Precursor Screening Analysis - Reject

Accident Sequence Precursor Program – Office of Nuclear Regulatory Research

D. C. Cook, Unit 1	Unit 1 shutdown due to a non-functional Emergency Diesel Generator-1AB, per TS requirement and 1A RHR Pump Inoperable.	
Event Date: 06/01/2015	**LER:** 315-2015-001 and 315-2015-002	**IR:** 50-315/2015-002 and 50-315/2015-002
Plant Type: Westinghouse 4-Loop Pressurize-Water Reactor with Ice Condenser Containment		
Plant Operating Mode (Reactor Power Level): Mode 1 (100% Reactor Power)		

Analyst:	**Reviewer:**	**Contributors:**	**BC Approved Date:**
Erulappa Chelliah	Keith Tetter	**N/A**	4/20/2016

Event Description. On May 18, 2015, Unit 1 reactor was operating at 100% power. At 12:10 am, the operators removed emergency diesel generator (EDG)-1AB from service for a planned test and maintenance (T&M) activity. This activity included draining of the lube oil system to replace a strainer-transfer valve and cooler thermostatic bypass valve. On May 21, 2015, at 10:49 am, the testing personnel started EDG-1AB for post-maintenance testing. At approximately 16 minutes following the EDG-1AB-start event, the EDG tripped on 'HIGH-HIGH' bearing temperature alarm. Based on identification of the melted-bearing Babbitt material within the crankcase, a failure-investigation team determined that the No. 4 main bearing had been damaged. Further evaluation of the damage confirmed that the time required for repairs to EDG-1AB would have exceeded the plant technical specifications (TS)-permitted completion time. This required a forced-shutdown of Unit 1 by the operators which took place, on June 1, 2015 at 2:31 am.

On June 14, 2015, with Unit 1 in Mode 5, operations personnel identified an oil leak from the Residual Heat Removal (RHR)-1A pump lower motor bearing oil reservoir. An engineering evaluation concluded that the leak rate precluded the pump from meeting its required 30-day mission time during accident conditions, thus rendering the RHR-1A pump inoperable. Review of operator oil addition logs concluded that this leak had existed since March 9, 2015. Unit 1 entered Mode 4 at 6:21 pm on June 1, 2015, exiting the condition prohibited by Technical Specifications (TS).

The inoperability of EDG-1AB concurrent with the inoperable RHR-1A pump requires declaring the RHR-1B pump inoperable since TS declares that required feature(s) supported by the inoperable EDG are inoperable when it's required redundant feature(s) is inoperable. The inoperability of the RHR-1A pump was not recognized at this time, so the RHR-1B pump was not declared inoperable when the EDG-1AB was made inoperable. In retrospect, had the RHR-1A pump been recognized as being inoperable, the RHR-1B pump should have been declared inoperable within four hours from when the EDG-1AB was declared inoperable on May 18, 2015, at 12:10 am, until June 2, 2015, at 4:10 am, when Unit 1 entered Mode 5. The offsite power sources (preferred and alternate) remained operable and available for the duration that the EDG-1AB was inoperable thus there is reasonable assurance that the RHR-1B pump remained capable of fulfilling its safety function. For this occurrence, safety function of the Emergency Core Cooling System was not lost. In the event of a loss of offsite power (LOOP), the RHR-1A pump was available to perform its shutdown cooling function, therefore the capability to mitigate a LOOP was not lost.

In summary, the operators took EDG-1AB of Division-1 for a planned T&M activity during a specific period of 339 hours (from May 18, 2015 at 12:10 am to June 1, 2015 at 2:31 am). After completion of the maintenance activity, the operators found that the EDG-1AB failed to run continuously during a post T&M activity due to an as-found EDG-maintenance-scoping error. Since the operators did not

complete the planned T&M activity within TS-permitted allowed outage time (AOT), the operators shut-down Unit 1, per TS-requirements of 3.8.1, on June 1, 2015. There was also an oil leak from RHR-1A pump lower bearing oil reservoir from March 9, 2015 to June 1, 2015. The RHR-1A pump oil leak was small enough such that the RHR-1A pump was available to operate greater than its PRA mission time of 24 hours so this pump is not modeled as failed since it would have performed its intended function upon demand.

The licensee documented event-related failure information of the degraded condition of the EDG-1AB and RHR-1A pump, in two separate Licensee Event Reports (LERs), per reporting requirements of 10 CFR Part 50.73. (Reference-1 and Reference-2)

Failure Causes:

For the failure of EDG-1AB as documented in Reference 1, the station accepted leaving air within the lube oil system which degraded the hydrodynamic film wedge and resistive capacity of the No. 4 main bearing leaving it susceptible to electrical pitting and eventual wiping of the bearing Babbitt material.

Contributing causes included:

1. The station developed a culture to accept air in the EDG lube oil system due to prior experience that did not result in damage to the equipment.

2. The station failed to consider the exciter air gap measurement indications and take the necessary actions to investigate or correct the condition.

For the failure of the RHR-1A pump as documented in Reference 2, the apparent cause has been determined to be that Station leadership was not equipped with a consistent methodology to effectively manage risk associated with various station activities that possessed apparent low probability of occurrence. A contributing cause was interdepartmental interface that was inadequate to provide appropriate challenge and support of risk related decisions.

Degraded condition-related failure:

During post-T&M activity, EDG-1AB failed to run due to accumulated air in the main EDG bearing. Prior to the event date of June 01, 2015, licensee's maintenance activity of EDG-1AB did not include a separate task to vent the accumulated-air in the bearing. The licensee stated in LER 315-2015-001 that they failed to install a venting system for the operators to remove air from the EDG bearings and exciter-stator to facilitate a planned T&M activity of all 6 standby EDGs at the licensed site. Therefore, prior to the event date, a degraded condition of EDG-1AB-run failure existed during a specific period of 315-hours.

SDP Results. Region III inspectors reviewed LER information and other event-related information (Reference-3 and Reference-4). Reference-3 identified a Green Finding for working violations during the Unit 1 forced outage to repair EDG-1AB. Reference-4 identified a Green Finding for maintenance procedures on the lube oil system that allowed air to remain in the system, which helped facilitate electric arcing in the EDG-1AB bearings. Reference-4 identified another Green Finding for RHR-1A pump oil leakage that would not have allowed the pump to operate for its thirty-day mission time, but would have operated for the 24 hour PRA mission time if required. LER 315-2015-001 is closed in Reference-5. LER 315-2015-002 is not yet closed.

Analysis Type. The latest Idaho National Laboratory (INL) published Standardized Plant Analysis Risk (SPAR) model for DC Cook (SPAR-Model No. 8.22, dated May 2014) was used for the analyses. A condition risk analysis (CRA) to estimate the increase in core damage probability (ICDP) due to as-found unavailability (or inoperability) of the EDG-1AB train of Division-1 of the emergency AC power

system (EPS) was conducted. Also an event risk analysis (ERA) to estimate the conditional core damage probability (CCDP) due to failures of the remaining mitigation system trains during a TS-forced plant shut-down period, given a failure of EDG-1AB train was conducted.

Analysis Rules. The ASP Program uses Significance Determination Process (SDP) result for degraded conditions when available. However, the ASP Program performs independent analyses for events where there are degraded conditions that exist simultaneously (i.e., are windowed within the same timeframe) when not explicitly assessed under the SDP. As such, an ASP analysis was performed for the conditions described in the referenced LERs.

Key Modeling Assumptions. No changes to the current version of the DC Cook SPAR model was needed for these analyses.

The current DC Cook SPAR model included an event tree analysis of 15-plant-specific initiating events (IEs) that would have affected the increase-in-core damage risk of the as-found inoperable EDG-1AB. INL built plant-specific system failure models of the EDGs, based on failure modes that were found in the operating experience data for 104 operating plants. Therefore, current analyses of the CRA and the ERA found the use of INL's published DC Cook SPAR model to be acceptable for the purpose of estimating a plant-specific ICDP value of the CRA and a plant-specific CCDP of the ERA.

It should be noted that for DC Cook:

1. Unit 1 has installed one station blackout (SBO)-DG1. Unit 2 also has installed a separate SBO-DG2. Each SBO-DG at each unit is designed with a 200% bus-load capacity. That is, given a common cause failure (or independent failures) of EDG-1AB and EDG-1CD at Unit 1, one SBO-DG1 alone (or one SBO-DG2 alone) could simultaneously deliver emergency AC power to two AC buses of Unit 1, Bus-1AB and Bus-1CD (or two AC buses of Unit 2, Bus-2AB and Bus-2CD).

2. Given an unplanned demand of Bus-1AB, SBO-DG1 and SBO-DG2 would be automatically started. After a successful start of SBO-DG1 [or SBO-DG2], two connect-breakers from SBO-DG1 bus (or two connect-breakers from SBO-DG2 bus) have to be manually closed to provide emergency AC power to the dead bus-1AB for Unit 1.

Basic event probability-changes. The following basic event probability was modified for this analysis.

The operator took out EDG-1AB for a planned T&M activity during an unavailability period of 339 hours. As a result:

1. EPS-DGN-TM-1AB (EDG-1AB UNAVAILABLE DUE TO TEST AND MAINTENANCE) was set to TRUE to reflect the as-found unavailability of the EDG-1AB train.

Due to incompleteness of the planned maintenance activity of EDG-1AB, the operator manually shutdown the plant from 100% power. The EDG-1AB was also found to be inoperable during the TS-forced shut-down period of Unit 1 (24-hours). Therefore, the analyst conducted an event risk analysis with the above probability-changes to basic events.

Rejection basis.

The results of the CRA are summarized below (see ATTACHMENT-1A):

- Analysis estimated a value of 2.4×10^{-8} for total ICDP due to as-found inoperable EDG-1AB.

- Analysis found contributing dominant sequences to be due to condition-affected sequences of the LOOPGR (grid failure-induced loss of offsite power) event tree (Figure 2A).

- Analysis estimated a value of 8.2×10^{-9} for ICDP due to LOOPGR event tree-induced sequences.

The results of the ERA are summarized below (see ATTACHMENT-1B):

- Analysis estimated a value of 9.73×10^{-7} for total CCDP due to TS-forced plant shut-down (TRANSIENT event tree).

- Analysis found a CCDP-dominant sequence to be due to: a transient, loss of Reactor Coolant Pump (RCP) seal cooling, RCP seal stage-2 failure, high pressure injection failure, residual heat removal failure, high pressure recirculation failure, and low pressure recirculation failure.

- Analysis estimated a value of 5.66E-7 for CCDP due to transient event-induced dominant sequence 02-02-10 (Figure 2B).

In summary,

1. Under the CRA, the point estimate for the ICDP is 2.4×10^{-8} due to an as-found inoperable condition of EDG-1AB at power mode of the reactor.

2. Under the ERA, the point estimate for the CCDP value is 9.73×10^{-7} due to a manual reactor trip event, with an inoperable EDG-1AB, during a TS-forced reactor shutdown period of 24-hours.

Both of these point estimates are below $1x10^{-6}$ and therefore, the windowed events described in LER-315-2015-001 and LER-315-2015-002 do not meet ASP Program criteria to be defined as a precursor.

REFERENCES

1. Donald C. Cook Nuclear Plant Unit 1, “Plant Shutdown Required by Technical Specifications– American Electric Power, LER-315-2015-001, Event Date of June 01, 2015,” dated July 29, 2015. ML15113A347.

2. Donald C. Cook Nuclear Plant Unit 1, “Technical Specification Violation due to Inoperable Residual Heat Removal Pump – American Electric Power, LER-315-2015-002, Event Date of June 14, 2015,” dated January 18, 2016. ML16020A449.

3. U. S. Nuclear Regulatory Commission, “Donald C. Cook Nuclear Plant, Units 1 and 2 – NRC INTEGRATED INSPECTION REPORT 05000315/2015002; 05000315/2015002,” dated July 31, 2015 (ML15215A306).

