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SAND86–2084
Vol. 4, Rev. 1, Part 2

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Analysis of Core Damage Frequency: Peach Bottom, Unit 2 Internal Events Appendices

Prepared by A. M. Kolaczkowski, W. R. Cramond, T. T. Sype, K. J. Maloney, T. A. Wheeler, S. L. Daniel

Sandia National Laboratories

Prepared for
U.S. Nuclear Regulatory Commission

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NUREG/CR-4550
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Analysis of Core Damage Frequency: Peach Bottom, Unit 2 Internal Events Appendices

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NRC FIN A1228

ABSTRACT

This document contains the appendices for the accident sequence analysis of internally initiated events for the Peach Bottom, Unit 2 Nuclear Power Plant. This is one of the five plant analyses conducted as part of the NUREG-1150 effort for the Nuclear Regulatory Commission. The work performed and described here is an extensive reanalysis of that published in October 1986 as NUREG/CR-4550, Volume 4. It addresses comments from numerous reviewers and significant changes to the plant systems and procedures made since the first report. The uncertainty analysis and presentation of results are also much improved, and considerable effort was expended on an improved analysis of loss of offsite power. The content and detail of this report is directed toward PRA practitioners who need to know how the work was done and the details for use in further studies.

The mean core damage frequency is 4.5E-6 with 5% and 95% uncertainty bounds of 3.5E-7 and 1.3E-5, respectively. Station blackout type accidents (loss of all AC power) contributed about 46% of the core damage frequency with Anticipated Transient Without Scram (ATWS) accidents contributing another 42%. The numerical results are driven by loss of offsite power, transients with the power conversion system initially available, operator errors, and mechanical failure to scram. External events were also analyzed using the internal event fault tree and event tree models as a basis, and are reported separately in Part 3 of NUREG/CR-4550, Volume 4, Revision 1.

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FOREWORD

This is one of numerous documents that support the preparation of the NUREG-1150 document by the NRC Office of Nuclear Regulatory Research. Figure 1 illustrates the front-end documentation. There are three interfacing programs at Sandia National Laboratories performing this work: the Accident Sequence Evaluation Program (ASEP), the Severe Accident Risk Reduction Program (SARRP), and the Phenomenology and Risk Uncertainty Evaluation Program (PRUEP). The Zion PRA was performed at Idaho National Engineering Laboratories and Brookhaven National Laboratories.

Table 1 is a list of the original primary documentation and the corresponding revised documentation. There are several items that should be noted. First, in the original NUREG/CR-4550 report, Volume 2 was to be a summary of the internal analyses. This report was deleted. In Revision 1, Volume 2 now is the expert judgment elicitation covering all plants.

Volumes 3 and 4 include external events analyses for Surry and Peach Bottom. External events for Sequoyah, Grand Gulf and Zion will be analyzed in follow-up studies after NUREG-1150 is published.

The revised NUREG/CR-4551 covers the analysis included in the original NUREG/CR-4551 and NUREG/CR-4700. However, it is different from NUREG/CR-4550 in that the results from the expert judgment elicitation are given in four parts to Volume 2 with each part covering one category of issues. The accident progression event trees are given in the appendices for each of the plant analyses.

Originally, NUREG/CR-4550 was published without the designation "Draft for Comment." Thus, the final revision of NUREG/CR-4550 is designated Revision 1. The label Revision 1 is used consistently on all volumes, including Volume 2 which was not part of the original documentation. NUREG/CR-4551 was originally published as a "Draft for Comment" so, in its final form, no Revision 1 designator is required to distinguish it from the previous documentation.

There are several other reports published in association with NUREG-1150. These are:

NUREG/CR-5032, SAND87-2428, Modeling Time to Recovery and Initiating Event Frequency for Loss of Off-site Power Incidents at Nuclear Power Plants, R. L. Iman and S. C. Hora, Sandia National Laboratories, Albuquerque, NM, January 1988.

NUREG/CR-4840, SAND88-3102, Methodology for External Event Screening Quantification - RMIEP Methodology, M. P. Bohn and J. A. Lambright, Sandia National Laboratories, Albuquerque, NM, July 1989.

