431	7.54E-05
WBN-1-FCV -062-0093	6.41593	2.23E-05	1.000022	7.53E-05
WBN-1-FLTR-062-0097	6.41593	1.19E-05	1.000012	7.53E-05
WBN-1-INJ -062-0556 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-INJ -062-0557 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-INJ -062-0558 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-INJ -062-0559 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-ISV -062-0535 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-ISV -062-0536 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-ISV -062-0548 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-ISV -062-0550 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-ISV -062-0564 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-ISV -062-0565 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-ISV -062-0566 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-ISV -062-0567 -S	6.41593	3.55E-07	1	7.53E-05
WBN-1-RFV -062-0636 -S	6.41593	1.40E-02	1.014201	7.55E-05

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 67 -- Unit 1 Component Importance for CDF, RAW > 2**

Item	RAW	FV	RRW	BB
WBN-1-CKV -062-0525 -A	6.34303	2.55E-06	1.000003	7.43E-05
WBN-1-FAN -030-0183	6.34303	1.70E-02	1.017311	7.46E-05
WBN-1-PMP -062-0108 -A	6.34303	8.72E-04	1.000873	7.43E-05
WBN-1-CLR -030-0183	6.33158	1.09E-04	1.000109	7.42E-05
WBN-1-CLR -062-0108A -A	6.33158	1.09E-04	1.000109	7.42E-05
WBN-1-CLR -062-0108B -A	6.33158	1.09E-04	1.000109	7.42E-05
WBN-1-FCV -067-0168 -A	6.33158	2.19E-05	1.000022	7.42E-05
WBN-1-ISV -062-0509 -A	6.33158	3.45E-07	1	7.42E-05
WBN-1-ISV -062-0527 -A	6.33158	3.45E-07	1	7.42E-05
WBN-1-ISV -067-0600A -A	6.33158	3.45E-07	1	7.42E-05
WBN-1-ISV -067-0602A -A	6.33158	3.45E-07	1	7.42E-05
WBN-1-ISV -070-0557A -A	6.33158	3.45E-07	1	7.42E-05
WBN-1-ISV -070-0800	6.33158	3.45E-07	1	7.42E-05
WBN-1-ISV -070-0801	6.33158	3.45E-07	1	7.42E-05
WBN-1-THV -067-0601A -A	6.33158	3.45E-07	1	7.42E-05
WBN-1-THV -070-0554A	6.33158	3.45E-07	1	7.42E-05
WBN-1-PMP -003-0001A -S	5.56050	4.14E-02	1.043197	6.40E-05
WBN-0-BD -236-0004 -G	5.24069	3.63E-06	1.000004	5.90E-05
WBN-0-BKR -236-0004/226-G	5.18849	1.20E-05	1.000012	5.83E-05
WBN-0-CHGR-236-0004 -G	5.18849	5.11E-04	1.000512	5.83E-05
WBN-0-FU -236-0004/210-G	5.18849	8.39E-06	1.000008	5.83E-05
WBN-0-SW -236-0004/SW1-S	5.18849	1.20E-05	1.000012	5.83E-05
WBN-0-BD -236-0003 -F	4.88011	4.01E-06	1.000004	5.40E-05
WBN-0-BKR -236-0002/109-E	4.58827	2.16E-04	1.000216	4.99E-05
WBN-0-FU -236-0002/101-E	4.58827	1.63E-04	1.000163	4.99E-05
WBN-0-BAT -236-0002 -E	4.44201	2.57E-05	1.000026	4.79E-05
WBN-1-FCV -070-0075 -B	4.05910	2.29E-07	1	4.26E-05
WBN-0-BKR -236-0003/226-F	3.97933	9.13E-06	1.000009	4.14E-05
WBN-0-CHGR-236-0003 -F	3.97933	3.65E-04	1.000365	4.14E-05
WBN-0-FU -236-0003/210-F	3.97933	6.44E-06	1.000006	4.14E-05
WBN-0-SW -236-0003/SW1-S	3.97933	9.13E-06	1.000009	4.14E-05
WBN-1-FAN -030-0491	3.73424	7.12E-04	1.000713	3.80E-05
WBN-1-HTX -082-0720A1 -A	3.73424	4.84E-05	1.000048	3.80E-05
WBN-1-HTX -082-0720A2 -A	3.73424	4.84E-05	1.000048	3.80E-05
WBN-1-TANK-018-0061/1	3.73424	--	--	--
WBN-1-TANK-018-0076/1	3.73424	--	--	--
WBN-1-THV -067-0510A	3.73424	1.80E-08	1	3.80E-05
WBN-1-THV -067-0515A	3.73424	1.80E-08	1	3.80E-05
WBN-1-THV -067-8020 -A	3.73424	1.80E-08	1	3.80E-05
WBN-1-PCV -068-0334 -B	3.61778	3.45E-03	1.003465	3.65E-05
WBN-1-PCV -068-0340A -A	3.59894	3.44E-03	1.00345	3.62E-05

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 67 -- Unit 1 Component Importance for CDF, RAW > 2

Item	RAW	FV	RRW	BB
WBN-1-FCV -070-0003 -B	3.40493	1.31E-07	1	3.35E-05
WBN-0-BKR -236-0001/109-D	3.22693	2.65E-05	1.000026	3.10E-05
WBN-0-FU -236-0001/101-D	3.22693	1.97E-05	1.00002	3.10E-05
WBN-0-BAT -236-0001 -D	3.20818	1.66E-05	1.000017	3.07E-05
WBN-1-BKR -212-B001/8B -B	2.87738	5.88E-06	1.000006	2.61E-05
WBN-1-BKR -213-B001/1A1-B	2.87738	5.88E-06	1.000006	2.61E-05
WBN-1-MCC -213-B001 -B	2.87738	1.78E-05	1.000018	2.61E-05
WBN-1-CKV -063-0560 -S	2.84369	2.54E-05	1.000025	2.56E-05
WBN-1-CKV -063-0561 -S	2.84369	2.55E-05	1.000025	2.56E-05
WBN-1-CKV -063-0562 -S	2.84369	2.55E-05	1.000025	2.56E-05
WBN-1-CKV -067-0508A -A	2.81441	--	--	--
WBN-1-FCV -067-0066 -A	2.81441	1.84E-06	1.000002	2.52E-05
WBN-1-ISV -067-0507A -A	2.81441	1.80E-08	1	2.52E-05
WBN-1-FCV -063-0003 -A	2.72355	3.73E-06	1.000004	2.40E-05
WBN-1-CKV -063-0510 -S	2.71299	2.25E-05	1.000023	2.38E-05
WBN-1-CKV -063-0551 -S	2.71299	2.25E-05	1.000023	2.38E-05
WBN-1-CKV -063-0553 -S	2.71299	2.25E-05	1.000023	2.38E-05
WBN-1-CKV -063-0555 -S	2.71299	2.25E-05	1.000023	2.38E-05
WBN-1-CKV -063-0557 -S	2.71299	2.25E-05	1.000023	2.38E-05
WBN-1-FCV -063-0005 -B	2.71299	1.18E-06	1.000001	2.38E-05
WBN-1-FCV -063-0022 -B	2.71299	1.18E-06	1.000001	2.38E-05
WBN-1-THV -063-0550 -S	2.71299	--	--	--
WBN-1-THV -063-0552 -S	2.71299	--	--	--
WBN-1-THV -063-0554 -S	2.71299	--	--	--
WBN-1-THV -063-0556 -S	2.71299	--	--	--
WBN-0-ISV -032-0460 -A	2.64569	--	--	--
WBN-0-ISV -032-1476 -A	2.64569	--	--	--
WBN-1-CKV -003-0805 -A	2.64569	1.16E-05	1.000012	2.29E-05
WBN-1-ISV -003-0803 -A	2.64569	--	--	--
WBN-1-PCV -003-0122	2.64569	1.19E-04	1.000119	2.29E-05
WBN-1-PMP -003-0118 -A	2.64569	1.98E-03	1.001979	2.29E-05
WBN-0-BKR -236-0002/204-E	2.63771	3.82E-06	1.000004	2.28E-05
WBN-0-FU -236-0002/201-E	2.63771	2.70E-06	1.000003	2.28E-05
WBN-1-ISV -067-0603B -B	2.63590	--	--	--
WBN-1-ISV -067-0613B -B	2.63590	--	--	--
WBN-1-ISV -070-0725B -B	2.63590	--	--	--
WBN-1-FAN -030-0493	2.60811	4.05E-04	1.000405	2.24E-05
WBN-1-HTX -082-0720B1 -B	2.60811	2.40E-05	1.000024	2.24E-05
WBN-1-HTX -082-0720B2 -B	2.60811	2.40E-05	1.000024	2.24E-05
WBN-1-TANK-018-0061/2	2.60811	--	--	--
WBN-1-TANK-018-0076/2	2.60811	--	--	--

Table 67 -- Unit 1 Component Importance for CDF, RAW > 2

Item	RAW	FV	RRW	BB
WBN-1-THV -067-0510B	2.60811	--	--	--
WBN-1-THV -067-0515B	2.60811	--	--	--
WBN-1-THV -067-8021 -B	2.60811	--	--	--
WBN-0-PMP-026-TDFP	2.49828	3.83E-03	1.003844	2.09E-05
WBN-0-ISV -032-0450 -B	2.49551	--	--	--
WBN-0-ISV -032-1478 -B	2.49551	--	--	--
WBN-1-CKV -003-0806 -B	2.49551	1.14E-05	1.000011	2.08E-05
WBN-1-ISV -003-0804 -B	2.49551	--	--	--
WBN-1-PCV -003-0132	2.49551	1.11E-04	1.000111	2.08E-05
WBN-1-PMP -003-0128 -B	2.49551	1.80E-03	1.001805	2.08E-05
WBN-0-BKR -236-0004/304-G	2.46912	4.83E-06	1.000005	2.04E-05
WBN-0-FU -236-0004/301-G	2.46912	3.63E-06	1.000004	2.04E-05
WBN-1-BD -235-0003 -F	2.36196	3.47E-04	1.000347	1.90E-05
WBN-1-XSW -235-0003 -F	2.36196	1.34E-04	1.000134	1.89E-05
WBN-1-SW -235-0003 -F	2.27382	3.31E-06	1.000003	1.77E-05
WBN-1-CKV -003-0810 -S	2.24702	1.07E-05	1.000011	1.73E-05
WBN-1-CKV -003-0864 -S	2.24702	1.07E-05	1.000011	1.73E-05
WBN-1-FCV -001-0017 -A	2.24702	0.00E+00	1	1.73E-05
WBN-1-FCV -001-0018 -B	2.24702	0.00E+00	1	1.73E-05
WBN-1-ISV -003-0809 -S	2.24702	--	--	--
WBN-1-FAN -030-0214	2.06351	6.50E-03	1.006545	1.49E-05
WBN-1-BKD -031-3035	2.05839	--	--	--
WBN-1-ISD -031-3783	2.05839	--	--	--
WBN-1-BKR -010-0039	2.01682	2.62E-06	1.000003	1.41E-05
WBN-1-FU -278-L11AJ13	2.01642	1.84E-06	1.000002	1.41E-05
WBN-1-FU -278-L11AJ14	2.01642	1.84E-06	1.000002	1.41E-05
WBN-1-PS -003-0138A -A	2.01642	1.26E-04	1.000126	1.41E-05
WBN-1-RLY -0010-TDPA	2.01642	2.06E-05	1.000021	1.41E-05

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 68 -- Unit 2 Component Importance for CDF, F-V > 0.5%

ITEM	RAW	FV	RRW	BB
WBN-2-GEN -082-0002A -A	24.25757	5.25E-02	1.05542	3.33E-04
WBN-2-PMP -003-0001A -S	5.675406	4.34E-02	1.045351	6.74E-05
WBN-2-GEN -082-0002B -B	13.99131	4.07E-02	1.042415	1.86E-04
WBN-2-FAN -030-0460	24.25757	2.06E-02	1.020998	3.33E-04
WBN-2-FAN -030-0183	6.306892	1.72E-02	1.017459	7.61E-05
WBN-2-FAN -030-0462	13.99131	1.60E-02	1.016279	1.86E-04
WBN-0-PMP -067-0028 -A	2.102571	1.44E-02	1.014565	1.60E-05
WBN-0-PMP -067-0036 -A	2.102148	1.43E-02	1.014541	1.59E-05
WBN-2-RFV -062-0636 -S	6.291574	1.37E-02	1.013865	7.58E-05
WBN-2-BKR -211-1816/16 -A	24.23795	7.33E-03	1.007382	3.32E-04
WBN-2-FAN -030-0214	2.03529	6.38E-03	1.006421	1.49E-05
WBN-2-HTX -070-0185	10.87854	6.19E-03	1.006227	1.41E-04
WBN-2-BKR -211-1828/16 -B	13.99763	5.80E-03	1.005833	1.86E-04
WBN-2-FAN -030-0448	1.720338	5.53E-03	1.005562	1.04E-05
WBN-2-FAN -030-0452	1.720338	5.53E-03	1.005562	1.04E-05
WBN-2-RFV -068-0563	7.48964	5.05E-03	1.00508	9.28E-05
WBN-2-RFV -068-0564	7.48964	5.05E-03	1.00508	9.28E-05
WBN-2-RFV -068-0565	7.48964	5.05E-03	1.00508	9.28E-05

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 69 -- Unit 2 Component Importance for CDF, RAW > 2**

ITEM	RAW	FV	RRW	BB
WBN-2-STN -063-0200	219.823	2.19E-03	1.002195	3.13E-03
WBN-2-BD -211-A -A	181.2278	1.34E-03	1.00134	2.57E-03
WBN-0-ISV -070-0503	12.54601	2.11E-07	1	1.65E-04
WBN-0-ISV -070-0505	12.54601	2.11E-07	1	1.65E-04
WBN-0-FCV -067-0144 -B	12.53275	4.33E-06	1.000004	1.65E-04
WBN-0-FCV -070-0012 -B	12.53275	2.11E-07	1	1.65E-04
WBN-0-FCV -070-0022 -B	12.53275	2.11E-07	1	1.65E-04
WBN-0-HTX -070-0186	12.53275	1.86E-04	1.000186	1.65E-04
WBN-0-ISV -067-1009 -B	12.53275	2.11E-07	1	1.65E-04
WBN-0-ISV -067-1010 -B	12.53275	2.11E-07	1	1.65E-04
WBN-0-ISV -070-0510 -B	12.53275	2.11E-07	1	1.65E-04
WBN-2-BD -212-B002 -B	11.80313	1.07E-04	1.000107	1.54E-04
WBN-2-BKR -212-B002/1B -B	11.80313	3.93E-05	1.000039	1.54E-04
WBN-2-BKR -212-B2 -B	11.80313	3.93E-05	1.000039	1.54E-04
WBN-2-OXF -212-B002 -B	11.80313	2.30E-04	1.00023	1.54E-04
WBN-2-FCV -067-0143 -A	10.87854	2.65E-04	1.000265	1.41E-04
WBN-2-FCV -070-0015 -A	10.87854	1.25E-05	1.000013	1.41E-04
WBN-2-FCV -070-0016 -A	10.87854	1.25E-05	1.000013	1.41E-04
WBN-2-HTX -070-0185	10.87854	6.19E-03	1.006227	1.41E-04
WBN-2-ISV -070-0510 -A	10.87854	1.25E-05	1.000013	1.41E-04
WBN-2-ISV -070-0544A -S	10.87854	1.25E-05	1.000013	1.41E-04
WBN-2-ISV -070-0544C -A	10.87854	1.25E-05	1.000013	1.41E-04
WBN-0-BKR -236-0004/226-G	10.57451	3.45E-05	1.000034	1.37E-04
WBN-0-CHGR-236-0004 -G	10.57451	1.17E-03	1.001172	1.37E-04
WBN-0-FU -236-0004/210-G	10.57451	2.55E-05	1.000026	1.37E-04
WBN-0-SW -236-0004/SW1-S	10.57451	3.45E-05	1.000034	1.37E-04
WBN-2-BD -235-0003 -F	10.56107	9.52E-05	1.000095	1.37E-04
WBN-2-SW -235-0003 -F	10.56107	3.47E-05	1.000035	1.37E-04
WBN-2-XSW -235-0003 -F	10.56107	3.47E-05	1.000035	1.37E-04
WBN-2-ISV -067-0546 -A	10.10128	4.47E-07	1	1.30E-04
WBN-2-ISV -067-1009	10.10128	4.47E-07	1	1.30E-04
WBN-2-ISV -067-1010	10.10128	4.47E-07	1	1.30E-04
WBN-2-RFV -070-0521	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0551A -A	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0556A -A	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0561A -A	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0565A -A	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0570A -A	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0578	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0584	10.10128	4.36E-05	1.000044	1.30E-04

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 69 -- Unit 2 Component Importance for CDF, RAW > 2**

ITEM	RAW	FV	RRW	BB
WBN-2-RFV -070-0668	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0683A	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0683B	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0683C	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0683D	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0694	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0703	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0729A	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0729B	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-RFV -070-0741	10.10128	4.36E-05	1.000044	1.30E-04
WBN-2-BD -212-B001 -B	9.543413	7.97E-05	1.00008	1.22E-04
WBN-2-BKR -212-B001/1B -B	9.543413	2.81E-05	1.000028	1.22E-04
WBN-2-BKR -212-B1 -B	9.543413	2.81E-05	1.000028	1.22E-04
WBN-2-OXF -212-B001 -B	9.543413	1.84E-04	1.000184	1.22E-04
WBN-0-ISV -067-0546 -B	9.038281	2.11E-07	1	1.15E-04
WBN-2-RFV -070-0551B -B	9.038281	2.80E-05	1.000028	1.15E-04
WBN-2-RFV -070-0556B -B	9.038281	2.80E-05	1.000028	1.15E-04
WBN-2-RFV -070-0561B -B	9.038281	2.80E-05	1.000028	1.15E-04
WBN-2-RFV -070-0565B -B	9.038281	2.80E-05	1.000028	1.15E-04
WBN-2-RFV -070-0570B -B	9.038281	2.80E-05	1.000028	1.15E-04
WBN-2-PMP -070-0059 -A	7.95728	2.02E-03	1.002022	9.94E-05
WBN-2-CKV -070-0504A -A	7.956392	1.55E-05	1.000015	9.94E-05
WBN-2-ISV -070-0503A -A	7.924953	3.18E-07	1	9.89E-05
WBN-2-ISV -070-0505A -A	7.924953	3.18E-07	1	9.89E-05
WBN-0-BKR -236-0003/304-F	7.9016	2.53E-05	1.000025	9.86E-05
WBN-0-FU -236-0003/301-F	7.9016	1.88E-05	1.000019	9.86E-05
WBN-2-RFV -068-0563	7.48964	5.05E-03	1.00508	9.28E-05
WBN-2-RFV -068-0564	7.48964	5.05E-03	1.00508	9.28E-05
WBN-2-RFV -068-0565	7.48964	5.05E-03	1.00508	9.28E-05
WBN-2-CKV -063-0586 -S	7.461146	8.49E-05	1.000085	9.23E-05
WBN-2-CKV -063-0587 -S	7.461146	8.49E-05	1.000085	9.23E-05
WBN-2-CKV -063-0588 -S	7.461146	8.49E-05	1.000085	9.23E-05
WBN-2-CKV -063-0589 -S	7.461146	8.49E-05	1.000085	9.23E-05
WBN-2-THV -063-0582 -S	7.461146	1.20E-07	1	9.23E-05
WBN-2-THV -063-0583 -S	7.461146	1.20E-07	1	9.23E-05
WBN-2-THV -063-0584 -S	7.461146	1.20E-07	1	9.23E-05
WBN-2-THV -063-0585 -S	7.461146	1.20E-07	1	9.23E-05
WBN-2-BKR -212-B001/10B-B	7.112299	2.18E-05	1.000022	8.73E-05
WBN-2-BKR -214-B001/1A1-B	7.112299	2.18E-05	1.000022	8.73E-05
WBN-2-MCC -214-B001 -B	7.112299	6.19E-05	1.000062	8.73E-05
WBN-2-FCV -067-0024 -B	6.49638	2.11E-07	1	7.85E-05

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 69 -- Unit 2 Component Importance for CDF, RAW > 2

ITEM	RAW	FV	RRW	BB
WBN-2-FCV -067-0082 -B	6.49638	2.11E-07	1	7.85E-05
WBN-2-FCV -067-0128 -B	6.49638	2.11E-07	1	7.85E-05
WBN-2-ISV -067-0505B -B	6.49638	2.11E-07	1	7.85E-05
WBN-2-ISV -067-0506B -B	6.49638	6.11E-08	1	7.85E-05
WBN-2-PMP -062-0108 -A	6.308221	2.78E-03	1.002786	7.59E-05
WBN-2-CKV -062-0525 -A	6.306892	2.80E-06	1.000003	7.58E-05
WBN-2-FAN -030-0183	6.306892	1.72E-02	1.017459	7.61E-05
WBN-2-CLR -030-0183	6.293896	1.05E-04	1.000105	7.56E-05
WBN-2-CLR -062-0108A -A	6.293896	1.05E-04	1.000105	7.56E-05
WBN-2-CLR -062-0108B -A	6.293896	1.05E-04	1.000105	7.56E-05
WBN-2-FCV -067-0168 -A	6.293896	2.11E-05	1.000021	7.56E-05
WBN-2-ISV -062-0509 -A	6.293896	3.36E-07	1	7.56E-05
WBN-2-ISV -062-0527 -A	6.293896	3.36E-07	1	7.56E-05
WBN-2-ISV -067-0600A -A	6.293896	3.36E-07	1	7.56E-05
WBN-2-ISV -067-0602A -A	6.293896	3.36E-07	1	7.56E-05
WBN-2-ISV -070-0557A -A	6.293896	3.36E-07	1	7.56E-05
WBN-2-ISV -070-0800	6.293896	3.36E-07	1	7.56E-05
WBN-2-ISV -070-0801	6.293896	3.36E-07	1	7.56E-05
WBN-2-THV -067-0601A -A	6.293896	3.36E-07	1	7.56E-05
WBN-2-THV -070-0554A	6.293896	3.36E-07	1	7.56E-05
WBN-2-CKV -062-0560 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0561 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0562 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0563 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0576 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0577 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0578 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0579 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0592 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0593 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0594 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-CKV -062-0595 -S	6.291574	2.33E-07	1	7.56E-05
WBN-2-FCV -062-0009	6.291574	2.16E-05	1.000022	7.56E-05
WBN-2-FCV -062-0022	6.291574	2.16E-05	1.000022	7.56E-05
WBN-2-FCV -062-0035	6.291574	2.16E-05	1.000022	7.56E-05
WBN-2-FCV -062-0048	6.291574	2.16E-05	1.000022	7.56E-05
WBN-2-FCV -062-0053	6.291574	3.27E-03	1.003279	7.56E-05
WBN-2-FCV -062-0093	6.291574	2.16E-05	1.000022	7.56E-05
WBN-2-FLTR-062-0097	6.291574	1.16E-05	1.000012	7.56E-05
WBN-2-INJ -062-0556 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-INJ -062-0557 -S	6.291574	3.53E-07	1	7.56E-05

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 69 -- Unit 2 Component Importance for CDF, RAW > 2

ITEM	RAW	FV	RRW	BB
WBN-2-INJ -062-0558 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-INJ -062-0559 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-ISV -062-0535 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-ISV -062-0536 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-ISV -062-0548 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-ISV -062-0550 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-ISV -062-0564 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-ISV -062-0565 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-ISV -062-0566 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-ISV -062-0567 -S	6.291574	3.53E-07	1	7.56E-05
WBN-2-RFV -062-0636 -S	6.291574	1.37E-02	1.013865	7.58E-05
WBN-2-BD -235-0004 -G	6.193861	4.74E-05	1.000047	7.42E-05
WBN-2-SW -235-0004 -G	6.193861	1.73E-05	1.000017	7.42E-05
WBN-2-XSW -235-0004 -G	6.193861	1.73E-05	1.000017	7.42E-05
WBN-2-PMP -003-0001A -S	5.675406	4.34E-02	1.045351	6.74E-05
WBN-0-BAT -236-0002 -E	4.763811	2.81E-05	1.000028	5.38E-05
WBN-0-BKR -236-0002/109-E	4.763811	1.40E-06	1.000001	5.38E-05
WBN-0-FU -236-0002/101-E	4.763811	9.55E-07	1.000001	5.38E-05
WBN-0-BD -236-0001 -D	4.310435	4.39E-06	1.000004	4.73E-05
WBN-0-BD -236-0002 -E	3.923073	5.03E-06	1.000005	4.18E-05
WBN-2-FCV -070-0075 -B	3.702143	2.02E-07	1	3.86E-05
WBN-0-BAT -236-0001 -D	3.646685	2.00E-05	1.00002	3.78E-05
WBN-0-BKR -236-0001/109-D	3.646685	1.08E-06	1.000001	3.78E-05
WBN-0-FU -236-0001/101-D	3.646685	7.64E-07	1.000001	3.78E-05
WBN-2-PCV -068-0334 -B	3.55248	3.54E-03	1.003551	3.65E-05
WBN-2-PCV -068-0340A -A	3.5477	3.53E-03	1.003544	3.64E-05
WBN-2-FAN -030-0492	3.454331	6.41E-04	1.000641	3.51E-05
WBN-2-HTX -082-0720A1 -A	3.454331	4.28E-05	1.000043	3.51E-05
WBN-2-HTX -082-0720A2 -A	3.454331	4.28E-05	1.000043	3.51E-05
WBN-2-TANK-018-0061/3	3.454331	--	--	--
WBN-2-TANK-018-0076/3	3.454331	--	--	--
WBN-2-THV -067-0510A	3.454331	1.76E-08	1	3.51E-05
WBN-2-THV -067-0515A	3.454331	1.76E-08	1	3.51E-05
WBN-2-THV -067-8020 -A	3.454331	1.76E-08	1	3.51E-05
WBN-2-FCV -070-0003 -B	3.33988	6.37E-08	1	3.34E-05
WBN-2-CKV -063-0560 -S	2.952835	2.68E-05	1.000027	2.79E-05
WBN-2-CKV -063-0561 -S	2.952835	2.68E-05	1.000027	2.79E-05
WBN-2-CKV -063-0562 -S	2.952835	2.68E-05	1.000027	2.79E-05
WBN-2-CKV -063-0563 -S	2.952835	2.68E-05	1.000027	2.79E-05
WBN-2-FCV -070-0004 -A	2.946212	1.29E-05	1.000013	2.78E-05
WBN-2-ISV -070-0501	2.946212	1.22E-05	1.000012	2.78E-05

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 69 -- Unit 2 Component Importance for CDF, RAW > 2

ITEM	RAW	FV	RRW	BB
WBN-2-ISV -070-0516	2.946212	1.22E-05	1.000012	2.78E-05
WBN-0-BKR -236-0004/304-G	2.918996	4.47E-06	1.000004	2.74E-05
WBN-0-FU -236-0004/301-G	2.918996	3.16E-06	1.000003	2.74E-05
WBN-2-FAN -030-0494	2.89044	4.77E-04	1.000477	2.70E-05
WBN-2-HTX -082-0720B1 -B	2.89044	2.83E-05	1.000028	2.70E-05
WBN-2-HTX -082-0720B2 -B	2.89044	2.83E-05	1.000028	2.70E-05
WBN-2-TANK-018-0061/4	2.89044	--	--	--
WBN-2-TANK-018-0076/4	2.89044	--	--	--
WBN-2-THV -067-0510B	2.89044	--	--	--
WBN-2-THV -067-0515B	2.89044	--	--	--
WBN-2-THV -067-8021 -B	2.89044	--	--	--
WBN-2-FCV -063-0003 -A	2.678688	3.57E-06	1.000004	2.40E-05
WBN-2-CKV -063-0510 -S	2.668353	2.18E-05	1.000022	2.38E-05
WBN-2-CKV -063-0551 -S	2.668353	2.18E-05	1.000022	2.38E-05
WBN-2-CKV -063-0553 -S	2.668353	2.18E-05	1.000022	2.38E-05
WBN-2-CKV -063-0555 -S	2.668353	2.18E-05	1.000022	2.38E-05
WBN-2-CKV -063-0557 -S	2.668353	2.18E-05	1.000022	2.38E-05
WBN-2-FCV -063-0005 -B	2.668353	1.08E-06	1.000001	2.38E-05
WBN-2-FCV -063-0022 -B	2.668353	1.08E-06	1.000001	2.38E-05
WBN-2-THV -063-0550 -S	2.668353	--	--	--
WBN-2-THV -063-0552 -S	2.668353	--	--	--
WBN-2-THV -063-0554 -S	2.668353	--	--	--
WBN-2-THV -063-0556 -S	2.668353	--	--	--
WBN-2-PMP -062-0104 -B	2.642142	8.60E-04	1.000861	2.35E-05
WBN-2-CKV -067-0508A -A	2.618985	--	--	--
WBN-2-FCV -067-0066 -A	2.618985	1.64E-06	1.000002	2.31E-05
WBN-0-BKR -236-0002/204-E	2.514175	5.11E-06	1.000005	2.16E-05
WBN-0-FU -236-0002/201-E	2.514175	3.80E-06	1.000004	2.16E-05
WBN-2-PMP -003-0118 -A	2.455259	1.85E-03	1.001856	2.08E-05
WBN-2-PMP -003-0128 -B	2.412771	1.80E-03	1.001806	2.02E-05
WBN-0-ISV -032-0460 -A	2.395025	--	--	--
WBN-0-ISV -032-1476 -A	2.395025	--	--	--
WBN-2-CKV -003-0805 -A	2.395025	9.61E-06	1.00001	1.99E-05
WBN-2-ISV -003-0803 -A	2.395025	--	--	--
WBN-2-PCV -003-0122	2.395025	9.98E-05	1.0001	1.99E-05
WBN-0-ISV -032-0450 -B	2.369612	--	--	--
WBN-0-ISV -032-1478 -B	2.369612	--	--	--
WBN-2-CKV -003-0806 -B	2.369612	9.36E-06	1.000009	1.96E-05
WBN-2-ISV -003-0804 -B	2.369612	--	--	--
WBN-2-PCV -003-0132	2.369612	9.91E-05	1.000099	1.96E-05
WBN-2-BKR -212-B001/8B -B	2.289117	4.17E-06	1.000004	1.84E-05

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 69 -- Unit 2 Component Importance for CDF, RAW > 2**

ITEM	RAW	FV	RRW	BB
WBN-2-BKR -213-B001/1A1-B	2.289117	4.17E-06	1.000004	1.84E-05
WBN-2-MCC -213-B001 -B	2.289117	1.23E-05	1.000012	1.84E-05
WBN-2-BD -235-0001 -D	2.281202	1.02E-05	1.00001	1.83E-05
WBN-2-SW -235-0001 -D	2.281202	3.32E-06	1.000003	1.83E-05
WBN-2-XSW -235-0001 -D	2.281202	3.32E-06	1.000003	1.83E-05
WBN-2-CKV -070-0671	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0679	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0681A	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0681B	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0681C	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0681D	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0682A	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0682B	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0682C	2.168869	5.34E-08	1	1.67E-05
WBN-2-CKV -070-0682D	2.168869	5.34E-08	1	1.67E-05
WBN-2-FCV -070-0087 -B	2.168869	7.48E-07	1.000001	1.67E-05
WBN-2-FCV -070-0090 -A	2.168869	7.48E-07	1.000001	1.67E-05
WBN-2-FCV -070-0133 -A	2.168869	7.48E-07	1.000001	1.67E-05
WBN-2-FCV -070-0134 -B	2.168869	7.48E-07	1.000001	1.67E-05
WBN-2-HTX -068-0008	2.168869	6.52E-06	1.000006	1.67E-05
WBN-2-HTX -068-0031	2.168869	6.52E-06	1.000006	1.67E-05
WBN-2-HTX -068-0050	2.168869	6.52E-06	1.000006	1.67E-05
WBN-2-HTX -068-0073	2.168869	6.52E-06	1.000006	1.67E-05
WBN-2-ISV -070-0680	2.168869	8.09E-08	1	1.67E-05
WBN-2-ISV -070-0690	2.168869	8.09E-08	1	1.67E-05
WBN-2-ISV -070-0736	2.168869	8.09E-08	1	1.67E-05
WBN-2-THV -070-0684A	2.168869	8.09E-08	1	1.67E-05
WBN-2-THV -070-0684B	2.168869	8.09E-08	1	1.67E-05
WBN-2-THV -070-0684C	2.168869	8.09E-08	1	1.67E-05
WBN-2-THV -070-0684D	2.168869	8.09E-08	1	1.67E-05
WBN-2-CKV -003-0810 -S	2.168373	9.80E-06	1.00001	1.67E-05
WBN-2-CKV -003-0864 -S	2.168373	9.80E-06	1.00001	1.67E-05
WBN-2-FCV -001-0017 -A	2.168373	0.00E+00	1	1.67E-05
WBN-2-FCV -001-0018 -B	2.168373	0.00E+00	1	1.67E-05
WBN-2-ISV -003-0809 -S	2.168373	--	--	--
WBN-0-PMP -067-0028 -A	2.102571	1.44E-02	1.014565	1.60E-05
WBN-0-PMP -067-0036 -A	2.102148	1.43E-02	1.014541	1.59E-05
WBN-2-ISV -067-0603B -B	2.098334	--	--	--
WBN-2-ISV -067-0613B -B	2.098334	--	--	--
WBN-2-ISV -070-0725B -B	2.098334	--	--	--
WBN-2-FAN -030-0214	2.03529	6.38E-03	1.006421	1.49E-05