4. U. S. Nuclear Regulatory Commission, “Donald C. Cook Nuclear Plant, Units 1 and 2 – NRC INTEGRATED INSPECTION REPORT 05000315/2015003; 05000315/2015003; AND 07200072/2015001,” dated November 12, 2015 (ML15316A616).

5. U. S. Nuclear Regulatory Commission, “Donald C. Cook Nuclear Plant, Units 1 and 2 – NRC INTEGRATED INSPECTION REPORT 05000315/2015004 AND 05000315/2015004,” dated February 5, 2016 (ML16039A333).

Attachment 1A: SAPHIRE 8 Worksheet

Summary of Conditional Event Changes

Event	Description	Cond Value	Nominal Value
EPS-DGN-TM-1AB	DIESEL GENERATOR 1AB UNAVAILABLE DUE TO TEST AND MAINTENANCE	True	1.43E-2

Event Tree Dominant Results

Only items contributing at least 1.0% to the total CCDP are displayed.

EVENT TREE	CCDP	CDP	Δ CDP	DESCRIPTION
LOOPGR	9.99E-9	1.82E-9	8.18E-9	Cook 1 & 2 PWR B Loss of Offsite Power (Grid Related)
LOOPWR	8.06E-9	1.18E-9	6.89E-9	Cook 1 & 2 PWR B Loss of Offsite Power (Weather Related)
LOOPSC	6.69E-9	1.33E-9	5.36E-9	Cook 1 & 2 PWR B Loss of Offsite Power (Switchyard Centered)
SGTR	2.08E-8	1.97E-8	1.15E-9	Cook 1 & 2 PWR B Steam Generator Tube Rupture
LOOPPC	9.62E-10	2.07E-10	7.55E-10	Cook 1 & 2 PWR B Loss of Offsite Power (Plant Centered)
SORV	5.63E-9	4.94E-9	6.91E-10	Cook 1 & 2 PWR B Stuck Open PORV
TRANS	2.59E-8	2.55E-8	4.10E-10	Cook 1 & 2 PWR B Transient
Total	**1.35E-6**	**1.33E-6**	**2.37E-8**	

Dominant Sequence Results

Only items contributing at least 1.0% to the total CCDP are displayed.

EVENT TREE	SEQUENCE	CCDP	CDP	Δ CDP	DESCRIPTION
LOOPWR	16-06	2.73E-9	1.55E-10	2.57E-9	/RPS, EPS, /AFW-B, /PORV-B, /RSD, /BP1, BP2, OPR-04H, DGR-04H
LOOPWR	16-03-10	2.47E-9	5.56E-10	1.91E-9	/RPS, EPS, /AFW-B, /PORV-B, /RSD, /BP1, /BP2, OPR-04H, DGR-04H, AFW-MAN, SG-DEP-LT1
LOOPGR	16-06	1.92E-9	9.12E-11	1.82E-9	/RPS, EPS, /AFW-B, /PORV-B, /RSD, /BP1, BP2, OPR-04H, DGR-04H
LOOPGR	02-05	1.92E-9	2.96E-10	1.62E-9	/RPS, /EPS, /AFW-L, /PORV-L, LOSC-L, /RSD, /BP1, BP2, OPR-02H, HPI-L
LOOPGR	15	1.30E-9	8.66E-11	1.21E-9	/RPS, /EPS, AFW-L, FAB-L
LOOPSC	15	1.10E-9	7.20E-11	1.03E-9	/RPS, /EPS, AFW-L, FAB-L
LOOPSC	16-06	1.07E-9	4.63E-11	1.03E-9	/RPS, EPS, /AFW-B, /PORV-B, /RSD, /BP1, BP2, OPR-04H, DGR-04H
LOOPWR	02-05	1.08E-9	1.47E-10	9.36E-10	/RPS, /EPS, /AFW-L, /PORV-L, LOSC-L, /RSD, /BP1, BP2, OPR-02H, HPI-L
LOOPGR	16-03-10	1.21E-9	3.99E-10	8.15E-10	/RPS, EPS, /AFW-B, /PORV-B, /RSD, /BP1, /BP2, OPR-04H, DGR-04H, AFW-MAN, SG-DEP-LT1
LOOPSC	02-05	9.28E-10	1.40E-10	7.89E-10	/RPS, /EPS, /AFW-L, /PORV-L, LOSC-L, /RSD, /BP1, BP2, OPR-02H, HPI-L
SGTR	12	1.05E-8	9.76E-9	7.74E-10	/RPS, /FW, /HPI, SGI, REFILL1, ECA
LOOPGR	02-04	6.39E-10	2.24E-12	6.37E-10	/RPS, /EPS, /AFW-L, /PORV-L, LOSC-L, /RSD, /BP1, BP2, OPR-02H, /HPI-L, HPR-L
LOOPSC	05	9.35E-10	3.18E-10	6.18E-10	/RPS, /EPS, /AFW-L, PORV-L, /HPI-L, /OPR-02H, /SSC, RHR, HPR
LOOPGR	05	8.61E-10	2.92E-10	5.69E-10	/RPS, /EPS, /AFW-L, PORV-L, /HPI-L, /OPR-02H, /SSC, RHR, HPR
SORV	04	5.31E-9	4.78E-9	5.34E-10	/RPS, PORV-ISO, /AFW, /HPI, /SSC, RHR, HPR

EVENT TREE	SEQUENCE	CCDP	CDP	Δ CDP	DESCRIPTION
LOOPSC	16-03-10	7.19E-10	2.24E-10	4.94E-10	/RPS, EPS, /AFW-B, /PORV-B, /RSD, /BP1, /BP2, OPR-04H, DGR-04H, AFW-MAN, SG-DEP-LT1
LOOPGR	16-04-2	4.74E-10	2.41E-11	4.50E-10	/RPS, EPS, /AFW-B, /PORV-B, /RSD, /BP1, BP2, /OPR-04H, /HPI, /SSC, LPR
LOOPSC	16-04-2	4.35E-10	2.22E-11	4.13E-10	/RPS, EPS, /AFW-B, /PORV-B, /RSD, /BP1, BP2, /OPR-04H, /HPI, /SSC, LPR
LOOPWR	15	4.02E-10	2.41E-11	3.78E-10	/RPS, /EPS, AFW-L, FAB-L
LOOPWR	02-04	3.80E-10	2.36E-12	3.77E-10	/RPS, /EPS, /AFW-L, /PORV-L, LOSC-L, /RSD, /BP1, BP2, OPR-02H, /HPI-L, HPR-L
LOOPGR	17-10	4.26E-10	8.95E-11	3.36E-10	RPS, /EPS, RCSPRESS
LOOPSC	02-04	3.09E-10	0.00E+0	3.09E-10	/RPS, /EPS, /AFW-L, /PORV-L, LOSC-L, /RSD, /BP1, BP2, OPR-02H, /HPI-L, HPR-L
LOOPSC	17-10	3.61E-10	7.52E-11	2.86E-10	RPS, /EPS, RCSPRESS
LOOPGR	09	3.34E-10	9.16E-11	2.42E-10	/RPS, /EPS, /AFW-L, PORV-L, /HPI-L, OPR-02H, HPR-L
Total		**1.35E-6**	**1.33E-6**	**2.37E-8**	

Referenced Fault Trees

Fault Tree	Description
AFW-L	COOK 1 & 2 PWR B AFW USING LOOP-FT FAULT TREE FLAGS
AFW-MAN	MANUAL CONTROL AFW
BP2	RCP SEAL STAGE 2 INTEGRITY (BINDING/POPPING)
DGR-04H	DIESEL GENERATOR RECOVERY (IN 4 HR)
ECA	DECAY HEAT REMOVAL /RECOVERY (ECA-3.1/3.2)
EPS	EMERGENCY POWER
FAB-L	COOK 1 & 2 PWR B FEED AND BLEED USING LOOP-FTF FAULT TREE FL
HPI-L	HIGH PRESSURE INJECTION
HPR	HIGH PRESSURE RECIRCULATION
HPR-L	HIGH PRESSURE RECIRC
LOSC-L	COOK 1 & 2 PWR B RCP SEAL LOCA USING LOOP-FT FAULT TREE FLAG
LPR	LOW PRESSURE RECIRCULATION
OPR-02H	OFFSITE POWER RECOVERY IN 2 HRS
OPR-04H	OFFSITE POWER RECOVERY (IN 4 HR)
PORV-ISO	PORV ISOLATION
PORV-L	COOK 1 & 2 PWR B PORVs/SRVs OPEN DURING LOOP
RCSPRESS	RCS PRESSURE LIMITED
REFILL1	REFILL THE RWST (CONDITIONAL)
RHR	RESIDUAL HEAT REMOVAL
RPS	REACTOR SHUTDOWN
SG-DEP-LT1	DEPRESSURIZE SGs (DEPENDENT)
SGI	FAULTED STEAM GENERATOR ISOLATION

Cut Set Report - LOOPWR 16-06

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	7.04E-8	100	Displaying 267 Cut Sets. (267 Original)
1	3.11E-9	4.41	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
2	2.68E-9	3.80	IE-LOOPWR,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
3	2.45E-9	3.48	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
4	2.19E-9	3.11	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
5	2.19E-9	3.11	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
6	1.89E-9	2.68	IE-LOOPWR,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
7	1.89E-9	2.68	IE-LOOPWR,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
8	1.80E-9	2.55	IE-LOOPWR,EPS-DGN-CF-RUN4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR0,RCS-MDP-LK-BP2
9	1.73E-9	2.46	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
10	1.73E-9	2.46	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
11	1.57E-9	2.23	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
12	1.57E-9	2.23	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
13	1.49E-9	2.11	IE-LOOPWR,EPS-DGN-CF-RSDG,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
14	1.35E-9	1.92	IE-LOOPWR,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
15	1.35E-9	1.92	IE-LOOPWR,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
16	1.28E-9	1.82	IE-LOOPWR,EPS-DGN-CF-RSDG,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
17	1.24E-9	1.76	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
18	1.24E-9	1.76	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
19	1.18E-9	1.67	IE-LOOPWR,EPS-DGN-CF-RSDG,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
20	1.11E-9	1.57	IE-LOOPWR,ACP-CRB-OO-T11D1,ACP-XHE-XM-T11A12B2,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
21	1.11E-9	1.57	IE-LOOPWR,ACP-CRB-OO-T111A12,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
22	1.11E-9	1.57	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
23	1.11E-9	1.57	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
24	9.55E-10	1.36	IE-LOOPWR,ACP-CRB-OO-T111A12,ACP-XHE-XM-T11D12C2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
25	9.55E-10	1.36	IE-LOOPWR,ACP-CRB-OO-T11D1,ACP-XHE-XM-T11A12B2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
26	9.55E-10	1.36	IE-LOOPWR,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
27	9.55E-10	1.36	IE-LOOPWR,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
28	9.27E-10	1.32	IE-LOOPWR,ACP-BAC-LP-T11D,ACP-XHE-XM-T11A12B2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,RCS-MDP-LK-BP2
29	8.75E-10	1.24	IE-LOOPWR,ACP-CRB-OO-T11D1,ACP-XHE-XM-T11A12B2,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
30	8.75E-10	1.24	IE-LOOPWR,ACP-CRB-OO-T111A12,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
31	8.75E-10	1.24	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
32	8.75E-10	1.24	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2,RCS-MDP-LK-BP2
33	7.95E-10	1.13	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG1,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1,RCS-MDP-LK-BP2
34	7.22E-10	1.03	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR3,RCS-MDP-LK-BP2

Cut Set Report - LOOPWR 16-03-10

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	6.37E-8	100	Displaying 306 Cut Sets. (306 Original)
1	9.00E-9	14.12	IE-LOOPWR,EPS-DGN-CF-RUN4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR0
2	3.61E-9	5.67	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR3
3	3.42E-9	5.37	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR4
4	2.13E-9	3.34	IE-LOOPWR,EPS-DGN-CF-STRT4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR
5	1.91E-9	3.01	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2