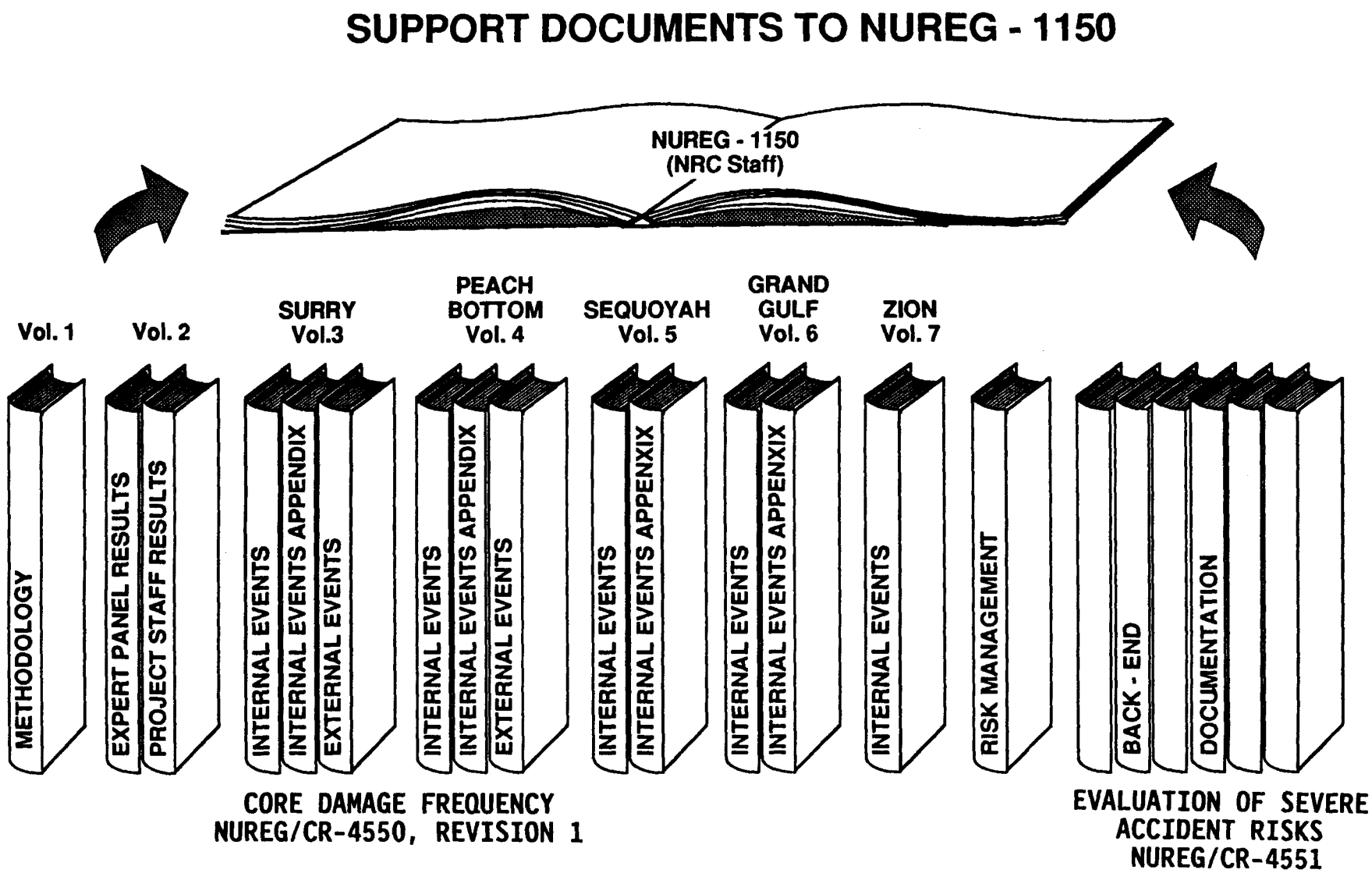

FIGURE 1. DOCUMENTATION FOR NUREG-1150.