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 69 -- Unit 2 Component Importance for CDF, RAW > 2**

ITEM	RAW	FV	RRW	BB
WBN-2-BKD -031-3035	2.030269	--	--	--
WBN-2-ISD -031-3783	2.030269	--	--	--
WBN-2-STN -063-0200	219.823	2.19E-03	1.002195	3.13E-03
WBN-2-BD -211-A -A	181.2278	1.34E-03	1.00134	2.57E-03
WBN-0-CKV -067-0503H -B	104.6858	3.86E-04	1.000386	1.48E-03
WBN-0-CKV -067-0503F -B	104.6846	3.85E-04	1.000385	1.48E-03
WBN-0-CKV -067-0503D -A	100.3602	4.27E-04	1.000427	1.42E-03
WBN-0-CKV -067-0503B -A	100.3601	4.27E-04	1.000427	1.42E-03
WBN-2-BD -212-A002 -A	89.52216	9.19E-04	1.00092	1.26E-03
WBN-2-BKR -212-A002/1B -A	89.52216	3.60E-04	1.00036	1.26E-03
WBN-2-BKR -212-A2 -A	89.52216	3.60E-04	1.00036	1.26E-03
WBN-2-OXF -212-A002 -A	89.52216	1.92E-03	1.001923	1.26E-03
WBN-2-ISV -067-0506A -A	87.68333	2.74E-06	1.000003	1.24E-03
ESFAS CABINETS U2	57.21712	9.22E-04	1.000923	8.03E-04
WBN-0-BD -236-0003 -F	42.68415	6.88E-05	1.000069	5.95E-04
WBN-0-BKR -236-0003/226-F	35.20562	1.35E-04	1.000135	4.89E-04
WBN-0-CHGR-236-0003 -F	35.20562	4.17E-03	1.004192	4.89E-04
WBN-0-FU -236-0003/210-F	35.20562	1.02E-04	1.000102	4.89E-04
WBN-0-SW -236-0003/SW1-S	35.20562	1.35E-04	1.000135	4.89E-04
WBN-2-BD -211-B -B	35.09699	2.88E-04	1.000288	4.87E-04
WBN-0-BD -236-0004 -G	31.65598	4.68E-05	1.000047	4.38E-04
WBN-2-FAN -030-0460	24.25757	2.06E-02	1.020998	3.33E-04
WBN-2-GEN -082-0002A -A	24.25757	5.25E-02	1.05542	3.33E-04
WBN-2-BKR -211-1816/16 -A	24.23795	7.33E-03	1.007382	3.32E-04
WBN-2-FCO -030-0444 -A	24.2137	2.88E-03	1.00289	3.32E-04
WBN-2-FCO -030-0460 -A	24.2137	2.88E-03	1.00289	3.32E-04
WBN-2-TANK-063-0046	23.51581	1.09E-06	1.000001	3.22E-04
WBN-2-BD -212-A001 -A	22.25578	2.17E-04	1.000218	3.04E-04
WBN-2-BKR -212-A001/1B -A	22.25578	8.38E-05	1.000084	3.04E-04
WBN-2-BKR -212-A1 -A	22.25578	8.38E-05	1.000084	3.04E-04
WBN-2-OXF -212-A001 -A	22.25578	4.60E-04	1.00046	3.04E-04
WBN-2-BKR -212-A001/10B-A	20.91979	7.86E-05	1.000079	2.85E-04
WBN-2-BKR -214-A001/1A1-A	20.91979	7.86E-05	1.000079	2.85E-04
WBN-2-MCC -214-A001 -A	20.91979	2.04E-04	1.000204	2.85E-04
WBN-2-BKR -099-L116/1B -A	19.66698	6.91E-04	1.000691	2.67E-04
WBN-2-BKR -099-L116/1C -B	18.83844	6.60E-04	1.000661	2.55E-04
WBN-2-BKR -211-1828/16 -B	13.99763	5.80E-03	1.005833	1.86E-04
WBN-2-FAN -030-0462	13.99131	1.60E-02	1.016279	1.86E-04
WBN-2-GEN -082-0002B -B	13.99131	4.07E-02	1.042415	1.86E-04
WBN-2-FCO -030-0446 -B	13.96176	2.25E-03	1.002254	1.85E-04
WBN-2-FCO -030-0462 -B	13.96176	2.25E-03	1.002254	1.85E-04

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 70 -- Unit 1 HRA CDF Importance F-V >0.5%**

Event	Probability	FV	BB	RRW	RAW	Description
HARR1	3.80E-03	1.43E-01	5.22E-04	1.1663	38.3817	Align high pressure recirculation, given auto swapover works
AFWOP3	1.10E-02	1.21E-01	1.52E-04	1.1371	11.84	Depressurize/cooldown to low pressure injection following small LOCA with failur
HACCSR2	1.60E-02	8.67E-02	7.54E-05	1.095	6.3338	ALIGN AND INITIATE ALTERNATE COOLING TO CCP A
HAPR1	4.50E-03	7.96E-03	2.46E-05	1.008	2.7609	Isolate open PORV with block valve after SI
DHARR3	1.00E-03	7.40E-03	1.03E-04	1.0075	8.3873	OPERATOR FAILS TO RESTART RHR PUMP FOR HP RECIRCULATION
HAOB2	1.60E-02	5.95E-03	5.17E-06	1.006	1.3656	Establish RCS Bleed and Feed cooling given no CCPS running
AFWOP1	2.10E-02	5.42E-03	3.59E-06	1.0054	1.2526	Depressurize/cooldown to low pressure injection following MLOCA
HARR1	3.80E-03	1.43E-01	5.22E-04	1.1663	38.3817	Align high pressure recirculation, given auto swapover works
AFWOP3	1.10E-02	1.21E-01	1.52E-04	1.1371	11.84	Depressurize/cooldown to low pressure injection following small LOCA with failur
HACCSR2	1.60E-02	8.67E-02	7.54E-05	1.095	6.3338	ALIGN AND INITIATE ALTERNATE COOLING TO CCP A
HAERCW3	5.00E-02	8.20E-02	2.28E-05	1.0894	2.5584	OPERATOR FAILS TO ALIGN FIRE PROTECTION TO CCP A
HACH1	1.10E-02	6.62E-02	8.37E-05	1.0709	6.9528	Transfer Containment Spray to Sump (RHR Swap Successful)
HAERCW2	7.80E-02	5.81E-02	1.04E-05	1.0617	1.6865	OPERATOR FAILS TO ALIGN FIRE PROTECTION PUMP TO ERCW HEADER
HAMU2B	5.00E-03	5.68E-02	1.58E-04	1.0602	12.3011	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAMU2B	5.00E-03	5.68E-02	1.58E-04	1.0602	12.3011	Makeup to RWST using containment spray test recirc from sump during small LOCA
SSIOP	6.70E-03	3.65E-02	7.57E-05	1.0378	6.4044	Terminate Safety Injection to prevent PORV water challenge
HARL1	2.30E-03	1.89E-02	1.15E-04	1.0193	9.2141	Recover from auto swapover failure

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 71 -- Unit 1 HRA CDF Importance RAW >2

Event	Probability	FV	BB	RRW	RAW	Description
WHESUM	3.50E-07	8.11E-05	3.22E-03	1.0001	232.7181	Remove Drain Plugs from Refueling Canal After Refueling
WHESDB_1	2.00E-06	3.95E-04	2.74E-03	1.0004	198.1368	6.9kV Shutdown Board 1-A Automatic Features Disabled
HARR1	3.80E-03	1.43E-01	5.22E-04	1.1663	38.3817	Align high pressure recirculation, given auto swapover works
WHESDB_2	2.00E-06	5.56E-05	3.87E-04	1.0001	28.8041	6.9kV Shutdown Board 1-B Automatic Features Disabled
WHESDB_4	2.00E-06	3.13E-05	2.17E-04	1	16.6313	6.9kV Shutdown Board 2-B Automatic Features Disabled
HAMU2B	5.00E-03	5.68E-02	1.58E-04	1.0602	12.3011	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAMU2B	5.00E-03	5.68E-02	1.58E-04	1.0602	12.3011	Makeup to RWST using containment spray test recirc from sump during small LOCA
AFWOP3	1.10E-02	1.21E-01	1.52E-04	1.1371	11.84	Depressurize/cooldown to low pressure injection following small LOCA with failur
HARL1	2.30E-03	1.89E-02	1.15E-04	1.0193	9.2141	Recover from auto swapover failure
DHARR3	1.00E-03	7.40E-03	1.03E-04	1.0075	8.3873	OPERATOR FAILS TO RESTART RHR PUMP FOR HP RECIRCULATION
HACH1	1.10E-02	6.62E-02	8.37E-05	1.0709	6.9528	Transfer Containment Spray to Sump (RHR Swap Successful)
SSIOP	6.70E-03	3.65E-02	7.57E-05	1.0378	6.4044	Terminate Safety Injection to prevent PORV water challenge
HACCSR2	1.60E-02	8.67E-02	7.54E-05	1.095	6.3338	ALIGN AND INITIATE ALTERNATE COOLING TO CCP A
HCRL1	3.80E-03	1.85E-02	6.77E-05	1.0188	5.8466	Inadvertently Reset SI Signal, Failure of Auto Sump Swapover
HAOS3	1.90E-04	8.03E-04	5.88E-05	1.0008	5.2234	Start AFW (Reactor trip, no SI)
RSIOP	6.90E-04	1.55E-03	3.13E-05	1.0016	3.2501	Operator Restarts Safety Injection to restore RCS makeup
HART1	1.40E-03	3.07E-03	3.05E-05	1.0031	3.1927	Manually trip reactor, given SSPS fails
WHESDB_3	2.00E-06	4.15E-06	2.89E-05	1	3.0757	6.9kV Shutdown Board 2-A Automatic Features Disabled
HAPR1	4.50E-03	7.96E-03	2.46E-05	1.008	2.7609	Isolate open PORV with block valve after SI
HAERCW3	5.00E-02	8.20E-02	2.28E-05	1.0894	2.5584	OPERATOR FAILS TO ALIGN FIRE PROTECTION TO CCP A
WHEMDA_1	1.20E-04	1.64E-04	1.90E-05	1.0002	2.3625	Motor Driven AFW Pump Train A Isolation Test Error
WHEMDA_2	1.20E-04	1.52E-04	1.76E-05	1.0002	2.2659	Motor Driven AFW Pump Train B Isolation Test Error

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Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY			

Table 72 -- Unit 2 HRA CDF Importance F-V >0.5%

Event	Probability	FV	BB	RRW	RAW	Description
HARR1	3.80E-03	1.39E-01	5.22E-04	1.1611	37.3735	Align high pressure recirculation, given auto swapover works
AFWOP3	1.10E-02	1.17E-01	1.52E-04	1.1328	11.5374	Depressurize/cooldown to low pressure injection following small LOCA with failur
HAERCW3	5.00E-02	9.34E-02	2.67E-05	1.103	2.7749	OPERATOR FAILS TO ALIGN FIRE PROTECTION TO CCP A
HACCSR2	1.60E-02	8.24E-02	7.36E-05	1.0898	6.0675	ALIGN AND INITIATE ALTERNATE COOLING TO CCP A
HACH1	1.10E-02	6.26E-02	8.13E-05	1.0668	6.6318	Transfer Containment Spray to Sump (RHR Swap Successful)
HAMU2B	5.00E-03	5.48E-02	1.57E-04	1.058	11.9129	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAMU2B	5.00E-03	5.48E-02	1.57E-04	1.058	11.9129	Makeup to RWST using containment spray test recirc from sump during small LOCA
SSIOP	6.70E-03	3.53E-02	7.54E-05	1.0366	6.2404	Terminate Safety Injection to prevent PORV water challenge
HAAEIE	1.80E-03	2.84E-02	2.26E-04	1.0292	16.7572	Start standby ERCW pump - operating pump fails - normal ops
HAAE1	2.00E-04	2.77E-02	1.98E-03	1.0285	139.2979	Start standby ERCW pump - running pump fails (non-SI)
HAAF1	2.20E-02	2.38E-02	1.54E-05	1.0243	2.0567	Locally operate TD AFW valves to control flow on SBO
HARL1	2.30E-03	1.94E-02	1.20E-04	1.0198	9.4013	Recover from auto swapover failure
HCRL1	3.80E-03	1.82E-02	6.85E-05	1.0186	5.7792	Inadvertently Reset SI Signal, Failure of Auto Sump Swapover
HAOSBF	2.00E-01	1.28E-02	9.14E-07	1.013	1.0512	Steam generator feed with manual level control fails
HAPR1	4.50E-03	7.65E-03	2.43E-05	1.0077	2.6921	Isolate open PORV with block valve after SI
DHARR3	1.00E-03	7.15E-03	1.02E-04	1.0072	8.1411	OPERATOR FAILS TO RESTART RHR PUMP FOR HP RECIRCULATION
FLTB1C	1.00E-02	6.78E-03	9.68E-06	1.0068	1.6709	Isolate CCW following major break in Turbine Building
HART1	1.40E-03	6.20E-03	6.33E-05	1.0062	5.4215	Manually trip reactor, given SSPS fails
AFWOP1	2.10E-02	5.31E-03	3.62E-06	1.0053	1.2477	Depressurize/cooldown to low pressure injection following MLOCA
HAOB2	1.60E-02	5.29E-03	4.73E-06	1.0053	1.3255	Establish RCS Bleed and Feed cooling given no CCPS running

Table 73 -- Unit 2 HRA CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
AFWOP3	1.10E-02	1.17E-01	1.52E-04	1.1328	11.5374	Depressurize/cooldown to low pressure injection following small LOCA with failur
DHARR3	1.00E-03	7.15E-03	1.02E-04	1.0072	8.1411	OPERATOR FAILS TO RESTART RHR PUMP FOR HP RECIRCULATION
FLAB2RS	1.30E-03	1.75E-03	1.92E-05	1.0017	2.341	Isolate ESF room cooling due to large (1 to 2 thousand gpm flood)
HAAE1	2.00E-04	2.77E-02	1.98E-03	1.0285	139.2979	Start standby ERCW pump - running pump fails (non-SI)
HAAEIE	1.80E-03	2.84E-02	2.26E-04	1.0292	16.7572	Start standby ERCW pump - operating pump fails - normal ops
HAAF1	2.20E-02	2.38E-02	1.54E-05	1.0243	2.0567	Locally operate TD AFW valves to control flow on SBO
HACCSR2	1.60E-02	8.24E-02	7.36E-05	1.0898	6.0675	ALIGN AND INITIATE ALTERNATE COOLING TO CCP A
HACH1	1.10E-02	6.26E-02	8.13E-05	1.0668	6.6318	Transfer Containment Spray to Sump (RHR Swap Successful)
HACV2	1.90E-03	2.22E-03	1.67E-05	1.0022	2.1641	Manually start standby CCP, given running pump fails (plant trip, no SI)
HAERCW3	5.00E-02	9.34E-02	2.67E-05	1.103	2.7749	OPERATOR FAILS TO ALIGN FIRE PROTECTION TO CCP A
HAMU2B	5.00E-03	5.48E-02	1.57E-04	1.058	11.9129	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAMU2B	5.00E-03	5.48E-02	1.57E-04	1.058	11.9129	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAOS3	1.90E-04	6.10E-04	4.59E-05	1.0006	4.2091	Start AFW (Reactor trip, no SI)
HAPR1	4.50E-03	7.65E-03	2.43E-05	1.0077	2.6921	Isolate open PORV with block valve after SI
HARL1	2.30E-03	1.94E-02	1.20E-04	1.0198	9.4013	Recover from auto swapover failure
HARR1	3.80E-03	1.39E-01	5.22E-04	1.1611	37.3735	Align high pressure recirculation, given auto swapover works
HART1	1.40E-03	6.20E-03	6.33E-05	1.0062	5.4215	Manually trip reactor, given SSPS fails
HCRL1	3.80E-03	1.82E-02	6.85E-05	1.0186	5.7792	Inadvertently Reset SI Signal, Failure of Auto Sump Swapover
HTPR1	1.70E-03	1.80E-03	1.51E-05	1.0018	2.0577	Start TD AFW pump and control LCVs during LOSEP (fails to start initially)
RSIOP	6.90E-04	1.51E-03	3.13E-05	1.0015	3.1911	Operator Restarts Safety Injection to restore RCS makeup
SSIOP	6.70E-03	3.53E-02	7.54E-05	1.0366	6.2404	Terminate Safety Injection to prevent PORV water challenge
WHEMDA_1	1.20E-04	1.39E-04	1.65E-05	1.0001	2.1554	Motor Driven AFW Pump Train A Isolation Test Error
WHEMDA_2	1.20E-04	1.38E-04	1.65E-05	1.0001	2.1516	Motor Driven AFW Pump Train B Isolation Test Error
WHESDB_1	2.00E-06	6.46E-06	4.61E-05	1	4.2284	6.9kV Shutdown Board 1-A Automatic Features Disabled
WHESDB_2	2.00E-06	3.28E-05	2.34E-04	1	17.4084	6.9kV Shutdown Board 1-B Automatic Features Disabled
WHESDB_3	2.00E-06	2.53E-04	1.80E-03	1.0003	127.2175	6.9kV Shutdown Board 2-A Automatic Features Disabled
WHESDB_4	2.00E-06	4.99E-05	3.56E-04	1	25.9291	6.9kV Shutdown Board 2-B Automatic Features Disabled
WHESUM	3.50E-07	7.90E-05	3.22E-03	1.0001	226.6168	Remove Drain Plugs from Refueling Canal After Refueling

Table 74 -- Unit 1 Basic Event CDF Importance F-V >0.5%

Event	Probability	FV	BB	RRW	RAW	Description
PAF	9.14E-01	1.00E+00	1.52E-05	1E+30	1.0941	PLANT AVAILABILITY FACTOR
RCPSEAL182	2.08E-01	3.54E-01	2.37E-05	1.5475	2.3512	RCP SEAL 182 GPM
FL-BATDEP	1.00E+00	7.03E-02	9.78E-07	1.0756	1	Battery Depleted FLAG
PTSF11PMP_003001AS	1.05E-02	3.59E-02	4.78E-05	1.0373	4.4036	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-1AS
DGGFR1GEN_0821A-A	1.24E-02	3.57E-02	4.00E-05	1.037	3.843	DG 1A-A FAILS TO RUN
SUMMER	2.00E-01	2.90E-02	2.02E-06	1.0298	1.1159	SUMMER SEASON
XSBO14	4.59E-02	2.84E-02	8.60E-06	1.0292	1.5901	Recovery Sequence 7 (Common Cause of DG to Start) GR
XSBO13	5.60E-02	2.78E-02	6.92E-06	1.0286	1.4694	Recovery Sequence 7 (Common Cause of DG to Start) PC
FL-ATWS	1.00E+00	2.70E-02	3.76E-07	1.0277	1	ATWS
MORFO1FCV_06700066	9.70E-04	2.33E-02	3.34E-04	1.0239	25.0041	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
DGGFD1GEN_0821A-A	7.15E-03	2.28E-02	4.43E-05	1.0233	4.1629	DG 1A-A FAILS TO START AND RUN FIRST HOUR
DGGFR1GEN_0821B-B	1.24E-02	2.09E-02	2.35E-05	1.0214	2.6693	DG 1B-B FAILS TO RUN
DGGFR2GEN_0822B-B	1.24E-02	1.93E-02	2.17E-05	1.0197	2.542	DG 2B-B FAILS FAILS TO RUN (WBN-2-GEN -082-0002B -B)
XSBO15	1.37E-01	1.70E-02	1.73E-06	1.0173	1.1071	Recovery Sequence 7 (Common Cause of DG to Start) WI
MORFO2FCV_06700067	9.70E-04	1.62E-02	2.33E-04	1.0165	17.7057	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
OBLOCK	7.50E-01	1.54E-02	2.86E-07	1.0157	1.0051	Probability that 0 PORVs are blocked
FNSFD1FAN_030459	4.80E-03	1.53E-02	4.42E-05	1.0155	4.1619	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
FNSFR1FAN_03000183	2.66E-03	1.49E-02	7.78E-05	1.0151	6.5798	CCP A ROOM COOLER FAN FAILS DURING OPERATION
XSBO11	6.62E-01	1.43E-02	3.01E-07	1.0146	1.0073	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) GR
DGGFD1GEN_0821B-B	7.15E-03	1.43E-02	2.78E-05	1.0145	2.9812	DG 1B-B FAILS TO START AND RUN FIRST HOUR
PRAI2	1.70E-01	1.41E-02	1.15E-06	1.0143	1.0687	Interval 2 for PRA (pres relief requires 3 SVs & 2 PORVs)
RLVFO1RFV_0620636	2.47E-03	1.40E-02	7.87E-05	1.0142	6.6443	WBN-1-RFV-062-0636-S RELIEF VALVE FAILS TO OPEN
MORFO1FCV_06700067	9.70E-04	1.26E-02	1.80E-04	1.0127	13.9386	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
XSBO10	7.06E-01	1.23E-02	2.42E-07	1.0125	1.0051	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) PC
BUSFR0BD_2362E_IE	3.80E-03	1.15E-02	4.22E-05	1.0117	4.0243	125V DC VITAL BATTERY BOARD II FAILS DURING OPERATION

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 74 – Unit 1 Basic Event CDF Importance F-V >0.5%

Event	Probability	FV	BB	RRW	RAW	Description
DGGFD2GEN_0822B-B	7.15E-03	1.12E-02	2.18E-05	1.0113	2.5528	DIESEL GENERATOR FAILS TO START AND RUN FIRST HOUR (WBN-2-GEN -082-0002B -B)
SEQFD1A-A	3.33E-03	1.06E-02	4.41E-05	1.0107	4.1589	SEQUENCER 1A-A FAILS (Unknown UNID)
DGGFR2GEN_0822A-A	1.24E-02	1.05E-02	1.18E-05	1.0106	1.8371	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR
FNSFD1FAN_030461	4.80E-03	9.55E-03	2.77E-05	1.0096	2.98	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
XSBO17	6.62E-01	9.25E-03	1.94E-07	1.0093	1.0047	Recovery Sequence 8 (Common Cause of DG to Start AND TDAWF Fails to Start) GR
CRI	1.20E-06	8.51E-03	9.39E-02	1.0086	6754.294	CONTROL RODS FAIL TO INSERT
CBKFO1BKR_2111716/16-A	2.55E-03	8.12E-03	4.43E-05	1.0082	4.1765	WBN-1-BKR-211-1716/16-A BREAKER FAILS TO OPEN
XSBO16	7.06E-01	7.93E-03	1.56E-07	1.008	1.0033	Recovery Sequence 8 (Common Cause of DG to Start AND TDAWF Fails to Start) PC
FNSFR1FAN_030459	2.66E-03	7.60E-03	3.97E-05	1.0077	3.8434	EXHAUST FAN 1-FAN-30-459 FAILS TO RUN
FNSFD2FAN_030462	4.80E-03	7.49E-03	2.17E-05	1.0075	2.5532	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
XPORV1	5.29E-02	7.44E-03	1.96E-06	1.0075	1.1332	BLOCK VALVE CLOSED TO ISOLATE LEAKING PORV
SEQFD1B-B	3.33E-03	6.60E-03	2.76E-05	1.0066	2.9764	SEQUENCER 1B-B FAILS (Unknown UNID)
DGGFD2GEN_0822A-A	7.15E-03	6.06E-03	1.18E-05	1.0061	1.8423	DIESEL GENERATOR 2A-A FAILS TO START AND RUN FIRST HOUR
PTSFR1PMP_003001AS	1.61E-03	5.46E-03	4.73E-05	1.0055	4.393	PUMP FAILS AFTER 1 HOUR WBN-2-3-1AS
SRVSR1SRV_06800563	7.95E-04	5.30E-03	9.27E-05	1.0053	7.6571	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-563
SRVSR1SRV_06800564	7.95E-04	5.30E-03	9.27E-05	1.0053	7.6571	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-564
SRVSR1SRV_06800565	7.95E-04	5.30E-03	9.27E-05	1.0053	7.6571	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-565
SEQFD2B-B	3.33E-03	5.19E-03	2.17E-05	1.0052	2.5521	SEQUENCER 2B-B FAILS (Unknown UNID)
CBKFO1BKR_2111728/16-B	2.55E-03	5.14E-03	2.80E-05	1.0052	3.0101	WBN-1-BKR-211-1728/16B BREAKER FAILS TO OPEN
PR-INS	1.00E+00	5.05E-03	7.03E-08	1.0051	1	Insufficient pressure relief

Note: this table does not include CCF, HEPs, or T&M

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Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY			

Table 75 – Unit 1 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
CRI	1.20E-06	8.51E-03	9.39E-02	1.0086	6754.294	CONTROL RODS FAIL TO INSERT
SMPPS1STN_SUMP2	1.00E-05	2.25E-03	3.13E-03	1.0023	225.8325	SUMP SUCTION STRAINERS PLUGGED (GENERAL)
BUSFR1BD_211A-A	1.04E-05	2.10E-03	2.80E-03	1.0021	202.3086	WBN-1-BD-211-A SHUTDOWN BOARD FAILS
BUSFR1BD_212A2-A	1.04E-05	8.94E-04	1.19E-03	1.0009	86.7497	WBN-1-BD-212-A002-A SWITCHBOARD FAILS DURING OPERATION
CBKXO1BKR_2121A-A	4.10E-06	3.51E-04	1.19E-03	1.0004	86.4946	WBN-1-BKR-212-A2-A BREAKER TRANSFERS OPEN
CBKXO1BKR_212A2/1B-A	4.10E-06	3.51E-04	1.19E-03	1.0004	86.4946	WBN-1-BKR-212-A2/1B-A BREAKER TRANSFERS OPEN
BUSFROBDL_2361-D	8.68E-06	3.76E-04	6.02E-04	1.0004	44.2627	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
BUSFROBD_2361-D	1.74E-06	7.26E-05	5.82E-04	1.0001	42.8085	Failure of 125V DC Battery Board 1
HORXO1SV_0670506A	3.19E-08	1.24E-06	5.41E-04	1	39.8671	MANUAL VALVE WBN-1-67-506A TRANSFERS OPEN (FLOW DIVERSION)
BCHFROCHRG2361-D	1.22E-04	4.38E-03	5.00E-04	1.0044	36.9404	WBN-0-CHRG-236-0001-D BATTERY CHARGER FAILS
CBKXO0BKR_2361/226-D	4.10E-06	1.42E-04	4.80E-04	1.0001	35.4841	Normal Supply Breaker 226 from 125V Vital Batt Chgr 1
CBKXO0SW_2361/SW1-S	4.10E-06	1.42E-04	4.80E-04	1.0001	35.4841	480V AC Vital Disconnect Panel 1 Switch 0-SW-236-0001/SW1-S Transfers Open
FUSFPOFU_2361/210-D	3.12E-06	1.07E-04	4.78E-04	1.0001	35.3447	SUPPLY BREAKER MAIN LINE FUSE 210
BUSFROBDL_2362-E	8.68E-06	2.89E-04	4.64E-04	1.0003	34.3331	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
BUSFR1BD_211B-B	1.04E-05	3.21E-04	4.28E-04	1.0003	31.7818	SHUTDOWN BOARD 1B-B FAILS (1-BD-211-B-B)
BUSFROBD_2362-E	1.74E-06	5.34E-05	4.28E-04	1.0001	31.7714	Failure of 125V DC Battery Board 2
MORFO1FCV_06700066	9.70E-04	2.33E-02	3.34E-04	1.0239	25.0041	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
CCF_U1_ESF_15V_FO_ALL	4.94E-07	1.08E-05	3.04E-04	1	22.8546	COMMON CAUSE 15VDC BETWEEN BUS 1, 2, 3 AND 4 BOTH TRAIN A AND B
TKURP1TANK06300046	5.35E-08	1.00E-06	2.60E-04	1	19.7142	WBN-1-TANK-063-046 RWST TANK RUPTURE
MORFO2FCV_06700067	9.70E-04	1.62E-02	2.33E-04	1.0165	17.7057	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
BUSFR2BD_211B-B	1.04E-05	1.71E-04	2.29E-04	1.0002	17.4392	WBN-2-BD-211-B-B SWITCHBOARD FAILS DURING OPERATION
BUSFR1BD_2351-D	1.04E-05	1.65E-04	2.20E-04	1.0002	16.8168	120V AC VITAL INST POWER BOARD 1-I FAILS
CBKXO1SW_2351-D	4.10E-06	6.17E-05	2.09E-04	1.0001	16.0313	Disconnect Switch in 120V AC Vital Inst Power Board 1-I
CBKXO1XSW_2351-D	4.10E-06	6.17E-05	2.09E-04	1.0001	16.0313	Transfer Switch in 120V AC Vital Inst Power Board 1-I

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 75 -- Unit 1 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
RTBFO1RTB_0990000A	3.70E-05	5.16E-04	1.94E-04	1.0005	14.94	WBN-1-BKR-099-L116/1B-A REACTOR TRIP BREAKER TRAIN A FAILS
RTBFO1RTB_0990000B	3.70E-05	4.93E-04	1.85E-04	1.0005	14.3211	WBN-1-BKR-099-L116/1C-B REACTOR TRIP BREAKER TRAIN B FAILS
MORFO1FCV_06700067	9.70E-04	1.26E-02	1.80E-04	1.0127	13.9386	Added for evaluation WBN-2-10-135 and WBN-2-11-0006 6.9kV TO 480V TRANSFORMER 1B1B
XRFFR1OXF_212B1-B	2.17E-05	2.70E-04	1.73E-04	1.0003	13.4609	(1-OXF-212-B1-B)
BUSFR1BD_212B1-B	1.04E-05	1.23E-04	1.64E-04	1.0001	12.8201	480V SHUTDOWN BOARD 1B1-B AVAILABLE
PCOFR1PMP_0700051S	8.67E-05	9.71E-04	1.56E-04	1.001	12.204	WBN-0-PMP-070-0051-S PUMP CS FAILS TO OPERATE 6.9kV SUPPLY BREAKER TO TRANSFORMER 1B1B
CBKXO1BKR_212B1-B	4.10E-06	4.36E-05	1.48E-04	1	11.628	(1-BKR-212-B1-B)
CBKXO1BKR_212B1/1B-B	4.10E-06	4.36E-05	1.48E-04	1	11.628	480V TRANSFORMER 1BB OUTPUT BREAKER TO 480V SDBD 1B1-B (1-BKR-212-B1/1B-B)
XRFFR1OXF_212B2-A	2.17E-05	2.29E-04	1.47E-04	1.0002	11.5725	6.9kV TO 480V TRANSFORMER 1B2B (1-OXF-212-B2-B) FAILS DURING OPERATION
HXRPL0HTX_07000186	1.55E-05	1.63E-04	1.46E-04	1.0002	11.53	WBN-0-HTX-070-0186 CCS HEAT EXCHANGER C PLUGGING
BUSFR1BD_212B2-B	1.04E-05	1.07E-04	1.43E-04	1.0001	11.2863	480V SHUTDOWN BOARD 1B2-B FAILS TO OPERATE
BUSFR1MCC_214B1-B	1.04E-05	1.07E-04	1.43E-04	1.0001	11.2649	480VAC CONT & AUX BLDG VENT BOARD 1-MCC-214-B001-B (1B1-B) FAILS TO RUN
BUSFR1BD_2352-E	1.04E-05	1.01E-04	1.35E-04	1.0001	10.7044	120V AC VITAL 1-II BUS FAILS (WBN-1-BD -235-0002 -E)
HXCRPOHTX_07000186	5.57E-06	5.39E-05	1.35E-04	1.0001	10.6834	WBN-0-HTX-070-0186 CCS HEAT EXCHANGER C EXCESSIVE LEAKAGE/RUPTURE
BCHFROCHRG2362-E	1.22E-04	1.18E-03	1.34E-04	1.0012	10.6654	CHARGER II FAILS DURING OPERATION (0-CHRG-236-0002/E)
CBKXO1BKR_212B2-B	4.10E-06	3.92E-05	1.33E-04	1	10.5534	6.9kV SUPPLY TO TRANSFORMER 1B2B(1-BKR-212-B2-B)
CBKXO1BKR_212B2/1B-B	4.10E-06	3.92E-05	1.33E-04	1	10.5534	OUTPUT BREAKER TO 480V SDBD 1B2-B (1-BKR-212-B2/1B-B) TRANSFERS OPEN
RLVPO1RFV_0700551B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	1-70-551B RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700556B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	1-70-556B RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700561B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	1-70-561B RELIEF VALVE OPENS PREMATURELY