#	PROB/FREQ	TOTAL%	CUT SET
6	1.91E-9	3.01	IE-LOOPWR,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2
7	1.91E-9	3.01	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2
8	1.72E-9	2.70	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR3
9	1.72E-9	2.70	IE-LOOPWR,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR3
10	1.72E-9	2.70	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR3
11	1.16E-9	1.81	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1
12	1.16E-9	1.81	IE-LOOPWR,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1
13	1.16E-9	1.81	IE-LOOPWR,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR1
14	9.97E-10	1.56	IE-LOOPWR,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2AB,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR
15	9.45E-10	1.48	IE-LOOPWR,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-FAN-CF-U12EXFTS,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR
16	9.14E-10	1.43	IE-LOOPWR,EPS-DGN-FR-1CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2
17	9.14E-10	1.43	IE-LOOPWR,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2
18	9.14E-10	1.43	IE-LOOPWR,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HWR,OEP-XHE-XX-NR04HWR2
19	8.69E-10	1.37	IE-LOOPWR,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,ESW-MDP-CF-RUN,OEP-XHE-XL-NR04HWR
20	6.62E-10	1.04	IE-LOOPWR,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,ESW-MDP-CF-STRT,OEP-XHE-XL-NR04HWR

Cut Set Report - LOOPGR 16-06

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	4.95E-8	100	Displaying 208 Cut Sets. (208 Original)
1	3.32E-9	6.70	IE-LOOPGR,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
2	2.34E-9	4.72	IE-LOOPGR,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
3	2.34E-9	4.72	IE-LOOPGR,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
4	1.68E-9	3.39	IE-LOOPGR,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
5	1.68E-9	3.39	IE-LOOPGR,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
6	1.59E-9	3.21	IE-LOOPGR,EPS-DGN-CF-RSDG,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
7	1.53E-9	3.09	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
8	1.18E-9	2.39	IE-LOOPGR,ACP-CRB-OO-T111A12,ACP-XHE-XM-T11D12C2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
9	1.18E-9	2.39	IE-LOOPGR,ACP-CRB-OO-T11D1,ACP-XHE-XM-T11A12B2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
10	1.18E-9	2.39	IE-LOOPGR,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
11	1.18E-9	2.39	IE-LOOPGR,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
12	1.15E-9	2.32	IE-LOOPGR,ACP-BAC-LP-T11D,ACP-XHE-XM-T11A12B2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
13	1.08E-9	2.18	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
14	1.08E-9	2.18	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
15	8.86E-10	1.79	IE-LOOPGR,EPS-DGN-CF-RUN4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR0,RCS-MDP-LK-BP2
16	8.49E-10	1.71	IE-LOOPGR,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
17	7.73E-10	1.56	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
18	7.73E-10	1.56	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
19	7.33E-10	1.48	IE-LOOPGR,EPS-DGN-CF-RSDG,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
20	6.68E-10	1.35	IE-LOOPGR,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-DGN-FS-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
21	5.74E-10	1.16	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR2,RCS-MDP-LK-BP2
22	5.53E-10	1.12	IE-LOOPGR,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
23	5.45E-10	1.10	IE-LOOPGR,ACP-CRB-OO-T111A12,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
24	5.45E-10	1.10	IE-LOOPGR,ACP-CRB-OO-T11D1,ACP-XHE-XM-T11A12B2,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
25	5.45E-10	1.10	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
26	5.45E-10	1.10	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1,RCS-MDP-LK-BP2
27	5.27E-10	1.07	IE-LOOPGR,EPS-DGN-CF-STRT4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2

Cut Set Report - LOOPGR 02-05

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	4.95E-8	100	Displaying 231 Cut Sets. (231 Original)
1	5.49E-9	11.09	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-MDP-TM-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
2	3.44E-9	6.94	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGCD,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
3	3.44E-9	6.94	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
4	3.44E-9	6.94	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGCD,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
5	3.44E-9	6.94	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
6	2.46E-9	4.97	IE-LOOPGR,ESW-MDP-CF-RUN,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
7	1.87E-9	3.79	IE-LOOPGR,ESW-MDP-CF-STRT,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
8	1.56E-9	3.15	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CCW-MDP-FS-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
9	1.56E-9	3.15	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-MDP-FS-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
10	1.34E-9	2.71	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
11	1.34E-9	2.71	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
12	1.34E-9	2.71	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
13	1.34E-9	2.71	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
14	1.15E-9	2.32	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-XHE-XR-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
15	9.55E-10	1.93	IE-LOOPGR,CCW-CFG-AP-UNIT1W,CCW-SYS-LK-WEST,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
16	9.55E-10	1.93	IE-LOOPGR,CCW-CFG-AP-UNIT1E,CCW-SYS-LK-EAST,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
17	6.93E-10	1.40	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
18	6.93E-10	1.40	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
19	6.93E-10	1.40	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
20	6.93E-10	1.40	IE-LOOPGR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
21	5.73E-10	1.16	IE-LOOPGR,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
22	5.73E-10	1.16	IE-LOOPGR,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2

Cut Set Report - LOOPGR 15

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	3.36E-8	100	Displaying 151 Cut Sets. (151 Original)
1	9.20E-9	27.36	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
2	3.64E-9	10.84	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
3	2.20E-9	6.54	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-AOV-OO-257,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
4	2.19E-9	6.52	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-FS-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
5	1.51E-9	4.50	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
6	1.26E-9	3.74	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-TM-PP4,AFW-XHE-XM-XTIEUNIT
7	9.80E-10	2.91	IE-LOOPGR,DCP-BAT-CF-ALL
8	9.31E-10	2.77	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-XHE-XM-BCH
9	8.38E-10	2.49	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-FR-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
10	5.99E-10	1.78	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
11	4.98E-10	1.48	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-TM-PP4,AFW-XHE-XM-XTIEUNIT
12	4.82E-10	1.43	IE-LOOPGR,AFW-MDP-TM-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP

#	PROB/FREQ	TOTAL%	CUT SET
13	4.66E-10	1.39	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-BCH-TM-NB
14	4.38E-10	1.30	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-PMP-CF-FRALL,AFW-XHE-XM-XTIEUNIT
15	3.69E-10	1.10	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-XHE-XM-BCH
16	3.67E-10	1.09	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-PMP-FR-PP4,AFW-XHE-XM-XTIEUNIT
17	3.62E-10	1.08	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-AOV-OO-257,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
18	3.60E-10	1.07	IE-LOOPGR,ACP-XHE-XM-T11A12B2,AFW-MDP-FS-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT

Cut Set Report - LOOPSC 15

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	2.85E-8	100	Displaying 133 Cut Sets. (133 Original)
1	7.84E-9	27.52	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
2	3.11E-9	10.91	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
3	1.88E-9	6.58	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-AOV-OO-257,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
4	1.87E-9	6.56	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-FS-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
5	1.29E-9	4.52	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
6	1.07E-9	3.76	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-TM-PP4,AFW-XHE-XM-XTIEUNIT
7	8.35E-10	2.93	IE-LOOPSC,DCP-BAT-CF-ALL
8	7.94E-10	2.79	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-XHE-XM-BCH
9	7.15E-10	2.51	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-FR-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
10	5.11E-10	1.79	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
11	4.24E-10	1.49	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-TM-PP4,AFW-XHE-XM-XTIEUNIT
12	4.11E-10	1.44	IE-LOOPSC,AFW-MDP-TM-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP
13	3.97E-10	1.39	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-BCH-TM-NB
14	3.73E-10	1.31	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-PMP-CF-FRALL,AFW-XHE-XM-XTIEUNIT
15	3.15E-10	1.10	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-XHE-XM-BCH
16	3.13E-10	1.10	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-PMP-FR-PP4,AFW-XHE-XM-XTIEUNIT
17	3.08E-10	1.08	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-AOV-OO-257,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
18	3.07E-10	1.08	IE-LOOPSC,ACP-XHE-XM-T11A12B2,AFW-MDP-FS-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT

Cut Set Report - LOOPSC 16-06

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	2.77E-8	100	Displaying 172 Cut Sets. (172 Original)
1	1.72E-9	6.20	IE-LOOPSC,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
2	1.21E-9	4.37	IE-LOOPSC,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
3	1.21E-9	4.37	IE-LOOPSC,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
4	9.52E-10	3.44	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
5	8.69E-10	3.14	IE-LOOPSC,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
6	8.69E-10	3.14	IE-LOOPSC,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
7	8.23E-10	2.97	IE-LOOPSC,EPS-DGN-CF-RSDG,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
8	6.71E-10	2.42	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
9	6.71E-10	2.42	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
10	6.13E-10	2.21	IE-LOOPSC,ACP-CRB-OO-T111A12,ACP-XHE-XM-T11D12C2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
11	6.13E-10	2.21	IE-LOOPSC,ACP-CRB-OO-T11D1,ACP-XHE-XM-T11A12B2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
12	6.12E-10	2.21	IE-LOOPSC,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
13	6.12E-10	2.21	IE-LOOPSC,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
14	5.94E-10	2.15	IE-LOOPSC,ACP-BAC-LP-T11D,ACP-XHE-XM-T11A12B2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
15	5.51E-10	1.99	IE-LOOPSC,EPS-DGN-CF-RUN4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC0,RCS-MDP-LK-BP2
16	4.81E-10	1.74	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
17	4.81E-10	1.74	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
18	4.56E-10	1.65	IE-LOOPSC,EPS-DGN-CF-RSDG,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
19	4.47E-10	1.61	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC2,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
20	4.39E-10	1.59	IE-LOOPSC,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
21	3.46E-10	1.25	IE-LOOPSC,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-DGN-FS-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
22	3.39E-10	1.23	IE-LOOPSC,ACP-CRB-OO-T11D1,ACP-XHE-XM-T11A12B2,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
23	3.39E-10	1.23	IE-LOOPSC,ACP-CRB-OO-T111A12,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
24	3.39E-10	1.23	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
25	3.39E-10	1.23	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1,RCS-MDP-LK-BP2
26	3.15E-10	1.14	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC2,RCS-MDP-LK-BP2
27	3.15E-10	1.14	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC2,RCS-MDP-LK-BP2
28	2.86E-10	1.03	IE-LOOPSC,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2

Cut Set Report - LOOPWR 02-05

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	2.80E-8	100	Displaying 185 Cut Sets. (185 Original)
1	2.51E-9	8.97	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-MDP-TM-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
2	1.60E-9	5.72	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
3	1.60E-9	5.72	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
4	1.60E-9	5.72	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
5	1.60E-9	5.72	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
6	1.57E-9	5.62	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGCD,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
7	1.57E-9	5.62	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
8	1.57E-9	5.62	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGCD,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
9	1.57E-9	5.62	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
10	1.13E-9	4.02	IE-LOOPWR,ESW-MDP-CF-RUN,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
11	8.57E-10	3.06	IE-LOOPWR,ESW-MDP-CF-STRT,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
12	7.14E-10	2.55	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-MDP-FS-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
13	7.14E-10	2.55	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CCW-MDP-FS-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
14	5.24E-10	1.87	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-XHE-XR-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
15	4.37E-10	1.56	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CCW-SYS-LK-EAST,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
16	4.37E-10	1.56	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CCW-SYS-LK-WEST,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
17	3.17E-10	1.13	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
18	3.17E-10	1.13	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
19	3.17E-10	1.13	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
20	3.17E-10	1.13	IE-LOOPWR,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2