Table 1.
NUREG-1150 Analysis Documentation

Original Documentation

NUREG/CR-4550
Analysis of Core Damage Frequency From Internal Events

Volume 1 Methodology
2 Summary (Not Published)
3 Surry Unit 1
4 Peach Bottom Unit 2
5 Sequoyah Unit 1
6 Grand Gulf Unit 1
7 Zion Unit 1

NUREG/CR-4551
Evaluation of Severe Accident Risks and the Potential for Risk Reduction

Volume 1 Surry Unit 1
2 Sequoyah Unit 1
3 Peach Bottom Unit 2
4 Grand Gulf Unit 1

NUREG/CR-4700
Containment Event Analysis for Potential Severe Accidents

Volume 1 Surry Unit 1
2 Sequoyah Unit 1
3 Peach Bottom Unit 2
4 Grand Gulf Unit 1

Revised Documentation

NUREG/CR-4550, Revision 1
Analysis of Core Damage Frequency

Volume 1 Methodology
2 Part 1 Expert Judgment Elicit. Expert Panel
Part 2 Expert Judgment Elicit.--Project Staff
3 Part 1 Surry Unit 1 Internal Events
Part 2 Surry Unit 1 Internal Events App.
Part 3 Surry Unit 1 External Events
4 Part 1 Peach Bottom Unit 2 Internal Events
Part 2 Peach Bottom Unit 2 Internal Events App.
Part 3 Peach Bottom Unit 2 External Events
5 Part 1 Sequoyah Unit 1 Internal Events
Part 2 Sequoyah Unit 1 Internal Events App.
6 Part 1 Grand Gulf Unit 1 Internal Events
Part 2 Grand Gulf Unit 1 Internal Events App.
7 Zion Unit 1 Internal Events

NUREG/CR-4551, Evaluation of Severe Accident Risks

Volume 1 Methodology
2 Part 1 Expert Judgment Elicit.--In-vessel
Part 2 Expert Judgment Elicit.--Containment
Part 3 Expert Judgment Elicit.--Structural
Part 4 Expert Judgment Elicit.--Source-Term
Part 5 Expert Judgment Elicit.--Supp. Calc.
Part 6 Expert Judgment Elicit.--Proj. Staff
Part 7 Expert Judgment Elicit.--Supp. Calc.
Part 8 Expert Judgment Elicit.--MACCS Input
3 Part 1 Surry Unit 1 Anal. and Results
Part 2 Surry Unit 1 Appendices
4 Part 1 Peach Bottom Unit 2 Anal. and Results
Part 2 Peach Bottom Unit 2 Appendices
5 Part 1 Sequoyah Unit 2 Anal. and Results
Part 2 Sequoyah Unit 2 Appendices
6 Part 1 Grand Gulf Unit 1 Anal. and Results
Part 2 Grand Gulf Unit 1 Appendices
7 Part 1 Zion Unit 1 Anal. and Results
Part 2 Zion Unit 1 Appendices

NUREG/CR-4772, SAND86-1996, Accident Sequence Evaluation Program Human Reliability Analysis Procedure, A. D. Swain III, Sandia National Laboratories, Albuquerque, NM, February 1987.

NUREG/CR-5263, SAND88-3100, The Risk Management Implications of NUREG-1150 Methods and Results, A. L. Camp et al., Sandia National Laboratories, Albuquerque, NM, May 1989.

A Human Reliability Analysis for the ATWS Accident Sequence with MSIV Closure at the Peach Bottom Atomic Power Station, A-3272, W. J. Luckas, Jr. et al., Brookhaven National Laboratory, Upton, NY, 1986.

A brief flow chart for the documentation is given in Figure 2. Any related supporting documents to the back-end NUREG/CR-4551 analyses are delineated in NUREG/CR-4551. A complete list of the revised NUREG/CR-4550, Revision 1 volumes and parts is given below.

General

NUREG/CR-4550, Revision 1, Volume 1, SAND86-2084, Analysis of Core Damage Frequency: Methodology Guidelines for Internal Events.

NUREG/CR-4550, Revision 1, Volume 2, Part 1, SAND86-2084, Analysis of Core Damage Frequency: Expert Judgment Elicitation on Internal Events Issues - Expert Panel.

NUREG/CR-4550, Revision 1, Volume 2, Part 2, SAND86-2084, Analysis of Core Damage Frequency: Expert Judgment Elicitation on Internal Events Issues - Project Staff.

Parts 1 and 2 of Volume 2, NUREG/CR-4550 were published in one binder. This volume was published in April 1989 and distributed in May 1989 with an incorrect title, i.e., Analysis of Core Damage Frequency from Internal Events: Expert Judgment Elicitation, without the Revision 1 designation. The complete, correct title is: NUREG/CR-4550, Revision 1, Volume 2, SAND86-2084, Analysis of Core Damage Frequency: Expert Judgment Elicitation on Internal Events Issues.