Table 75 -- Unit 1 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
RLVPO1RFV_0700565B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	1-70-565B RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700570B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	1-70-570B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700551B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	2-70-551B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700556B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	2-70-556B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700561B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	2-70-561B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700565B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	2-70-565B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700570B	5.09E-06	4.84E-05	1.32E-04	1	10.5203	2-70-570B RELIEF VALVE OPENS PREMATURELY
HXRPL1HTX_07000185	1.55E-05	1.46E-04	1.32E-04	1.0001	10.4541	WBN-1-HTX-070-0185 CCS HEAT EXCHANGER A PLUGGING
CBKXO1SW_2352-E	4.10E-06	3.85E-05	1.30E-04	1	10.3703	Disconnect Switch in 120V AC Vital Inst Power Board 1-II (WBN-1-SW -235-0002 -E)
CBKXO1XSW_2352-E	4.10E-06	3.85E-05	1.30E-04	1	10.3703	Transfer Switch in 120V AC Vital Inst Power Board 1-II (1-XSW-235-0002-E)
CBKXO1BKR_212B1/10B-B	4.10E-06	3.80E-05	1.29E-04	1	10.2526	480V SDBD FDR BKR TO C&A BLD VENT BOARD 1B1-B (1-BKR-212-B1/10B-B)
CBKXO1BKR_214B1/1A1-B	4.10E-06	3.80E-05	1.29E-04	1	10.2526	SUPPLY BREAKER 1-BKR-214-B001/1A1-B TRANSFERS OPEN
HXCRP1HTX_07000185	5.57E-06	5.01E-05	1.25E-04	1.0001	9.9921	WBN-1-HTX-070-0185 CCS HEAT EXCHANGER A EXCESSIVE LEAKAGE/RUPTURE
RLVPO0RFV_0700527A	5.09E-06	4.54E-05	1.24E-04	1	9.9243	0-RFV-70-527A RELIEF VALVE OPENS PREMATURELY (SPENT FUEL PIT)
RLVPO1RFV_07000521	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-521 RELIEF VALVE OPENS PREMATURELY (WASTE GAS COMPRESSOR HX)
RLVPO1RFV_07000694	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-694 RELIEF VALVE OPENS PREMATURELY (RCP OIL COOLER)
RLVPO1RFV_07000703	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-RFV-70-703 RELIEF VALVE OPENS PREMATURELY (EXCESS LETDOWN HX)
RLVPO1RFV_07000741	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-741 RELIEF VALVE OPENS PREMATURELY (SAMPLE HX)
RLVPO1RFV_07000835	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-RFV-70-835 RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO1RFV_0700551A	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-551A RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700556A	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-556A RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700561A	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-561A RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700565A	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-565A RELIEF VALVE OPENS PREMATURELY

Table 75 -- Unit 1 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
RLVPO1RFV_0700570A	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-570A RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700578	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-RFV-70-578 RELIEF VALVE OPENS PREMATURELY (NON-REGEN HX)
RLVPO1RFV_0700584	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-RFV-70-584 RELIEF VALVE OPENS PREMATURELY (SEAL WATER HX)
RLVPO1RFV_0700683A	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-RFV-70-683A RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO1RFV_0700683B	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-RFV-70-683B RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO1RFV_0700683C	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-RFV-70-683C RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO1RFV_0700683D	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-RFV-70-683D RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO1RFV_0700729A	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-729A RELIEF VALVE OPENS PREMATURELY (SAMPLE HX)
RLVPO1RFV_0700729B	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-729B RELIEF VALVE OPENS PREMATURELY (SAMPLE HX)
RLVPO1RFV_0700729C	5.09E-06	4.54E-05	1.24E-04	1	9.9243	1-70-729C RELIEF VALVE OPENS PREMATURELY (SAMPLE HX)
CBKXO0BKR_2362/226-E	4.10E-06	3.48E-05	1.18E-04	1	9.4796	Normal Supply Breaker 226 from 125V Vital Batt Chgr 2
CBKXO0SW_2362/SW1-S	4.10E-06	3.48E-05	1.18E-04	1	9.4796	480VAC Vital Disconnect Panel (0-SW-236-0002/SW1-S)
FUSFPOFU_2362/210-E	3.12E-06	2.58E-05	1.15E-04	1	9.2648	SUPPLY BREAKER MAIN LINE FUSE 210
PCOFR1PMP_0700046A	8.67E-05	6.68E-04	1.07E-04	1.0007	8.7028	WBN-1-PMP-070-0046-A PUMP 1A-A FAILS TO OPERATE
MORXC1FCV_06700143	9.77E-07	7.48E-06	1.06E-04	1	8.6553	WBN-1-FCV-067-0143-A VALVE TRANSFERS CLOSED
SMPPL1STN_SUMP1	2.16E-06	1.64E-05	1.06E-04	1	8.5848	SUMP SUCTION STRAINERS PLUGGED (LLOCA OR MLOCA)
MOCXC1FCV_06700223	6.78E-07	5.10E-06	1.05E-04	1	8.5251	Motor operated valve transfer closed (clean water)
MOCXC1FCV_06700478	6.78E-07	5.10E-06	1.05E-04	1	8.5251	Motor operated valve transfer closed (clean water)
MOCXC2FCV_06700223	6.78E-07	5.10E-06	1.05E-04	1	8.5251	Motor operated valve transfer closed (clean water)
CBKXO0BKR_2361/204-D	4.10E-06	2.78E-05	9.41E-05	1	7.7616	125VDC SUPPLY BREAKER TO 6.9kV SDBD 1A-A
CKCFO1CKV_06300586	1.30E-05	8.76E-05	9.37E-05	1.0001	7.737	WBN-1-CKV-063-0586-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300587	1.30E-05	8.76E-05	9.37E-05	1.0001	7.737	WBN-1-CKV-063-0587-S CHECK VALVE FAILS TO OPEN ON DEMAND

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Event	Probability	FV	BB	RRW	RAW	Description
CKCFO1CKV_06300588	1.30E-05	8.76E-05	9.37E-05	1.0001	7.737	WBN-1-CKV-063-0588-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300589	1.30E-05	8.76E-05	9.37E-05	1.0001	7.737	WBN-1-CKV-063-0589-S CHECK VALVE FAILS TO OPEN ON DEMAND
SRVSR1SRV_06800563	7.95E-04	5.30E-03	9.27E-05	1.0053	7.6571	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-563
SRVSR1SRV_06800564	7.95E-04	5.30E-03	9.27E-05	1.0053	7.6571	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-564
SRVSR1SRV_06800565	7.95E-04	5.30E-03	9.27E-05	1.0053	7.6571	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-565
FUSFPOFU_2361/201-D	3.12E-06	2.08E-05	9.25E-05	1	7.6522	125VDC SUPPLY FUSE 201
MORXC0FCV_06700144	9.77E-07	6.41E-06	9.14E-05	1	7.5675	WBN-0-FCV-067-0144-B MOV TRANSFERS CLOSED
HORXC1FCV_06700127	7.49E-08	4.42E-07	8.21E-05	1	6.9046	WBN-1-FCV-067-0127 TRANSFERS CLOSED (LO/PR)
BUSFR1MCC_214A1-A	1.04E-05	6.06E-05	8.10E-05	1.0001	6.8206	480VAC CONT & AUX BLDG VENT BOARD 1-MCC-214-A001-A (1A1-A) FAILS TO RUN
HORXC1FCV_06700022	7.49E-08	4.28E-07	7.95E-05	1	6.7172	ERCW 1A SUPPLY HDR MOV WBN-1-FCV-67-22 TRANSFERS CLOSED (LO/PR)
HORXC1FCV_06700081	7.49E-08	4.28E-07	7.95E-05	1	6.7172	LOCKED OPEN WBN-1-FCV-67-81 TRANSFERS CLOSED (LO/PR)
HORXC1SV_0670505A	7.49E-08	4.28E-07	7.95E-05	1	6.7172	MANUAL VALVE WBN-1-67-505A TRANSFERS CLOSED
RLVFO1RFV_0620636	2.47E-03	1.40E-02	7.87E-05	1.0142	6.6443	WBN-1-RFV-062-0636-S RELIEF VALVE FAILS TO OPEN
AOCXO1FCV_0620053	6.09E-04	3.42E-03	7.80E-05	1.0034	6.6071	WBN-1-FCV -062-0053 FCV TRANSFERS OPEN SIPHONING FLOW FROM SEALS
FNSFR1FAN_03000183	2.66E-03	1.49E-02	7.78E-05	1.0151	6.5798	CCP A ROOM COOLER FAN FAILS DURING OPERATION
CBKXO1BKR_212A1/10B-A	4.10E-06	2.26E-05	7.67E-05	1	6.516	480V SDBD FDR BKR TO C&A BLD VENT BOARD 1A1-A (1-BKR-212-A1/10B-A)
CBKXO1BKR_214A1/1A1-A	4.10E-06	2.26E-05	7.67E-05	1	6.516	SUPPLY BREAKER 1-BKR-214-A001/1A1-A TRANSFERS OPEN
PCCFR1PMP_0620108A	8.79E-05	4.78E-04	7.56E-05	1.0005	6.4368	WBN-1-PMP-062-0108-A CCP 1A-A FAILS DURING OPERATION
HOCXC1FCV_07000008	7.49E-08	4.03E-07	7.48E-05	1	6.3777	WBN-1-FCV-070-0008-A TRANSFERS CLOSED (LOCKED OPEN WITH POWER REMOVED)
HOCXC1FCV_07000025	7.49E-08	4.03E-07	7.48E-05	1	6.3777	WBN-1-FCV-070-0025-A TRANSFERS CLOSED (LOCKED OPEN WITH POWER REMOVED)

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Table 75 -- Unit 1 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
HOCXC1ISV_07000510	7.49E-08	4.03E-07	7.48E-05	1	6.3777	WBN-1-ISV-070-0510-A VALVE TRANSFERS CLOSED
HOCXC1ISV_0700544A	7.49E-08	4.03E-07	7.48E-05	1	6.3777	WBN-1-ISV-070-0544A-S VALVE TRANSFERS CLOSED
HOCXC1ISV_0700544C	7.49E-08	4.03E-07	7.48E-05	1	6.3777	WBN-1-ISV-070-0544C-A VALVE TRANSFERS CLOSED
HORXC1ISV_06701009	7.49E-08	4.03E-07	7.48E-05	1	6.3777	WBN-1-ISV-067-1009 VALVE TRANSFERS CLOSED
HORXC1ISV_06701010	7.49E-08	4.03E-07	7.48E-05	1	6.3777	WBN-1-ISV-067-1010 VALVE TRANSFERS CLOSED
HORXC2FCV_06700022	7.49E-08	4.03E-07	7.48E-05	1	6.3777	ERCW 1A SUPPLY HDR MOV WBN-2-FCV-67-22 TRANSFERS CLOSED (LO/PR)
HORXC2FCV_06700081	7.49E-08	4.03E-07	7.48E-05	1	6.3777	AUX BLDG HDR A ISO MOV WBN-2-FCV-67-81 TRANSFERS CLOSED (LO/PR)
HORXC2FCV_06700127	7.49E-08	4.03E-07	7.48E-05	1	6.3777	WBN-2-FCV-067-0127 TRANSFERS CLOSED (LO/PR)
HORXC2ISV_0670505A	7.49E-08	4.03E-07	7.48E-05	1	6.3777	MANUAL VALVE WBN-2-67-505A TRANSFERS CLOSED
HXCPL1HTX_03000183	1.55E-05	8.07E-05	7.25E-05	1.0001	6.2144	WBN-1-CLR -030-0183 CVCS CCP A ROOM COOLER HEAT EXCHANGER PLUGS
HXCPL1HTX_0620108A	1.55E-05	8.07E-05	7.25E-05	1.0001	6.2144	CCP 1A-A LUBE OIL COOLER PLUGS
HXCPL1HTX_0620108B	1.55E-05	8.07E-05	7.25E-05	1.0001	6.2144	CCP 1A-A GEAR OIL COOLER PLUGS
RLVSO1RFV_0620636	5.09E-06	2.61E-05	7.13E-05	1	6.1279	WBN-2-RFV-062-0636-S RELIEF VALVE TRANSFERS CLOSED
AOCXC1FCV_0620009	4.37E-06	2.23E-05	7.09E-05	1	6.1002	WBN-1-FCV -062-0009 AOV TRANSFERS CLOSED
AOCXC1FCV_0620022	4.37E-06	2.23E-05	7.09E-05	1	6.1002	WBN-1-FCV -062-0022 AOV TRANSFERS CLOSED
AOCXC1FCV_0620035	4.37E-06	2.23E-05	7.09E-05	1	6.1002	WBN-1-FCV -062-0035 AOV TRANSFERS CLOSED
AOCXC1FCV_0620048	4.37E-06	2.23E-05	7.09E-05	1	6.1002	WBN-1-FCV -062-0048 AOV TRANSFERS CLOSED
AOCXC1FCV_0620093	4.37E-06	2.23E-05	7.09E-05	1	6.1002	WBN-1-FCV -062-0093 AOV TRANSFERS CLOSED
HXCRP1HTX_03000183	5.57E-06	2.82E-05	7.04E-05	1	6.0576	WBN-1-CLR -030-0183 CVCS CCP A ROOM COOLER HEAT EXCHANGER RUPTURES
HXCRP1HTX_0620108A	5.57E-06	2.82E-05	7.04E-05	1	6.0576	CCP 1A-A LUBE OIL COOLER RUPTURES
HXCRP1HTX_0620108B	5.57E-06	2.82E-05	7.04E-05	1	6.0576	CCP 1A-A GEAR OIL COOLER RUPTURES
AORXC1FCV_06700168	4.37E-06	2.19E-05	6.98E-05	1	6.0166	AOV FCV-67-168 TRANSFERS CLOSED (LOCKED OPEN POWER REMOVED)
HOCXC1ISV_0700503A	7.49E-08	3.76E-07	6.98E-05	1	6.0155	WBN-1-ISV-070-0503A-A PUMP 1A-A SUCTION VALVE TRANSFERS CLOSED
HOCXC1ISV_0700505A	7.49E-08	3.76E-07	6.98E-05	1	6.0155	WBN-1-ISV-070-0505A-A PUMP 1A-A DISCHARGE VALVE TRANSFERS CLOSED

Table 75 -- Unit 1 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
FLTPL1FLTR0620097	2.37E-06	1.19E-05	6.97E-05	1	6.0092	WBN-1-FLTR-062-0097 SEAL WATER INJECTION FILTER PLUGS
HOCXC1INJ_0620556	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-INJ-062-0556-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1INJ_0620557	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-INJ-062-0557-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1INJ_0620558	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-INJ-062-0558-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1INJ_0620559	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-INJ-062-0559-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0620535	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-ISV-062-0535-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0620536	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-ISV-062-0536-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0620548	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-ISV-062-0548-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0620550	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-ISV-062-0550-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0620564	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-ISV-062-0564-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0620565	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-ISV-062-0565-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0620566	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-ISV-062-0566-S MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0620567	7.49E-08	3.55E-07	6.60E-05	1	5.7467	WBN-1-ISV-062-0567-S MANUAL VALVE TRANSFERS CLOSED
HORXC1FCV_06700024	7.49E-08	3.53E-07	6.56E-05	1	5.7145	ERCW 1B SUPPLY HDR MOV WBN-1-FCV-67-24 TRANSFERS CLOSED (LO/PR)
HORXC1FCV_06700082	7.49E-08	3.53E-07	6.56E-05	1	5.7145	LOCKED OPEN WBN-1-FCV-67-82 TRANSFERS CLOSED
HORXC1FCV_06700128	7.49E-08	3.53E-07	6.56E-05	1	5.7145	MOV WBN-1-FCV-67-128 TRANSFERS CLOSED (LO/PR)
HORXC1ISV_0670505B	7.49E-08	3.53E-07	6.56E-05	1	5.7145	MANUAL VALVE WBN-1-67-505B TRANSFERS CLOSED
CKCXC1CKV_06200525	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0525-A CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620560	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0560-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620561	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0561-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620562	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0562-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620563	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0563-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620576	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0576-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620577	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0577-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620578	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0578-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620579	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0579-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620592	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0592-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620593	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0593-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620594	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0594-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_0620595	4.94E-08	2.28E-07	6.41E-05	1	5.6108	WBN-1-CKV-062-0595-S CHECK VALVE TRANSFERS CLOSED

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Event	Probability	FV	BB	RRW	RAW	Description
HOCXC1ISV_06200509	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-ISV-062-0509-A MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_06200527	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-ISV-062-0527-A MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_07000800	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-ISV-070-0800 MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_07000801	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-ISV-070-0801 MANUAL VALVE TRANSFERS CLOSED
HOCXC1ISV_0700557A	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-ISV-070-0557A-A MANUAL VALVE TRANSFERS CLOSED
HOCXC1THV_0700554A	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-THV-070-0554A MANUAL VALVE TRANSFERS CLOSED
HORXC1ISV_0670600A	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-ISV-067-0600A-A MANUAL VALVE TRANSFERS CLOSED
HORXC1ISV_0670602A	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-ISV-067-0602A-A MANUAL VALVE TRANSFERS CLOSED
HORXC1THV_0670601A	7.49E-08	3.45E-07	6.41E-05	1	5.6108	WBN-1-THV-067-0601A-A THV VALVE TRANSFERS CLOSED
HORXO2ISV_0670506A	3.19E-08	1.46E-07	6.34E-05	1	5.5603	MANUAL VALVE WBN-2-67-506A TRANSFERS OPEN (FLOW DIVERSION)
CKCXC1CKV_0700504A	4.94E-08	2.25E-07	6.33E-05	1	5.5522	WBN-1-CKV-070-0504A-A CHECK VALVE TRANSFERS CLOSED
PCOFR1PMP_0700051SIET	8.67E-05	3.92E-04	6.30E-05	1.0004	5.5268	WBN-0-PMP-070-0051-S PUMP CS FAILS TO OPERATE
HORXC0ISV_06700546IE	2.73E-05	1.23E-04	6.27E-05	1.0001	5.509	WBN-0-ISV-067-0546-B VALVE TRANSFERS CLOSED
HXRPL0HTX_07000186IET	1.55E-05	6.96E-05	6.25E-05	1.0001	5.4962	WBN-0-HTX-070-0186 CCS HEAT EXCHANGER C PLUGGING
HXCRP0HTX_07000186IET	5.57E-06	2.46E-05	6.15E-05	1	5.4219	WBN-0-HTX-070-0186 CCS HEAT EXCHANGER C EXCESSIVE LEAKAGE/RUPTURE
CKCXC1CKV_06300586	4.94E-08	2.18E-07	6.12E-05	1	5.4021	WBN-1-CKV-063-0586-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_06300587	4.94E-08	2.18E-07	6.12E-05	1	5.4021	WBN-1-CKV-063-0587-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_06300588	4.94E-08	2.18E-07	6.12E-05	1	5.4021	WBN-1-CKV-063-0588-S CHECK VALVE TRANSFERS CLOSED
CKCXC1CKV_06300589	4.94E-08	2.18E-07	6.12E-05	1	5.4021	WBN-1-CKV-063-0589-S CHECK VALVE TRANSFERS CLOSED
HOCXC1THV_06300582	2.81E-08	1.24E-07	6.12E-05	1	5.4021	WBN-1-THV-063-0582-S TRANSFERS CLOSED (LOCKED THROTTLE)
HOCXC1THV_06300583	2.81E-08	1.24E-07	6.12E-05	1	5.4021	WBN-1-THV-063-0583-S TRANSFERS CLOSED (LOCKED THROTTLE)
HOCXC1THV_06300584	2.81E-08	1.24E-07	6.12E-05	1	5.4021	WBN-1-THV-063-0584-S TRANSFERS CLOSED (LOCKED THROTTLE)
HOCXC1THV_06300585	2.81E-08	1.24E-07	6.12E-05	1	5.4021	WBN-1-THV-063-0585-S TRANSFERS CLOSED (LOCKED THROTTLE)
PCOFD1PMP_0700051S	1.07E-03	4.57E-03	5.94E-05	1.0046	5.267	WBN-0-PMP-070-0051-S PUMP CS FAILS TO START ON DEMAND
BCHFROCHRG2364-G	1.22E-04	5.11E-04	5.83E-05	1.0005	5.1924	WBN-0-CHRG-236-0004/G CHARGER FAILS DURING OPERATION

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Table 75 -- Unit 1 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
XRFFR2OXF_212B2-B	2.17E-05	8.71E-05	5.59E-05	1.0001	5.0163	TRANSFORMER WBN-2-OXF-212-B2-B FAILS TO OPERATE
BUSFR2BD_212B2-B	1.04E-05	3.81E-05	5.09E-05	1	4.662	480V SHUTDOWN BOARD 2B2-B BUS FAILURE
CKCFO0CKV_07000504	1.30E-05	4.72E-05	5.05E-05	1	4.6338	WBN-0-CKV-070-0504 CHECK VALVE FAILS TO OPEN ON DEMAND
MORFO2FCV_06700066	9.70E-04	3.50E-03	5.03E-05	1.0035	4.6089	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
BUSFR0BDL_2364-G	8.68E-06	3.04E-05	4.87E-05	1	4.5027	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
BATFR0BAT_2362-E	7.44E-06	2.57E-05	4.81E-05	1	4.4542	BATT II FAILS DURING OPERATION (0-BAT-236-2-E)
PTSF11PMP_003001AS	1.05E-02	3.59E-02	4.78E-05	1.0373	4.4036	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-1AS
PTSEFR1PMP_003001AS	1.61E-03	5.46E-03	4.73E-05	1.0055	4.393	PUMP FAILS AFTER 1 HOUR WBN-2-3-1AS
BUSFR0BDL_2363-F	8.68E-06	2.87E-05	4.60E-05	1	4.3079	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
HOCXC0FCV_07000012	7.49E-08	2.38E-07	4.43E-05	1	4.1829	WBN-0-FCV-070-0012-B TRANSFERS CLOSED (MOV LOCKED OPEN WITH POWER REMOVED)
HOCXC0FCV_07000022	7.49E-08	2.38E-07	4.43E-05	1	4.1829	WBN-0-FCV-070-0022-B TRANSFERS CLOSED (MOV LOCKED OPEN WITH POWER REMOVED)
HOCXC0ISV_07000503	7.49E-08	2.38E-07	4.43E-05	1	4.1829	WBN-0-ISV-070-0503 PUMP CS SUCTION VALVE TRANSFERS CLOSED
HOCXC0ISV_07000505	7.49E-08	2.38E-07	4.43E-05	1	4.1829	WBN-0-ISV-070-0505 PUMP CS DISCHARGE VALVE TRANSFERS CLOSED
HOCXC0ISV_07000510	7.49E-08	2.38E-07	4.43E-05	1	4.1829	WBN-0-ISV-070-0510-B VALVE TRANSFERS CLOSED
HORXC0ISV_06700546	7.49E-08	2.38E-07	4.43E-05	1	4.1829	WBN-0-ISV-067-0546-B VALVE TRANSFERS CLOSED
HORXC0ISV_06701009	7.49E-08	2.38E-07	4.43E-05	1	4.1829	WBN-0-ISV-067-1009-B VALVE TRANSFERS CLOSED
HORXC0ISV_06701010	7.49E-08	2.38E-07	4.43E-05	1	4.1829	WBN-0-ISV-067-1010-B VALVE TRANSFERS CLOSED
CBKFO1BKR_2111716/16-A	2.55E-03	8.12E-03	4.43E-05	1.0082	4.1765	WBN-1-BKR-211-1716/16-A BREAKER FAILS TO OPEN
DGGFD1GEN_0821A-A	7.15E-03	2.28E-02	4.43E-05	1.0233	4.1629	DG 1A-A FAILS TO START AND RUN FIRST HOUR
FNSFD1FAN_030459	4.80E-03	1.53E-02	4.42E-05	1.0155	4.1619	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
SEQFD1A-A	3.33E-03	1.06E-02	4.41E-05	1.0107	4.1589	SEQUENCER 1A-A FAILS (Unknown UNID)
DAOFO1FCO_030443	1.02E-03	3.20E-03	4.36E-05	1.0032	4.1305	SUPPLY DAMPER 1-FCO-30-443 OPENS
DAOFO1FCO_030459	1.02E-03	3.20E-03	4.36E-05	1.0032	4.1305	EXHAUST FAN DAMPER 1-FCO-30-459 FAILS TO OPEN

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Event	Probability	FV	BB	RRW	RAW	Description
HORXO1ISV_670506B	3.19E-08	9.99E-08	4.35E-05	1	4.1283	MANUAL VALVE WBN-2-67-506B TRANSFERS OPEN (FLOW DIVERSION)
HOCXC1FCV_07000075	7.49E-08	2.29E-07	4.26E-05	1	4.0596	WBN-1-FCV-070-0075-B TRANSFERS CLOSED (LOCKED OPEN WITH POWER REMOVED)
BUSFR0BD_2362E_IE	3.80E-03	1.15E-02	4.22E-05	1.0117	4.0243	125V DC VITAL BATTERY BOARD II FAILS DURING OPERATION
BCHFROCHRG2363-F	1.22E-04	3.65E-04	4.16E-05	1.0004	3.9921	CHARGER III FAILS DURING OPERATION(O-CHRG-236-0003/F)
CBKXO2BKR_212B2-B	4.10E-06	1.22E-05	4.14E-05	1	3.9762	6.9kV BREAKER WBN-2-BKR-212-B2-B TRANSFERS OPEN
CBKXO2BKR_212B2/1B-B	4.10E-06	1.22E-05	4.14E-05	1	3.9762	WBN-2-BKR-212-B2/1B-B BREAKER TRANSFERS OPEN
BUSFR2BD_211A-A	1.04E-05	3.09E-05	4.13E-05	1	3.9673	SHUTDOWN BOARD 2A-A FAILS (2-BD-211-A-A)
CBKXO0BKR_2364/226-G	4.10E-06	1.20E-05	4.06E-05	1	3.9163	Normal Supply Breaker 226 from 125V Vital Batt Chgr 4
CBKXO0SW_2364/SW1-S	4.10E-06	1.20E-05	4.06E-05	1	3.9163	WBN-0-SW-236-0004/SW1-S SWITCH TRANSFERS OPEN
FNSFR1FAN_030459	2.66E-03	7.60E-03	3.97E-05	1.0077	3.8434	EXHAUST FAN 1-FAN-30-459 FAILS TO RUN
DGGFR1GEN_0821A-A	1.24E-02	3.57E-02	4.00E-05	1.037	3.843	DG 1A-A FAILS TO RUN
XRFFR2OXF_212A2-A	2.17E-05	6.14E-05	3.94E-05	1.0001	3.832	6.9kV/480V TRANSFORMER 2A2A (2-OXF-212-A002-A)
FANFR1FAN_030491	2.59E-04	7.12E-04	3.82E-05	1.0007	3.7469	DG 1A-A ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-1-FAN-30-491)
FUSFPOFU_2364/210-G	3.12E-06	8.39E-06	3.74E-05	1	3.6885	SUPPLY BREAKER MAIN LINE FUSE 210
CKXC0CKV_07000504	4.94E-08	1.32E-07	3.72E-05	1	3.6706	WBN-0-CKV-070-0504 CHECK VALVE TRANSFERS CLOSED
BUSFR2BD_212A2-A	1.04E-05	2.72E-05	3.64E-05	1	3.6156	480V SHUTDOWN BOARD 2A2-A BUS FAILS TO OPERATE
PRVFC1PCV_06800334	1.09E-03	2.77E-03	3.54E-05	1.0028	3.5412	PORV 1-PCV 68-334 FAILS TO CLOSE ON DEMAND
PRVFC1PCV_0680340A	1.09E-03	2.75E-03	3.51E-05	1.0028	3.523	PORV 1-PCV 68-340A FAILS TO CLOSE ON DEMAND
HEXPL1HTX_0820720A1-A	1.55E-05	3.66E-05	3.29E-05	1	3.3635	HEAT EXCHANGER 1A1 PLUGS
HEXPL1HTX_0820720A2-A	1.55E-05	3.66E-05	3.29E-05	1	3.3635	HEAT EXCHANGER 1A2 PLUGS
MOCXC1FCV_07000003	4.23E-08	1.00E-07	3.29E-05	1	3.3625	WBN-1-FCV-070-003 TRANSFERS CLOSED
BUSFR0BD_2363-F	1.74E-06	4.01E-06	3.21E-05	1	3.3111	Failure of 125V DC Battery Board 3
CBKXO0BKR_2363/226-F	4.10E-06	9.13E-06	3.10E-05	1	3.2252	Normal Supply Breaker 226 from 125V Vital Batt Chgr 3
CBKXO0SW_2363/SW1-S	4.10E-06	9.13E-06	3.10E-05	1	3.2252	480V AC Vital Disconnect Panel III Switch 0-SW-236-0003/SW1-S Transfers Open
CBKXO2BKR_212A2-A	4.10E-06	9.13E-06	3.10E-05	1	3.2252	6.9kV SUPPLY TO 2A2A (2-BKR-212-A2-A) TRANSFERS OPEN

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Event	Probability	FV	BB	RRW	RAW	Description
CBKXO2BKR_212A2/1B-A	4.10E-06	9.13E-06	3.10E-05	1	3.2252	480V SDBD 2A2-A SUPPLY BREAKER (2-BKR-212-A2/1B-A) TRANSFERS OPEN
BATFROBAT_2361-D	7.44E-06	.66E-05	3.09E-05	1	3.2244	BATT I FAILS DURING OPERATION (0-BAT-236-1-D)
CKRRIOCKV_0670503FIE	2.59E-04	5.71E-04	3.06E-05	1.0006	3.2023	DISCHARGE CHECK VALVE 503F GROSS REVERSE LEAKAGE WBN-0-67-503F
CKRRIOCKV_0670503HIE	2.59E-04	5.71E-04	3.06E-05	1.0006	3.2023	DISCHARGE CHECK VALVE 503H GROSS REVERSE LEAKAGE WBN-0-67-503H
HEXRP1HTX_0820720A1-A	5.57E-06	1.18E-05	2.94E-05	1	3.1132	HEAT EXCHANGER 1A1 RUPTURES
HEXRP1HTX_0820720A2-A	5.57E-06	1.18E-05	2.94E-05	1	3.1132	HEAT EXCHANGER 1A2 RUPTURES
BUSFROBD_2364-G	1.74E-06	3.63E-06	2.91E-05	1	3.0905	Failure of 125V DC Battery Board 4
FUSFPOFU_2363/210-F	3.12E-06	6.44E-06	2.87E-05	1	3.0633	SUPPLY BREAKER MAIN LINE FUSE 210
CBKFO1BKR_2111728/16-B	2.55E-03	5.14E-03	2.80E-05	1.0052	3.0101	WBN-1-BKR-211-1728/16B BREAKER FAILS TO OPEN
DGGFD1GEN_0821B-B	7.15E-03	1.43E-02	2.78E-05	1.0145	2.9812	DG 1B-B FAILS TO START AND RUN FIRST HOUR
FNSFD1FAN_030461	4.80E-03	9.55E-03	2.77E-05	1.0096	2.98	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
SEQFD1B-B	3.33E-03	6.60E-03	2.76E-05	1.0066	2.9764	SEQUENCER 1B-B FAILS (Unknown UNID)
CKCFO1CKV_06300560	1.30E-05	2.55E-05	2.72E-05	1	2.9577	WBN-1-CKV-063-0560-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300561	1.30E-05	2.55E-05	2.72E-05	1	2.9577	CHECK VALVE 63-561 FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300562	1.30E-05	2.55E-05	2.72E-05	1	2.9577	CHECK VALVE 63-562 FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300563	1.30E-05	2.55E-05	2.72E-05	1	2.9577	CHECK VALVE 63-563 FAILS TO OPEN ON DEMAND
DAOFO1FCO_030445	1.02E-03	1.99E-03	2.71E-05	1.002	2.947	SUPPLY DAMPER 1-FCO-30-445 OPENS
DAOFO1FCO_030461	1.02E-03	1.99E-03	2.71E-05	1.002	2.947	EXHAUST FAN DAMPER 1-FCO-30-461 FAILS TO OPEN
PCOFD1PMP_0700046A	1.07E-03	2.05E-03	2.67E-05	1.0021	2.9163	WBN-1-PMP-070-0046-A PUMP 1A-A FAILS TO START ON DEMAND
MORXC1FCV_06766	9.77E-07	1.84E-06	2.61E-05	1	2.8796	1-FCV-67-66 MOV TRANSFERS CLOSED
CKCFO1CKV_06300510	1.30E-05	2.25E-05	2.41E-05	1	2.7301	WBN-1-CKV-063-0510-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300551	1.30E-05	2.25E-05	2.41E-05	1	2.7301	WBN-1-CKV-063-0551-S CHECK VALVE FAILS TO OPEN ON DEMAND