Cut Set Report - LOOPGR 16-03-10

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	3.14E-8	100	Displaying 265 Cut Sets. (265 Original)
1	4.43E-9	14.12	IE-LOOPGR,EPS-DGN-CF-RUN4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR0
2	2.64E-9	8.41	IE-LOOPGR,EPS-DGN-CF-STRT4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR
3	1.23E-9	3.94	IE-LOOPGR,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2AB,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR
4	1.17E-9	3.73	IE-LOOPGR,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-FAN-CF-U12EXFTS,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR
5	1.08E-9	3.43	IE-LOOPGR,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,ESW-MDP-CF-RUN,OEP-XHE-XL-NR04HGR
6	8.20E-10	2.61	IE-LOOPGR,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,ESW-MDP-CF-STRT,OEP-XHE-XL-NR04HGR
7	6.63E-10	2.11	IE-LOOPGR,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR

#	PROB/FREQ	TOTAL%	CUT SET
8	5.69E-10	1.81	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1
9	5.69E-10	1.81	IE-LOOPGR,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1
10	5.69E-10	1.81	IE-LOOPGR,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR1
11	5.22E-10	1.66	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR3
12	4.68E-10	1.49	IE-LOOPGR,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR
13	4.68E-10	1.49	IE-LOOPGR,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HGR
14	4.48E-10	1.43	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR2
15	4.48E-10	1.43	IE-LOOPGR,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR2
16	4.48E-10	1.43	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR2
17	3.74E-10	1.19	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR,OEP-XHE-XX-NR04HGR4
18	3.36E-10	1.07	IE-LOOPGR,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR
19	3.36E-10	1.07	IE-LOOPGR,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR
20	3.18E-10	1.01	IE-LOOPGR,AFW-XHE-XM-XTIEUNIT,EPS-DGN-CF-RSDG,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HGR

Cut Set Report - LOOPSC 02-05

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	2.40E-8	100	Displaying 142 Cut Sets. (142 Original)
1	2.68E-9	11.16	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-MDP-TM-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
2	1.68E-9	6.99	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGCD,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
3	1.68E-9	6.99	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
4	1.68E-9	6.99	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGCD,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
5	1.68E-9	6.99	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
6	1.20E-9	5.01	IE-LOOPSC,ESW-MDP-CF-RUN,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
7	9.14E-10	3.81	IE-LOOPSC,ESW-MDP-CF-STRT,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
8	7.61E-10	3.17	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CCW-MDP-FS-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
9	7.61E-10	3.17	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-MDP-FS-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
10	7.35E-10	3.07	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
11	7.35E-10	3.07	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
12	7.35E-10	3.07	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
13	7.35E-10	3.07	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
14	5.59E-10	2.33	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CCW-XHE-XR-PP10E,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
15	4.66E-10	1.94	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CCW-SYS-LK-WEST,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
16	4.66E-10	1.94	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CCW-SYS-LK-EAST,CVC-XHE-XM-CVCSXTIE,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
17	3.38E-10	1.41	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
18	3.38E-10	1.41	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
19	3.38E-10	1.41	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
20	3.38E-10	1.41	IE-LOOPSC,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
21	2.79E-10	1.17	IE-LOOPSC,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
22	2.79E-10	1.17	IE-LOOPSC,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,ACP-XHE-XM-T11A12B2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2

Cut Set Report - SGTR 12

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	2.72E-7	100	Displaying 392 Cut Sets. (392 Original)
1	6.62E-8	24.34	IE-SGTR,RCS-XHE-XE-SGTR,RCS-XHE-XM-ECA312
2	1.66E-8	6.09	IE-SGTR,AFW-XHE-XM-SGDEP,RCS-XHE-XE-SGTR
3	1.59E-8	5.86	IE-SGTR,RCS-XHE-XE-SGTR,RHR-MOV-CC-129
4	1.59E-8	5.86	IE-SGTR,RCS-XHE-XE-SGTR,RHR-MOV-CC-128
5	4.75E-9	1.75	IE-SGTR,ACP-CRB-OO-1A5,ACP-XHE-XM-T11A12B2,RCS-XHE-XE-SGTR
6	4.75E-9	1.75	IE-SGTR,ACP-CRB-CC-1A7,ACP-XHE-XM-T11A12B2,RCS-XHE-XE-SGTR
7	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-31,RCS-XHE-XM-ECA312,SGTR-SG1
8	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-32,RCS-XHE-XM-ECA312,SGTR-SG2
9	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-33,RCS-XHE-XM-ECA312,SGTR-SG3
10	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-34,RCS-XHE-XM-ECA312,SGTR-SG4
11	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-1A3,RCS-XHE-XM-ECA312,SGTR-SG3
12	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-1A4,RCS-XHE-XM-ECA312,SGTR-SG4
13	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-1B1,RCS-XHE-XM-ECA312,SGTR-SG1
14	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-1B2,RCS-XHE-XM-ECA312,SGTR-SG2
15	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-1B3,RCS-XHE-XM-ECA312,SGTR-SG3
16	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-1B4,RCS-XHE-XM-ECA312,SGTR-SG4
17	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-2A1,RCS-XHE-XM-ECA312,SGTR-SG1
18	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-2A2,RCS-XHE-XM-ECA312,SGTR-SG2
19	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-2A3,RCS-XHE-XM-ECA312,SGTR-SG3
20	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-2A4,RCS-XHE-XM-ECA312,SGTR-SG4
21	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-2B1,RCS-XHE-XM-ECA312,SGTR-SG1
22	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-2B2,RCS-XHE-XM-ECA312,SGTR-SG2
23	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-2B3,RCS-XHE-XM-ECA312,SGTR-SG3
24	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-2B4,RCS-XHE-XM-ECA312,SGTR-SG4
25	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-1A1,RCS-XHE-XM-ECA312,SGTR-SG1
26	3.58E-9	1.32	IE-SGTR,MSS-SRV-OO-1A2,RCS-XHE-XM-ECA312,SGTR-SG2

Cut Set Report - LOOPGR 02-04

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	1.65E-8	100	Displaying 172 Cut Sets. (172 Original)
1	8.13E-10	4.92	IE-LOOPGR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
2	8.13E-10	4.92	IE-LOOPGR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
3	8.13E-10	4.92	IE-LOOPGR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
4	8.13E-10	4.92	IE-LOOPGR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
5	4.67E-10	2.82	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
6	4.67E-10	2.82	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
7	4.67E-10	2.82	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
8	4.67E-10	2.82	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
9	4.11E-10	2.49	IE-LOOPGR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
10	4.11E-10	2.49	IE-LOOPGR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
11	4.11E-10	2.49	IE-LOOPGR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
12	4.11E-10	2.49	IE-LOOPGR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
13	3.17E-10	1.92	IE-LOOPGR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
14	3.17E-10	1.92	IE-LOOPGR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
15	3.17E-10	1.92	IE-LOOPGR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
16	3.17E-10	1.92	IE-LOOPGR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
17	2.36E-10	1.43	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
18	2.36E-10	1.43	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
19	2.36E-10	1.43	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
20	2.36E-10	1.43	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,OEP-XHE-XL-NR02HGR,RCS-MDP-LK-BP2
21	1.82E-10	1.10	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
22	1.82E-10	1.10	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2
23	1.82E-10	1.10	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
24	1.82E-10	1.10	IE-LOOPGR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,RCS-MDP-LK-BP2

Cut Set Report - LOOPSC 05

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	2.42E-8	100	Displaying 59 Cut Sets. (59 Original)
1	7.25E-9	30.01	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
2	4.16E-9	17.23	IE-LOOPSC,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
3	3.46E-9	14.32	IE-LOOPSC,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
4	1.99E-9	8.22	IE-LOOPSC,ACP-XHE-XM-T11D12C2,EPS-DGN-TM-1CD,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
5	6.97E-10	2.88	IE-LOOPSC,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
6	5.77E-10	2.39	IE-LOOPSC,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
7	4.00E-10	1.66	IE-LOOPSC,ACP-XHE-XM-T11D12C2,EPS-DGN-FS-1CD,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
8	3.31E-10	1.37	IE-LOOPSC,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,ACP-XHE-XM-T11D12C2,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
9	2.77E-10	1.15	IE-LOOPSC,ACP-XHE-XM-T11A12B2,HPI-XHE-XM-RECIRC,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV151
10	2.77E-10	1.15	IE-LOOPSC,ACP-XHE-XM-T11A12B2,HPI-XHE-XM-RECIRC,/OEP-XHE-XL-NR02HSC,PPR-SRV-CO-L,PPR-SRV-OO-PRV152

Cut Set Report - LOOPGR 05

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	2.22E-8	100	Displaying 59 Cut Sets. (59 Original)
1	6.67E-9	30.01	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
2	3.83E-9	17.23	IE-LOOPGR,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
3	3.18E-9	14.32	IE-LOOPGR,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
4	1.83E-9	8.22	IE-LOOPGR,ACP-XHE-XM-T11D12C2,EPS-DGN-TM-1CD,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
5	6.41E-10	2.88	IE-LOOPGR,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
6	5.31E-10	2.39	IE-LOOPGR,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
7	3.68E-10	1.66	IE-LOOPGR,ACP-XHE-XM-T11D12C2,EPS-DGN-FS-1CD,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153

#	PROB/FREQ	TOTAL%	CUT SET
8	3.05E-10	1.37	IE-LOOPGR,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,ACP-XHE-XM-T11D12C2,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
9	2.55E-10	1.15	IE-LOOPGR,ACP-XHE-XM-T11A12B2,HPI-XHE-XM-RECIRC,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV151
10	2.55E-10	1.15	IE-LOOPGR,ACP-XHE-XM-T11A12B2,HPI-XHE-XM-RECIRC,/OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV152

Cut Set Report - SORV 04

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	1.37E-7	100	Displaying 199 Cut Sets. (199 Original)
1	6.10E-8	44.40	IE-SORV,ACP-BAC-LP-T11D
2	1.58E-8	11.51	IE-SORV,ACP-CRB-OO-1D3,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD
3	1.58E-8	11.51	IE-SORV,ACP-CRB-CC-1D5,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD
4	7.54E-9	5.49	IE-SORV,ACP-CRB-OO-1D3,ACP-XHE-XM-T11D12C2,EPS-DGN-TM-1CD
5	7.54E-9	5.49	IE-SORV,ACP-CRB-CC-1D5,ACP-XHE-XM-T11D12C2,EPS-DGN-TM-1CD
6	1.52E-9	1.11	IE-SORV,ACP-CRB-OO-1D3,ACP-XHE-XM-T11D12C2,EPS-DGN-FS-1CD
7	1.52E-9	1.11	IE-SORV,ACP-CRB-CC-1D5,ACP-XHE-XM-T11D12C2,EPS-DGN-FS-1CD

Cut Set Report - LOOPSC 16-03-10

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	1.86E-8	100	Displaying 198 Cut Sets. (198 Original)
1	2.76E-9	14.84	IE-LOOPSC,EPS-DGN-CF-RUN4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC0
2	1.37E-9	7.35	IE-LOOPSC,EPS-DGN-CF-STRT4,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC
3	6.39E-10	3.44	IE-LOOPSC,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2AB,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC
4	6.06E-10	3.26	IE-LOOPSC,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-FAN-CF-U12EXFTS,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC
5	5.58E-10	3.00	IE-LOOPSC,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,ESW-MDP-CF-RUN,OEP-XHE-XL-NR04HSC
6	4.91E-10	2.64	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC3
7	4.25E-10	2.29	IE-LOOPSC,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,ESW-MDP-CF-STRT,OEP-XHE-XL-NR04HSC
8	3.97E-10	2.14	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC4
9	3.54E-10	1.91	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1
10	3.54E-10	1.91	IE-LOOPSC,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1