Surry

NUREG/CR-4550, Revision 1, Volume 3, Part 1, SAND86-2084, Analysis of Core Damage Frequency: Surry Unit 1 Internal Events.

NUREG/CR-4550, Revision 1, Volume 3, Part 2, SAND86-2084, Analysis of Core Damage Frequency: Surry Unit 1 Internal Events Appendices.

NUREG/CR-4550, Revision 1, Volume 3, Part 3, SAND86-2084, Analysis of Core Damage Frequency: Surry Unit 1 External Events.

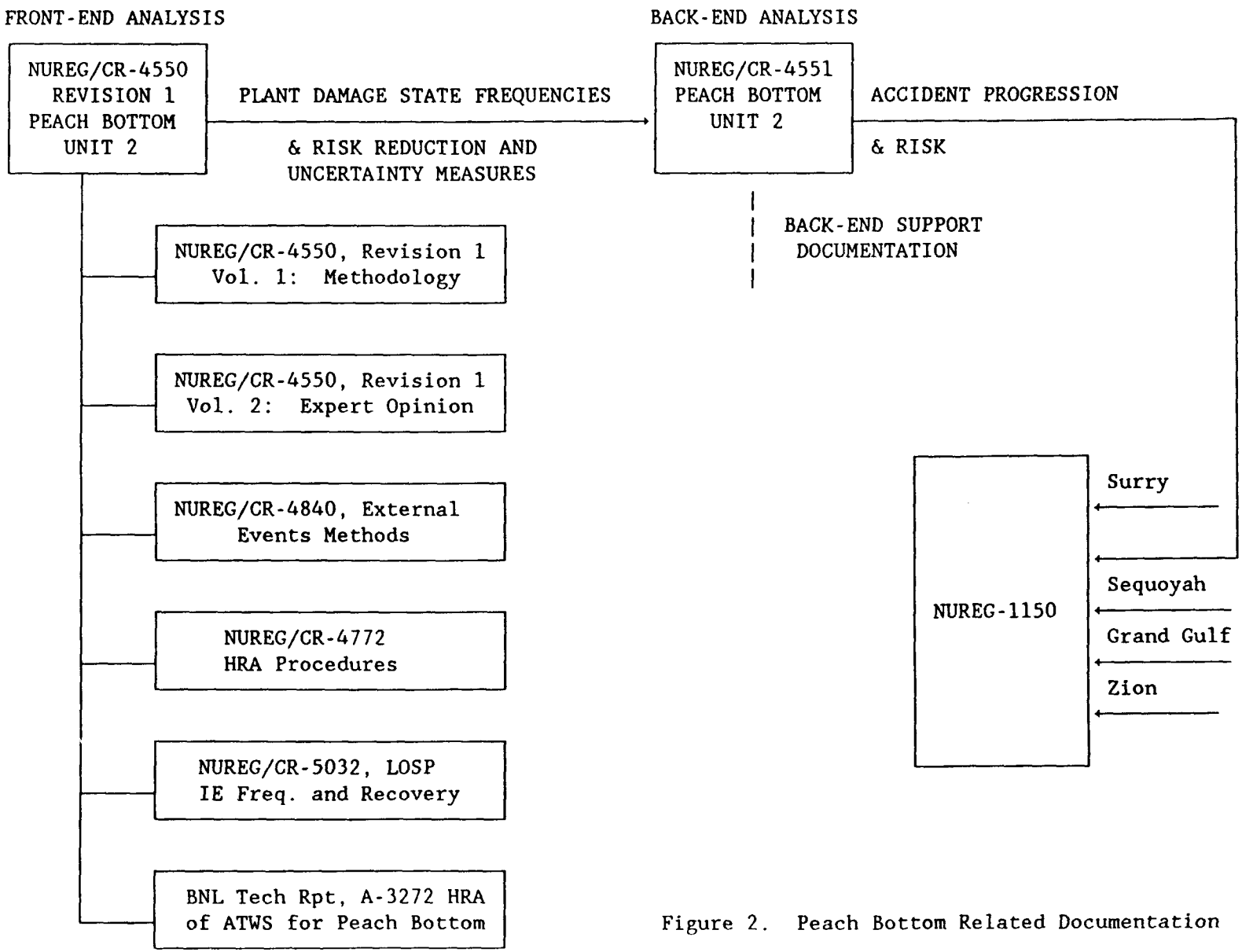

Figure 2. Peach Bottom Related Documentation

Peach Bottom

NUREG/CR-4697, EGG-2464, Containment Venting Analysis for the Peach Bottom Atomic Power Station, D. J. Hansen, et al., Idaho National Engineering Laboratory (EG&G Idaho, Inc.) February 1987.