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Event	Probability	FV	BB	RRW	RAW	Description
CKCFO1CKV_06300553	1.30E-05	2.25E-05	2.41E-05	1	2.7301	WBN-1-CKV-063-0553-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300555	1.30E-05	2.25E-05	2.41E-05	1	2.7301	WBN-1-CKV-063-0555-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300557	1.30E-05	2.25E-05	2.41E-05	1	2.7301	WBN-1-CKV-063-0557-S CHECK VALVE FAILS TO OPEN ON DEMAND
MOCXC1FCV_06300005	6.78E-07	1.17E-06	2.40E-05	1	2.7237	WBN-1-FCV-063-0005-B MOV TRANSFERS CLOSED
MOCXC1FCV_0630003	6.78E-07	1.17E-06	2.40E-05	1	2.7237	WBN-1-FCV-063-0003-A TRANSFERS CLOSED PUMP MINI-FLOW HEADER (LOCKED OPEN)
MOCXC1FCV_0630022	6.78E-07	1.17E-06	2.40E-05	1	2.7237	WBN-1-FCV-063-0022-B MOV TRANSFERS CLOSED (LOCKED OPEN)
CKCFO1CKV_0700504A	1.30E-05	2.23E-05	2.39E-05	1	2.7171	WBN-1-CKV-070-0504A-A CHECK VALVE FAILS TO OPEN ON DEMAND
BUSFR1MCC_213B1-B	1.04E-05	1.78E-05	2.37E-05	1	2.7066	480V REACTOR MOV BOARD 1B1-B FAILS DURING OPERATION
RCPSEAL480	2.50E-03	4.26E-03	2.37E-05	1.0043	2.7005	RCP SEAL 480GPM
DGGFR1GEN_0821B-B	1.24E-02	2.09E-02	2.35E-05	1.0214	2.6693	DG 1B-B FAILS TO RUN
FNSFR1FAN_030461	2.66E-03	4.44E-03	2.32E-05	1.0045	2.6608	EXHAUST FAN 1-FAN-30-461 FAILS TO RUN
PMAF11PMP_00300118	1.08E-03	1.80E-03	2.31E-05	1.0018	2.6589	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-118-A
FANFR1FAN_030493	2.59E-04	4.05E-04	2.17E-05	1.0004	2.5623	DG 1B-B ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-1-FAN-30-493)
FNSFD2FAN_030462	4.80E-03	7.49E-03	2.17E-05	1.0075	2.5532	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
DGGFD2GEN_0822B-B	7.15E-03	1.12E-02	2.18E-05	1.0113	2.5528	DIESEL GENERATOR FAILS TO START AND RUN FIRST HOUR (WBN-2-GEN -082-0002B -B)
SEQFD2B-B	3.33E-03	5.19E-03	2.17E-05	1.0052	2.5521	SEQUENCER 2B-B FAILS (Unknown UNID)
CBKFO2BKR_2111828/16-B	2.55E-03	3.96E-03	2.16E-05	1.004	2.5504	6.9kV SDBD BREAKER 1828 FAILS TO OPEN
FNSFR2FAN_030462	2.66E-03	4.13E-03	2.16E-05	1.0041	2.5451	EXHAUST FAN 2-FAN-30-462 FAILS TO RUN
DGGFR2GEN_0822B-B	1.24E-02	1.93E-02	2.17E-05	1.0197	2.542	DG 2B-B FAILS FAILS TO RUN (WBN-2-GEN -082-0002B -B)
DAOFO2FCO_030446	1.02E-03	1.57E-03	2.14E-05	1.0016	2.5372	SUPPLY DAMPER 2-FCO-30-446 OPENS
DAOFO2FCO_030462	1.02E-03	1.57E-03	2.14E-05	1.0016	2.5372	EXHAUST FAN DAMPER 2-FCO-30-462 FAILS TO OPEN
DGGFR_PFP	2.28E-03	3.45E-03	2.11E-05	1.0035	2.5143	Diesel Generator fails to run after first hour

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Event	Probability	FV	BB	RRW	RAW	Description
PMAF11PMP_00300128	1.08E-03	1.64E-03	2.10E-05	1.0016	2.5105	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-128-B
FANFR2FAN_030494	2.59E-04	3.87E-04	2.08E-05	1.0004	2.4933	DG 2B-B ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-2-FAN-30-494)
CBKXO1BKR_212B1/8B-B	4.10E-06	5.88E-06	1.99E-05	1	2.4339	480V SDBD SUPPLY TO RMOV BOARD 1B1-B (1-BKR-212-B1/8B-B)
CBKXO1BKR_213B1/1A1-B	4.10E-06	5.88E-06	1.99E-05	1	2.4339	480V RMOV BOARD NORMAL SUPPLY BREAKER TRANSFERS OPEN
PMAFR1PMP_00300118	1.28E-04	1.77E-04	1.92E-05	1.0002	2.3825	PUMP FAILS AFTER 1 HOUR WBN-1-3-118-A
RCPSEAL182	2.08E-01	3.54E-01	2.37E-05	1.5475	2.3512	RCP SEAL 182 GPM
MOCFO1FCV_00100051	1.86E-04	2.45E-04	1.83E-05	1.0002	2.3188	Motor operated valve fails to open (clean water)
AOCFO1PCV_00300122	8.83E-05	1.16E-04	1.83E-05	1.0001	2.3135	AIR OPERATED VALVE FAILS TO OPEN (clean water) WBN-1-3-122
HEXPL2HTX_0820720B1-B	1.55E-05	2.01E-05	1.81E-05	1	2.2996	HEAT EXCHANGER 2B1 PLUGS
HEXPL2HTX_0820720B2-B	1.55E-05	2.01E-05	1.81E-05	1	2.2996	HEAT EXCHANGER 2B2 PLUGS
PMAFR1PMP_00300128	1.28E-04	1.64E-04	1.79E-05	1.0002	2.2832	PUMP FAILS AFTER 1 HOUR WBN-1-3-128-B
AOCFO1PCV_00300132	8.83E-05	1.08E-04	1.70E-05	1.0001	2.2246	AIR OPERATED VALVE FAILS TO OPEN (clean water) WBN-1-3-132
HEXRP2HTX_0820720B1-B	5.57E-06	6.74E-06	1.68E-05	1	2.2097	HEAT EXCHANGER 2B1 RUPTURES
HEXRP2HTX_0820720B2-B	5.57E-06	6.74E-06	1.68E-05	1	2.2097	HEAT EXCHANGER 2B2 RUPTURES
CKRRI0CKV_0670503BIE	2.59E-04	3.12E-04	1.67E-05	1.0003	2.2012	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503B
CKRRI0CKV_0670503DIE	2.59E-04	3.12E-04	1.67E-05	1.0003	2.2012	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503D
HEXPL1HTX_0820720B1-B	1.55E-05	1.85E-05	1.66E-05	1	2.1937	HEAT EXCHANGER 1B1 PLUGS
HEXPL1HTX_0820720B2-B	1.55E-05	1.85E-05	1.66E-05	1	2.1937	HEAT EXCHANGER 1B2 PLUGS
CBKXO0BKR_2364/304-G	4.10E-06	4.83E-06	1.64E-05	1	2.1764	NORMAL 125V DC SUPPLY BREAKER TRANSFERS OPEN
FUSFPOFU_2364/301-G	3.12E-06	3.63E-06	1.62E-05	1	2.164	125VDC SUPPLY FUSE 0-236-4/F301-G
FNSFR1FAN_03000214	2.66E-03	3.02E-03	1.58E-05	1.003	2.1317	DC EMERGENCY EXHAUST FAN FAILS TO RUN AFTER 1ST HOUR WBN-1-30-214
SWPFD1PS_0030138A	1.17E-04	1.26E-04	1.50E-05	1.0001	2.0803	PRESSURE SWITCH WBN-1-PS-3-138A FAILS

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 75 -- Unit 1 Basic Event CDF Importance RAW > 2**

Event	Probability	FV	BB	RRW	RAW	Description
MORXC2FCV_06767	9.77E-07	1.01E-06	1.43E-05	1	2.0296	2-FCV-67-67 MOV TRANSFERS CLOSED
CRI	1.20E-06	8.51E-03	9.39E-02	1.0086	6754.294	CONTROL RODS FAIL TO INSERT
SMPPS1STN_SUMP2	1.00E-05	2.25E-03	3.13E-03	1.0023	225.8325	SUMP SUCTION STRAINERS PLUGGED (GENERAL)
BUSFR1BD_211A-A	1.04E-05	2.10E-03	2.80E-03	1.0021	202.3086	WBN-1-BD-211-A SHUTDOWN BOARD FAILS
CKRRIOCKV_0670503B	7.10E-07	8.05E-05	1.58E-03	1.0001	114.2776	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503B
CKRRIOCKV_0670503D	7.10E-07	8.05E-05	1.58E-03	1.0001	114.2776	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503D
XRFFR1OXF_212A1-A	2.17E-05	2.26E-03	1.45E-03	1.0023	105.3165	6.9kV TO 480V TRANSFORMER 1A1-A (XFMR 1A1-A)
BUSFR1BD_212A1-A	1.04E-05	1.08E-03	1.45E-03	1.0011	104.9939	480V SHUTDOWN BOARD 1A1-A BUS AVAILABLE (WBN-1-BD - 212-A001 -A)
CBKXO1BKR_212A1-A	4.10E-06	4.25E-04	1.44E-03	1.0004	104.5635	6.9kV SUPPLY TO TRANSFORMER 1A-A (1-BKR-212-A1-A) TRANSFERS OPEN
CBKXO1BKR_212A1/1B-A	4.10E-06	4.25E-04	1.44E-03	1.0004	104.5635	TRANSFORMER OUTPUT TO 480V SDBD 1A1-A (1-BKR-212-A1/1B-A) TRANSFERS OPEN

Note: this table does not include CCF, HEPs, or T&M

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Table 76 -- Unit 2 Basic Event CDF Importance F-V >0.5%

Event	Probability	FV	BB	RRW	RAW	Description
PAF	9.14E-01	1.00E+00	1.56E-05	1E+30	1.0941	PLANT AVAILABILITY FACTOR
RCPSEAL182	2.08E-01	3.66E-01	2.52E-05	1.576	2.3959	RCP SEAL 182 GPM
FL-BATDEP	1.00E+00	5.46E-02	7.80E-07	1.0577	1	Battery Depleted FLAG
FL-ATWS	1.00E+00	3.85E-02	5.50E-07	1.04	1	ATWS
PTSF12PMP_003001AS	1.05E-02	3.40E-02	4.65E-05	1.0352	4.2192	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-1AS
DGGFR2GEN_0822A-A	1.24E-02	3.20E-02	3.70E-05	1.0331	3.5548	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR
XSBO14	4.59E-02	2.88E-02	8.95E-06	1.0296	1.5977	Recovery Sequence 7 (Common Cause of DG to Start) GR
SUMMER	2.00E-01	2.87E-02	2.05E-06	1.0296	1.1149	SUMMER SEASON
XSBO13	5.60E-02	2.82E-02	7.19E-06	1.029	1.4754	Recovery Sequence 7 (Common Cause of DG to Start) PC
U2_OBLOCK	7.50E-01	2.69E-02	5.13E-07	1.0277	1.009	Probability that 0 PORVs are blocked
DGGFR2GEN_0822B-B	1.24E-02	2.45E-02	2.83E-05	1.0252	2.9573	DG 2B-B FAILS FAILS TO RUN (WBN-2-GEN -082-0002B -B)
MORFO2FCV_06700066	9.70E-04	2.26E-02	3.33E-04	1.0231	24.2843	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
DGGFD2GEN_0822A-A	7.15E-03	2.05E-02	4.09E-05	1.0209	3.8437	DIESEL GENERATOR 2A-A FAILS TO START AND RUN FIRST HOUR
DGGFR1GEN_0821B-B	1.24E-02	2.00E-02	2.31E-05	1.0204	2.594	DG 1B-B FAILS TO RUN
XSBO15	1.37E-01	1.72E-02	1.80E-06	1.0175	1.1085	Recovery Sequence 7 (Common Cause of DG to Start) WI
MORFO1FCV_06700067	9.70E-04	1.68E-02	2.47E-04	1.017	18.2619	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
DGGFD2GEN_0822B-B	7.15E-03	1.61E-02	3.23E-05	1.0164	3.2425	DIESEL GENERATOR FAILS TO START AND RUN FIRST HOUR (WBN-2-GEN -082-0002B -B)
FNSFR2FAN_03000183	2.66E-03	1.48E-02	7.91E-05	1.015	6.5244	CCP A ROOM COOLER FAN FAILS DURING OPERATION
POEFR0PMP_06700028IE	5.12E-02	1.41E-02	3.93E-06	1.0143	1.2607	ERCW PUMP A-A FAILS TO RUN INITIATING EVENT WBN-0-67-28
POEFR0PMP_06700036IE	5.12E-02	1.41E-02	3.92E-06	1.0143	1.2603	ERCW PUMP C-A FAILS TO RUN INITIATING EVENT WBN-0-67-36
FNSFD2FAN_030460	4.80E-03	1.37E-02	4.08E-05	1.0139	3.8458	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
RLVFO2RFV_0620636	2.47E-03	1.37E-02	7.89E-05	1.0138	6.5127	WBN-1-RFV-062-0636-S RELIEF VALVE FAILS TO OPEN
PRAI2	1.70E-01	1.36E-02	1.14E-06	1.0138	1.0664	Interval 2 for PRA (pres relief requires 3 SVs & 2 PORVs)

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Table 76 -- Unit 2 Basic Event CDF Importance F-V >0.5%

Event	Probability	FV	BB	RRW	RAW	Description
XSBO11	6.62E-01	1.32E-02	2.85E-07	1.0134	1.0067	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) GR
MORFO2FCV_06700067	9.70E-04	1.26E-02	1.86E-04	1.0128	13.9992	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
CRI	1.20E-06	1.17E-02	1.30E-01	1.0119	9121.311	CONTROL RODS FAIL TO INSERT
DGGFD1GEN_0821B-B	7.15E-03	1.16E-02	2.31E-05	1.0117	2.6048	DG 1B-B FAILS TO START AND RUN FIRST HOUR
XSBO10	7.06E-01	1.13E-02	2.29E-07	1.0114	1.0047	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) PC
FNSFD2FAN_030462	4.80E-03	1.08E-02	3.22E-05	1.0109	3.2417	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
PRAI3	1.50E-01	1.03E-02	9.78E-07	1.0104	1.0582	Interval 3 for PRA (pres relief requires 3 SVs & 1 PORV)
SEQFD2A-A	3.33E-03	9.50E-03	4.08E-05	1.0096	3.8446	SEQUENCER 2A-A FAILS (Unknown UNID)
XSBO17	6.62E-01	8.44E-03	1.82E-07	1.0085	1.0043	Recovery Sequence 8 (Common Cause of DG to Start AND TDAFW Fails to Start) GR
FNSFD1FAN_030461	4.80E-03	7.75E-03	2.31E-05	1.0078	2.6059	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
PTSFR2PMP_003001AS	1.61E-03	7.70E-03	6.85E-05	1.0078	5.7842	PUMP FAILS AFTER 1 HOUR WBN-2-3-1AS
DGGFD_FP	5.46E-03	7.57E-03	1.98E-05	1.0076	2.378	Diesel Generator fails to start or during first hour of operation
SEQFD2B-B	3.33E-03	7.48E-03	3.21E-05	1.0075	3.2378	SEQUENCER 2B-B FAILS (Unknown UNID)
DGGFR1GEN_0821A-A	1.24E-02	7.35E-03	8.48E-06	1.0074	1.5863	DG 1A-A FAILS TO RUN
CBKFO2BKR_2111816/16-A	2.55E-03	7.33E-03	4.11E-05	1.0074	3.8664	6.9kV SDBD BREAKER 1816 FAILS TO OPEN
U1_250BATTDEP	1.00E+00	7.26E-03	1.04E-07	1.0073	1	Unit 1 250V Battery Life Depleted
XSBO16	7.06E-01	7.23E-03	1.46E-07	1.0073	1.003	Recovery Sequence 8 (Common Cause of DG to Start AND TDAFW Fails to Start) PC
FL_SPARE_250_CHGR_NOT_A	1.00E+00	7.20E-03	1.03E-07	1.0073	1	SPARE CHARGER NOT ALIGNED FOR A TRAIN
XPORV1	5.29E-02	7.19E-03	1.94E-06	1.0072	1.1287	BLOCK VALVE CLOSED TO ISOLATE LEAKING PORV
FNSFR2FAN_030460	2.66E-03	6.84E-03	3.67E-05	1.0069	3.5607	EXHAUST FAN 2-FAN-30-460 FAILS TO RUN
BUSFROBD_2364G_IE	3.80E-03	6.71E-03	2.52E-05	1.0068	2.7586	125V DC VITAL BATTERY BOARD IV FAILS DURING OPERATION
MCRI	1.00E-01	6.20E-03	8.86E-07	1.0062	1.0558	CONTROL ROD INSERTION FAILS
PR-INS	1.00E+00	5.81E-03	8.30E-08	1.0058	1	Insufficient pressure relief

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Table 76 – Unit 2 Basic Event CDF Importance F-V >0.5%						
Event	Probability	FV	BB	RRW	RAW	Description
CBKFO2BKR_2111828/16-B	2.55E-03	5.80E-03	3.25E-05	1.0058	3.2682	6.9kV SDBD BREAKER 1828 FAILS TO OPEN
SEQFD1B-B	3.33E-03	5.36E-03	2.30E-05	1.0054	2.6053	SEQUENCER 1B-B FAILS (Unknown UNID)
FNSFR2FAN_030462	2.66E-03	5.21E-03	2.79E-05	1.0052	2.9489	EXHAUST FAN 2-FAN-30-462 FAILS TO RUN
SRVSR2SRV_06800563	7.95E-04	5.05E-03	9.08E-05	1.0051	7.3522	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-563
SRVSR2SRV_06800564	7.95E-04	5.05E-03	9.08E-05	1.0051	7.3522	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-564
SRVSR2SRV_06800565	7.95E-04	5.05E-03	9.08E-05	1.0051	7.3522	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-565
Note: this table does not include CCF, HEPs, or T&M						

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Table 77 -- Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
CRI	1.20E-06	1.17E-02	1.30E-01	1.0119	9121.311	CONTROL RODS FAIL TO INSERT
SMPPS2STN_SUMP2	1.00E-05	2.19E-03	3.13E-03	1.0022	219.9471	SUMP SUCTION STRAINERS PLUGGED (GENERAL)
BUSFR2BD__211A-A	1.04E-05	1.34E-03	1.83E-03	1.0013	129.3839	SHUTDOWN BOARD 2A-A FAILS (2-BD-211-A-A)
CKRRI0CKV_0670503D	7.10E-07	6.96E-05	1.40E-03	1.0001	98.8854	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503D
XRFFR2OXF_212A2-A	2.17E-05	1.92E-03	1.26E-03	1.0019	89.409	6.9kV/480V TRANSFORMER 2A2A (2-OXF-212-A002-A)
BUSFR2BD__212A2-A	1.04E-05	9.19E-04	1.26E-03	1.0009	89.177	480V SHUTDOWN BOARD 2A2-A BUS FAILS TO OPERATE
CBKXO2BKR_212A2-A	4.10E-06	3.60E-04	1.25E-03	1.0004	88.7643	6.9kV SUPPLY TO 2A2A (2-BKR-212-A2-A) TRANSFERS OPEN
CBKXO2BKR_212A2/1B-A	4.10E-06	3.60E-04	1.25E-03	1.0004	88.7643	480V SDBD 2A2-A SUPPLY BREAKER (2-BKR-212-A2/1B-A) TRANSFERS OPEN
HORXO1SV_0670506A	3.19E-08	2.75E-06	1.23E-03	1	87.1234	MANUAL VALVE WBN-1-67-506A TRANSFERS OPEN (FLOW DIVERSION)
BUSFROBDL_2363-F	8.68E-06	3.60E-04	5.92E-04	1.0004	42.4163	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
BUSFROBD__2363-F	1.74E-06	6.88E-05	5.66E-04	1.0001	40.6191	Failure of 125V DC Battery Board 3
BCHFROCHRG2363-F	1.22E-04	4.17E-03	4.89E-04	1.0042	35.2292	CHARGER III FAILS DURING OPERATION (0-CHRG-236-0003/F)
CBKXO0BKR_2363/226-F	4.10E-06	1.35E-04	4.69E-04	1.0001	33.856	Normal Supply Breaker 226 from 125V Vital Batt Chgr 3
CBKXO0SW_2363/SW1-S	4.10E-06	1.35E-04	4.69E-04	1.0001	33.856	480V AC Vital Disconnect Panel III Switch 0-SW-236-0003/SW1-S Transfers Open
FUSFPOFU_2363/210-F	3.12E-06	1.02E-04	4.68E-04	1.0001	33.7385	SUPPLY BREAKER MAIN LINE FUSE 210
BUSFROBDL_2364-G	8.68E-06	2.59E-04	4.26E-04	1.0003	30.8283	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
BUSFR2BD__211B-B	1.04E-05	2.88E-04	3.95E-04	1.0003	28.6616	WBN-2-BD-211-B-B SWITCHBOARD FAILS DURING OPERATION
CCF_U2_ESF_15V_FO_ALL	4.94E-07	1.36E-05	3.92E-04	1	28.4328	COMMON CAUSE 15VDC BETWEEN BUS 1, 2, 3 AND 4 BOTH TRAIN A AND B

Table 77 -- Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
BUSFROBD_2364-G	1.74E-06	4.68E-05	3.85E-04	1	27.9557	Failure of 125V DC Battery Board 4
MORFO2FCV_06700066	9.70E-04	2.26E-02	3.33E-04	1.0231	24.2843	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
XRFFR2OXF_212A1-A	2.17E-05	4.60E-04	3.03E-04	1.0005	22.1869	6.9kV TO 480V TRANSFORMER 1A1-A(XFMR 2A1-A)
BUSFR2BD_212A1-A	1.04E-05	2.17E-04	2.98E-04	1.0002	21.8764	480V SHUTDOWN BOARD 2A1-A FAILS TO OPERATE
CBKXO2BKR_212A1-A	4.10E-06	8.38E-05	2.91E-04	1.0001	21.4045	6.9kV SUPPLY TO TRANSFORMER 2A1A (2-BKR-212-A1-A)
CBKXO2BKR_212A1/1B-A	4.10E-06	8.38E-05	2.91E-04	1.0001	21.4045	480V SDBD 2A1-A SUPPLY BREAKER TRANSFERS OPEN (WBN-2-BKR-212-A001/1B-A)
TKURP2TANK06300046	5.35E-08	1.09E-06	2.91E-04	1	21.3749	WBN-2-TANK-063-046 RWST TANK RUPTURE
BUSFR2MCC_214A1-A	1.04E-05	2.04E-04	2.80E-04	1.0002	20.6138	480VAC CONT & AUX BLDG VENT BOARD 2-MCC-214-A001-A (2A1-A) FAILS TO RUN
CBKXO2BKR_212A1/10B-A	4.10E-06	7.86E-05	2.74E-04	1.0001	20.1494	480V SDBD FDR BKR TO C&A BLD VENT BOARD 2A1-A (2-BKR-212-A1/10B-A)
CBKXO2BKR_214A1/1A1-A	4.10E-06	7.86E-05	2.74E-04	1.0001	20.1494	SUPPLY BREAKER 2-BKR-214-A001/2A1-A TRANSFERS OPEN
RTBFO2RTB_0990000A	3.70E-05	6.91E-04	2.67E-04	1.0007	19.6675	WBN-2-BKR-099-L116/1B-A REACTOR TRIP BREAKER TRAIN A FAILS
RTBFO2RTB_0990000B	3.70E-05	6.60E-04	2.55E-04	1.0007	18.8392	WBN-2-BKR-099-L116/1C-B REACTOR TRIP BREAKER TRAIN B FAILS
MORFO1FCV_06700067	9.70E-04	1.68E-02	2.47E-04	1.017	18.2619	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
BUSFR1BD_211B-B	1.04E-05	1.76E-04	2.41E-04	1.0002	17.8965	SHUTDOWN BOARD 1B-B FAILS (1-BD-211-B-B)
MORFO2FCV_06700067	9.70E-04	1.26E-02	1.86E-04	1.0128	13.9992	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
XRFFR2OXF_212B2-B	2.17E-05	2.30E-04	1.51E-04	1.0002	11.603	TRANSFORMER WBN-2-0XF-212-B2-B FAILS TO OPERATE
BUSFR2BD_212B2-B	1.04E-05	1.07E-04	1.47E-04	1.0001	11.3076	480V SHUTDOWN BOARD 2B2-B BUS FAILURE
BCHFROCHRG2364-G	1.22E-04	1.17E-03	1.37E-04	1.0012	10.598	WBN-0-CHRG-236-0004/G CHARGER FAILS DURING OPERATION
CBKXO2BKR_212B2-B	4.10E-06	3.93E-05	1.37E-04	1	10.5685	6.9kV BREAKER WBN-2-BKR-212-B2-B TRANSFERS OPEN
CBKXO2BKR_212B2/1B-B	4.10E-06	3.93E-05	1.37E-04	1	10.5685	WBN-2-BKR-212-B2/1B-B BREAKER TRANSFERS OPEN
BUSFR2BD_2353-F	1.04E-05	9.52E-05	1.31E-04	1.0001	10.143	120V AC VITAL INST POWER BOARD 2-III FAILS
HXRPL2HTX_07000185	1.55E-05	1.39E-04	1.29E-04	1.0001	9.9984	WBN-2-HTX-070-0185 CCS HEAT EXCHANGER B PLUGGING

Table 77 -- Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
HXCRP2HTX_07000185	5.57E-06	4.80E-05	1.23E-04	1	9.6155	WBN-2-HTX-070-0185 CCS HEAT EXCHANGER B EXCESSIVE LEAKAGE/RUPTURE
RLVPO2RFV_07000521	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-521 RELIEF VALVE OPENS PREMATURELY (WASTE GAS COMPRESSOR HX)
RLVPO2RFV_07000668	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-668 RELIEF VALVE OPENS PREMATURELY (SAMPLE HX)
RLVPO2RFV_07000694	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-694 RELIEF VALVE OPENS PREMATURELY (RCP OIL COOLER)
RLVPO2RFV_07000703	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-RFV-70-703 RELIEF VALVE OPENS PREMATURELY (EXCESS LETDOWN HX)
RLVPO2RFV_07000741	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-741 RELIEF VALVE OPENS PREMATURELY (SAMPLE HX)
RLVPO2RFV_0700551A	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-551A RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700556A	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-556A RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700561A	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-561A RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700565A	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-565A RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700570A	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-570A RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700578	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-RFV-70-578 RELIEF VALVE OPENS PREMATURELY (NON-REGEN HX)
RLVPO2RFV_0700584	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-RFV-70-584 RELIEF VALVE OPENS PREMATURELY (SEAL WATER HX)
RLVPO2RFV_0700683A	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-RFV-70-683A RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO2RFV_0700683B	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-RFV-70-683B RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO2RFV_0700683C	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-RFV-70-683C RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO2RFV_0700683D	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-RFV-70-683D RELIEF VALVE OPENS PREMATURELY (THERMAL BARRIER)
RLVPO2RFV_0700729A	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-729A RELIEF VALVE OPENS PREMATURELY (SAMPLE HX)
RLVPO2RFV_0700729B	5.09E-06	4.36E-05	1.22E-04	1	9.5603	2-70-729B RELIEF VALVE OPENS PREMATURELY (SAMPLE HX)

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Table 77 -- Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
XRFFR2OXF_212B1-B	2.17E-05	1.84E-04	1.21E-04	1.0002	9.4708	WBN-2-OXF-212-B1-B TRANSFORMER FAILS DURING OPERATION
CBKXO2SW_2353-F	4.10E-06	3.47E-05	1.21E-04	1	9.4425	Disconnect Switch in 120V AC Vital Inst Power Board 2-III
CBKXO2XSW_2353-F	4.10E-06	3.47E-05	1.21E-04	1	9.4425	Transfer Switch in 120V AC Vital Inst Power Board 2-III
CBKXO0BKR_2364/226-G	4.10E-06	3.45E-05	1.20E-04	1	9.4004	Normal Supply Breaker 226 from 125V Vital Batt Chgr 4
CBKXO0SW_2364/SW1-S	4.10E-06	3.45E-05	1.20E-04	1	9.4004	WBN-0-SW-236-0004/SW1-S SWITCH TRANSFERS OPEN
FUSFPOFU_2364/210-G	3.12E-06	2.55E-05	1.17E-04	1	9.1778	SUPPLY BREAKER MAIN LINE FUSE 210
BUSFR2BD_212B1-B	1.04E-05	7.97E-05	1.09E-04	1.0001	8.6464	480V AC SHUTDOWN BOARD 2B1-B BUS FAILURE
MORXC2FCV_06700143	9.77E-07	7.35E-06	1.07E-04	1	8.5246	WBN-2-FCV-067-0143-A VALVE TRANSFERS CLOSED
SMPL2STN_SUMP1	2.16E-06	1.60E-05	1.06E-04	1	8.3858	SUMP SUCTION STRAINERS PLUGGED (LLOCA OR MLOCA)
PCOFR1PMP_0700051S	8.67E-05	6.09E-04	1.00E-04	1.0006	8.0226	WBN-0-PMP-070-0051-S PUMP CS FAILS TO OPERATE
PCOFR2PMP_0700059	8.67E-05	6.02E-04	9.93E-05	1.0006	7.9502	WBN-2-PMP-070-0059 PUMP 2A-A FAILS TO OPERATE
CBKXO2BKR_212B1-B	4.10E-06	2.81E-05	9.78E-05	1	7.8427	6.9kV BREAKER WBN-2-BKR-212-B1-B TRANSFERS OPEN
CBKXO2BKR_212B1/1B-B	4.10E-06	2.81E-05	9.78E-05	1	7.8427	480V BREAKER 2-BKR-212-B1-1B TRANSFERS OPEN
HXRPL0HTX_07000186	1.55E-05	1.01E-04	9.33E-05	1.0001	7.5293	WBN-0-HTX-070-0186 CCS HEAT EXCHANGER C PLUGGING
CKCFO2CKV_06300586	1.30E-05	8.47E-05	9.31E-05	1.0001	7.517	WBN-2-CKV-063-0586-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300587	1.30E-05	8.47E-05	9.31E-05	1.0001	7.517	WBN-2-CKV-063-0587-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300588	1.30E-05	8.47E-05	9.31E-05	1.0001	7.517	WBN-2-CKV-063-0588-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300589	1.30E-05	8.47E-05	9.31E-05	1.0001	7.517	WBN-2-CKV-063-0589-S CHECK VALVE FAILS TO OPEN ON DEMAND
SRVSR2SRV_06800563	7.95E-04	5.05E-03	9.08E-05	1.0051	7.3522	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-563
SRVSR2SRV_06800564	7.95E-04	5.05E-03	9.08E-05	1.0051	7.3522	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-564
SRVSR2SRV_06800565	7.95E-04	5.05E-03	9.08E-05	1.0051	7.3522	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-565
CBKXOBKR_2363/304-F	4.10E-06	2.53E-05	8.80E-05	1	7.1573	125V DC SUPPLY BREAKER TRANSFERS OPEN