#	PROB/FREQ	TOTAL%	CUT SET
11	3.54E-10	1.91	IE-LOOPSC,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1
12	3.49E-10	1.88	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC2
13	3.49E-10	1.88	IE-LOOPSC,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC2
14	3.49E-10	1.88	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC2
15	3.44E-10	1.85	IE-LOOPSC,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC
16	2.42E-10	1.30	IE-LOOPSC,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC
17	2.42E-10	1.30	IE-LOOPSC,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,EPS-XHE-XL-NR04H,EPS-XHE-XM-SDG,OEP-XHE-XL-NR04HSC
18	2.34E-10	1.26	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-2AB,EPS-DGN-SDG2,EPS-DGN-TM-2CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC3
19	2.34E-10	1.26	IE-LOOPSC,EPS-DGN-FR-2AB,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-1CD,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC3
20	2.34E-10	1.26	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-FR-2CD,EPS-DGN-SDG2,EPS-DGN-TM-2AB,EPS-DUAL-UNIT-LOOP,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC3
21	1.90E-10	1.02	IE-LOOPSC,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-FR-SDG2,EPS-XHE-XL-NR04H,OEP-XHE-XL-NR04HSC,OEP-XHE-XX-NR04HSC1

Cut Set Report - LOOPGR 16-04-2

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	1.22E-8	100	Displaying 120 Cut Sets. (120 Original)
1	8.11E-9	66.23	IE-LOOPGR,ACP-BAC-LP-T11D,ACP-XHE-XM-T11A12B2,/OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2
2	1.62E-10	1.32	IE-LOOPGR,ACP-BAC-LP-T11D,ACP-CRB-OO-T111A12,/OEP-XHE-XL-NR04HGR,RCS-MDP-LK-BP2

Cut Set Report - LOOPSC 16-04-2

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	1.12E-8	100	Displaying 117 Cut Sets. (117 Original)
1	7.46E-9	66.39	IE-LOOPSC,ACP-BAC-LP-T11D,ACP-XHE-XM-T11A12B2,/OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2
2	1.49E-10	1.32	IE-LOOPSC,ACP-BAC-LP-T11D,ACP-CRB-OO-T111A12,/OEP-XHE-XL-NR04HSC,RCS-MDP-LK-BP2

Cut Set Report - LOOPWR 15

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	1.04E-8	100	Displaying 77 Cut Sets. (77 Original)
1	2.95E-9	28.39	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
2	1.17E-9	11.25	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
3	7.05E-10	6.79	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-AOV-OO-257,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
4	7.02E-10	6.77	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-FS-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
5	4.85E-10	4.67	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
6	4.03E-10	3.88	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-TDP-TM-PP4,AFW-XHE-XM-XTIEUNIT
7	3.14E-10	3.02	IE-LOOPWR,DCP-BAT-CF-ALL
8	2.98E-10	2.88	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-XHE-XM-BCH
9	2.69E-10	2.59	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-FR-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT
10	1.92E-10	1.85	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
11	1.60E-10	1.54	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-TDP-TM-PP4,AFW-XHE-XM-XTIEUNIT
12	1.54E-10	1.49	IE-LOOPWR,AFW-MDP-TM-PP3E,AFW-TDP-FR-PP4,AFW-XHE-XM-XTIEUNIT,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP
13	1.49E-10	1.44	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-BCH-TM-NB
14	1.40E-10	1.35	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-PMP-CF-FRALL,AFW-XHE-XM-XTIEUNIT
15	1.18E-10	1.14	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-PMP-FR-PP3E,AFW-XHE-XM-XTIEUNIT,DCP-XHE-XM-BCH
16	1.18E-10	1.13	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-TM-PP3E,AFW-PMP-FR-PP4,AFW-XHE-XM-XTIEUNIT
17	1.16E-10	1.12	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-AOV-OO-257,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT
18	1.15E-10	1.11	IE-LOOPWR,ACP-XHE-XM-T11A12B2,AFW-MDP-FS-PP3E,AFW-TDP-FS-PP4,AFW-XHE-XM-XTIEUNIT

Cut Set Report - LOOPWR 02-04

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	9.81E-9	100	Displaying 140 Cut Sets. (140 Original)
1	3.79E-10	3.86	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
2	3.79E-10	3.86	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
3	3.79E-10	3.86	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
4	3.79E-10	3.86	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
5	3.72E-10	3.79	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
6	3.72E-10	3.79	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
7	3.72E-10	3.79	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
8	3.72E-10	3.79	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
9	2.17E-10	2.22	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
10	2.17E-10	2.22	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
11	2.17E-10	2.22	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
12	2.17E-10	2.22	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
13	2.14E-10	2.18	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
14	2.14E-10	2.18	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
15	2.14E-10	2.18	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
16	2.14E-10	2.18	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
17	1.92E-10	1.95	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
18	1.92E-10	1.95	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
19	1.92E-10	1.95	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
20	1.92E-10	1.95	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
21	1.88E-10	1.92	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
22	1.88E-10	1.92	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
23	1.88E-10	1.92	IE-LOOPWR,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
24	1.88E-10	1.92	IE-LOOPWR,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
25	1.10E-10	1.12	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG2,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
26	1.10E-10	1.12	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG2,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
27	1.10E-10	1.12	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG1,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
28	1.10E-10	1.12	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-TM-SDG1,OEP-XHE-XL-NR02HWR,OEP-XHE-XX-NR02HWR1,RCS-MDP-LK-BP2
29	1.08E-10	1.10	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
30	1.08E-10	1.10	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
31	1.08E-10	1.10	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2
32	1.08E-10	1.10	IE-LOOPWR,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,OEP-XHE-XL-NR02HWR,RCS-MDP-LK-BP2

Cut Set Report - LOOPGR 17-10

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	1.10E-8	100	Displaying 68 Cut Sets. (68 Original)
1	2.36E-9	21.43	IE-LOOPGR,ACP-XHE-XM-T11A12B2,RPS-BME-CF-RTBAB
2	1.97E-9	17.88	IE-LOOPGR,ACP-XHE-XM-T11A12B2,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
3	1.77E-9	16.10	IE-LOOPGR,ACP-XHE-XM-T11A12B2,RPS-ROD-CF-RCCAS
4	1.33E-9	12.12	IE-LOOPGR,ACP-XHE-XM-T11A12B2,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
5	2.75E-10	2.50	IE-LOOPGR,RCS-PHN-MODPOOR,RPS-BME-CF-RTBAB
6	2.29E-10	2.09	IE-LOOPGR,RCS-PHN-MODPOOR,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
7	2.07E-10	1.88	IE-LOOPGR,RCS-PHN-MODPOOR,RPS-ROD-CF-RCCAS
8	1.56E-10	1.41	IE-LOOPGR,RCS-PHN-MODPOOR,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
9	1.52E-10	1.38	IE-LOOPGR,ACP-XHE-XM-T11A12B2,RPS-UVL-CF-UVDAB,RPS-XHE-XE-SIGNL
10	1.23E-10	1.12	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,RPS-BME-CF-RTBAB
11	1.23E-10	1.12	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,RPS-BME-CF-RTBAB

Cut Set Report - LOOPSC 02-04

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	7.98E-9	100	Displaying 132 Cut Sets. (132 Original)
1	3.96E-10	4.97	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
2	3.96E-10	4.97	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
3	3.96E-10	4.97	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
4	3.96E-10	4.97	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
5	2.28E-10	2.85	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
6	2.28E-10	2.85	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
7	2.28E-10	2.85	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
8	2.28E-10	2.85	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
9	2.00E-10	2.51	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
10	2.00E-10	2.51	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
11	2.00E-10	2.51	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
12	2.00E-10	2.51	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
13	1.74E-10	2.18	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
14	1.74E-10	2.18	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
15	1.74E-10	2.18	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
16	1.74E-10	2.18	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
17	1.15E-10	1.44	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2

#	PROB/FREQ	TOTAL%	CUT SET
18	1.15E-10	1.44	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG2,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
19	1.15E-10	1.44	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
20	1.15E-10	1.44	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-TM-1CD,EPS-DGN-TM-SDG1,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
21	9.98E-11	1.25	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
22	9.98E-11	1.25	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
23	9.98E-11	1.25	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG1,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
24	9.98E-11	1.25	IE-LOOPSC,ACP-XHE-XM-T11D12C2,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-FR-SDG2,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
25	8.79E-11	1.10	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
26	8.79E-11	1.10	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-SDG1,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
27	8.79E-11	1.10	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
28	8.79E-11	1.10	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-SDG2,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,OEP-XHE-XX-NR02HSC1,RCS-MDP-LK-BP2
29	7.99E-11	1.00	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
30	7.99E-11	1.00	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG2,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
31	7.99E-11	1.00	IE-LOOPSC,CCW-CFG-AP-UNIT1E,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2
32	7.99E-11	1.00	IE-LOOPSC,CCW-CFG-AP-UNIT1W,CVC-XHE-XM-CVCSXTIE,EPS-DGN-FR-SDG1,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HSC,RCS-MDP-LK-BP2

Cut Set Report - LOOPSC 17-10

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	9.33E-9	100	Displaying 63 Cut Sets. (63 Original)
1	2.01E-9	21.53	IE-LOOPSC,ACP-XHE-XM-T11A12B2,RPS-BME-CF-RTBAB
2	1.68E-9	17.96	IE-LOOPSC,ACP-XHE-XM-T11A12B2,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
3	1.51E-9	16.18	IE-LOOPSC,ACP-XHE-XM-T11A12B2,RPS-ROD-CF-RCCAS

#	PROB/FREQ	TOTAL%	CUT SET
4	1.14E-9	12.18	IE-LOOPSC,ACP-XHE-XM-T11A12B2,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
5	2.34E-10	2.51	IE-LOOPSC,RCS-PHN-MODPOOR,RPS-BME-CF-RTBAB
6	1.96E-10	2.10	IE-LOOPSC,RCS-PHN-MODPOOR,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
7	1.76E-10	1.89	IE-LOOPSC,RCS-PHN-MODPOOR,RPS-ROD-CF-RCCAS
8	1.33E-10	1.42	IE-LOOPSC,RCS-PHN-MODPOOR,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
9	1.30E-10	1.39	IE-LOOPSC,ACP-XHE-XM-T11A12B2,RPS-UVL-CF-UVDAB,RPS-XHE-XE-SIGNL
10	1.05E-10	1.13	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGCD,/EPS-DUAL-UNIT-LOOP,RPS-BME-CF-RTBAB
11	1.05E-10	1.13	IE-LOOPSC,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,RPS-BME-CF-RTBAB

Cut Set Report - LOOPGR 09

Only items contributing at least 1% to the total are displayed.