NUREG/CR-4550, Revision 1, Volume 4, Part 1, SAND86-2084, Analysis of Core Damage Frequency: Peach Bottom Unit 2 Internal Events.

NUREG/CR-4550, Revision 1, Volume 4, Part 2, SAND86-2084, Analysis of Core Damage Frequency: Peach Bottom Unit 2 Internal Events Appendices.

NUREG/CR-4550, Revision 1, Volume 4, Part 3, SAND86-2084, Analysis of Core Damage Frequency: Peach Bottom Unit 2 External Events.

Sequoyah

NUREG/CR-4550, Revision 1, Volume 5, Part 1, SAND86-2084, Analysis of Core Damage Frequency: Sequoyah Unit 1 Internal Events.

NUREG/CR-4550, Revision 1, Volume 5, Part 2, SAND86-2084, Analysis of Core Damage Frequency: Sequoyah Unit 1 Internal Events Appendices.

Grand Gulf

NUREG/CR-4550, Revision 1, Volume 6, Part 1, SAND86-2084, Analysis of Core Damage Frequency: Grand Gulf Unit 1 Internal Events.

NUREG/CR-4550, Revision 1, Volume 6, Part 2, SAND86-2084, Analysis of Core Damage Frequency: Grand Gulf Unit 1 Internal Events Appendices.

Zion

NUREG/CR-4550, Revision 1, Volume 7, EGG-2554, Analysis of Core Damage Frequency: Zion Unit 1 Internal Events.

APPENDIX A

SUPPORTING THERMAL-HYDRAULIC ANALYSES

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A. SUPPORTING THERMAL-HYDRAULIC ANALYSIS

This appendix describes the thermal-hydraulic calculations used in support of the Peach Bottom probabilistic risk analysis. Plant specific calculations and calculations for other plants were used in support of three areas:

- To determine behavior during an Anticipated Transient Without Scram (ATWS),
- To determine timing of important phenomena, and
- To help determine success criteria.

The calculations used in all three areas are discussed in the following sections.

A.1 ATWS Supporting Calculations

The thermal-hydraulic information used in construction of the ATWS event tree was obtained from ATWS code simulations performed for Peach Bottom and from related studies. The ATWS code simulations were performed using the BWR-LTAS code [1] and are summarized in Table A-1.

Other sources of information are General Electric generic ATWS analyses on boiling water reactors [2], an Oak Ridge National Laboratory (ORNL) ATWS Main Steam Isolation Valve (MSIV) closure analysis using Brown's Ferry as the model plant [3] and an ATWS study by the Idaho National Engineering Laboratory [4]. The Brown's Ferry results are generally applicable to Peach Bottom since both are BWR 4 reactors with MARK I containments. The results of the ORNL study are given in Table A-2. It should be noted that, while the thermal-hydraulic calculations for the other sources generally agree with the ORNL results, specific results do vary somewhat. This represents uncertainties in sequence timing and success criteria which are not explicitly analyzed in this study because of resource limitations.

A.2 Accident Sequence Timing Supporting Calculations

BWR-LTAS code calculations were performed to determine the following timing questions:

- When core uncovery begins and when the core is uncovered down to two feet above the Bottom of the Active Fuel (BAF) following loss of coolant injection, and
- When containment failure occurs given loss of containment heat removal and the status of the core at this time.

For the boiloff calculation, the MSIV's were closed and no injection to the reactor vessel was allowed. The simulation started 30 sec after the initiating event and assumed that the Safety Relief Valves (SRVs) operated in the automatic mode. Reactor vessel pressure was relieved by a single SRV cycling between 1,115 psia and 1,015 psia. Since there was