Table 77 -- Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
FUSFP0FU_2363/301-F	3.12E-06	1.88E-05	8.62E-05	1	7.0326	125VDC SUPPLY FUSE 0-236-3/301-F
HOCXC2FCV_07000015	7.49E-08	4.47E-07	8.52E-05	1	6.964	WBN-2-FCV-070-0015-A TRANSFERS CLOSED (LOCKED OPEN WITH POWER REMOVED)
HOCXC2FCV_07000016	7.49E-08	4.47E-07	8.52E-05	1	6.964	WBN-2-FCV-070-0016-A TRANSFERS CLOSED (LOCKED OPEN WITH POWER REMOVED)
HOCXC2ISV_07000510	7.49E-08	4.47E-07	8.52E-05	1	6.964	WBN-2-ISV-070-0510-A VALVE TRANSFERS CLOSED
HOCXC2ISV_0700544A	7.49E-08	4.47E-07	8.52E-05	1	6.964	WBN-2-ISV-070-0544A-S VALVE TRANSFERS CLOSED
HOCXC2ISV_0700544C	7.49E-08	4.47E-07	8.52E-05	1	6.964	WBN-2-ISV-070-0544C-A VALVE TRANSFERS CLOSED
HORXC2ISV_06700546	7.49E-08	4.47E-07	8.52E-05	1	6.964	2-067-0546 VALVE TRANSFERS CLOSED
HORXC2ISV_06701009	7.49E-08	4.47E-07	8.52E-05	1	6.964	WBN-2-ISV-067-1009 VALVE TRANSFERS CLOSED
HORXC2ISV_06701010	7.49E-08	4.47E-07	8.52E-05	1	6.964	WBN-2-ISV-067-1010 VALVE TRANSFERS CLOSED
BUSFR2MCC_214B1-B	1.04E-05	6.19E-05	8.48E-05	1.0001	6.9384	480VAC CONT & AUX BLDG VENT BOARD 2-MCC-214-B001-B (2B1-B) FAILS TO RUN
HXCRPOHTX_07000186	5.57E-06	3.09E-05	7.94E-05	1	6.5555	WBN-0-HTX-070-0186 CCS HEAT EXCHANGER C EXCESSIVE LEAKAGE/RUPTURE
FNSFR2FAN_03000183	2.66E-03	1.48E-02	7.91E-05	1.015	6.5244	CCP A ROOM COOLER FAN FAILS DURING OPERATION
RLVFO2RFV_0620636	2.47E-03	1.37E-02	7.89E-05	1.0138	6.5127	WBN-1-RFV-062-0636-S RELIEF VALVE FAILS TO OPEN
RLVPO1RFV_0700551B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	1-70-551B RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700556B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	1-70-556B RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700561B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	1-70-561B RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700565B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	1-70-565B RELIEF VALVE OPENS PREMATURELY
RLVPO1RFV_0700570B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	1-70-570B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700551B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	2-70-551B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700556B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	2-70-556B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700561B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	2-70-561B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700565B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	2-70-565B RELIEF VALVE OPENS PREMATURELY
RLVPO2RFV_0700570B	5.09E-06	2.80E-05	7.86E-05	1	6.4992	2-70-570B RELIEF VALVE OPENS PREMATURELY
HORXC1FCV_06700022	7.49E-08	4.10E-07	7.81E-05	1	6.4702	ERCW 1A SUPPLY HDR MOV WBN-1-FCV-67-22 TRANSFERS CLOSED (LO/PR)
HORXC1FCV_06700081	7.49E-08	4.10E-07	7.81E-05	1	6.4702	LOCKED OPEN WBN-1-FCV-67-81 TRANSFERS CLOSED (LO/PR)

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 77 -- Unit 2 Basic Event CDF Importance RAW > 2**

Event	Probability	FV	BB	RRW	RAW	Description
HORXC1FCV_06700127	7.49E-08	4.10E-07	7.81E-05	1	6.4702	WBN-1-FCV-067-0127 TRANSFERS CLOSED (LO/PR)
HORXC1ISV_0670505A	7.49E-08	4.10E-07	7.81E-05	1	6.4702	MANUAL VALVE WBN-1-67-505A TRANSFERS CLOSED
AOCXO2FCV_0620053	6.09E-04	3.27E-03	7.66E-05	1.0033	6.3596	WBN-2-FCV -062-0053 FCV TRANSFERS OPEN SIPHONING FLOW FROM SEALS
CBKXO2BKR_212B1/10B-B	4.10E-06	2.18E-05	7.60E-05	1	6.3178	480V SDBD FDR BKR TO C&A BLD VENT BOARD 2B1-B (2-BKR-212-B1/10B-B)
CBKXO2BKR_214B1/1A1-B	4.10E-06	2.18E-05	7.60E-05	1	6.3178	SUPPLY BREAKER 2-BKR-214-A001/1A1-B TRANSFERS OPEN
PCCFR2PMP_0620108A	8.79E-05	4.61E-04	7.49E-05	1.0005	6.2412	WBN-1-PMP-062-0108-A CCP 1A-A FAILS DURING OPERATION
HXCPL2HTX_03000183	1.55E-05	7.78E-05	7.18E-05	1.0001	6.0268	WBN-2-CLR -030-0183 CVCS CCP A ROOM COOLER HEAT EXCHANGER PLUGS
HXCPL2HTX_0620108A	1.55E-05	7.78E-05	7.18E-05	1.0001	6.0268	CCP 2A-A LUBE OIL COOLER PLUGS
HXCPL2HTX_0620108B	1.55E-05	7.78E-05	7.18E-05	1.0001	6.0268	CCP 2A-A GEAR OIL COOLER PLUGS
RLVSO2RFV_0620636	5.09E-06	2.53E-05	7.10E-05	1	5.9726	WBN-2-RFV-062-0636-S RELIEF VALVE TRANSFERS CLOSED
AOCXC2FCV_0620009	4.37E-06	2.17E-05	7.08E-05	1	5.9563	WBN-2-FCV -062-0009 AOV TRANSFERS CLOSED
AOCXC2FCV_0620022	4.37E-06	2.17E-05	7.08E-05	1	5.9563	WBN-2-FCV -062-0022 AOV TRANSFERS CLOSED
AOCXC2FCV_0620035	4.37E-06	2.17E-05	7.08E-05	1	5.9563	WBN-2-FCV -062-0035 AOV TRANSFERS CLOSED
AOCXC2FCV_0620048	4.37E-06	2.17E-05	7.08E-05	1	5.9563	WBN-2-FCV -062-0048 AOV TRANSFERS CLOSED
AOCXC2FCV_0620093	4.37E-06	2.17E-05	7.08E-05	1	5.9563	WBN-2-FCV -062-0093 AOV TRANSFERS CLOSED
FLTPL2FLTR0620097	2.37E-06	1.16E-05	7.01E-05	1	5.9051	WBN-2-FLTR-062-0097 SEAL WATER INJECTION FILTER PLUGS
HOCXC2ISV_0700503A	7.49E-08	3.66E-07	6.98E-05	1	5.8839	WBN-2-ISV-070-0503A-A PUMP 2A-A SUCTION VALVE TRANSFERS CLOSED
HOCXC2ISV_0700505A	7.49E-08	3.66E-07	6.98E-05	1	5.8839	WBN-2-ISV-070-0505A-A PUMP 2A-A DISCHARGE VALVE TRANSFERS CLOSED
HXCRP2HTX_03000183	5.57E-06	2.71E-05	6.96E-05	1	5.8744	WBN-2-CLR -030-0183 CVCS CCP A ROOM COOLER HEAT EXCHANGER RUPTURES
HXCRP2HTX_0620108A	5.57E-06	2.71E-05	6.96E-05	1	5.8744	CCP 1A-A LUBE OIL COOLER RUPTURES
HXCRP2HTX_0620108B	5.57E-06	2.71E-05	6.96E-05	1	5.8744	CCP 1A-A GEAR OIL COOLER RUPTURES
AORXC2FCV_06700168	4.37E-06	2.11E-05	6.91E-05	1	5.8374	AOV FCV-67-168 TRANSFERS CLOSED (LOCKED OPEN POWER REMOVED)

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 77 – Unit 2 Basic Event CDF Importance RAW > 2**

Event	Probability	FV	BB	RRW	RAW	Description
PTSFR2PMP_003001AS	1.61E-03	7.70E-03	6.85E-05	1.0078	5.7842	PUMP FAILS AFTER 1 HOUR WBN-2-3-1AS
CKXC2CKV_0620560	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0560-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620561	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0561-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620562	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0562-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620563	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0563-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620576	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0576-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620577	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0577-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620578	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0578-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620579	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0579-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620592	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0592-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620593	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0593-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620594	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0594-S CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0620595	4.94E-08	2.33E-07	6.74E-05	1	5.7162	WBN-2-CKV-062-0595-S CHECK VALVE TRANSFERS CLOSED
HOCXC2INJ_0620556	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-INJ-062-0556-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2INJ_0620557	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-INJ-062-0557-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2INJ_0620558	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-INJ-062-0558-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2INJ_0620559	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-INJ-062-0559-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0620535	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-ISV-062-0535-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0620536	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-ISV-062-0536-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0620548	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-ISV-062-0548-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0620550	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-ISV-062-0550-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0620564	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-ISV-062-0564-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0620565	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-ISV-062-0565-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0620566	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-ISV-062-0566-S MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0620567	7.49E-08	3.53E-07	6.74E-05	1	5.7162	WBN-2-ISV-062-0567-S MANUAL VALVE TRANSFERS CLOSED
BUSFR2BD_2354-G	1.04E-05	4.74E-05	6.51E-05	1	5.5535	120V AC VITAL INST POWER BOARD 2-IV FAILS
CKXC2CKV_06200525	4.94E-08	2.22E-07	6.41E-05	1	5.4898	WBN-2-CKV-062-0525-A CHECK VALVE TRANSFERS CLOSED
HOCXC2ISV_06200509	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-ISV-062-0509-A MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_06200527	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-ISV-062-0527-A MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_07000800	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-ISV-070-0800 MANUAL VALVE TRANSFERS CLOSED

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Table 77 -- Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
HOCXC2ISV_07000801	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-ISV-070-0801 MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0700557A	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-ISV-070-0557A-A MANUAL VALVE TRANSFERS CLOSED
HOCXC2THV_0700554A	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-THV-070-0554A MANUAL VALVE TRANSFERS CLOSED
HORXC2ISV_0670600A	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-ISV-067-0600A-A MANUAL VALVE TRANSFERS CLOSED
HORXC2ISV_0670602A	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-ISV-067-0602A-A MANUAL VALVE TRANSFERS CLOSED
HORXC2THV_0670601A	7.49E-08	3.36E-07	6.41E-05	1	5.4898	WBN-2-THV-067-0601A-A THV VALVE TRANSFERS CLOSED
MORXC0FCV_06700144	9.77E-07	4.33E-06	6.34E-05	1	5.4384	WBN-0-FCV-067-0144-B MOV TRANSFERS CLOSED
CKCXC2CKV_0700504A	4.94E-08	2.19E-07	6.33E-05	1	5.4328	WBN-2-CKV-070-0504A-A CHECK VALVE TRANSFERS CLOSED
CKCXC2CKV_06300586	4.94E-08	2.12E-07	6.12E-05	1	5.2866	WBN-2-CKV-063-0586-S CHECK VALVE TRANSFERS CLOSED
CKCXC2CKV_06300587	4.94E-08	2.12E-07	6.12E-05	1	5.2866	WBN-2-CKV-063-0587-S CHECK VALVE TRANSFERS CLOSED
CKCXC2CKV_06300588	4.94E-08	2.12E-07	6.12E-05	1	5.2866	WBN-2-CKV-063-0588-S CHECK VALVE TRANSFERS CLOSED
CKCXC2CKV_06300589	4.94E-08	2.12E-07	6.12E-05	1	5.2866	WBN-2-CKV-063-0589-S CHECK VALVE TRANSFERS CLOSED
HOCXC2THV_06300582	2.81E-08	1.20E-07	6.12E-05	1	5.2866	WBN-2-THV-063-0582-S TRANSFERS CLOSED (LOCKED THROTTLE)
HOCXC2THV_06300583	2.81E-08	1.20E-07	6.12E-05	1	5.2866	WBN-2-THV-063-0583-S TRANSFERS CLOSED (LOCKED THROTTLE)
HOCXC2THV_06300584	2.81E-08	1.20E-07	6.12E-05	1	5.2866	WBN-2-THV-063-0584-S TRANSFERS CLOSED (LOCKED THROTTLE)
HOCXC2THV_06300585	2.81E-08	1.20E-07	6.12E-05	1	5.2866	WBN-2-THV-063-0585-S TRANSFERS CLOSED (LOCKED THROTTLE)
CBKXO2SW_2354-G	4.10E-06	1.73E-05	6.03E-05	1	5.2199	Disconnect Switch in 120V AC Vital Inst Power Board 2-IV
CBKXO2XSW_2354-G	4.10E-06	1.73E-05	6.03E-05	1	5.2199	Transfer Switch in 120V AC Vital Inst Power Board 2-IV
BUSFR1BD_211A-A	1.04E-05	4.19E-05	5.75E-05	1	5.0257	WBN-1-BD-211-A SHUTDOWN BOARD FAILS
BATFROBAT_2362-E	7.44E-06	2.81E-05	5.40E-05	1	4.7832	BATT II FAILS DURING OPERATION (0-BAT-236-2-E)
PCOFR1PMP_0700051SIET	8.67E-05	3.04E-04	5.01E-05	1.0003	4.5083	WBN-0-PMP-070-0051-S PUMP CS FAILS TO OPERATE
HORXC0ISV_06700546IE	2.73E-05	9.55E-05	4.99E-05	1.0001	4.4953	WBN-0-ISV-067-0546-B VALVE TRANSFERS CLOSED
HXRPL0HTX_07000186IET	1.55E-05	5.39E-05	4.98E-05	1.0001	4.4842	WBN-0-HTX-070-0186 CCS HEAT EXCHANGER C PLUGGING

Table 77 – Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
HXCRP0HTX_07000186IET	5.57E-06	1.90E-05	4.88E-05	1	4.4164	WBN-0-HTX-070-0186 CCS HEAT EXCHANGER C EXCESSIVE LEAKAGE/RUPTURE
MORFO1FCV_06700066	9.70E-04	3.25E-03	4.78E-05	1.0033	4.3449	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
PTSF12PMP_003001AS	1.05E-02	3.40E-02	4.65E-05	1.0352	4.2192	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-1AS
BUSFR0BD_2362-E	1.74E-06	5.09E-06	4.19E-05	1	3.9347	Failure of 125V DC Battery Board 2
CBKFO2BKR_2111816/16-A	2.55E-03	7.33E-03	4.11E-05	1.0074	3.8664	6.9kV SDBD BREAKER 1816 FAILS TO OPEN
FNSFD2FAN_030460	4.80E-03	1.37E-02	4.08E-05	1.0139	3.8458	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
SEQFD2A-A	3.33E-03	9.50E-03	4.08E-05	1.0096	3.8446	SEQUENCER 2A-A FAILS (Unknown UNID)
DGGFD2GEN_0822A-A	7.15E-03	2.05E-02	4.09E-05	1.0209	3.8437	DIESEL GENERATOR 2A-A FAILS TO START AND RUN FIRST HOUR
HOCXC0FCV_07000012	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-0-FCV-070-0012-B TRANSFERS CLOSED (MOV LOCKED OPEN WITH POWER REMOVED)
HOCXC0FCV_07000022	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-0-FCV-070-0022-B TRANSFERS CLOSED (MOV LOCKED OPEN WITH POWER REMOVED)
HOCXC0ISV_07000503	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-0-ISV-070-0503 PUMP CS SUCTION VALVE TRANSFERS CLOSED
HOCXC0ISV_07000505	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-0-ISV-070-0505 PUMP CS DISCHARGE VALVE TRANSFERS CLOSED
HOCXC0ISV_07000510	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-0-ISV-070-0510-B VALVE TRANSFERS CLOSED
HORXC0ISV_06700546	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-0-ISV-067-0546-B VALVE TRANSFERS CLOSED
HORXC0ISV_06701009	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-0-ISV-067-1009-B VALVE TRANSFERS CLOSED
HORXC0ISV_06701010	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-0-ISV-067-1010-B VALVE TRANSFERS CLOSED
HORXC2FCV_06700024	7.49E-08	2.11E-07	4.03E-05	1	3.8226	ERCW 2B SUPPLY HDR MOV WBN-2-FCV-67-24 TRANSFERS CLOSED
HORXC2FCV_06700082	7.49E-08	2.11E-07	4.03E-05	1	3.8226	AUX BLDG HDR A ISO MOV WBN-2-FCV-67-82 TRANSFERS CLOSED (LO/PR)
HORXC2FCV_06700128	7.49E-08	2.11E-07	4.03E-05	1	3.8226	WBN-2-FCV-67-128 TRANSFERS CLOSED (LO/PR)
HORXC2ISV_0670505B	7.49E-08	2.11E-07	4.03E-05	1	3.8226	MANUAL VALVE WBN-2-67-505B TRANSFERS CLOSED
DAOFO2FCO_030444	1.02E-03	2.88E-03	4.04E-05	1.0029	3.8217	SUPPLY DAMPER 2-FCO-30-444 OPENS

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Table 77 – Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
DAOFO2FCO_030460	1.02E-03	2.88E-03	4.04E-05	1.0029	3.8217	EXHAUST FAN DAMPER 2-FCO-30-460 FAILS TO OPEN
HOCXC2FCV_07000075	7.49E-08	2.02E-07	3.86E-05	1	3.7025	WBN-2-FCV-070-0075-B TRANSFERS CLOSED (LOCKED OPEN WITH POWER REMOVED)
BATFROBAT_2361-D	7.44E-06	2.00E-05	3.85E-05	1	3.693	BATT I FAILS DURING OPERATION (0-BAT-236-1-D)
CKXCCKV_07000504	4.94E-08	1.29E-07	3.72E-05	1	3.6005	WBN-0-CKV-070-0504 CHECK VALVE TRANSFERS CLOSED
BUSFROBD_2361-D	1.74E-06	4.46E-06	3.67E-05	1	3.5685	Failure of 125V DC Battery Board 1
FNSFR2FAN_030460	2.66E-03	6.84E-03	3.67E-05	1.0069	3.5607	EXHAUST FAN 2-FAN-30-460 FAILS TO RUN
DGGFR2GEN_0822A-A	1.24E-02	3.20E-02	3.70E-05	1.0331	3.5548	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR
FANFR2FAN_030492	2.59E-04	6.41E-04	3.53E-05	1.0006	3.4714	DG 2A-A ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-2-FAN-30-492)
PRVFC2PCV_06800334	1.09E-03	2.68E-03	3.52E-05	1.0027	3.4591	PORV 1-PCV 68-334 FAILS TO CLOSE ON DEMAND
PRVFC2PCV_0680340A	1.09E-03	2.68E-03	3.51E-05	1.0027	3.4553	PORV 1-PCV 68-340A FAILS TO CLOSE ON DEMAND
MOCXC2FCV_07000003	4.23E-08	9.74E-08	3.29E-05	1	3.3005	WBN-2-FCV-070-0003 TRANSFERS CLOSED
HORXC1FCV_06700024	7.49E-08	1.72E-07	3.28E-05	1	3.2979	ERCW 1B SUPPLY HDR MOV WBN-1-FCV-67-24 TRANSFERS CLOSED (LO/PR)
HORXC1FCV_06700082	7.49E-08	1.72E-07	3.28E-05	1	3.2979	LOCKED OPEN WBN-1-FCV-67-82 TRANSFERS CLOSED
HORXC1FCV_06700128	7.49E-08	1.72E-07	3.28E-05	1	3.2979	MOV WBN-1-FCV-67-128 TRANSFERS CLOSED (LO/PR)
HORXC1ISV_0670505B	7.49E-08	1.72E-07	3.28E-05	1	3.2979	MANUAL VALVE WBN-1-67-505B TRANSFERS CLOSED
CBKFO2BKR_2111828/16-B	2.55E-03	5.80E-03	3.25E-05	1.0058	3.2682	6.9kV SDBD BREAKER 1828 FAILS TO OPEN
DGGFD2GEN_0822B-B	7.15E-03	1.61E-02	3.23E-05	1.0164	3.2425	DIESEL GENERATOR FAILS TO START AND RUN FIRST HOUR (WBN-2-GEN -082-0002B -B)
FNSFD2FAN_030462	4.80E-03	1.08E-02	3.22E-05	1.0109	3.2417	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
SEQFD2B-B	3.33E-03	7.48E-03	3.21E-05	1.0075	3.2378	SEQUENCER 2B-B FAILS (Unknown UNID)
DAOFO2FCO_030446	1.02E-03	2.25E-03	3.15E-05	1.0023	3.2025	SUPPLY DAMPER 2-FCO-30-446 OPENS
DAOFO2FCO_030462	1.02E-03	2.25E-03	3.15E-05	1.0023	3.2025	EXHAUST FAN DAMPER 2-FCO-30-462 FAILS TO OPEN
HEXPL2HTX_0820720A1-A	1.55E-05	3.24E-05	2.99E-05	1	3.0919	HEAT EXCHANGER 2A1 PLUGS
HEXPL2HTX_0820720A2-A	1.55E-05	3.24E-05	2.99E-05	1	3.0919	HEAT EXCHANGER 2A2 PLUGS
CBKXO0BKR_2362/109-E	6.84E-07	1.42E-06	2.96E-05	1	3.0745	WBN-0-BKR-236-0002/109-E Breaker Transfers Open

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Event	Probability	FV	BB	RRW	RAW	Description
CKCFO2CKV_06300560	1.30E-05	2.69E-05	2.95E-05	1	3.0661	WBN-2-CKV-063-0560-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300561	1.30E-05	2.69E-05	2.95E-05	1	3.0661	WBN-2-CKV-063-0561-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300562	1.30E-05	2.69E-05	2.95E-05	1	3.0661	WBN-2-CKV-063-0562-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300563	1.30E-05	2.69E-05	2.95E-05	1	3.0661	WBN-2-CKV-063-0563-S CHECK VALVE FAILS TO OPEN ON DEMAND
PCOFD1PMP_0700051S	1.07E-03	2.12E-03	2.83E-05	1.0021	2.9787	WBN-0-PMP-070-0051-S PUMP CS FAILS TO START ON DEMAND
DGGFR2GEN_0822B-B	1.24E-02	2.45E-02	2.83E-05	1.0252	2.9573	DG 2B-B FAILS FAILS TO RUN (WBN-2-GEN -082-0002B -B)
FNSFR2FAN_030462	2.66E-03	5.21E-03	2.79E-05	1.0052	2.9489	EXHAUST FAN 2-FAN-30-462 FAILS TO RUN
FUSFPOFU_2362/101-E	5.20E-07	1.00E-06	2.75E-05	1	2.9252	BATT II FUSE F101 FAILS DURING OPERATION
HORXO2ISV_0670506B	3.19E-08	6.11E-08	2.74E-05	1	2.9154	MANUAL VALVE WBN-2-67-506B TRANSFERS OPEN (FLOW DIVERSION)
HEXRP2HTX_0820720A1-A	5.57E-06	1.04E-05	2.68E-05	1	2.8762	HEAT EXCHANGER 2A1 RUPTURES
HEXRP2HTX_0820720A2-A	5.57E-06	1.04E-05	2.68E-05	1	2.8762	HEAT EXCHANGER 2A2 RUPTURES
FANFR2FAN_030494	2.59E-04	4.77E-04	2.63E-05	1.0005	2.8405	DG 2B-B ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-2-FAN-30-494)
BUSFROBD_2364G_IE	3.80E-03	6.71E-03	2.52E-05	1.0068	2.7586	125V DC VITAL BATTERY BOARD IV FAILS DURING OPERATION
CKCFO2CKV_06300510	1.30E-05	2.19E-05	2.41E-05	1	2.6847	WBN-2-CKV-063-0510-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300551	1.30E-05	2.19E-05	2.41E-05	1	2.6847	WBN-2-CKV-063-0551-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300553	1.30E-05	2.19E-05	2.41E-05	1	2.6847	WBN-2-CKV-063-0553-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300555	1.30E-05	2.19E-05	2.41E-05	1	2.6847	WBN-2-CKV-063-0555-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300557	1.30E-05	2.19E-05	2.41E-05	1	2.6847	WBN-2-CKV-063-0557-S CHECK VALVE FAILS TO OPEN ON DEMAND

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Table 77 – Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
CBKXO0BKR_2361/109-D	6.84E-07	1.15E-06	2.40E-05	1	2.6826	WBN-0-BKR-236-0001/109-D BREAKER TRANSFERS OPEN
MOCXC2FCV_06300005	6.78E-07	1.14E-06	2.40E-05	1	2.6785	WBN-2-FCV-063-0005-B MOV TRANSFERS CLOSED
MOCXC2FCV_0630003	6.78E-07	1.14E-06	2.40E-05	1	2.6785	WBN-2-FCV-063-0003-A TRANSFERS CLOSED PUMP MINI-FLOW HEADER (LOCKED OPEN)
MOCXC2FCV_0630022	6.78E-07	1.14E-06	2.40E-05	1	2.6785	WBN-2-FCV-063-0022-B MOV TRANSFERS CLOSED (LOCKED OPEN)
MORXC2FCV_06766	9.77E-07	1.64E-06	2.40E-05	1	2.6779	2-FCV-67-66 MOV TRANSFERS CLOSED
RCPSEAL480	2.50E-03	4.04E-03	2.31E-05	1.0041	2.6122	RCP SEAL 480GPM
FNSFD1FAN_030461	4.80E-03	7.75E-03	2.31E-05	1.0078	2.6059	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
SEQFD1B-B	3.33E-03	5.36E-03	2.30E-05	1.0054	2.6053	SEQUENCER 1B-B FAILS (Unknown UNID)
DGGFD1GEN_0821B-B	7.15E-03	1.16E-02	2.31E-05	1.0117	2.6048	DG 1B-B FAILS TO START AND RUN FIRST HOUR
CBKFO1BKR_2111728/16-B	2.55E-03	4.10E-03	2.30E-05	1.0041	2.6039	WBN-1-BKR-211-1728/16B BREAKER FAILS TO OPEN
FNSFR1FAN_030461	2.66E-03	4.27E-03	2.29E-05	1.0043	2.5995	EXHAUST FAN 1-FAN-30-461 FAILS TO RUN
DAOFO1FCO_030445	1.02E-03	1.63E-03	2.28E-05	1.0016	2.5941	SUPPLY DAMPER 1-FCO-30-445 OPENS
DAOFO1FCO_030461	1.02E-03	1.63E-03	2.28E-05	1.0016	2.5941	EXHAUST FAN DAMPER 1-FCO-30-461 FAILS TO OPEN
DGGFR1GEN_0821B-B	1.24E-02	2.00E-02	2.31E-05	1.0204	2.594	DG 1B-B FAILS TO RUN
FANFR1FAN_030493	2.59E-04	4.04E-04	2.23E-05	1.0004	2.5575	DG 1B-B ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-1-FAN-30-493)
FUSFPOFU_2361/101-D	5.20E-07	8.06E-07	2.22E-05	1	2.5506	BATT I FUSE F101 FAILS DURING OPERATION (BTWN BATT I AND 125VDC BD I)
CKCFO0CKV_07000504	1.30E-05	2.00E-05	2.20E-05	1	2.5384	WBN-0-CKV-070-0504 CHECK VALVE FAILS TO OPEN ON DEMAND
HEXPL2HTX_0820720B1-B	1.55E-05	2.19E-05	2.02E-05	1	2.4174	HEAT EXCHANGER 2B1 PLUGS
HEXPL2HTX_0820720B2-B	1.55E-05	2.19E-05	2.02E-05	1	2.4174	HEAT EXCHANGER 2B2 PLUGS
PMAF12PMP_00300118	1.08E-03	1.53E-03	2.02E-05	1.0015	2.4102	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-2-3-118-A
RCPSEAL182	2.08E-01	3.66E-01	2.52E-05	1.576	2.3959	RCP SEAL 182 GPM
PMAF12PMP_00300128	1.08E-03	1.50E-03	1.98E-05	1.0015	2.388	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-2-3-128-B

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Table 77 -- Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
HEXPL1HTX_0820720B1-B	1.55E-05	2.14E-05	1.98E-05	1	2.3843	HEAT EXCHANGER 1B1 PLUGS
HEXPL1HTX_0820720B2-B	1.55E-05	2.14E-05	1.98E-05	1	2.3843	HEAT EXCHANGER 1B2 PLUGS
CKRRIOCKV_0670503BIE	2.59E-04	3.58E-04	1.97E-05	1.0004	2.379	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503B
CKRRIOCKV_0670503DIE	2.59E-04	3.58E-04	1.97E-05	1.0004	2.379	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503D
DGGFR_PFP	2.28E-03	3.14E-03	1.97E-05	1.0032	2.3786	Diesel Generator fails to run after first hour
DGGFD_FP	5.46E-03	7.57E-03	1.98E-05	1.0076	2.378	Diesel Generator fails to start or during first hour of operation
PCOFD2PMP_0700059	1.07E-03	1.39E-03	1.85E-05	1.0014	2.2947	WBN-2-PMP-070-0059 PUMP 2A-A FAILS TO START ON DEMAND
HEXRP1HTX_0820720B1-B	5.57E-06	7.13E-06	1.83E-05	1	2.2808	HEAT EXCHANGER 1B1 RUPTURES
HEXRP1HTX_0820720B2-B	5.57E-06	7.13E-06	1.83E-05	1	2.2808	HEAT EXCHANGER 1B2 RUPTURES
CBKXO0BKR_2362/204-E	4.10E-06	5.11E-06	1.78E-05	1	2.246	NORMAL 125V DC SUPPLY BREAKER TRANSFERS OPEN
MOCFO2FCV_00100051	1.86E-04	2.32E-04	1.78E-05	1.0002	2.2445	Motor operated valve fails to open (clean water)
FUSFPOFU_2362/201-E	3.12E-06	3.80E-06	1.74E-05	1	2.2184	125VDC SUPPLY FUSE 0-236-2/201-E
CKRRIOCKV_0670503FIE	2.59E-04	3.13E-04	1.73E-05	1.0003	2.2086	DISCHARGE CHECK VALVE 503F GROSS REVERSE LEAKAGE WBN-0-67-503F
CKRRIOCKV_0670503HIE	2.59E-04	3.13E-04	1.73E-05	1.0003	2.2086	DISCHARGE CHECK VALVE 503H GROSS REVERSE LEAKAGE WBN-0-67-503H
CKCFO2CKV_0700504A	1.30E-05	1.54E-05	1.69E-05	1	2.1816	WBN-2-CKV-070-0504A-A CHECK VALVE FAILS TO OPEN ON DEMAND
BUSFR2MCC_213B1-B	1.04E-05	1.23E-05	1.68E-05	1	2.1761	480V REACTOR MOV BOARD 2B1-B FAILS DURING OPERATION
HXCRP2HTX_0680008	5.57E-06	6.52E-06	1.67E-05	1	2.1705	WBN-2-HTX-068-0008 THERMAL BARRIER HEAT EXCHANGER #1 EXCESSIVE LEAKAGE/RUPTURE
HXCRP2HTX_0680031	5.57E-06	6.52E-06	1.67E-05	1	2.1705	WBN-2-HTX-068-0031 THERMAL BARRIER HEAT EXCHANGER #2 EXCESSIVE LEAKAGE/RUPTURE
HXCRP2HTX_0680050	5.57E-06	6.52E-06	1.67E-05	1	2.1705	WBN-2-HTX-068-0050 THERMAL BARRIER HEAT EXCHANGER #3 EXCESSIVE LEAKAGE/RUPTURE