#	PROB/FREQ	TOTAL%	CUT SET
	8.62E-9	100	Displaying 51 Cut Sets. (51 Original)
1	2.05E-9	23.76	IE-LOOPGR,EPS-DGN-SDG1-DGAB,EPS-DGN-TM-1CD,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
2	1.18E-9	13.64	IE-LOOPGR,ACP-XHE-XM-T11D12C2,EPS-DGN-TM-1CD,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
3	7.98E-10	9.26	IE-LOOPGR,EPS-DGN-FR-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
4	4.58E-10	5.32	IE-LOOPGR,ACP-XHE-XM-T11D12C2,EPS-DGN-FR-1CD,OEP-XHE-XL-NR02HGR,OEP-XHE-XX-NR02HGR1,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
5	4.13E-10	4.79	IE-LOOPGR,EPS-DGN-FS-1CD,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
6	3.41E-10	3.96	IE-LOOPGR,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
7	2.37E-10	2.75	IE-LOOPGR,ACP-XHE-XM-T11D12C2,EPS-DGN-FS-1CD,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
8	1.96E-10	2.27	IE-LOOPGR,ACP-CRB-CC-T11D12,ACP-XHE-XM-STRIP-T11D,ACP-XHE-XM-T11D12C2,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
9	1.64E-10	1.90	IE-LOOPGR,ACP-XHE-XM-T11A12B2,HPI-XHE-XM-RECIRC,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV151
10	1.64E-10	1.90	IE-LOOPGR,ACP-XHE-XM-T11A12B2,HPI-XHE-XM-RECIRC,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV152
11	1.43E-10	1.66	IE-LOOPGR,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,EPS-XHE-XR-1CD,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
12	1.20E-10	1.39	IE-LOOPGR,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,EPS-FAN-FS-HVX2,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153
13	1.20E-10	1.39	IE-LOOPGR,EPS-DGN-SDG1-DGAB,/EPS-DUAL-UNIT-LOOP,EPS-FAN-FS-HVS2,OEP-XHE-XL-NR02HGR,PPR-SRV-CO-L,PPR-SRV-OO-PRV153

Referenced Events

Event	Description	Probability
ACP-BAC-LP-T11D	4160 V AC T11D BUS FAILS	3.33E-5
ACP-CRB-CC-1A7	4KV BREAKER 1A7 FAILS TO OPEN	2.39E-3
ACP-CRB-CC-1D5	BRK 1D5 CLOSE BREAKER REMAINS CLOSE	2.39E-3
ACP-CRB-CC-T11D12	4KV BREAKER T11D12FAILS TO OPEN	2.39E-3
ACP-CRB-OO-1A5	CRB 1A5 FROM 34.5 KV FAILS TO CLOSE	2.39E-3
ACP-CRB-OO-1D3	BRK 1D3 FAILS TO CLOSE	2.39E-3
ACP-CRB-OO-T111A12	CRB A12 FROM SBDG FAILS TO CLOSE	2.39E-3
ACP-CRB-OO-T11D1	4 KV CRB D1 FROM SBDG FAILS TO CLOSE	2.39E-3
ACP-XHE-XM-STRIP-T11D	HUMAN ERROR FAILS TO MANUALLY STRIP BUS T11D	1.00E+0
ACP-XHE-XM-T11A12B2	OPERATOR FAILS TO CLOSE BREAKERS T11A12 AND T11B2	1.20E-1
ACP-XHE-XM-T11D12C2	OPERATOR FAILS TO CLOSE BREAKERS T11D1 AND T11C2	1.20E-1
AFW-AOV-OO-257	EMERG. LEAK OFF FRV-257 FAILS TO CLOSE: FLOW DIVERSION	9.51E-4
AFW-MDP-FR-PP3E	AFW MDP PP3E FAILS TO RUN	3.62E-4
AFW-MDP-FS-PP3E	AFW MDP PP3E FAILS TO START	9.47E-4
AFW-MDP-TM-PP3E	AFW MDP PP3E UNAVAILABLE DUE TO TEST AND MAINTENANCE	3.98E-3
AFW-PMP-CF-FRALL	COMMON CAUSE FAILURE OF AFW PUMPS	7.47E-6
AFW-PMP-FR-PP3E	FAILURE OF AFW PUMP UNIT PP3E	1.58E-3
AFW-PMP-FR-PP4	FAILURE OF AFW PUMP UNIT PP4	1.58E-3
AFW-TDP-FR-PP4	AFW TDP PP4 FAILS TO RUN	3.95E-2
AFW-TDP-FS-PP4	AFW TDP PP4 FAILS TO START	6.49E-3
AFW-TDP-TM-PP4	AFW TDP PP4 UNAVAILABLE DUE TO TEST AND MAINTENANCE	5.39E-3
AFW-XHE-XM-SGDEP	OPERATOR FAILS TO DEPRESSURIZE SGs TO ATMOSPHERIC PRESSURE	1.00E-3
AFW-XHE-XM-XTIEUNIT	OPERATOR FAILS TO XTIE OPPOSITE UNIT AFW SYSTEM	4.00E-2
CCW-CFG-AP-UNIT1E	FRACTION OF TIME UNIT 1 EAST CCW IS INITIALLY OPERATING TRAIN	5.00E-1
CCW-CFG-AP-UNIT1W	FRACTION OF TIME UNIT 1 WEST CCW IS INITIALLY OPERATING TRAIN	5.00E-1
CCW-MDP-FS-PP10E	CCW MDP 10E FAILS TO START	1.36E-3
CCW-MDP-TM-PP10E	CCW MDP PP10E UNAVAILABLE DUE TO T&M	4.79E-3
CCW-SYS-LK-EAST	EAST HEADER LEAKAGE REQUIRES ISOLATION (PSA)	1.00E-4
CCW-SYS-LK-WEST	WEST HEADER LEAKAGE REQUIRES ISOLATION (PSA)	1.00E-4
CCW-XHE-XR-PP10E	OP FAILS TO RESTORE CCW MDP 10E	1.00E-3
CVC-XHE-XM-CVCSXTIE	OPERATOR FAILS TO ALIGN CVCS XTIE TO ALTERNATE UNIT	2.00E-2
DCP-BAT-CF-ALL	Failure of Batteries in Both Units	8.03E-8
DCP-BCH-TM-NB	AFW TDP N TRAIN STANDBY BATTERY CHARGER IN T&M	2.00E-3
DCP-XHE-XM-BCH	OP FAILS TO ALIGN STANDBY BATTERY CHARGER	4.00E-3
EPS-DGN-CF-RSDG	COMMON CAUSE FAILURE OF SDG DIESEL GENERATORS TO RUN	3.86E-4
EPS-DGN-CF-RUN4	COMMON CAUSE FAILURE OF ALL 4 DIESEL GENERATORS TO RUN	4.82E-5
EPS-DGN-CF-STRT4	COMMON CAUSE FAILURE OF ALL 4 DIESEL GENERATORS TO START	6.31E-6
EPS-DGN-FR-1CD	DIESEL GENERATOR 1CD FAILS TO RUN	3.01E-2
EPS-DGN-FR-2AB	DIESEL GENERATOR 2AB FAILS TO RUN	3.01E-2
EPS-DGN-FR-2CD	DIESEL GENERATOR 2CD FAILS TO RUN	3.01E-2
EPS-DGN-FR-SDG1	SUPPLEMENTAL DIESEL GENERATOR 1 FAILS TO RUN	2.84E-2
EPS-DGN-FR-SDG2	SUPPLEMENTAL DIESEL GENERATOR 2 FAILS TO RUN	2.84E-2
EPS-DGN-FS-1CD	DIESEL GENERATOR 1CD FAILS TO START	2.89E-3

EPS-DGN-SDG1-DGAB	SDG ALIGNED TO T11AB-PROBABILITY OF 0.5	5.00E-1
EPS-DGN-SDG1-DGCD	SDG ALIGNED TO T11CD-PROBABILITY OF 0.5	5.00E-1
EPS-DGN-SDG2	SDGS ALIGNED TO OTHER UNIT IN DUAL UNIT SBO	5.00E-1
EPS-DGN-TM-1CD	DIESEL GENERATOR 1CD UNAVAILABLE DUE TO TEST AND MAINTENANCE	1.43E-2
EPS-DGN-TM-2AB	DIESEL GENERATOR 2AB UNAVAILABLE DUE TO TEST AND MAINTENANCE	1.43E-2
EPS-DGN-TM-2CD	DIESEL GENERATOR 2CD UNAVAILABLE DUE TO TEST AND MAINTENANCE	1.43E-2
EPS-DGN-TM-SDG1	SDG1 UNAVAIL DUE TO TEST OR MAINT	1.43E-2
EPS-DGN-TM-SDG2	SDG1 UNAVAIL DUE TO TEST OR MAINT	1.43E-2
EPS-DUAL-UNIT-LOOP	LOOP EVENT HAS AFFECTED BOTH UNITS	5.82E-1
EPS-FAN-CF-U12EXFTS	CCF U1&2 EDG FANS FAIL TO START	2.80E-6
EPS-FAN-FS-HVS2	EDG CD SUPPLY FAN FAILS TO START (HV-DGS-2)	8.42E-4
EPS-FAN-FS-HVX2	EDG CD EXHAUST FAN FAILS TO START (HV-DGX-2)	8.42E-4
EPS-XHE-XL-NR04H	OPERATOR FAILS TO RECOVER EMERGENCY DIESEL IN 4 HOURS	6.98E-1
EPS-XHE-XM-SDG	OPERATOR FAILS TO ALIGN SUPPLEMENTAL DIESEL GENERATOR	2.00E-2
EPS-XHE-XR-1CD	OP FAILS TO RESTORE DIESEL GENERATOR 1CD	1.00E-3
ESW-MDP-CF-RUN	CCF U1&2 ESW PUMPS FAIL TO RUN	2.58E-6
ESW-MDP-CF-STRT	CCF U1&2 ESW PUMPS FAIL TO START	1.96E-6
HPI-XHE-XM-RECIRC	OPERATOR FAILS TO START HIGH PRESSURE RECIRC	2.00E-3
IE-LOOPGR	LOSS OF OFFSITE POWER INITIATOR (GRID-RELATED)	1.22E-2
IE-LOOPSC	LOSS OF OFFSITE POWER INITIATOR (SWITCHYARD-CENTERED)	1.04E-2
IE-LOOPWR	LOSS OF OFFSITE POWER INITIATOR (WEATHER-RELATED)	3.91E-3
IE-SGTR	STEAM GENERATOR TUBE RUPTURE	2.07E-3
IE-SORV	PORV FAILS OPEN (PRA)	1.83E-3
MSS-SRV-OO-1A1	FAILURE OF SG 1 SAFETY VALVE 1A-1 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-1A2	FAILURE OF SG 2 SAFETY VALVE 1A-2 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-1A3	FAILURE OF SG 3 SAFETY VALVE 1A-3 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-1A4	FAILURE OF SG 4 SAFETY VALVE 1A-4 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-1B1	FAILURE OF SG 1 SAFETY VALVE 1B-1 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-1B2	FAILURE OF SG 2 SAFETY VALVE 1B-2 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-1B3	FAILURE OF SG 3 SAFETY VALVE 1B-3 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-1B4	FAILURE OF SG 4 SAFETY VALVE 1B-4 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-2A1	FAILURE OF SG 1 SAFETY VALVE 2A-1 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-2A2	FAILURE OF SG 2 SAFETY VALVE 2A-2 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-2A3	FAILURE OF SG 3 SAFETY VALVE 2A-3 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-2A4	FAILURE OF SG 4 SAFETY VALVE 2A-4 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-2B1	FAILURE OF SG 1 SAFETY VALVE 2B-1 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-2B2	FAILURE OF SG 2 SAFETY VALVE 2B-2 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-2B3	FAILURE OF SG 3 SAFETY VALVE 2B-3 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-2B4	FAILURE OF SG 4 SAFETY VALVE 2B-4 FAILS TO RECLOSE	1.73E-3
MSS-SRV-OO-31	FAILURE OF SG 1 SAFETY VALVE 3-1 TO RECLOSE	1.73E-3
MSS-SRV-OO-32	FAILURE OF SG 2 SAFETY VALVE 3-2 TO RECLOSE	1.73E-3
MSS-SRV-OO-33	FAILURE OF SG 3 SAFETY VALVE 3-3 TO RECLOSE	1.73E-3
MSS-SRV-OO-34	FAILURE OF SG 4 SAFETY VALVE 3-4 TO RECLOSE	1.73E-3
OEP-XHE-XL-NR02HGR	OPERATOR FAILS TO RECOVER OFFSITE POWER IN 2 HOURS (GRID-RELATED)	3.91E-1
OEP-XHE-XL-NR02HSC	OPERATOR FAILS TO RECOVER OFFSITE POWER IN 2 HOURS (SWITCHYARD)	2.24E-1