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Event	Probability	FV	BB	RRW	RAW	Description
HXCRP2HTX_0680073	5.57E-06	6.52E-06	1.67E-05	1	2.1705	WBN-2-HTX-068-0073 THERMAL BARRIER HEAT EXCHANGER #4 EXCESSIVE LEAKAGE/RUPTURE
PMAFR2PMP_00300118	1.28E-04	1.49E-04	1.67E-05	1.0001	2.167	PUMP FAILS AFTER 1 HOUR WBN-2-3-118-A
PMAFR2PMP_00300128	1.28E-04	1.49E-04	1.66E-05	1.0001	2.1614	PUMP FAILS AFTER 1 HOUR WBN-2-3-128-B
HEXRP2HTX_0820720B1-B	5.57E-06	6.42E-06	1.65E-05	1	2.1531	HEAT EXCHANGER 2B1 RUPTURES
HEXRP2HTX_0820720B2-B	5.57E-06	6.42E-06	1.65E-05	1	2.1531	HEAT EXCHANGER 2B2 RUPTURES
HORXO1ISV_670506B	3.19E-08	3.61E-08	1.62E-05	1	2.1309	MANUAL VALVE WBN-2-67-506B TRANSFERS OPEN (FLOW DIVERSION)
FNSFR2FAN_03000214	2.66E-03	2.96E-03	1.59E-05	1.003	2.1096	DC EMERGENCY EXHAUST FAN FAILS TO RUN AFTER 1ST HOUR WBN-2-30-214
AOCFO2PCV_00300122	8.83E-05	9.76E-05	1.58E-05	1.0001	2.1061	AIR OPERATED VALVE FAILS TO OPEN (clean water) WBN-2-3-122
MOCXC2FCV_0700004	6.78E-07	7.48E-07	1.58E-05	1	2.104	WBN-2-FCV-070-0004 VALVE TRANSFERS CLOSED (LOCKED OPEN)
MOCXC2FCV_0700087	6.78E-07	7.48E-07	1.58E-05	1	2.104	WBN-2-FCV-070-0087-B MOV TRANSFERS CLOSED
MOCXC2FCV_0700090	6.78E-07	7.48E-07	1.58E-05	1	2.104	WBN-2-FCV-070-0090-A MOV TRANSFERS CLOSED
MOCXC2FCV_0700133	6.78E-07	7.48E-07	1.58E-05	1	2.104	WBN-2-FCV-070-0133-A CONTAINMENT ISOLATION TRANSFERS CLOSED
MOCXC2FCV_0700134	6.78E-07	7.48E-07	1.58E-05	1	2.104	WBN-2-FCV-070-0134-B CONTAINMENT ISOLATION TRANSFERS CLOSED
AOCFO2PCV_00300132	8.83E-05	9.70E-05	1.57E-05	1.0001	2.0989	AIR OPERATED VALVE FAILS TO OPEN (clean water) WBN-2-3-132
CBKXO0BKR_2364/304-G	4.10E-06	4.47E-06	1.56E-05	1	2.0894	NORMAL 125V DC SUPPLY BREAKER TRANSFERS OPEN
CKXC2CKV_0700671	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0671 CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0700679	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0679 CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0700681A	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0681A CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0700681B	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0681B CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0700681C	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0681C CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0700681D	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0681D CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0700682A	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0682A CHECK VALVE TRANSFERS CLOSED

Table 77 – Unit 2 Basic Event CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
CKXC2CKV_0700682B	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0682B CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0700682C	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0682C CHECK VALVE TRANSFERS CLOSED
CKXC2CKV_0700682D	4.94E-08	5.34E-08	1.54E-05	1	2.0801	WBN-2-CKV-070-0682D CHECK VALVE TRANSFERS CLOSED
HOCXC2ISV_0700501	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-ISV-070-0501 MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0700516	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-ISV-070-0516 MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0700680	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-ISV-070-0680 MANUAL VALVE TRANSFERS CLOSED
HOCXC2ISV_0700690	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-ISV-070-0690 MANUAL VALVES TRANSFERS CLOSED
HOCXC2ISV_0700736	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-ISV-070-0736 MANUAL VALVES TRANSFERS CLOSED
HOCXC2THV_0700684A	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-THV-070-0684A MANUAL VALVES TRANSFERS CLOSED
HOCXC2THV_0700684B	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-THV-070-0684B MANUAL VALVES TRANSFERS CLOSED
HOCXC2THV_0700684C	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-THV-070-0684C MANUAL VALVES TRANSFERS CLOSED
HOCXC2THV_0700684D	7.49E-08	8.09E-08	1.54E-05	1	2.0801	WBN-2-THV-070-0684D MANUAL VALVES TRANSFERS CLOSED
MORXC1FCV_06767	9.77E-07	1.04E-06	1.51E-05	1	2.0601	1-FCV-67-67 MOV TRANSFERS CLOSED
SWPFD2PS_0030138A	1.17E-04	1.21E-04	1.48E-05	1.0001	2.0353	PRESSURE SWITCH WBN-2-PS-3-138A FAILS
CBKXO2BKR_212B1/8B-B	4.10E-06	4.17E-06	1.45E-05	1	2.0149	480V SDBD SUPPLY TO RMOV BOARD 2B1-B (2-BKR-212-B1/8B-B)
CBKXO2BKR_213B1/1A1-B	4.10E-06	4.17E-06	1.45E-05	1	2.0149	480V RMOV BOARD NORMAL SUPPLY BREAKER TRANSFERS OPEN
FUSFPOFU_2364/301-G	3.12E-06	3.16E-06	1.45E-05	1	2.013	125VDC SUPPLY FUSE 0-236-4/F301-G

Note: this table does not include CCF, HEPs, or T&M

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Table 78 -- Unit 1 Test and Maintenance CDF Importance F-V > 0.5%

Event	Probability	FV	BB	RRW	RAW	Description
MTM_1GEN_0821A-A	1.10E-02	2.53E-02	3.20E-05	1.0259	3.2725	DIESEL 1A-A MAINTENANCE
MTM_OCHRG2-E	2.20E-03	2.15E-02	1.36E-04	1.022	10.7459	125VDC CHARGER II MAINTENANCE
MTM_1PMP_0620108A	3.78E-03	2.06E-02	7.57E-05	1.021	6.4185	WBN-1-PMP-062-0108-A CCP 1A-A IN MAINTENANCE
MTM_1PMP003001AS	8.52E-03	1.86E-02	3.03E-05	1.0189	3.1613	PUMP WBN-1-3-1AS IN MAINTENANCE
MTM_1GEN_0821B-B	1.22E-02	1.45E-02	1.65E-05	1.0147	2.1743	DIESEL 1B-B MAINTENANCE
MTM_PMP0MDP067A	6.52E-04	1.43E-02	3.06E-04	1.0145	22.9671	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE
MTM_2GEN_0822B-B	1.07E-02	1.38E-02	1.80E-05	1.014	2.2777	DIESEL 2B-B MAINTENANCE
MTM_2GEN_0822A-A	1.51E-02	1.13E-02	1.04E-05	1.0114	1.737	DIESEL 2A-A MAINTENANCE
MTM_1FAN_03000183	2.00E-03	1.09E-02	7.55E-05	1.011	6.4145	CCP A ROOM COOLER FAN IN MAINTENANCE
TTM_1FAN_03000183	2.00E-03	1.09E-02	7.55E-05	1.011	6.4145	CCP A ROOM COOLER FAN IN TEST

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 79 -- Unit 1 Test and Maintenance CDF Importance RAW > 2**

Event	Probability	FV	BB	RRW	RAW	Description
MTM_PMP0MDP067A	6.52E-04	1.43E-02	3.06E-04	1.0145	22.9671	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE
MTM_OCHRG2-E	2.20E-03	2.15E-02	1.36E-04	1.022	10.7459	125VDC CHARGER II MAINTENANCE
MTM_PMP0MDP067B	2.83E-05	2.45E-04	1.20E-04	1.0002	9.645	ERCW PUMP TRAIN B UNAVAILABLE DUE TO MAINTENANCE
MTM_1PMP_0700046A	5.97E-04	4.41E-03	1.03E-04	1.0044	8.3768	WBN-1-PMP-070-0046-A CCS PUMP 1A-A IN MAINTENANCE
TTM_1GEN_0821A-A	2.36E-04	5.18E-04	3.05E-05	1.0005	3.1956	DIESEL 1A-A TESTING
MTM_1PMP003001AS	8.52E-03	1.86E-02	3.03E-05	1.0189	3.1613	PUMP WBN-1-3-1AS IN MAINTENANCE
TTM_1PTS003001AS	8.49E-04	1.82E-03	2.98E-05	1.0018	3.1404	PUMP WBN-1-3-1AS IN TESTING
MTM_1MCC_213B1-B	2.15E-04	3.81E-04	2.47E-05	1.0004	2.7719	480V RMOV BOARD 1B1-B MAINTENANCE
MTM_2GEN_0822B-B	1.07E-02	1.38E-02	1.80E-05	1.014	2.2777	DIESEL 2B-B MAINTENANCE
TTM_2GEN_0822B-B	1.92E-04	2.37E-04	1.71E-05	1.0002	2.2322	DIESEL 2B-B TESTING
MTM_1GEN_0821B-B	1.22E-02	1.45E-02	1.65E-05	1.0147	2.1743	DIESEL 1B-B MAINTENANCE
MTM_1PMP00300118	3.84E-03	4.41E-03	1.60E-05	1.0044	2.1448	PUMP WBN-1-3-118-A IN MAINTENANCE
TTM_1GEN_0821B-B	2.60E-04	2.86E-04	1.53E-05	1.0003	2.1014	DIESEL 1B-B TESTING
MTM_1PMP00300128	4.22E-03	4.25E-03	1.40E-05	1.0043	2.0031	PUMP WBN-1-3-128-B IN MAINTENANCE
MTM_PMP0MDP067A	6.52E-04	1.43E-02	3.06E-04	1.0145	22.9671	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE
MTM_OCHRG2-E	2.20E-03	2.15E-02	1.36E-04	1.022	10.7459	125VDC CHARGER II MAINTENANCE
MTM_PMP0MDP067B	2.83E-05	2.45E-04	1.20E-04	1.0002	9.645	ERCW PUMP TRAIN B UNAVAILABLE DUE TO MAINTENANCE
MTM_1PMP_0700046A	5.97E-04	4.41E-03	1.03E-04	1.0044	8.3768	WBN-1-PMP-070-0046-A CCS PUMP 1A-A IN MAINTENANCE
TTM_1PMP_0700046A	1.63E-05	1.16E-04	9.92E-05	1.0001	8.133	WBN-1-PMP-070-0046-A CCS PUMP 1A-A IN TEST
MTM_1MCC_214B1-B	2.15E-04	1.40E-03	9.07E-05	1.0014	7.5157	480VAC C&A VB 1B1-B (1-MCC-214-B001-B) MAINTENANCE
MTM_1MCC_214A1-A	2.15E-04	1.27E-03	8.20E-05	1.0013	6.8952	480VAC C&A VB 1A1-A (1-MCC-214-A001-A) MAINTENANCE

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Table 80 -- Unit 2 Test and Maintenance CDF Importance F-V >0.5%

Event	Probability	FV	BB	RRW	RAW	Description
MTM_2GEN_0822A-A	1.51E-02	3.02E-02	2.86E-05	1.0311	2.9695	DIESEL 2A-A MAINTENANCE
MTM_2PMP_0620108A	3.78E-03	2.03E-02	7.68E-05	1.0207	6.3554	WBN-2-PMP-062-0108-A CCP 1A-A IN MAINTENANCE
MTM_2PMP003001AS	8.52E-03	1.72E-02	2.88E-05	1.0175	3.0018	PUMP WBN-2-3-1AS IN MAINTENANCE
MTM_1GEN_0821B-B	1.22E-02	1.56E-02	1.83E-05	1.0159	2.2646	DIESEL 1B-B MAINTENANCE
MTM_2GEN_0822B-B	1.07E-02	1.36E-02	1.82E-05	1.0138	2.2605	DIESEL 2B-B MAINTENANCE
MTM_2FAN_03000183	2.00E-03	1.05E-02	7.47E-05	1.0106	6.2218	CCP A ROOM COOLER FAN IN MAINTENANCE
TTM_2FAN_03000183	2.00E-03	1.05E-02	7.47E-05	1.0106	6.2218	CCP A ROOM COOLER FAN IN TEST
MTM_PMP0MDP06700047	1.30E-02	6.92E-03	7.61E-06	1.007	1.5258	PUMP WBN-0-67-47 MAINTENANCE
MTM_PMP0MDP06700055	1.30E-02	6.92E-03	7.61E-06	1.007	1.5258	PUMP WBN-0-67-55 MAINTENANCE
TTM_PMP0MDP06700047	1.30E-02	6.92E-03	7.61E-06	1.007	1.5258	PUMP WBN-0-67-47 TESTING
TTM_PMP0MDP06700055	1.30E-02	6.92E-03	7.61E-06	1.007	1.5258	PUMP WBN-0-67-55 TESTING
MTM_1GEN_0821A-A	1.10E-02	5.61E-03	7.29E-06	1.0056	1.5046	DIESEL 1A-A MAINTENANCE
MTM_PMP0MDP067A	6.52E-04	5.54E-03	1.21E-04	1.0056	9.4923	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE

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Table 81 -- Unit 2 Test and Maintenance CDF Importance RAW > 2

Event	Probability	FV	BB	RRW	RAW	Description
MTM_2MCC_214A1-A	2.15E-04	3.60E-03	2.39E-04	1.0036	17.7241	480VAC C&A VB 2A1-A (2-MCC-214-A001-A) MAINTENANCE
MTM_PMPOMDP067B	2.83E-05	3.81E-04	1.92E-04	1.0004	14.4692	ERCW PUMP TRAIN B UNAVAILABLE DUE TO MAINTENANCE
MTM_PMPOMDP067A	6.52E-04	5.54E-03	1.21E-04	1.0056	9.4923	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE
MTM_2PMP_0700059	5.97E-04	4.03E-03	9.63E-05	1.004	7.7392	WBN-2-PMP-070-0059 CCS PUMP 2A-A IN MAINTENANCE
TTM_2PMP_0700059	1.63E-05	1.07E-04	9.37E-05	1.0001	7.5612	WBN-2-PMP-070-00059 CCS PUMP 2A-A IN TEST
MTM_2PMP_0620108A	3.78E-03	2.03E-02	7.68E-05	1.0207	6.3554	WBN-2-PMP-062-0108-A CCP 1A-A IN MAINTENANCE
MTM_2FAN_03000183	2.00E-03	1.05E-02	7.47E-05	1.0106	6.2218	CCP A ROOM COOLER FAN IN MAINTENANCE
TTM_2GEN_0822B-B	1.92E-04	2.90E-04	2.16E-05	1.0003	2.5124	DIESEL 2B-B TESTING
MTM_1GEN_0821B-B	1.22E-02	1.56E-02	1.83E-05	1.0159	2.2646	DIESEL 1B-B MAINTENANCE
MTM_2GEN_0822B-B	1.07E-02	1.36E-02	1.82E-05	1.0138	2.2605	DIESEL 2B-B MAINTENANCE
TTM_1GEN_0821B-B	2.60E-04	3.22E-04	1.77E-05	1.0003	2.2386	DIESEL 1B-B TESTING
MTM_2MCC_213B1-B	2.15E-04	2.34E-04	1.56E-05	1.0002	2.089	480V RMOV BOARD 2B1-B MAINTENANCE

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Table 82 -- LERF By Accident Sequence for Unit 1

Sequence	Number of Cutsets	Frequency (per reactor-year)	Percentage
U1_L2FBLERF004	15,539	4.18E-07	37.23%
U1_L2FLLERF035	7,951	1.64E-07	14.61%
U1_L2FBLERF005	7,331	1.63E-07	14.47%
U1_L2FHLERF038	5,720	1.18E-07	10.51%
U1_L2FHLERF039	5,063	7.97E-08	7.09%
U1_L2FLLERF019	4,334	3.84E-08	3.42%
U1_L2FHLERF001	4,070	3.46E-08	3.08%
U1_L2FLLERF001	4,050	1.80E-08	1.61%
U1_L2FLLERF014	3,505	1.45E-08	1.29%
U1_L2FLLERF017	2,708	1.45E-08	1.29%
U1_L2FBLERF003	2,628	8.24E-09	0.73%
U1_L2FLLERF013	1,831	6.66E-09	0.59%
U1_L2FILERF001	1,705	6.65E-09	0.59%
U1_L2FLLERF047	1,611	6.53E-09	0.58%
U1_L2FILERF002	1,423	6.32E-09	0.56%
U1_L2FLLERF002	1,402	6.20E-09	0.55%
U1_L2FHLERF003	1,183	4.80E-09	0.43%
Total			98.64%

Note: Unit 2 similar.

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Table 83 -- Breakdown of LERF Cutsets in Each Frequency Range, Unit 2

Frequency Range (events per year)	Number of Cutsets	Percentage of CDF
$> 10^{-7}$	2	18.30%
10^{-8} to 10^{-7}	15	29.90%
10^{-9} to 10^{-8}	57	18.00%
10^{-10} to 10^{-9}	508	9.50%
10^{-11} to 10^{-10}	4,522	10.70%
10^{-12} to 10^{-11}	27,769	6.60%
$3E10^{-13}$ to 10^{-12}	50,047	2.30%
Note: Unit 1 similar		

Table 84 – Top 100 Cutsets for Unit 1 LERF



Acrobat Document

Table 85 – Top 100 Cutsets for Unit 2 LERF



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Table 86 -- (Not Used)
The information previously provided in this table resides in the Quantification Notebook (MDN-000-999-2008-0147, Ref 44).

Table 87 -- (Not Used)
The information previously provided in this table resides in the Quantification Notebook (MDN-000-999-2008-0147, Ref 44).

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Table 88: (Not Used)
The information previously provided in this table resides in the Quantification Notebook (MDN-000-999-2008-0147, Ref 44).

Table 89: (Not Used)
The information previously provided in this table resides in the Level 2 (LERF) Notebook (MDN-000-999-2008-0148, Ref 40).

Table 90: (Not Used)
The information previously provided in this table resides in the Quantification Notebook (MDN-000-999-2008-0147, Ref 44).

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 91 -- LERF By Initiator for Unit 1**

LERF (per reactor-year)	Percent Contribution	Initiating Event
2.48E-07	22.04%	Flood event induced by rupture of RCW line in room 772.0-A8
2.48E-07	22.04%	Flood event induced by rupture of RCW line in room 772.0-A9
1.20E-07	10.68%	Loss of Offsite Power (Grid Related)
1.02E-07	9.08%	Loss of Offsite Power (Plant Centered)
6.61E-08	5.89%	Flood event induced by break of HPFP line in room 757.0-A2
4.95E-08	4.41%	Flood event induced by break of HPFP line in room 757.0-A24
3.66E-08	3.25%	Flood event induced by rupture of RCW line in room 757.0-A17
3.66E-08	3.25%	Flood event induced by rupture of RCW line in room 757.0-A9
3.35E-08	2.98%	Loss of Offsite Power (Weather Induced)
2.88E-08	2.57%	Small LOCA Stuck Open Safety Relief Valve
2.51E-08	2.24%	Flood event induced by break of HPFP line in room 757.0-A5
2.08E-08	1.85%	Total Loss of Component Cooling System Unit 1
1.94E-08	1.73%	Flood event induced by break of HPFP line in room 757.0-A21
1.86E-08	1.66%	Flood event induced by break of HPFP line in room 772.0-A7
1.82E-08	1.62%	Flood event induced by break of HPFP line in room 772.0-A10
8.00E-09	0.71%	ISLOCA RHR PUMP SEAL INITIATOR FLAG
6.10E-09	0.54%	Total Loss of ERCW
5.59E-09	0.50%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 1
5.59E-09	0.50%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 2
5.59E-09	0.50%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 3
5.59E-09	0.50%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 4
2.24E-09	0.20%	Loss of Battery Board 2
1.59E-09	0.14%	Reactor Trip
1.15E-09	0.10%	Turbine Trip
1.00E-09	0.09%	SLOCA ON COLD LEG 1
1.00E-09	0.09%	SLOCA ON COLD LEG 2
1.00E-09	0.09%	SLOCA ON COLD LEG 3
1.00E-09	0.09%	SLOCA ON COLD LEG 4
6.07E-10	0.05%	Inadvertent Closure of 1 MSIV
5.95E-10	0.05%	Partial Loss of Main Feedwater
5.78E-10	0.05%	Total Loss of Main Feedwater
5.53E-10	0.05%	Loss of Component Cooling System Train 1A
4.63E-10	0.04%	SG1 IS THE FAULTED SG
4.63E-10	0.04%	SG2 IS THE FAULTED SG
4.63E-10	0.04%	SG3 IS THE FAULTED SG
4.63E-10	0.04%	SG4 IS THE FAULTED SG
3.31E-10	0.03%	Loss of Condenser Vacuum
3.27E-10	0.03%	Spray event on dryers
1.12E-06		TOTAL

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 92 -- Unit 1 LERF Comparison**

LERF (per reactor-year)		Difference	Initiating Event
CAFTA R1	CAFTA R0		
4.95E-08	1.52E-08	225%	Flood event induced by HPFP break in 757.0-A24
2.51E-08	7.74E-09	224%	Flood event induced by HPFP break in 757.0-A5
1.82E-08	5.61E-09	224%	Flood event induced by HPFP break in 772.0-A10
1.94E-08	5.99E-09	224%	Flood event induced by HPFP break in 757.0-A21
1.86E-08	5.76E-09	224%	Flood event induced by HPFP break in 772.0-A7
6.61E-08	2.05E-08	223%	Flood event induced by HPFP break in 757.0-A2
2.88E-08	9.25E-09	211%	Small LOCA Stuck Open Safety Relief Valve
6.07E-10	2.02E-10	200%	Inadvertent Closure of 1 MSIV
1.00E-09	3.63E-10	177%	SLOCA ON COLD LEG 1
1.00E-09	3.63E-10	177%	SLOCA ON COLD LEG 2
1.00E-09	3.63E-10	177%	SLOCA ON COLD LEG 3
1.00E-09	3.63E-10	177%	SLOCA ON COLD LEG 4
3.66E-08	1.81E-08	102%	Flood event induced by RCW rupture in 757.0-A17
3.66E-08	1.81E-08	102%	Flood event induced by RCW rupture in 757.0-A9
2.48E-07	1.51E-07	64%	Flood event induced by RCW rupture in 772.0-A8
2.48E-07	1.51E-07	64%	Flood event induced by RCW rupture in 772.0-A9
8.00E-09	7.95E-09	1%	ISLOCA RHR PUMP SEAL INITIATOR FLAG
2.08E-08	2.10E-08	-1%	Total Loss of Component Cooling System Unit 1
1.59E-09	1.93E-09	-17%	Reactor Trip
2.24E-09	3.14E-09	-29%	Loss of Battery Board 2
1.20E-07	1.95E-07	-38%	Loss of Offsite Power (Grid Related)
1.02E-07	1.69E-07	-40%	Loss of Offsite Power (Plant Centered)
5.53E-10	9.44E-10	-41%	Loss of Component Cooling System Train 1A
3.35E-08	6.34E-08	-47%	Loss of Offsite Power (Weather Induced)
5.78E-10	1.44E-09	-60%	Total Loss of Main Feedwater
1.15E-09	3.52E-09	-67%	Turbine Trip
5.95E-10	2.14E-09	-72%	Partial Loss of Main Feedwater
3.31E-10	1.33E-09	-75%	Loss of Condenser Vacuum
6.10E-09	2.79E-08	-78%	Total Loss of ERCW
5.59E-09	1.62E-07	-97%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 1
5.59E-09	1.62E-07	-97%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 2
5.59E-09	1.62E-07	-97%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 3
5.59E-09	1.62E-07	-97%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 4
4.63E-10	1.45E-08	-97%	SG1 IS THE FAULTED SG
4.63E-10	1.45E-08	-97%	SG2 IS THE FAULTED SG
4.63E-10	1.45E-08	-97%	SG3 IS THE FAULTED SG
4.63E-10	1.45E-08	-97%	SG4 IS THE FAULTED SG
3.27E-10	--	--	Spray event on dryers
4.95E-08	1.52E-08	225%	Flood event induced by HPFP break in 757.0-A24
2.51E-08	7.74E-09	224%	Flood event induced by HPFP break in 757.0-A5

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 93 -- LERF By Initiator for Unit 2**

LERF (per reactor- year)	Percent Contribution	Initiating Event
2.48E-07	21.31%	Flood event induced by RCW rupture in 772.0-A8
2.48E-07	21.31%	Flood event induced by RCW rupture in 772.0-A9
1.34E-07	11.57%	Loss of Offsite Power (Grid Related)
1.13E-07	9.75%	Loss of Offsite Power (Plant Centered)
6.61E-08	5.69%	Flood event induced by HPFP break in 757.0-A2
4.95E-08	4.26%	Flood event induced by HPFP break in 757.0-A24
3.66E-08	3.15%	Flood event induced by RCW rupture in 757.0-A17
3.66E-08	3.15%	Flood event induced by RCW rupture in 757.0-A9
3.59E-08	3.09%	Loss of Offsite Power (Weather Induced)
2.88E-08	2.48%	Small LOCA Stuck Open Safety Relief Valve
2.51E-08	2.16%	Flood event induced by HPFP break in 757.0-A5
2.08E-08	1.79%	Total Loss of Component Cooling System Unit 2
1.94E-08	1.67%	Flood event induced by HPFP break in 757.0-A21
1.86E-08	1.61%	Flood event induced by HPFP break in 772.0-A7
1.82E-08	1.56%	Flood event induced by HPFP break in 772.0-A10
1.44E-08	1.24%	Total Loss of ERCW
8.02E-09	0.69%	ISLOCA RHR PUMP SEAL INITIATOR FLAG
5.52E-09	0.47%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 1
5.50E-09	0.47%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 2
5.50E-09	0.47%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 3
5.50E-09	0.47%	SECONDARY BREAK OUTSIDE CONTAINMENT SG 4
2.25E-09	0.19%	Reactor Trip
1.63E-09	0.14%	Turbine Trip
1.25E-09	0.11%	Loss of Battery Board 4
1.24E-09	0.11%	Major flood in the Turbine Building
1.00E-09	0.09%	SLOCA ON COLD LEG 1
1.00E-09	0.09%	SLOCA ON COLD LEG 2
1.00E-09	0.09%	SLOCA ON COLD LEG 3
1.00E-09	0.09%	SLOCA ON COLD LEG 4
8.64E-10	0.07%	Inadvertent Closure of 1 MSIV
8.46E-10	0.07%	Partial Loss of Main Feedwater
7.91E-10	0.07%	Total Loss of Main Feedwater
4.58E-10	0.04%	SG1 IS THE FAULTED SG
4.58E-10	0.04%	SG2 IS THE FAULTED SG
4.58E-10	0.04%	SG3 IS THE FAULTED SG
4.58E-10	0.04%	SG4 IS THE FAULTED SG
4.56E-10	0.04%	Loss of Condenser Vacuum
4.49E-10	0.04%	Spray event on dryers
1.16E-06		TOTAL

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 94 -- Unit 1 System Importance for LERF, F-V > 0.5%**

ITEM	RAW	FV	RRW	BB
U1SYS082	80.05739	9.68E-02	1.107201	8.89E-05
U1SYS030	211.35040	7.30E-02	1.078761	2.36E-04
U1SYS003	13.96679	7.19E-02	1.077515	1.46E-05
U2SYS082	1.80328	1.97E-02	1.020113	9.24E-07
U1SYS211	12017.34000	1.44E-02	1.014643	1.35E-02
U2SYS030	1.66843	8.65E-03	1.00873	7.61E-07
U1SYS074	712.20120	7.34E-03	1.007393	7.99E-04

Table 95 -- Unit 1 System Importance for LERF, RAW > 2

ITEM	RAW	FV	RRW	BB
U1SYS211	12017.34000	1.44E-02	1.014643	1.35E-02
U1SYS212	7924.84800	1.39E-03	1.001396	8.90E-03
U1SYS063	1441.84200	4.89E-04	1.000489	1.62E-03
U1SYS074	712.20120	7.34E-03	1.007393	7.99E-04
U0SYS235	501.91080	7.07E-04	1.000707	5.63E-04
U0SYS067	249.79280	3.01E-03	1.003022	2.79E-04
U1SYS030	211.35040	7.30E-02	1.078761	2.36E-04
U0SYS236	163.41710	2.92E-03	1.002927	1.82E-04
U0SYS070	105.50940	4.37E-04	1.000437	1.17E-04
U1SYS082	80.05739	9.68E-02	1.107201	8.89E-05
U1SYS070	29.02317	6.41E-04	1.000641	3.15E-05
U1SYS003	13.96679	7.19E-02	1.077515	1.46E-05
U2SYS067	6.67698	1.69E-03	1.001696	6.38E-06
U1SYS062	5.29104	2.42E-03	1.002425	4.82E-06
U1SYS077	4.56049	8.81E-06	1.000009	4.00E-06
U1SYS099	4.08577	1.33E-04	1.000133	3.47E-06
U2SYS211	2.91980	1.76E-03	1.001758	2.16E-06
U0SYS226	2.90182	3.34E-06	1.000003	2.14E-06
U1SYS068	2.35287	3.43E-03	1.003438	1.52E-06
U1SYS214	2.06259	1.47E-05	1.000015	1.19E-06

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 96 -- Unit 2 System Importance for LERF, F-V > 0.5%**

Item	RAW	FV	RRW	BB
U2SYS082	81.59317	1.05E-01	1.117091	9.37E-05
U2SYS003	15.05128	7.74E-02	1.083886	1.64E-05
U2SYS030	231.30120	7.67E-02	1.083031	2.68E-04
U1SYS082	1.96251	2.27E-02	1.023216	1.14E-06
U2SYS211	3490.55400	1.51E-02	1.015284	4.05E-03
U1SYS030	1.82309	9.99E-03	1.01009	9.68E-07
U2SYS074	689.90580	7.09E-03	1.00714	8.00E-04

Table 97 -- Unit 2 System Importance for LERF, RAW > 2

Item	RAW	FV	RRW	BB
U2SYS212	7661.27300	9.41E-04	1.000942	8.90E-03
U2SYS211	3490.55400	1.51E-02	1.015284	4.05E-03
U2SYS063	1394.20900	4.70E-04	1.000471	1.62E-03
U2SYS074	689.90580	7.09E-03	1.00714	8.00E-04
U0SYS067	339.15940	3.34E-03	1.00335	3.93E-04
U0SYS236	306.43730	2.01E-03	1.002018	3.55E-04
U2SYS030	231.30120	7.67E-02	1.083031	2.68E-04
U2SYS082	81.59317	1.05E-01	1.117091	9.37E-05
U2SYS070	28.14010	6.67E-04	1.000667	3.15E-05
U2SYS003	15.05128	7.74E-02	1.083886	1.64E-05
U1SYS067	10.08340	2.02E-03	1.002023	1.06E-05
U2SYS214	9.99492	1.29E-04	1.000129	1.04E-05
U2SYS062	5.14077	2.33E-03	1.002339	4.81E-06
U2SYS077	4.95808	9.88E-06	1.00001	4.60E-06
U2SYS099	4.94217	1.86E-04	1.000186	4.58E-06
U1SYS211	3.01141	2.04E-03	1.002047	2.34E-06
U2SYS068	2.41720	3.36E-03	1.003369	1.65E-06
U1SYS070	2.00055	2.39E-04	1.000239	1.16E-06

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 98 -- Unit 1 Component Importance for LERF, F-V > 0.5%**

Item	RAW	FV	RRW	BB
WBN-1-PMP -003-0001A -S	7.07180	7.17E-02	1.077217	6.90E-06
WBN-1-GEN -082-0001A -A	4.48433	5.06E-02	1.053292	3.97E-06
WBN-1-GEN -082-0001B -B	4.38082	4.88E-02	1.051276	3.85E-06
WBN-1-FAN -030-0459 -A	4.29452	1.97E-02	1.020047	3.72E-06
WBN-1-FAN -030-0461 -B	4.19860	1.90E-02	1.019372	3.61E-06
WBN-1-FAN -030-0214	2.71042	9.49E-03	1.009585	1.93E-06
WBN-1-BKR -211-1716/16 -A	3.68850	7.12E-03	1.007168	3.03E-06
WBN-1-BKR -211-1728/16 -B	3.61005	6.91E-03	1.006956	2.94E-06