OEP-XHE-XL-NR02HWR	OPERATOR FAILS TO RECOVER OFFSITE POWER IN 2 HOURS (WEATHER-RELATED)	5.59E-1
OEP-XHE-XL-NR04HGR	OPERATOR FAILS TO RECOVER OFFSITE POWER IN 4 HOURS (GRID-RELATED)	1.69E-1
OEP-XHE-XL-NR04HSC	OPERATOR FAILS TO RECOVER OFFSITE POWER IN 4 HOURS (SWITCHYARD)	1.02E-1
OEP-XHE-XL-NR04HWR	OPERATOR FAILS TO RECOVER OFFSITE POWER IN 4 HOURS (WEATHER-RELATED)	4.24E-1
OEP-XHE-XX-NR02HGR1	CONVOLUTION FACTOR FOR 1FTR-OPR (2HR-GR AVAIL)	1.86E-1
OEP-XHE-XX-NR02HSC1	CONVOLUTION FACTOR FOR 1FTR-OPR (2HR-SC AVAIL)	2.09E-1
OEP-XHE-XX-NR02HWR1	CONVOLUTION FACTOR FOR 1FTR-OPR (2HR-WR AVAIL)	4.86E-1
OEP-XHE-XX-NR04HGR0	CONVOLUTION FACTOR FOR CCF-OPR (4HR-GR Avail)	2.20E-1
OEP-XHE-XX-NR04HGR1	CONVOLUTION FACTOR FOR 1FTR-OPR (4HR-GR AVAIL)	2.20E-1
OEP-XHE-XX-NR04HGR2	CONVOLUTION FACTOR FOR 2FTR-OPR (4HR-GR AVAIL)	8.26E-2
OEP-XHE-XX-NR04HGR3	CONVOLUTION FACTOR FOR 3FTR-OPR (4HR-GR AVAIL)	4.59E-2
OEP-XHE-XX-NR04HGR4	CONVOLUTION FACTOR FOR 4FTR-OPR (4HR-GR AVAIL)	3.29E-2
OEP-XHE-XX-NR04HSC0	CONVOLUTION FACTOR FOR CCF-OPR (4HR-SC Avail)	2.64E-1
OEP-XHE-XX-NR04HSC1	CONVOLUTION FACTOR FOR 1FTR-OPR (4HR-SC AVAIL)	2.64E-1
OEP-XHE-XX-NR04HSC2	CONVOLUTION FACTOR FOR 2FTR-OPR (4HR-SC AVAIL)	1.24E-1
OEP-XHE-XX-NR04HSC3	CONVOLUTION FACTOR FOR 3FTR-OPR (4HR-SC AVAIL)	8.33E-2
OEP-XHE-XX-NR04HSC4	CONVOLUTION FACTOR FOR 4FTR-OPR (4HR-SC AVAIL)	6.75E-2
OEP-XHE-XX-NR04HWR0	CONVOLUTION FACTOR FOR CCF-OPR (4HR-WR Avail)	5.53E-1
OEP-XHE-XX-NR04HWR1	CONVOLUTION FACTOR FOR 1FTR-OPR (4HR-WR AVAIL)	5.53E-1
OEP-XHE-XX-NR04HWR2	CONVOLUTION FACTOR FOR 2FTR-OPR (4HR-WR AVAIL)	4.37E-1
OEP-XHE-XX-NR04HWR3	CONVOLUTION FACTOR FOR 3FTR-OPR (4HR-WR AVAIL)	3.93E-1
OEP-XHE-XX-NR04HWR4	CONVOLUTION FACTOR FOR 4FTR-OPR (4HR-WR AVAIL)	3.72E-1
PPR-SRV-CO-L	PORVs/SRVs OPEN DURING LOOP	1.48E-1
PPR-SRV-OO-PRV151	PORV 151 FAILS TO RECLOSE AFTER OPENING	9.66E-4
PPR-SRV-OO-PRV152	PORV 152 FAILS TO RECLOSE AFTER OPENING	9.66E-4
PPR-SRV-OO-PRV153	PORV 153 FAILS TO RECLOSE AFTER OPENING	9.66E-4
RCS-MDP-LK-BP2	RCP SEAL STAGE 2 INTEGRITY (BINDING/POPPING OPEN) FAILS	2.00E-1
RCS-PHN-MODPOOR	MODERATOR TEMP COEFFICIENT NOT ENOUGH NEGATIVE	1.40E-2
RCS-XHE-XE-SGTR	OPERATOR FAILS TO DIAGNOSE SGTR AND START PROCEDURES	8.00E-3
RCS-XHE-XM-ECA312	FAILURE OF OPERATOR TO IMPLEMENT SGTR PROCEDURE ECA 3.1/ 3.2	4.00E-3
RHR-MOV-CC-128	FAILURE OF RHR HOT LEG INBD SUCTION MOV A (IMO-128)	9.63E-4
RHR-MOV-CC-129	FAILURE OF RHR HOT LEG OUTBD SUCTION MOV B (IMO-129)	9.63E-4
RPS-BME-CF-RTBAB	CCF OF RTB-A AND RTB-B (MECHANICAL)	1.61E-6

RPS-CBI-CF-6OF8	CCF 6 BISTABLES IN 3 OF 4 CHANNELS	2.70E-6
RPS-CCX-CF-6OF8	CCF 6 ANALOG PROCESS LOGIC MODULES IN 3 OF 4 CHANNELS	1.83E-6
RPS-ROD-CF-RCCAS	CCF 10 OR MORE RCCAS FAIL TO DROP	1.21E-6
RPS-UVL-CF-UVDAB	CCF UV DRIVERS TRAINS A AND B (2 0F 2)	1.04E-5
RPS-XHE-XE-NSGNL	OPERATOR FAILS TO RESPOND WITH NO RPS SIGNAL PRESENT	5.00E-1
RPS-XHE-XE-SIGNL	OPERATOR FAILS TO RESPOND WITH RPS SIGNAL PRESENT	1.00E-2
SGTR-SG1	SGTR OCCURRED IN SG-1	2.50E-1
SGTR-SG2	SGTR OCCURRED IN SG-2	2.50E-1
SGTR-SG3	SGTR OCCURRED IN SG-3	2.50E-1
SGTR-SG4	SGTR OCCURRED IN SG-4	2.50E-1

Attachment 1B: SAPHIRE 8 Worksheet

Summary of Conditional Event Changes

Event	Description	Cond Value	Nominal Value
EPS-DGN-TM-1AB	DIESEL GENERATOR 1AB UNAVAILABLE DUE TO TEST AND MAINTENANCE	True	1.43E-2
IE-TRANS	TRANSIENT INITIATING EVENT	1.00E+0[a]	6.90E-1

a. All other initiating event probabilities were set to zero.

Dominant Sequence Results

Only items contributing at least 1.0% to the total CCDP are displayed.

EVENT TREE	SEQUENCE	CCDP	% CONTRIBUTION	DESCRIPTION
TRANS	02-02-10	5.66E-7	58.2%	/RPS, /AFW, /PORV, LOSC, /RCPT, /RSD, /BP1, BP2, HPI-S, /SSC1, /LPI, RHR, HPR, LPR
TRANS	21-10	1.44E-7	14.8%	RPS, RCSPRESS
TRANS	21-08	1.04E-7	10.7%	RPS, /RCSPRESS, /FW, BORATION
TRANS	20	8.66E-8	8.9%	/RPS, AFW, MFW, FAB
TRANS	02-03-10	3.52E-8	3.6%	/RPS, /AFW, /PORV, LOSC, /RCPT, /RSD, BP1, /BP2, HPI-S, /SSC1, /LPI, RHR, HPR, LPR
TRANS	02-02-12	1.97E-8	2.0%	/RPS, /AFW, /PORV, LOSC, /RCPT, /RSD, /BP1, BP2, HPI-S, SSC1
Total		**9.73E-7**	**100.0%**	

Referenced Fault Trees

Fault Tree	Description
AFW	AUXILIARY FEEDWATER
BORATION	EMERGENCY BORATION
BP1	RCP SEAL STAGE 1 INTEGRITY (BINDING/POPPING)
BP2	RCP SEAL STAGE 2 INTEGRITY (BINDING/POPPING)
FAB	FEED AND BLEED
HPI-S	HIGH PRESSURE INJECTION
HPR	HIGH PRESSURE RECIRCULATION
LOSC	LOSS OF RCP SEAL COOLING
LPR	LOW PRESSURE RECIRCULATION
MFW	MAIN FEEDWATER
RCSPRESS	RCS PRESSURE LIMITED
RHR	RESIDUAL HEAT REMOVAL
RPS	REACTOR SHUTDOWN
SSC1	RCS COOLDOWN TO RHR PRESSURE USING TBVs, ETC.

Cut Set Report - TRANS 02-02-10

Only items contributing at least 1% to the total are displayed.

#	CCDP	TOTAL%	CUT SET
	5.66E-7	100	Displaying 97 Cut Sets. (97 Original)
1	5.16E-7	91.09	IE-TRANS,ESW-MDP-CF-RUN,RCS-MDP-LK-BP2
2	3.20E-8	5.66	IE-TRANS,ESW-STR-CF-STR,RCS-MDP-LK-BP2

Cut Set Report - TRANS 21-10

Only items contributing at least 1% to the total are displayed.

#	CCDP	TOTAL%	CUT SET
	1.44E-7	100	Displaying 85 Cut Sets. (85 Original)
1	2.25E-8	15.69	IE-TRANS,RCS-PHN-MODPOOR,RPS-BME-CF-RTBAB
2	1.88E-8	13.09	IE-TRANS,RCS-PHN-MODPOOR,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
3	1.69E-8	11.79	IE-TRANS,RCS-PHN-MODPOOR,RPS-ROD-CF-RCCAS
4	1.27E-8	8.87	IE-TRANS,RCS-PHN-MODPOOR,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
5	5.70E-9	3.97	IE-TRANS,PPR-SRV-CC-PRV151,RPS-BME-CF-RTBAB
6	5.70E-9	3.97	IE-TRANS,PPR-SRV-CC-PRV152,RPS-BME-CF-RTBAB
7	5.70E-9	3.97	IE-TRANS,PPR-SRV-CC-PRV153,RPS-BME-CF-RTBAB
8	4.76E-9	3.31	IE-TRANS,PPR-SRV-CC-PRV152,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
9	4.76E-9	3.31	IE-TRANS,PPR-SRV-CC-PRV153,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
10	4.76E-9	3.31	IE-TRANS,PPR-SRV-CC-PRV151,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
11	4.28E-9	2.98	IE-TRANS,PPR-SRV-CC-PRV151,RPS-ROD-CF-RCCAS
12	4.28E-9	2.98	IE-TRANS,PPR-SRV-CC-PRV152,RPS-ROD-CF-RCCAS
13	4.28E-9	2.98	IE-TRANS,PPR-SRV-CC-PRV153,RPS-ROD-CF-RCCAS
14	3.22E-9	2.24	IE-TRANS,PPR-SRV-CC-PRV152,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
15	3.22E-9	2.24	IE-TRANS,PPR-SRV-CC-PRV153,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
16	3.22E-9	2.24	IE-TRANS,PPR-SRV-CC-PRV151,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
17	1.46E-9	1.01	IE-TRANS,RCS-PHN-MODPOOR,RPS-UVL-CF-UVDAB,RPS-XHE-XE-SIGNL

Cut Set Report - TRANS 21-08

Only items contributing at least 1% to the total are displayed.

#	CCDP	TOTAL%	CUT SET
	1.04E-7	100	Displaying 13 Cut Sets. (13 Original)
1	3.22E-8	30.86	IE-TRANS,CVC-XHE-XM-BOR,RPS-BME-CF-RTBAB
2	2.69E-8	25.74	IE-TRANS,CVC-XHE-XM-BOR,RPS-CBI-CF-6OF8,/RPS-CCP-TM-CHA,RPS-XHE-XE-NSGNL
3	2.42E-8	23.19	IE-TRANS,CVC-XHE-XM-BOR,RPS-ROD-CF-RCCAS
4	1.82E-8	17.45	IE-TRANS,CVC-XHE-XM-BOR,/RPS-CCP-TM-CHA,RPS-CCX-CF-6OF8,RPS-XHE-XE-NSGNL
5	2.08E-9	1.99	IE-TRANS,CVC-XHE-XM-BOR,RPS-UVL-CF-UVDAB,RPS-XHE-XE-SIGNL

Cut Set Report - TRANS 20

Only items contributing at least 1% to the total are displayed.

#	CCDP	TOTAL%	CUT SET
	8.66E-8	100	Displaying 86 Cut Sets. (86 Original)
1	8.03E-8	92.72	IE-TRANS,DCP-BAT-CF-ALL
2	1.02E-9	1.17	IE-TRANS,AFW-PMP-CF-FRALL,AFW-XHE-XM-XTIEUNIT,HPI-XHE-XM-FB,MFW-XHE-XM-STRT

Cut Set Report - TRANS 02-03-10

Only items contributing at least 1% to the total are displayed.

#	CCDP	TOTAL%	CUT SET
	3.52E-8	100	Displaying 22 Cut Sets. (22 Original)
1	3.22E-8	91.49	IE-TRANS,ESW-MDP-CF-RUN,RCS-MDP-LK-BP1
2	2.00E-9	5.68	IE-TRANS,ESW-STR-CF-STR,RCS-MDP-LK-BP1

Cut Set Report - TRANS 02-02-12

Only items contributing at least 1% to the total are displayed.

#	CCDP	TOTAL%	CUT SET
	1.97E-8	100	Displaying 21 Cut Sets. (21 Original)
1	1.03E-8	52.29	IE-TRANS,ESW-MDP-CF-RUN,OPR-XHE-XM-DEPRCS2,RCS-MDP-LK-BP2
2	4.00E-9	20.28	IE-TRANS,CCW-CFG-AP-UNIT1E,CCW-SYS-LK-EAST,CVC-XHE-XM-CVCSXTIE,OPR-XHE-XM-DEPRCS2,RCS-MDP-LK-BP2
3	4.00E-9	20.28	IE-TRANS,CCW-CFG-AP-UNIT1W,CCW-SYS-LK-WEST,CVC-XHE-XM-CVCSXTIE,OPR-XHE-XM-DEPRCS2,RCS-MDP-LK-BP2
4	6.40E-10	3.25	IE-TRANS,ESW-STR-CF-STR,OPR-XHE-XM-DEPRCS2,RCS-MDP-LK-BP2
5	2.00E-10	1.01	IE-TRANS,CCW-CFG-AP-UNIT1W,CCW-SYS-LK-WEST,OPR-XHE-XM-DEPRCS2,RCS-MDP-LK-BP2,UNIT-2-CVCS
6	2.00E-10	1.01	IE-TRANS,CCW-CFG-AP-UNIT1E,CCW-SYS-LK-EAST,OPR-XHE-XM-DEPRCS2,RCS-MDP-LK-BP2,UNIT-2-CVCS

Referenced Events

Event	Description	Probability
AFW-PMP-CF-FRALL	COMMON CAUSE FAILURE OF AFW PUMPS	7.47E-6
AFW-XHE-XM-XTIEUNIT	OPERATOR FAILS TO XTIE OPPOSITE UNIT AFW SYSTEM	4.00E-2
CCW-CFG-AP-UNIT1E	FRACTION OF TIME UNIT 1 EAST CCW IS INITIALLY OPERATING TRAIN	5.00E-1
CCW-CFG-AP-UNIT1W	FRACTION OF TIME UNIT 1 WEST CCW IS INITIALLY OPERATING TRAIN	5.00E-1
CCW-SYS-LK-EAST	EAST HEADER LEAKAGE REQUIRES ISOLATION (PSA)	1.00E-4
CCW-SYS-LK-WEST	WEST HEADER LEAKAGE REQUIRES ISOLATION (PSA)	1.00E-4
CVC-XHE-XM-BOR	OPERATOR FAILS TO INITIATE EMERGENCY BORATION	2.00E-2
CVC-XHE-XM-CVCSXTIE	OPERATOR FAILS TO ALIGN CVCS XTIE TO ALTERNATE UNIT	2.00E-2
DCP-BAT-CF-ALL	Failure of Batteries in Both Units	8.03E-8
ESW-MDP-CF-RUN	CCF U1&2 ESW PUMPS FAIL TO RUN	2.58E-6
ESW-STR-CF-STR	CCF OF ESW MDP DISCHARGE STRAINERS	1.60E-7
HPI-XHE-XM-FB	OPERATOR FAILS TO INITIATE FEED AND BLEED COOLING	2.00E-2
IE-TRANS	TRANSIENT INITIATING EVENT	1.00E+0
MFW-XHE-XM-STRT	OPERATOR FAILS TO START MAIN FEED PUMP (PSA)	1.70E-1
OPR-XHE-XM-DEPRCS2	OPERATOR FAILS TO DEPRESSURIZE RCS/SECONDARY SIDE (RAPID)	2.00E-2
PPR-SRV-CC-PRV151	PORV 151 FAILS TO OPEN ON DEMAND	3.54E-3
PPR-SRV-CC-PRV152	PORV 152 FAILS TO OPEN ON DEMAND	3.54E-3
PPR-SRV-CC-PRV153	PORV 153 FAILS TO OPEN ON DEMAND	3.54E-3
RCS-MDP-LK-BP1	RCP SEAL STAGE 1 INTEGRITY (BINDING/POPPING OPEN) FAILS	1.25E-2
RCS-MDP-LK-BP2	RCP SEAL STAGE 2 INTEGRITY (BINDING/POPPING OPEN) FAILS	2.00E-1
RCS-PHN-MODPOOR	MODERATOR TEMP COEFFICIENT NOT ENOUGH NEGATIVE	1.40E-2
RPS-BME-CF-RTBAB	CCF OF RTB-A AND RTB-B (MECHANICAL)	1.61E-6
RPS-CBI-CF-6OF8	CCF 6 BISTABLES IN 3 OF 4 CHANNELS	2.70E-6
RPS-CCX-CF-6OF8	CCF 6 ANALOG PROCESS LOGIC MODULES IN 3 OF 4 CHANNELS	1.83E-6
RPS-ROD-CF-RCCAS	CCF 10 OR MORE RCCAS FAIL TO DROP	1.21E-6

RPS-UVL-CF-UVDAB	CCF UV DRIVERS TRAINS A AND B (2 0F 2)	1.04E-5
RPS-XHE-XE-NSGNL	OPERATOR FAILS TO RESPOND WITH NO RPS SIGNAL PRESENT	5.00E-1
RPS-XHE-XE-SIGNL	OPERATOR FAILS TO RESPOND WITH RPS SIGNAL PRESENT	1.00E-2
UNIT-2-CVCS	UNDEVELOPED EVENT FOR U2 CVCS HARDWARE	1.00E-3

Attachment 2: Key Event Tree

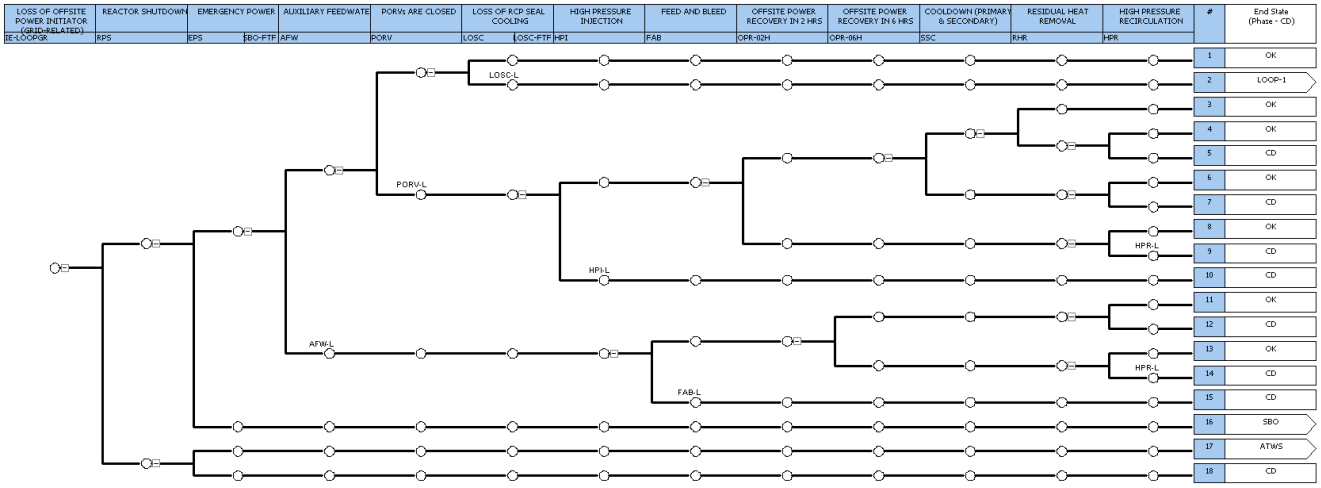

Figure 2A: D. C. Cook, Unit 1 LOOPGR Event Tree

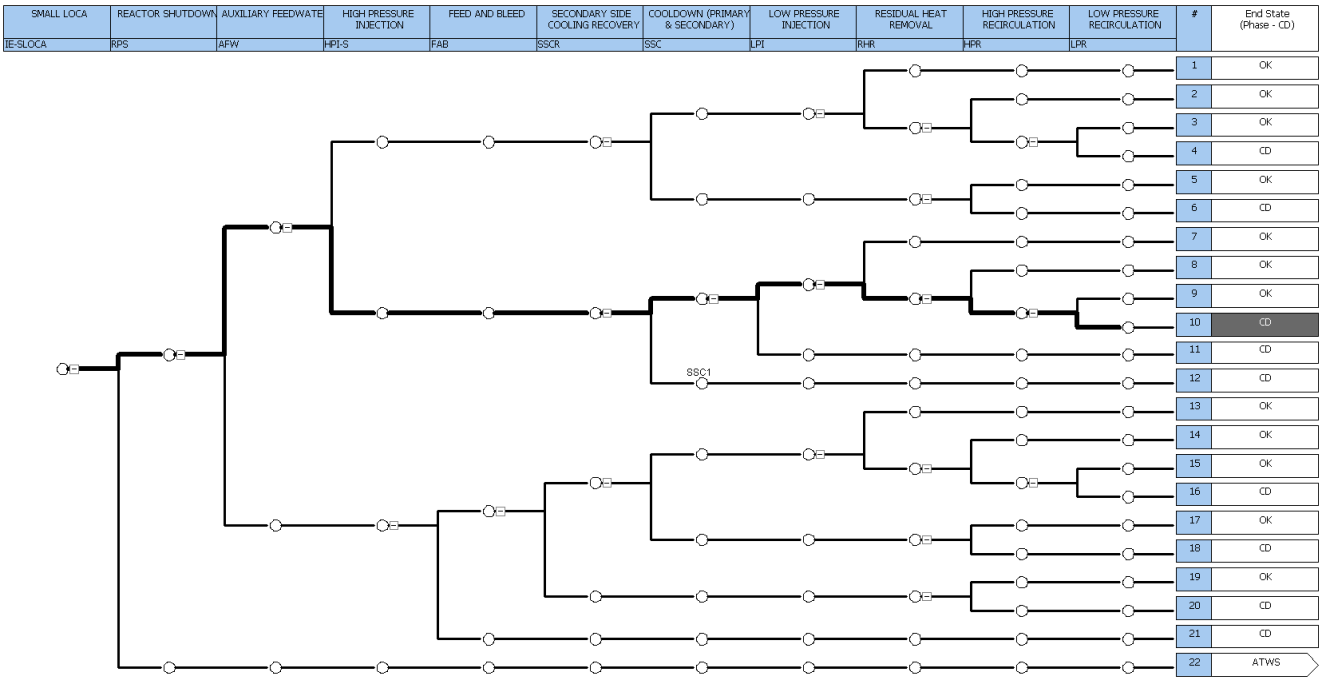

Figure 2B: D. C. Cook, Unit 1 SLOCA Event Tree