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 99 -- Unit 1 Component Importance for LERF, RAW > 2

Item	RAW	FV	RRW	BB
WBN-0-CKV -067-0503B -A	98.31776	7.70E-05	1.000077	1.09E-04
WBN-0-CKV -067-0503D -A	98.31776	7.70E-05	1.000077	1.09E-04
WBN-0-CKV -067-0503F -B	95.68862	9.16E-05	1.000092	1.06E-04
WBN-0-CKV -067-0503H -B	95.68862	9.16E-05	1.000092	1.06E-04
WBN-1-BD -211-A -A	68.37714	7.03E-04	1.000703	7.57E-05
WBN-1-STN -063-0200	32.57436	3.16E-04	1.000316	3.55E-05
WBN-1-OXF -212-A001 -A	22.77630	4.73E-04	1.000473	2.45E-05
WBN-1-BD -212-A001 -A	21.55190	2.14E-04	1.000214	2.31E-05
WBN-1-BKR -212-A001/1B -A	20.44585	7.99E-05	1.00008	2.18E-05
WBN-1-BKR -212-A1 -A	20.44585	7.99E-05	1.00008	2.18E-05
WBN-1-OXF -212-A002 -A	14.56089	2.94E-04	1.000294	1.52E-05
WBN-1-BD -212-A002 -A	13.52227	1.30E-04	1.000131	1.41E-05
WBN-1-BKR -212-A002/1B -A	12.01756	4.52E-05	1.000045	1.24E-05
WBN-1-BKR -212-A2 -A	12.01756	4.52E-05	1.000045	1.24E-05
WBN-1-PMP -003-0001A -S	7.07180	7.17E-02	1.077217	6.90E-06
WBN-0-CHGR -236-0001 -D	5.43867	5.41E-04	1.000542	4.99E-06
WBN-1-BD -211-B -B	4.71669	3.90E-05	1.000039	4.17E-06
WBN-1-GEN -082-0001A -A	4.48433	5.06E-02	1.053292	3.97E-06
WBN-1-GEN -082-0001B -B	4.38082	4.88E-02	1.051276	3.85E-06
WBN-1-FAN -030-0459 -A	4.29452	1.97E-02	1.020047	3.72E-06
WBN-1-BD -235-0001 -D	4.22105	2.21E-04	1.000221	3.62E-06
WBN-1-FAN -030-0461 -B	4.19860	1.90E-02	1.019372	3.61E-06
WBN-1-BKR -211-1716/16 -A	3.68850	7.12E-03	1.007168	3.03E-06
WBN-1-BKR -211-1728/16 -B	3.61005	6.91E-03	1.006956	2.94E-06
WBN-1-XSW -235-0001 -D	3.47144	7.06E-05	1.000071	2.78E-06
WBN-1-FCO -030-0443 -A	3.44655	2.59E-03	1.002597	2.75E-06
WBN-1-FCO -030-0459 -A	3.44655	2.59E-03	1.002597	2.75E-06
WBN-1-SW -235-0001 -D	3.43119	9.98E-06	1.00001	2.73E-06
WBN-1-FCO -030-0445 -B	3.38591	2.53E-03	1.002532	2.68E-06
WBN-1-FCO -030-0461 -B	3.38591	2.53E-03	1.002532	2.68E-06
WBN-0-BKR -236-0001/226-D	3.20117	9.03E-06	1.000009	2.47E-06
WBN-0-SW -236-0001/SW1-S	3.20117	9.03E-06	1.000009	2.47E-06
WBN-0-BKR -236-0001/204-D	3.17391	8.96E-06	1.000009	2.44E-06
WBN-0-BD -236-0001 -D	2.96367	2.70E-04	1.00027	2.21E-06
WBN-0-FU -236-0001/210-D	2.90589	5.95E-06	1.000006	2.14E-06
WBN-1-FAN -030-0214	2.71042	9.49E-03	1.009585	1.93E-06
WBN-0-BD -236-0002 -E	2.66191	1.93E-03	1.001935	1.87E-06
WBN-1-BKR -099-L116/1B -A	2.65954	6.14E-05	1.000061	1.86E-06
WBN-1-CKV -063-0586 -S	2.43717	1.89E-05	1.000019	1.61E-06
WBN-1-CKV -063-0587 -S	2.43717	1.89E-05	1.000019	1.61E-06

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 99 -- Unit 1 Component Importance for LERF, RAW > 2**

Item	RAW	FV	RRW	BB
WBN-1-CKV -063-0588 -S	2.43717	1.89E-05	1.000019	1.61E-06
WBN-1-CKV -063-0589 -S	2.43717	1.89E-05	1.000019	1.61E-06
WBN-0-FU -236-0001/201-D	2.42493	4.47E-06	1.000004	1.60E-06
WBN-1-FAN -030-0491	2.42261	3.83E-04	1.000383	1.60E-06
WBN-1-BKR -099-L116/1C -B	2.41962	5.25E-05	1.000053	1.59E-06
WBN-1-FAN -030-0493	2.34064	3.61E-04	1.000361	1.51E-06
WBN-1-RFV -068-0563	2.33878	1.08E-03	1.00108	1.51E-06
WBN-1-RFV -068-0564	2.33878	1.08E-03	1.00108	1.51E-06
WBN-1-RFV -068-0565	2.33878	1.08E-03	1.00108	1.51E-06
WBN-1-BD -235-0002 -E	2.29729	1.07E-04	1.000107	1.46E-06
WBN-0-PMP -070-0051 -S	2.25472	3.58E-04	1.000358	1.41E-06
WBN-1-XSW -235-0002 -E	2.04009	3.29E-05	1.000033	1.17E-06
WBN-1-PS -003-0138A -A	2.03775	1.27E-04	1.000127	1.17E-06
WBN-1-SW -235-0002 -E	2.02107	4.19E-06	1.000004	1.15E-06

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 100 -- Unit 2 Component Importance for LERF, F-V > 0.5%**

Item	RAW	FV	RRW	BB
WBN-2-PMP -003-0001A -S	10.50018	8.01E-02	1.087042	1.11E-05
WBN-2-GEN -082-0002B -B	4.73852	5.60E-02	1.059348	4.41E-06
WBN-2-GEN -082-0002A -A	4.48537	5.22E-02	1.055095	4.11E-06
WBN-2-FAN -030-0462	4.53442	2.15E-02	1.021933	4.13E-06
WBN-2-FAN -030-0460	4.28488	2.00E-02	1.020415	3.84E-06
WBN-2-FAN -030-0214	2.66047	9.30E-03	1.009384	1.94E-06
WBN-2-BKR -211-1828/16 -B	3.89249	7.65E-03	1.007714	3.37E-06
WBN-2-BKR -211-1816/16 -A	3.69254	7.15E-03	1.007202	3.14E-06
WBN-2-FAN -030-0450	1.68915	5.12E-03	1.005146	8.07E-07
WBN-2-FAN -030-0454	1.68915	5.12E-03	1.005146	8.07E-07

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 101 -- Unit 2 Component Importance for LERF, RAW > 2**

Item	RAW	FV	RRW	BB
WBN-0-CKV -067-0503F -B	101.45310	9.54E-05	1.000095	1.17E-04
WBN-0-CKV -067-0503H -B	101.45310	9.54E-05	1.000095	1.17E-04
WBN-0-CKV -067-0503B -A	91.91218	8.93E-05	1.000089	1.06E-04
WBN-0-CKV -067-0503D -A	91.91218	8.93E-05	1.000089	1.06E-04
WBN-2-BD -211-A -A	53.86560	5.51E-04	1.000552	6.14E-05
WBN-2-STN -063-0200	31.53060	3.06E-04	1.000306	3.55E-05
WBN-2-OXF -212-A002 -A	14.40869	2.91E-04	1.000291	1.56E-05
WBN-2-BD -212-A002 -A	13.29753	1.28E-04	1.000128	1.43E-05
WBN-2-BKR -212-A002/1B -A	11.78200	4.43E-05	1.000044	1.25E-05
WBN-2-BKR -212-A2 -A	11.78200	4.43E-05	1.000044	1.25E-05
WBN-2-OXF -212-A001 -A	10.73058	2.11E-04	1.000211	1.13E-05
WBN-2-PMP -003-0001A -S	10.50018	8.01E-02	1.087042	1.11E-05
WBN-2-BD -212-A001 -A	9.98840	9.36E-05	1.000094	1.04E-05
WBN-2-MCC -214-A001 -A	9.66263	9.05E-05	1.00009	1.01E-05
WBN-2-BKR -212-A001/1B -A	9.48291	3.48E-05	1.000035	9.85E-06
WBN-2-BKR -212-A1 -A	9.48291	3.48E-05	1.000035	9.85E-06
WBN-2-BKR -212-A001/10B-A	9.31464	3.42E-05	1.000034	9.66E-06
WBN-2-BKR -214-A001/1A1-A	9.31464	3.42E-05	1.000034	9.66E-06
WBN-0-CHGR-236-0003 -F	5.20747	5.13E-04	1.000513	4.89E-06
WBN-2-GEN -082-0002B -B	4.73852	5.60E-02	1.059348	4.41E-06
WBN-2-BD -211-B -B	4.59876	3.78E-05	1.000038	4.18E-06
WBN-2-FAN -030-0462	4.53442	2.15E-02	1.021933	4.13E-06
WBN-2-GEN -082-0002A -A	4.48537	5.22E-02	1.055095	4.11E-06
WBN-2-FAN -030-0460	4.28488	2.00E-02	1.020415	3.84E-06
WBN-2-BKR -211-1828/16 -B	3.89249	7.65E-03	1.007714	3.37E-06
WBN-2-BKR -211-1816/16 -A	3.69254	7.15E-03	1.007202	3.14E-06
WBN-2-FCO -030-0446 -B	3.62434	2.78E-03	1.002786	3.05E-06
WBN-2-FCO -030-0462 -B	3.62434	2.78E-03	1.002786	3.05E-06
WBN-2-FCO -030-0444 -A	3.43007	2.58E-03	1.002588	2.83E-06
WBN-2-FCO -030-0460 -A	3.43007	2.58E-03	1.002588	2.83E-06
WBN-0-BKR -236-0003/226-F	3.12826	8.74E-06	1.000009	2.47E-06
WBN-0-SW -236-0003/SW1-S	3.12826	8.74E-06	1.000009	2.47E-06
WBN-2-BKR -099-L116/1B -A	3.10659	7.79E-05	1.000078	2.45E-06
WBN-0-BKR -236-0003/304-F	3.03679	8.40E-06	1.000008	2.37E-06
WBN-0-FU -236-0003/210-F	2.84277	5.75E-06	1.000006	2.14E-06
WBN-0-BD -236-0003 -F	2.83826	3.20E-06	1.000003	2.14E-06
WBN-2-BKR -099-L116/1C -B	2.82850	6.77E-05	1.000068	2.12E-06
WBN-2-FAN -030-0214	2.66047	9.30E-03	1.009384	1.94E-06
WBN-2-FAN -030-0494	2.56619	4.21E-04	1.000421	1.82E-06
WBN-2-FAN -030-0492	2.43685	3.88E-04	1.000388	1.67E-06

Subject:

WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**Table 101 -- Unit 2 Component Importance for LERF, RAW > 2**

Item	RAW	FV	RRW	BB
WBN-2-CKV -063-0586 -S	2.38990	1.83E-05	1.000018	1.61E-06
WBN-2-CKV -063-0587 -S	2.38990	1.83E-05	1.000018	1.61E-06
WBN-2-CKV -063-0588 -S	2.38990	1.83E-05	1.000018	1.61E-06
WBN-2-CKV -063-0589 -S	2.38990	1.83E-05	1.000018	1.61E-06
WBN-0-FU -236-0003/301-F	2.37769	4.32E-06	1.000004	1.60E-06
WBN-2-RFV -068-0563	2.26691	1.02E-03	1.001022	1.47E-06
WBN-2-RFV -068-0564	2.26691	1.02E-03	1.001022	1.47E-06
WBN-2-RFV -068-0565	2.26691	1.02E-03	1.001022	1.47E-06
WBN-0-BD -236-0004 -G	2.19243	2.07E-06	1.000002	1.39E-06
WBN-0-PMP -070-0051 -S	2.00055	2.34E-04	1.000234	1.16E-06

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Table 102 – Unit 1 HRA LERF Importance F-V >0.5%

Event Name	Probability	FV	BB	RRW	RAW	Description
HARR1	3.80E-03	4.35E-02	1.29E-05	1.0455	12.4138	Align high pressure recirculation, given auto swapover works
HAAF1	2.20E-02	3.33E-02	1.70E-06	1.0344	2.4803	Locally operate TD AFW valves to control flow on SBO
AFWOP3	1.10E-02	2.96E-02	3.02E-06	1.0305	3.6616	Depressurize/cooldown to low pressure injection following small LOCA with failur
HAOSBF	2.00E-01	2.34E-02	1.32E-07	1.024	1.0937	Steam generator feed with manual level control fails
SSIOP	6.70E-03	1.83E-02	3.06E-06	1.0186	3.7098	Terminate Safety Injection to prevent PORV water challenge
HACH1	1.10E-02	1.52E-02	1.55E-06	1.0154	2.3643	Transfer Containment Spray to Sump (RHR Swap Successful)
HAMU2B	5.00E-03	1.36E-02	3.06E-06	1.0138	3.7128	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAMU2B	5.00E-03	1.36E-02	3.06E-06	1.0138	3.7128	Makeup to RWST using containment spray test recirc from sump during small LOCA
HACCSR2	1.60E-02	1.34E-02	9.38E-07	1.0135	1.822	ALIGN AND INITIATE ALTERNATE COOLING TO CCP A
HAHH1	2.30E-03	1.01E-02	4.92E-06	1.0102	5.3713	Place Hydrogen igniters in service
HAMU2	2.00E-02	7.29E-03	4.10E-07	1.0073	1.3573	Makeup to RWST during IS LOCA
HAMU2	2.00E-02	7.29E-03	4.10E-07	1.0073	1.3573	Makeup to RWST during IS LOCA

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Table 103 -- Unit 1 HRA LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
WHESDB_1	2.00E-06	1.06E-04	5.97E-05	1.0001	54.1481	6.9kV Shutdown Board 1-A Automatic Features Disabled
WHESUM	3.50E-07	1.06E-05	3.39E-05	1	31.2178	Remove Drain Plugs from Refueling Canal After Refueling
HARR1	3.80E-03	4.35E-02	1.29E-05	1.0455	12.4138	Align high pressure recirculation, given auto swapover works
HAHH1	2.30E-03	1.01E-02	4.92E-06	1.0102	5.3713	Place Hydrogen igniters in service
HACI1	1.70E-04	6.79E-04	4.49E-06	1.0007	4.9935	Backup Containment Isolation, Given Loss of All AC Power
HAMU2B	5.00E-03	1.36E-02	3.06E-06	1.0138	3.7128	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAMU2B	5.00E-03	1.36E-02	3.06E-06	1.0138	3.7128	Makeup to RWST using containment spray test recirc from sump during small LOCA
SSIOP	6.70E-03	1.83E-02	3.06E-06	1.0186	3.7098	Terminate Safety Injection to prevent PORV water challenge
AFWOP3	1.10E-02	2.96E-02	3.02E-06	1.0305	3.6616	Depressurize/cooldown to low pressure injection following small LOCA with failur
DHARR3	1.00E-03	2.52E-03	2.83E-06	1.0025	3.5191	OPERATOR FAILS TO RESTART RHR PUMP FOR HP RECIRCULATION
HAAF1	2.20E-02	3.33E-02	1.70E-06	1.0344	2.4803	Locally operate TD AFW valves to control flow on SBO
WHESDB_2	2.00E-06	2.77E-06	1.56E-06	1	2.386	6.9kV Shutdown Board 1-B Automatic Features Disabled
HACH1	1.10E-02	1.52E-02	1.55E-06	1.0154	2.3643	Transfer Containment Spray to Sump (RHR Swap Successful)
HTPR1	1.70E-03	1.96E-03	1.29E-06	1.002	2.1495	Start TD AFW pump and control LCVs during LOSP (fails to start initially)

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 104 -- Unit 2 HRA LERF Importance F-V >0.5%

Event Name	Probability	FV	BB	RRW	RAW	Description
HAAF1	2.20E-02	4.67E-02	2.47E-06	1.049	3.077	Locally operate TD AFW valves to control flow on SBO
HARR1	3.80E-03	4.21E-02	1.29E-05	1.0439	12.0301	Align high pressure recirculation, given auto swapover works
AFWOP3	1.10E-02	2.90E-02	3.06E-06	1.0299	3.6073	Depressurize/cooldown to low pressure injection following small LOCA with failur
HAOSBF	2.00E-01	2.29E-02	1.33E-07	1.0234	1.0916	Steam generator feed with manual level control fails
SSIOP	6.70E-03	1.74E-02	3.03E-06	1.0178	3.5866	Terminate Safety Injection to prevent PORV water challenge
HACH1	1.10E-02	1.46E-02	1.55E-06	1.0149	2.3157	Transfer Containment Spray to Sump (RHR Swap Successful)
HAMU2B	5.00E-03	1.32E-02	3.06E-06	1.0133	3.6201	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAMU2B	5.00E-03	1.32E-02	3.06E-06	1.0133	3.6201	Makeup to RWST using containment spray test recirc from sump during small LOCA
HACCSR2	1.60E-02	1.25E-02	9.06E-07	1.0126	1.7672	ALIGN AND INITIATE ALTERNATE COOLING TO CCP A
HAHH1	2.30E-03	1.05E-02	5.29E-06	1.0106	5.5415	Place Hydrogen igniters in service
HAERCW3	5.00E-02	9.47E-03	2.20E-07	1.0096	1.18	OPERATOR FAILS TO ALIGN FIRE PROTECTION TO CCP A
HAMU2	2.00E-02	7.05E-03	4.10E-07	1.0071	1.3455	Makeup to RWST during IS LOCA
HAMU2	2.00E-02	7.05E-03	4.10E-07	1.0071	1.3455	Makeup to RWST during IS LOCA

Table 105 – Unit 2 HRA LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
WHESDB_3	2.00E-06	8.44E-05	4.90E-05	1.0001	43.1796	6.9kV Shutdown Board 2-A Automatic Features Disabled
WHESUM	3.50E-07	1.02E-05	3.39E-05	1	30.2188	Remove Drain Plugs from Refueling Canal After Refueling
HARR1	3.80E-03	4.21E-02	1.29E-05	1.0439	12.0301	Align high pressure recirculation, given auto swapover works
HAHH1	2.30E-03	1.05E-02	5.29E-06	1.0106	5.5415	Place Hydrogen igniters in service
HACI1	1.70E-04	7.33E-04	5.01E-06	1.0007	5.3086	Backup Containment Isolation, Given Loss of All AC Power
HAMU2B	5.00E-03	1.32E-02	3.06E-06	1.0133	3.6201	Makeup to RWST using containment spray test recirc from sump during small LOCA
HAMU2B	5.00E-03	1.32E-02	3.06E-06	1.0133	3.6201	Makeup to RWST using containment spray test recirc from sump during small LOCA
AFWOP3	1.10E-02	2.90E-02	3.06E-06	1.0299	3.6073	Depressurize/cooldown to low pressure injection following small LOCA with failur
SSIOP	6.70E-03	1.74E-02	3.03E-06	1.0178	3.5866	Terminate Safety Injection to prevent PORV water challenge
DHARR3	1.00E-03	2.43E-03	2.83E-06	1.0024	3.4324	OPERATOR FAILS TO RESTART RHR PUMP FOR HP RECIRCULATION
HAAF1	2.20E-02	4.67E-02	2.47E-06	1.049	3.077	Locally operate TD AFW valves to control flow on SBO
HTPR1	1.70E-03	2.58E-03	1.77E-06	1.0026	2.5178	Start TD AFW pump and control LCVs during LOSP (fails to start initially)
WHESDB_4	2.00E-06	2.68E-06	1.56E-06	1	2.3402	6.9kV Shutdown Board 2-B Automatic Features Disabled
HACH1	1.10E-02	1.46E-02	1.55E-06	1.0149	2.3157	Transfer Containment Spray to Sump (RHR Swap Successful)

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 106 -- Unit 1 Basic Event LERF Importance F-V >0.5%

Event Name	Probability	FV	BB	RRW	RAW	Description
PAF	9.14E-01	1.00E+00	1.23E-06	8E+08	1.0941	PLANT AVAILABILITY FACTOR
PTSF11PMP_003001AS	1.05E-02	6.21E-02	6.68E-06	1.0663	6.8848	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-1AS
RCPSEAL182	2.08E-01	5.18E-02	2.80E-07	1.0546	1.1978	RCP SEAL 182 GPM
FL-BATDEP	1.00E+00	5.07E-02	5.69E-08	1.0534	1	Battery Depleted FLAG
XSBO11	6.62E-01	3.06E-02	5.19E-08	1.0316	1.0156	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) GR
DGGFR1GEN_0821A-A	1.24E-02	2.91E-02	2.64E-06	1.03	3.3235	DG 1A-A FAILS TO RUN
DGGFR1GEN_0821B-B	1.24E-02	2.80E-02	2.54E-06	1.0288	3.2301	DG 1B-B FAILS TO RUN
XSBO10	7.06E-01	2.63E-02	4.19E-08	1.027	1.011	
SUMMER	2.00E-01	2.15E-02	1.21E-07	1.0219	1.0859	SUMMER SEASON
DGGFD1GEN_0821A-A	7.15E-03	2.15E-02	3.37E-06	1.0219	3.9809	DG 1A-A FAILS TO START AND RUN FIRST HOUR
DGGFD1GEN_0821B-B	7.15E-03	2.08E-02	3.27E-06	1.0213	3.8907	DG 1B-B FAILS TO START AND RUN FIRST HOUR
XSBO17	6.62E-01	1.87E-02	3.17E-08	1.0191	1.0096	Recovery Sequence 8 (Common Cause of DG to Start AND TDAWF Fails to Start) GR
XSBO16	7.06E-01	1.61E-02	2.56E-08	1.0163	1.0067	Recovery Sequence 8 (Common Cause of DG to Start AND TDAWF Fails to Start) PC
FNSFD1FAN_030459	4.80E-03	1.41E-02	3.29E-06	1.0143	3.9155	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
FNSFD1FAN_030461	4.80E-03	1.36E-02	3.19E-06	1.0138	3.8275	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
MORFO1FCV_06700067	9.70E-04	1.34E-02	1.56E-05	1.0136	14.838 3	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
MORFO1FCV_06700066	9.70E-04	1.34E-02	1.55E-05	1.0135	14.765 6	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
XSBO14	4.59E-02	1.21E-02	2.96E-07	1.0122	1.251	Recovery Sequence 7 (Common Cause of DG to Start) GR

Table 106 -- Unit 1 Basic Event LERF Importance F-V >0.5%

Event Name	Probability	FV	BB	RRW	RAW	Description
XSBO13	5.60E-02	1.18E-02	2.38E-07	1.012	1.1997	Recovery Sequence 7 (Common Cause of DG to Start) PC
CBLLK1CBK_00000001	1.11E-03	1.05E-02	1.07E-05	1.0107	10.491 2	CONTAINMENT BUILDING LARGE PRE-EXISTING LEAK >=2"
PTSFR1PMP_003001AS	1.61E-03	9.54E-03	6.66E-06	1.0096	6.9215	PUMP FAILS AFTER 1 HOUR WBN-2-3-1AS
SEQFD1A-A	3.33E-03	9.49E-03	3.20E-06	1.0096	3.8393	SEQUENCER 1A-A FAILS (Unknown UNID)
SEQFD1B-B	3.33E-03	9.20E-03	3.10E-06	1.0093	3.7535	SEQUENCER 1B-B FAILS (Unknown UNID)
XSBO12	9.31E-01	8.61E-03	1.04E-08	1.0087	1.0006	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) WI
CBKFO1BKR_2111716/16-A	2.55E-03	7.12E-03	3.14E-06	1.0072	3.7838	WBN-1-BKR-211-1716/16-A BREAKER FAILS TO OPEN
XSBO15	1.37E-01	6.92E-03	5.67E-08	1.007	1.0436	Recovery Sequence 7 (Common Cause of DG to Start) WI
CBKFO1BKR_2111728/16-B	2.55E-03	6.91E-03	3.04E-06	1.007	3.7019	WBN-1-BKR-211-1728/16B BREAKER FAILS TO OPEN
FL-ATWS	1.00E+00	5.96E-03	6.69E-09	1.006	1	ATWS
DGGFR2GEN_0822A-A	1.24E-02	5.84E-03	5.29E-07	1.0059	1.4655	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR
FNSFR1FAN_030459	2.66E-03	5.59E-03	2.36E-06	1.0056	3.093	EXHAUST FAN 1-FAN-30-459 FAILS TO RUN
DGGFR2GEN_0822B-B	1.24E-02	5.42E-03	4.91E-07	1.0054	1.4321	DG 2B-B FAILS FAILS TO RUN (WBN-2-GEN -082-0002B - B)
FNSFR1FAN_030461	2.66E-03	5.37E-03	2.26E-06	1.0054	3.0089	EXHAUST FAN 1-FAN-30-461 FAILS TO RUN
XSBO18	9.31E-01	5.15E-03	6.21E-09	1.0052	1.0004	Recovery Sequence 8 (Common Cause of DG to Start AND TDAWF Fails to Start) WI

Note: this table does not include CCF, HEPs, or T&M

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 107 -- Unit 1 Basic Event LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
CRI	1.20E-06	2.03E-03	1.89E-03	1.002	1687.875	CONTROL RODS FAIL TO INSERT
CKRRIOCKV_0670503B	7.10E-07	6.91E-05	1.09E-04	1.0001	98.2995	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503B
CKRRIOCKV_0670503D	7.10E-07	6.91E-05	1.09E-04	1.0001	98.2995	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503D
CKRRIOCKV_0670503F	7.10E-07	6.72E-05	1.06E-04	1.0001	95.6079	DISCHARGE CHECK VALVE 503F GROSS REVERSE LEAKAGE WBN-0-67-503F
CKRRIOCKV_0670503H	7.10E-07	6.72E-05	1.06E-04	1.0001	95.6079	DISCHARGE CHECK VALVE 503H GROSS REVERSE LEAKAGE WBN-0-67-503H
BUSFR1BD_211A-A	1.04E-05	7.03E-04	7.58E-05	1.0007	68.4517	WBN-1-BD-211-A SHUTDOWN BOARD FAILS
SMPPS1STN_SUMP2	1.00E-05	3.16E-04	3.55E-05	1.0003	32.5998	SUMP SUCTION STRAINERS PLUGGED (GENERAL)
XRFFR1OXF_212A1-A	2.17E-05	4.73E-04	2.45E-05	1.0005	22.81	6.9kV TO 480V TRANSFORMER 1A1-A (XFMR 1A1-A)
BUSFR1BD_212A1-A	1.04E-05	2.14E-04	2.31E-05	1.0002	21.582	480V SHUTDOWN BOARD 1A1-A BUS AVAILABLE (WBN-1-BD -212-A001 -A)
CBKXO1BKR_212A1-A	4.10E-06	7.99E-05	2.19E-05	1.0001	20.4722	6.9kV SUPPLY TO TRANSFORMER 1A-A (1-BKR-212-A1-A) TRANSFERS OPEN
CBKXO1BKR_212A1/1B-A	4.10E-06	7.99E-05	2.19E-05	1.0001	20.4722	TRANSFORMER OUTPUT TO 480V SDBD 1A1-A (1-BKR-212-A1/1B-A) TRANSFERS OPEN
MORFO1FCV_06700067	9.70E-04	1.34E-02	1.56E-05	1.0136	14.8383	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
MORFO1FCV_06700066	9.70E-04	1.34E-02	1.55E-05	1.0135	14.7656	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
XRFFR1OXF_212A2-A	2.17E-05	2.94E-04	1.52E-05	1.0003	14.5638	WBN-1-OXF-212-A2-A TRANSFORMER FAILS DURING OPERATION

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Table 107 -- Unit 1 Basic Event LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
BUSFR1BD_212A2-A	1.04E-05	1.30E-04	1.41E-05	1.0001	13.5251	WBN-1-BD-212-A002-A SWITCHBOARD FAILS DURING OPERATION
CBKXO1BKR_2121A-A	4.10E-06	4.52E-05	1.24E-05	1	12.0193	WBN-1-BKR-212-A2-A BREAKER TRANSFERS OPEN
CBKXO1BKR_212A2/1B-A	4.10E-06	4.52E-05	1.24E-05	1	12.0193	WBN-1-BKR-212-A2/1B-A BREAKER TRANSFERS OPEN
CBLLK1CBK_00000001	1.11E-03	1.05E-02	1.07E-05	1.0107	10.4912	CONTAINMENT BUILDING LARGE PRE-EXISTING LEAK >=2"
PTSFR1PMP_003001AS	1.61E-03	9.54E-03	6.66E-06	1.0096	6.9215	PUMP FAILS AFTER 1 HOUR WBN-2-3-1AS
PTSF11PMP_003001AS	1.05E-02	6.21E-02	6.68E-06	1.0663	6.8848	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-1AS
U1_L2_CFE5	1.00E-02	5.62E-02	6.31E-06	1.0596	6.5643	CFE5 - LOW PRESSURE, VB, IGN AND ARFS SUCCESSFUL
BCHFROCHRG2361-D	1.22E-04	5.41E-04	4.99E-06	1.0005	5.4399	WBN-0-CHRG-236-0001-D BATTERY CHARGER FAILS
U1_L2_PISGTRSBO	3.25E-02	1.45E-01	5.00E-06	1.1691	5.3067	PI-SGTR (SBO SEQUENCE)
U1_L2_TISGTRSBO	8.57E-02	3.72E-01	4.88E-06	1.593	4.9716	TI-SGTR (SBO SEQUENCE)
BUSFR0BDL_2361-D	8.68E-06	3.43E-05	4.43E-06	1	4.9459	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
U1_L2_DET	1.00E-03	3.87E-03	4.35E-06	1.0039	4.8647	CONTAINMENT FAILS EARLY DUE TO H2 DETONATION
BUSFR1BD_211B-B	1.04E-05	3.90E-05	4.20E-06	1	4.7422	SHUTDOWN BOARD 1B-B FAILS (1-BD-211-B-B)
U1_L2_CFE8	5.00E-02	1.68E-01	3.77E-06	1.2014	4.1845	CFE8 - LOW PRESSURE, VB, IGN AND ARFS FAILED
BUSFR1BD_2351-D	1.04E-05	3.30E-05	3.56E-06	1	4.1719	120V AC VITAL INST POWER BOARD 1-I FAILS
74-1-R	1.20E-03	3.62E-03	3.39E-06	1.0036	4.0118	MOV FCV-74-1 RUPTURES (ANNUALIZED EXPOSURE)
74-9-R	1.20E-03	3.62E-03	3.39E-06	1.0036	4.0118	RUPTURE OF FCV-74-9 (ANNUALIZED EXPOSURE)
DGGFD1GEN_0821A-A	7.15E-03	2.15E-02	3.37E-06	1.0219	3.9809	DG 1A-A FAILS TO START AND RUN FIRST HOUR
FNSFD1FAN_030459	4.80E-03	1.41E-02	3.29E-06	1.0143	3.9155	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
DGGFD1GEN_0821B-B	7.15E-03	2.08E-02	3.27E-06	1.0213	3.8907	DG 1B-B FAILS TO START AND RUN FIRST HOUR
SEQFD1A-A	3.33E-03	9.49E-03	3.20E-06	1.0096	3.8393	SEQUENCER 1A-A FAILS (Unknown UNID)

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 107 -- Unit 1 Basic Event LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
FNSFD1FAN_030461	4.80E-03	1.36E-02	3.19E-06	1.0138	3.8275	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
CBKFO1BKR_2111716/16-A	2.55E-03	7.12E-03	3.14E-06	1.0072	3.7838	WBN-1-BKR-211-1716/16-A BREAKER FAILS TO OPEN
SEQFD1B-B	3.33E-03	9.20E-03	3.10E-06	1.0093	3.7535	SEQUENCER 1B-B FAILS (Unknown UNID)
CBKFO1BKR_2111728/16-B	2.55E-03	6.91E-03	3.04E-06	1.007	3.7019	WBN-1-BKR-211-1728/16B BREAKER FAILS TO OPEN
DAOFO1FCO_030443	1.02E-03	2.59E-03	2.85E-06	1.0026	3.5371	SUPPLY DAMPER 1-FCO-30-443 OPENS
DAOFO1FCO_030459	1.02E-03	2.59E-03	2.85E-06	1.0026	3.5371	EXHAUST FAN DAMPER 1-FCO-30-459 FAILS TO OPEN
DAOFO1FCO_030445	1.02E-03	2.53E-03	2.78E-06	1.0025	3.4736	SUPPLY DAMPER 1-FCO-30-445 OPENS
DAOFO1FCO_030461	1.02E-03	2.53E-03	2.78E-06	1.0025	3.4736	EXHAUST FAN DAMPER 1-FCO-30-461 FAILS TO OPEN
MORFO2FCV_06700067	9.70E-04	2.39E-03	2.77E-06	1.0024	3.464	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
CBKXO1SW_2351-D	4.10E-06	9.98E-06	2.73E-06	1	3.4312	Disconnect Switch in 120V AC Vital Inst Power Board 1-I
CBKXO1XSW_2351-D	4.10E-06	9.98E-06	2.73E-06	1	3.4312	Transfer Switch in 120V AC Vital Inst Power Board 1-I
DGGFR1GEN_0821A-A	1.24E-02	2.91E-02	2.64E-06	1.03	3.3235	DG 1A-A FAILS TO RUN
DGGFR1GEN_0821B-B	1.24E-02	2.80E-02	2.54E-06	1.0288	3.2301	DG 1B-B FAILS TO RUN
CBKXO0BKR_2361/226-D	4.10E-06	9.03E-06	2.47E-06	1	3.2015	Normal Supply Breaker 226 from 125V Vital Batt Chgr 1
CBKXO0SW_2361/SW1-S	4.10E-06	9.03E-06	2.47E-06	1	3.2015	480V AC Vital Disconnect Panel 1 Switch 0-SW-236-0001/SW1-S Transfers Open
CBKXO0BKR_2361/204-D	4.10E-06	8.96E-06	2.45E-06	1	3.1841	125VDC SUPPLY BREAKER TO 6.9kV SDBD 1A-A
BUSFR0BDL_2362-E	8.68E-06	1.83E-05	2.36E-06	1	3.1029	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
FNSFR1FAN_030459	2.66E-03	5.59E-03	2.36E-06	1.0056	3.093	EXHAUST FAN 1-FAN-30-459 FAILS TO RUN
FNSFR1FAN_030461	2.66E-03	5.37E-03	2.26E-06	1.0054	3.0089	EXHAUST FAN 1-FAN-30-461 FAILS TO RUN
FUSFPOFU_2361/210-D	3.12E-06	5.95E-06	2.14E-06	1	2.9062	SUPPLY BREAKER MAIN LINE FUSE 210
BUSFR0BD_2361-D	1.74E-06	3.31E-06	2.14E-06	1	2.9045	Failure of 125V DC Battery Board 1

Table 107 -- Unit 1 Basic Event LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
FNSFR1FAN_03000214	2.66E-03	4.65E-03	1.96E-06	1.0047	2.7406	DC EMERGENCY EXHAUST FAN FAILS TO RUN AFTER 1ST HOUR WBN-1-30-214
74-2-D	4.28E-04	7.30E-04	1.92E-06	1.0007	2.7054	MOV FCV-74-2 FAILS ON DEMAND (D= 2 DEMANDS/YR) Mult *2
74-8-D	2.14E-04	3.65E-04	1.91E-06	1.0004	2.7043	MOV FCV-74-8 FAILS ON DEMAND (D= 1 DEMANDS/YR) Mult *2
74-2-R	1.80E-03	3.07E-03	1.92E-06	1.0031	2.7031	MOV FCV-74-2 RUPTURES (T = 1.5)
74-8-R	1.80E-03	3.07E-03	1.92E-06	1.0031	2.7031	MOV FCV-74-8 RUPTURES (T=1.5)
RTBFO1RTB_0990000A	3.70E-05	6.14E-05	1.86E-06	1.0001	2.6595	WBN-1-BKR-099-L116/1B-A REACTOR TRIP BREAKER TRAIN A FAILS
FANFR1FAN_030491	2.59E-04	3.83E-04	1.66E-06	1.0004	2.4766	DG 1A-A ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-1-FAN-30-491)
CKCFO1CKV_06300586	1.30E-05	1.88E-05	1.63E-06	1	2.4477	WBN-1-CKV-063-0586-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300587	1.30E-05	1.88E-05	1.63E-06	1	2.4477	WBN-1-CKV-063-0587-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300588	1.30E-05	1.88E-05	1.63E-06	1	2.4477	WBN-1-CKV-063-0588-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO1CKV_06300589	1.30E-05	1.88E-05	1.63E-06	1	2.4477	WBN-1-CKV-063-0589-S CHECK VALVE FAILS TO OPEN ON DEMAND
FUSFPOFU__2361/201-D	3.12E-06	4.47E-06	1.61E-06	1	2.4318	125VDC SUPPLY FUSE 201
BUSFR2BD__211B-B	1.04E-05	1.49E-05	1.61E-06	1	2.4299	WBN-2-BD-211-B-B SWITCHBOARD FAILS DURING OPERATION
RTBFO1RTB_0990000B	3.70E-05	5.25E-05	1.59E-06	1.0001	2.4196	WBN-1-BKR-099-L116/1C-B REACTOR TRIP BREAKER TRAIN B FAILS
FANFR1FAN_030493	2.59E-04	3.61E-04	1.56E-06	1.0004	2.3905	DG 1B-B ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-1-FAN-30-493)

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 107 – Unit 1 Basic Event LERF Importance RAW > 2**

Event Name	Probability	FV	BB	RRW	RAW	Description
SRVSR1SRV_06800563	7.95E-04	1.08E-03	1.52E-06	1.0011	2.3555	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-563
SRVSR1SRV_06800564	7.95E-04	1.08E-03	1.52E-06	1.0011	2.3555	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-564
SRVSR1SRV_06800565	7.95E-04	1.08E-03	1.52E-06	1.0011	2.3555	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-1-68-565
BUSFR1BD_2352-E	1.04E-05	1.33E-05	1.43E-06	1	2.2729	120V AC VITAL 1-II BUS FAILS (WBN-1-BD -235-0002 - E)
BUSFR0BD_2362-E	1.74E-06	2.14E-06	1.39E-06	1	2.2334	Failure of 125V DC Battery Board 2
MOCFO1FCV_00100051	1.86E-04	2.11E-04	1.27E-06	1.0002	2.1329	Motor operated valve fails to open (clean water)
SWPFD1PS_0030138A	1.17E-04	1.27E-04	1.22E-06	1.0001	2.0884	PRESSURE SWITCH WBN-1-PS-3-138A FAILS
CBKXO1SW_2352-E	4.10E-06	4.19E-06	1.15E-06	1	2.0212	Disconnect Switch in 120V AC Vital Inst Power Board 1-II (WBN-1-SW -235-0002 -E)
CBKXO1XSW_2352-E	4.10E-06	4.19E-06	1.15E-06	1	2.0212	Transfer Switch in 120V AC Vital Inst Power Board 1-II (1-XSW-235-0002-E)
FNSFD1FAN_03000214	4.80E-03	4.84E-03	1.13E-06	1.0049	2.0045	DC EMERG EXHAUST FAN FAILS TO START AND RUN FOR 1ST HOUR WBN-1-30-214

Note: this table does not include CCF, HEPs, or T&M

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Table 108 -- Unit 2 Basic Event LERF Importance F-V >0.5%

Event Name	Probability	FV	BB	RRW	RAW	Description
PAF	9.14E-01	1.00E+00	1.27E-06	7E+08	1.0941	PLANT AVAILABILITY FACTOR
PTSF12PMP_003001AS	1.05E-02	6.19E-02	6.88E-06	1.066	6.8619	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-1AS
RCPSEAL182	2.08E-01	5.85E-02	3.28E-07	1.0621	1.2235	RCP SEAL 182 GPM
FL-BATDEP	1.00E+00	4.86E-02	5.65E-08	1.0511	1	Battery Depleted FLAG
DGGFR2GEN_0822B-B	1.24E-02	3.29E-02	3.08E-06	1.034	3.6217	DG 2B-B FAILS FAILS TO RUN (WBN-2-GEN -082-0002B -B)
DGGFR2GEN_0822A-A	1.24E-02	3.05E-02	2.86E-06	1.0315	3.4338	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR
XSBO11	6.62E-01	2.78E-02	4.88E-08	1.0286	1.0142	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) GR
XSBO10	7.06E-01	2.39E-02	3.94E-08	1.0245	1.01	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) PC
SUMMER	2.00E-01	2.32E-02	1.35E-07	1.0238	1.0929	SUMMER SEASON
DGGFD2GEN_0822B-B	7.15E-03	2.31E-02	3.76E-06	1.0237	4.2152	DIESEL GENERATOR FAILS TO START AND RUN FIRST HOUR (WBN-2-GEN -082-0002B -B)
DGGFD2GEN_0822A-A	7.15E-03	2.17E-02	3.53E-06	1.0222	4.014	DIESEL GENERATOR 2A-A FAILS TO START AND RUN FIRST HOUR
XSBO17	6.62E-01	1.69E-02	2.97E-08	1.0172	1.0086	Recovery Sequence 8 (Common Cause of DG to Start AND TDAWF Fails to Start) GR
PTSFR2PMP_003001AS	1.61E-03	1.53E-02	1.10E-05	1.0155	10.4809	PUMP FAILS AFTER 1 HOUR WBN-2-3-1AS
FNSFD2FAN_030462	4.80E-03	1.52E-02	3.67E-06	1.0154	4.1423	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
XSBO16	7.06E-01	1.45E-02	2.39E-08	1.0147	1.0061	Recovery Sequence 8 (Common Cause of DG to Start AND TDAWF Fails to Start) PC
FNSFD2FAN_030460	4.80E-03	1.42E-02	3.43E-06	1.0144	3.9421	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 108 – Unit 2 Basic Event LERF Importance F-V >0.5%**

Event Name	Probability	FV	BB	RRW	RAW	Description
MORFO2FCV_06700067	9.70E-04	1.34E-02	1.61E-05	1.0136	14.8139	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
MORFO2FCV_06700066	9.70E-04	1.29E-02	1.54E-05	1.013	14.2565	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
XSBO14	4.59E-02	1.19E-02	3.02E-07	1.0121	1.2479	Recovery Sequence 7 (Common Cause of DG to Start) GR
XSBO13	5.60E-02	1.17E-02	2.43E-07	1.0118	1.1972	Recovery Sequence 7 (Common Cause of DG to Start) PC
CBLLK2CBK_00000001	1.11E-03	1.08E-02	1.13E-05	1.011	10.7528	CONTAINMENT BUILDING LARGE PRE-EXISTING LEAK >=2"
SEQFD2B-B	3.33E-03	1.02E-02	3.57E-06	1.0103	4.0596	SEQUENCER 2B-B FAILS (Unknown UNID)
SEQFD2A-A	3.33E-03	9.55E-03	3.33E-06	1.0096	3.859	SEQUENCER 2A-A FAILS (Unknown UNID)
FL-ATWS	1.00E+00	8.88E-03	1.03E-08	1.009	1	ATWS
XSBO12	9.31E-01	7.85E-03	9.80E-09	1.0079	1.0006	Recovery Sequence 4 (DG A And B Fail to Start And TDAFW Fails to Start) WI
CBKFO2BKR_2111828/16-B	2.55E-03	7.65E-03	3.49E-06	1.0077	3.9941	6.9kV SDBD BREAKER 1828 FAILS TO OPEN
DGGFR1GEN_0821B-B	1.24E-02	7.42E-03	6.96E-07	1.0075	1.5919	DG 1B-B FAILS TO RUN
CBKFO2BKR_2111816/16-A	2.55E-03	7.15E-03	3.26E-06	1.0072	3.797	6.9kV SDBD BREAKER 1816 FAILS TO OPEN
XSBO15	1.37E-01	6.84E-03	5.80E-08	1.0069	1.0431	Recovery Sequence 7 (Common Cause of DG to Start) WI
U2_OBLOCK	7.50E-01	6.74E-03	1.04E-08	1.0068	1.0022	Probability that 0 PORVs are blocked
FNSFR2FAN_030462	2.66E-03	6.31E-03	2.75E-06	1.0063	3.3608	EXHAUST FAN 2-FAN-30-462 FAILS TO RUN
FNSFR2FAN_030460	2.66E-03	5.82E-03	2.54E-06	1.0058	3.1773	EXHAUST FAN 2-FAN-30-460 FAILS TO RUN
DGGFR1GEN_0821A-A	1.24E-02	5.52E-03	5.18E-07	1.0056	1.4403	DG 1A-A FAILS TO RUN

Note: this table does not include CCF, HEPs, or T&M

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Table 109 -- Unit 2 Basic Event LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
CRI	1.20E-06	2.85E-03	2.76E-03	1.0029	2374.614	CONTROL RODS FAIL TO INSERT
CKRRIOCKV_0670503F	7.10E-07	7.13E-05	1.17E-04	1.0001	101.3725	DISCHARGE CHECK VALVE 503F GROSS REVERSE LEAKAGE WBN-0-67-503F
CKRRIOCKV_0670503H	7.10E-07	7.13E-05	1.17E-04	1.0001	101.3725	DISCHARGE CHECK VALVE 503H GROSS REVERSE LEAKAGE WBN-0-67-503H
CKRRIOCKV_0670503B	7.10E-07	6.45E-05	1.06E-04	1.0001	91.8296	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503B
CKRRIOCKV_0670503D	7.10E-07	6.45E-05	1.06E-04	1.0001	91.8296	DISCHARGE CHECK VALVE GROSS REVERSE LEAKAGE WBN-0-67-503D
BUSFR2BD_211A-A	1.04E-05	5.51E-04	6.15E-05	1.0006	53.9413	SHUTDOWN BOARD 2A-A FAILS (2-BD-211-A-A)
SMPPS2STN_SUMP2	1.00E-05	3.06E-04	3.55E-05	1.0003	31.5551	SUMP SUCTION STRAINERS PLUGGED (GENERAL)
MORFO2FCV_06700067	9.70E-04	1.34E-02	1.61E-05	1.0136	14.8139	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
XRFFR2OXF_212A2-A	2.17E-05	2.91E-04	1.56E-05	1.0003	14.4115	6.9kV/480V TRANSFORMER 2A2A (2-OXF-212-A002-A)
MORFO2FCV_06700066	9.70E-04	1.29E-02	1.54E-05	1.013	14.2565	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
BUSFR2BD_212A2-A	1.04E-05	1.28E-04	1.43E-05	1.0001	13.3001	480V SHUTDOWN BOARD 2A2-A BUS FAILS TO OPERATE
CBKXO2BKR_212A2-A	4.10E-06	4.43E-05	1.25E-05	1	11.7841	6.9kV SUPPLY TO 2A2A (2-BKR-212-A2-A) TRANSFERS OPEN
CBKXO2BKR_212A2/1B-A	4.10E-06	4.43E-05	1.25E-05	1	11.7841	480V SDBD 2A2-A SUPPLY BREAKER (2-BKR-212-A2/1B-A) TRANSFERS OPEN
CBLLK2CBK_00000001	1.11E-03	1.08E-02	1.13E-05	1.011	10.7528	CONTAINMENT BUILDING LARGE PRE-EXISTING LEAK >=2"
XRFFR2OXF_212A1-A	2.17E-05	2.11E-04	1.13E-05	1.0002	10.7307	6.9kV TO 480V TRANSFORMER 1A1-A (XFMR 2A1-A)
PTSFR2PMP_003001AS	1.61E-03	1.53E-02	1.10E-05	1.0155	10.4809	PUMP FAILS AFTER 1 HOUR WBN-2-3-1AS

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 109 -- Unit 2 Basic Event LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
BUSFR2BD_212A1-A	1.04E-05	9.36E-05	1.04E-05	1.0001	9.9887	480V SHUTDOWN BOARD 2A1-A FAILS TO OPERATE
BUSFR2MCC_214A1-A	1.04E-05	9.05E-05	1.01E-05	1.0001	9.6886	480VAC CONT & AUX BLDG VENT BOARD 2-MCC-214-A001-A (2A1-A) FAILS TO RUN
CBKXO2BKR_212A1-A	4.10E-06	3.48E-05	9.85E-06	1	9.4832	6.9kV SUPPLY TO TRANSFORMER 2A1A (2-BKR-212-A1-A)
CBKXO2BKR_212A1/1B-A	4.10E-06	3.48E-05	9.85E-06	1	9.4832	480V SDBD 2A1-A SUPPLY BREAKER TRANSFERS OPEN (WBN-2-BKR -212-A001/1B -A)
CBKXO2BKR_212A1/10B-A	4.10E-06	3.42E-05	9.69E-06	1	9.3391	480V SDBD FDR BKR TO C&A BLD VENT BOARD 2A1-A (2-BKR-212-A1/10B-A)
CBKXO2BKR_214A1/1A1-A	4.10E-06	3.42E-05	9.69E-06	1	9.3391	SUPPLY BREAKER 2-BKR-214-A001/2A1-A TRANSFERS OPEN
PTSF12PMP_003001AS	1.05E-02	6.19E-02	6.88E-06	1.066	6.8619	PUMP FAILS TO START AND RUN FOR 1 HOUR WBN-1-3-1AS
U2_L2_CFE5	1.00E-02	5.85E-02	6.79E-06	1.0621	6.79	CFE5 - LOW PRESSURE, VB, IGN AND ARFS SUCCESSFUL
U2_L2_PISGTRSBO	3.25E-02	1.44E-01	5.14E-06	1.168	5.2823	PI-SGTR (SBO SEQUENCE)
BCHFROCHRG_2363-F	1.22E-04	5.13E-04	4.89E-06	1.0005	5.2081	CHARGER III FAILS DURING OPERATION (0-CHRG-236-0003/F)
U2_L2_TISGTRSBO	8.57E-02	3.71E-01	5.03E-06	1.5891	4.9552	TI-SGTR (SBO SEQUENCE)
U2_L2_DET	1.00E-03	3.83E-03	4.45E-06	1.0038	4.8254	CONTAINMENT FAILS EARLY DUE TO H2 DETONATION
BUSFROBDL_2363-F	8.68E-06	3.28E-05	4.39E-06	1	4.7792	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
BUSFR2BD_211B-B	1.04E-05	3.78E-05	4.21E-06	1	4.6266	WBN-2-BD-211-B-B SWITCHBOARD FAILS DURING OPERATION
DGGFD2GEN_0822B-B	7.15E-03	2.31E-02	3.76E-06	1.0237	4.2152	DIESEL GENERATOR FAILS TO START AND RUN FIRST HOUR (WBN-2-GEN -082-0002B -B)
U2_L2_CFE8	5.00E-02	1.66E-01	3.87E-06	1.1997	4.1631	CFE8 - LOW PRESSURE, VB, IGN AND ARFS FAILED

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Table 109 – Unit 2 Basic Event LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
FNSFD2FAN_030462	4.80E-03	1.52E-02	3.67E-06	1.0154	4.1423	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
SEQFD2B-B	3.33E-03	1.02E-02	3.57E-06	1.0103	4.0596	SEQUENCER 2B-B FAILS (Unknown UNID)
DGGFD2GEN_0822A-A	7.15E-03	2.17E-02	3.53E-06	1.0222	4.014	DIESEL GENERATOR 2A-A FAILS TO START AND RUN FIRST HOUR
CBKFO2BKR_2111828/16-B	2.55E-03	7.65E-03	3.49E-06	1.0077	3.9941	6.9kV SDBD BREAKER 1828 FAILS TO OPEN
FNSFD2FAN_030460	4.80E-03	1.42E-02	3.43E-06	1.0144	3.9421	BOARD ROOM EXHAUST FAN FAILS TO START OR RUN FIRST HOUR
U2_74-1-R	1.20E-03	3.50E-03	3.39E-06	1.0035	3.917	MOV FCV-74-1 RUPTURES (ANNUALIZED EXPOSURE)
U2_74-9-R	1.20E-03	3.50E-03	3.39E-06	1.0035	3.917	RUPTURE OF FCV-74-9 (ANNUALIZED EXPOSURE)
SEQFD2A-A	3.33E-03	9.55E-03	3.33E-06	1.0096	3.859	SEQUENCER 2A-A FAILS (Unknown UNID)
CBKFO2BKR_2111816/16-A	2.55E-03	7.15E-03	3.26E-06	1.0072	3.797	6.9kV SDBD BREAKER 1816 FAILS TO OPEN
MORFO1FCV_06700067	9.70E-04	2.66E-03	3.19E-06	1.0027	3.7392	Added for evaluation WBN-2-10-135 and WBN-2-11-0006
DAOFO2FCO_030446	1.02E-03	2.78E-03	3.16E-06	1.0028	3.7208	SUPPLY DAMPER 2-FCO-30-446 OPENS
DAOFO2FCO_030462	1.02E-03	2.78E-03	3.16E-06	1.0028	3.7208	EXHAUST FAN DAMPER 2-FCO-30-462 FAILS TO OPEN
DGGFR2GEN_0822B-B	1.24E-02	3.29E-02	3.08E-06	1.034	3.6217	DG 2B-B FAILS FAILS TO RUN (WBN-2-GEN -082-0002B -B)
DAOFO2FCO_030444	1.02E-03	2.58E-03	2.94E-06	1.0026	3.5281	SUPPLY DAMPER 2-FCO-30-444 OPENS
DAOFO2FCO_030460	1.02E-03	2.58E-03	2.94E-06	1.0026	3.5281	EXHAUST FAN DAMPER 2-FCO-30-460 FAILS TO OPEN
DGGFR2GEN_0822A-A	1.24E-02	3.05E-02	2.86E-06	1.0315	3.4338	DIESEL GENERATOR FAILS TO RUN AFTER FIRST HOUR
FNSFR2FAN_030462	2.66E-03	6.31E-03	2.75E-06	1.0063	3.3608	EXHAUST FAN 2-FAN-30-462 FAILS TO RUN
FNSFR2FAN_030460	2.66E-03	5.82E-03	2.54E-06	1.0058	3.1773	EXHAUST FAN 2-FAN-30-460 FAILS TO RUN
CBKXO0BKR_2363/226-F	4.10E-06	8.74E-06	2.47E-06	1	3.1287	Normal Supply Breaker 226 from 125V Vital Batt Chgr 3
CBKXO0SW_2363/SW1-S	4.10E-06	8.74E-06	2.47E-06	1	3.1287	480V AC Vital Disconnect Panel III Switch 0-SW-236-0003/SW1-S Transfers Open

Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY

Table 109 -- Unit 2 Basic Event LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
RTBFO2RTB_0990000A	3.70E-05	7.79E-05	2.45E-06	1.0001	3.1066	WBN-2-BKR-099-L116/1B-A REACTOR TRIP BREAKER TRAIN A FAILS
CBKXOBKR_2363/304-F	4.10E-06	8.40E-06	2.38E-06	1	3.0468	125V DC SUPPLY BREAKER TRANSFERS OPEN
BUSFROBDL_2364-G	8.68E-06	1.72E-05	2.30E-06	1	2.9802	BUS FAILS TO OPERATE OVER REMAINDER OF 24 HOUR MISSION TIME (20 HOURS)
FUSFPOFU_2363/210-F	3.12E-06	5.75E-06	2.14E-06	1	2.8432	SUPPLY BREAKER MAIN LINE FUSE 210
BUSFROBD_2363-F	1.74E-06	3.20E-06	2.14E-06	1	2.8416	Failure of 125V DC Battery Board 3
RTBFO2RTB_0990000B	3.70E-05	6.77E-05	2.12E-06	1.0001	2.8285	WBN-2-BKR-099-L116/1C-B REACTOR TRIP BREAKER TRAIN B FAILS
FNSFR2FAN_03000214	2.66E-03	4.54E-03	1.98E-06	1.0046	2.7006	DC EMERGENCY EXHAUST FAN FAILS TO RUN AFTER 1ST HOUR WBN-2-30-214
U2_74-2-D	4.28E-04	7.07E-04	1.92E-06	1.0007	2.6511	MOV FCV-74-2 FAILS ON DEMAND (D= 2 DEMANDS/YR) Mult *2
U2_74-2-R	1.80E-03	2.97E-03	1.92E-06	1.003	2.6497	MOV FCV-74-2 RUPTURES (T = 1.5)
U2_74-8-R	1.80E-03	2.97E-03	1.92E-06	1.003	2.6497	MOV FCV-74-8 RUPTURES (T=1.5)
U2_74-8-D	2.14E-04	3.53E-04	1.91E-06	1.0004	2.6479	MOV FCV-74-8 FAILS ON DEMAND (D= 1 DEMANDS/YR) Mult *2
FANFR2FAN_030494	2.59E-04	4.21E-04	1.89E-06	1.0004	2.6244	DG 2B-B ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-2-FAN-30-494)
BUSFR1BD_211B-B	1.04E-05	1.61E-05	1.80E-06	1	2.5458	SHUTDOWN BOARD 1B-B FAILS (1-BD-211-B-B)
FANFR2FAN_030492	2.59E-04	3.88E-04	1.74E-06	1.0004	2.4953	DG 2A-A ROOM ELEC PANEL / COMBUSTION AIR FAN (WBN-2-FAN-30-492)
CKCFO2CKV_06300586	1.30E-05	1.82E-05	1.63E-06	1	2.3998	WBN-2-CKV-063-0586-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300587	1.30E-05	1.82E-05	1.63E-06	1	2.3998	WBN-2-CKV-063-0587-S CHECK VALVE FAILS TO OPEN ON DEMAND
CKCFO2CKV_06300588	1.30E-05	1.82E-05	1.63E-06	1	2.3998	WBN-2-CKV-063-0588-S CHECK VALVE FAILS TO OPEN ON DEMAND

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 109 -- Unit 2 Basic Event LERF Importance RAW > 2**

Event Name	Probability	FV	BB	RRW	RAW	Description
CKCFO2CKV_06300589	1.30E-05	1.82E-05	1.63E-06	1	2.3998	WBN-2-CKV-063-0589-S CHECK VALVE FAILS TO OPEN ON DEMAND
FUSFP0FU_2363/301-F	3.12E-06	4.32E-06	1.61E-06	1	2.3845	125VDC SUPPLY FUSE 0-236-3/301-F
SRVSR2SRV_06800563	7.95E-04	1.02E-03	1.49E-06	1.001	2.2829	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-563
SRVSR2SRV_06800564	7.95E-04	1.02E-03	1.49E-06	1.001	2.2829	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-564
SRVSR2SRV_06800565	7.95E-04	1.02E-03	1.49E-06	1.001	2.2829	SAFETY VALVE FAILS TO RESEAT AFTER STEAM RELIEF WBN-2-68-565
BUSFR0BD_2364-G	1.74E-06	2.07E-06	1.39E-06	1	2.1926	Failure of 125V DC Battery Board 4
MOCFO2FCV_00100051	1.86E-04	2.04E-04	1.27E-06	1.0002	2.095	Motor operated valve fails to open (clean water)
SWPFD2PS_0030138A	1.17E-04	1.23E-04	1.22E-06	1.0001	2.0524	PRESSURE SWITCH WBN-2-PS-3-138A FAILS
Note: this table does not include CCF, HEPs, or T&M						

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Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY			

Table 110 -- Unit 1 Test and Maintenance LERF Importance F-V >0.5%

Event Name	Probability	FV	BB	RRW	RAW	Description
MTM_1PMP003001AS	8.52E-03	3.35E-02	4.42E-06	1.0347	4.8983	PUMP WBN-1-3-1AS IN MAINTENANCE
MTM_1GEN_0821A-A	1.10E-02	1.98E-02	2.02E-06	1.0202	2.7774	DIESEL 1A-A MAINTENANCE
MTM_1GEN_0821B-B	1.22E-02	1.95E-02	1.80E-06	1.0199	2.5818	DIESEL 1B-B MAINTENANCE
MTM_PMPOMDP067A	6.52E-04	7.39E-03	1.27E-05	1.0074	12.326	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE
MTM_2GEN_0822A-A	1.51E-02	6.30E-03	4.69E-07	1.0063	1.4111	DIESEL 2A-A MAINTENANCE

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY**

Table 111 -- Unit 1 Test and Maintenance LERF Importance RAW > 2

Event Name	Probability	FV	BB	RRW	RAW	Description
MTM_PMPOMDP067A	6.52E-04	7.39E-03	1.27E-05	1.0074	12.326	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE
MTM_PMPOMDP067B	2.83E-05	1.37E-04	5.44E-06	1.0001	5.8439	ERCW PUMP TRAIN B UNAVAILABLE DUE TO MAINTENANCE
MTM_1PMP003001AS	8.52E-03	3.35E-02	4.42E-06	1.0347	4.8983	PUMP WBN-1-3-1AS IN MAINTENANCE
TTM_1PTS003001AS	8.49E-04	3.00E-03	3.97E-06	1.003	4.5269	PUMP WBN-1-3-1AS IN TESTING
MTM_1GEN_0821A-A	1.10E-02	1.98E-02	2.02E-06	1.0202	2.7774	DIESEL 1A-A MAINTENANCE
MTM_1GEN_0821B-B	1.22E-02	1.95E-02	1.80E-06	1.0199	2.5818	DIESEL 1B-B MAINTENANCE
MTM_OCHRG2-E	2.20E-03	3.10E-03	1.58E-06	1.0031	2.4054	125VDC CHARGER II MAINTENANCE
TTM_1GEN_0821A-A	2.36E-04	2.56E-04	1.22E-06	1.0003	2.0832	DIESEL 1A-A TESTING

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Subject: WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY			

Table 112 -- Unit 2 Test and Maintenance LERF Importance F-V >0.5%

Event Name	Probability	FV	BB	RRW	RAW	Description
MTM_2PMP003001AS	8.52E-03	3.25E-02	4.43E-06	1.0336	4.7831	PUMP WBN-2-3-1AS IN MAINTENANCE
MTM_2GEN_0822A-A	1.51E-02	2.83E-02	2.18E-06	1.0291	2.8449	DIESEL 2A-A MAINTENANCE
MTM_2GEN_0822B-B	1.07E-02	1.86E-02	2.02E-06	1.0189	2.718	DIESEL 2B-B MAINTENANCE
MTM_PMPOMDP067A	6.52E-04	6.25E-03	1.11E-05	1.0063	10.576	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE
MTM_1GEN_0821B-B	1.22E-02	5.92E-03	5.64E-07	1.006	1.4794	DIESEL 1B-B MAINTENANCE

Subject: **WBN PROBABILISTIC RISK ASSESSMENT – SUMMARY****Table 113 -- Unit 2 Test and Maintenance LERF Importance RAW > 2**

Event Name	Probability	FV	BB	RRW	RAW	Description
MTM_PMPOMDP067A	6.52E-04	6.25E-03	1.11E-05	1.0063	10.576	ERCW TRAIN A UNAVAILABLE DUE TO MAINTENANCE
MTM_2MCC_214A1-A	2.15E-04	1.72E-03	9.28E-06	1.0017	8.9828	480VAC C&A VB 2A1-A (2-MCC-214-A001-A) MAINTENANCE
MTM_PMPOMDP067B	2.83E-05	2.05E-04	8.40E-06	1.0002	8.2316	ERCW PUMP TRAIN B UNAVAILABLE DUE TO MAINTENANCE
MTM_2PMP003001AS	8.52E-03	3.25E-02	4.43E-06	1.0336	4.7831	PUMP WBN-2-3-1AS IN MAINTENANCE
TTM_2PTS003001AS	8.49E-04	2.90E-03	3.97E-06	1.0029	4.4138	PUMP WBN-2-3-1AS IN TESTING
MTM_2GEN_0822A-A	1.51E-02	2.83E-02	2.18E-06	1.0291	2.8449	DIESEL 2A-A MAINTENANCE
TTM_2GEN_0822A-A	3.04E-04	5.47E-04	2.09E-06	1.0005	2.7978	DIESEL 2A-A TESTING
MTM_2GEN_0822B-B	1.07E-02	1.86E-02	2.02E-06	1.0189	2.718	DIESEL 2B-B MAINTENANCE
TTM_2GEN_0822B-B	1.92E-04	2.99E-04	1.81E-06	1.0003	2.5592	DIESEL 2B-B TESTING