Table A-1
BWR-LTAS Code Runs For Various ATWS Scenarios at Peach Bottom

RUN NUMBER	DESCRIPTION [see Note (a)]	RESULTS/CONCLUSIONS/NOTES
1	o Manual Rod Insertion at 250 seconds o Four operable Residual Heat Removal (RHR) Pumps in Suppression Pool (SP) Cooling Mode o No Standby Liquid Control (SLC) o Reactor vessel water level controlled at Top of Active Fuel (TAF)	o SP Temperature reaches ~200°F @ 25 min.--HPCI failure seems quite possible o Back pressure not significant o High Pressure Cooling Injection (HPCI) and Reactor Core o Isolation Cooling (RCIC) fail at ~190-to-200°F in code
2	o Same as run (1) except no SP Cooling	o HPCI fails in ~22 min. @ SP temperature 190°F
3	o Manual rod insertion @ 250 seconds o Four RHR pumps in SP cooling mode o HPCI and RCIC in automatic operating mode (therefore, Reactor Vessel (RV) water level not at TAF)	o HPCI fails in ~14 minutes when SP temperature reaches ~190°F
4	o Same as run (3) except no SP cooling	o HPCI fails in ~13.5 minutes when SP temperature reaches ~190°F
5	o SLC initiated at 250 seconds o No manual rod insertion o Four RHR pumps in SP Cooling mode o RV water level controlled at TAF	o Maximum temperature of SP is ~171°F at 1200 seconds when level would be raised to put boron into the core o No HPCI failure o Scenario appears to be okay
6	o Same as number (5) except w/o torus cooling	o Maximum SP temperature in ~178°F o No HPCI Failure o Scenario appears to be OK
7	o SLC is initiated at 250 seconds o No manual rod insertion o Four RHR pumps in SP cooling operating mode o HPCI and RCIC in automatic operating mode (therefore, RV water level not at TAF)	o HPCI failure at SP 190°F occurs at 1100 seconds. This is close to time of 1200 seconds when level would be raised to put boron into the core. HPCI may be okay.
8	o Same as run (7) except no torus cooling	o HPCI failure at SP temperature of 190°F occurs at 990 seconds. This is close to 1200 seconds when level would be raised to put Boron into the core (but sooner than failure at 1100 seconds in run (7) with SP cooling)

NOTE:
(a) All runs had an ATWS followed by MSIV closure.

Table A-2
Summary of BWR-LTAS ATWS with MSIV Closure Runs Performed
At ORNL for Brown's Ferry

Run #1 - No Action

- HPCI switches to pool ~8 min @ 150°F
- HPCI fails ~15 minutes @ 200°F
- Automatic Depressurization System (ADS) actuates
- Low Pressure systems on - cycling up and down
- ~30 - 45 min. - containment pressure closes SRVs
- ~30 - 45 min. - containment fails

Run #2 - All OK

- 35 min - reactor shutdown
- Pool temp max ~160°F
- HPCI/RCIC start
- Manual rod insertion starts @ 3 minutes
- 2 minutes - pool reaches 110°F; by 5 minutes - SLC started
- Lower level & control w/ HPCI & control pressure ~900 psia
- All RHR cooling started by 10 minutes
- By 17 minutes - RHR cooling exceeds power into pool - max temp. ~160°F
- Drywell pressure very low
- Increasing HPCI flow to put boron in core ~30 min.
- All Over

Run #3 - SLC OK - Rest <u>Not</u> OK (Including no level control)

- HPCI shift to pool ~8 min
- HPCI fails from pool temp ~190°F by ~15 minutes
- RCIC/CRD still putting in water - SLC mixes water rises - RCIC trip on high level
- ~50 - 60 minutes - pool max ~200°F and increasing slowly
- Shutdown ~50 - 60 minutes

Run #4 - No Rod Insert, Rest OK

- Like (2) except:
  1. Max pool temp ~30 min ~165°F
  2. Shutdown ~35 minutes

Run #5 - No SLC, rest OK

- Like (2) except:
  1. ~1 hr to shutdown
  2. By 30 minutes decay heat levels being reached
  3. Heat capacity temperature limitations will be reached ~20 minute - so depressurize and use LP systems
  4. ADS inhibit not so important since depressurized anyway
  5. Max pool temp ~180°F - 185°F

Table A-2
Summary of BWR-LTAS ATWS with MSIV Closure Runs Performed
At ORNL for Brown's Ferry (Concluded)

Run #6 - No SLC/No Rod Insertion (Rest OK)

- By 2 hours, pool at ~230°F pressure containment ~30 psia
- By 10 hours, Temp = 345°F pressure fails containment

Run #7 - <u>No</u> SLC/<u>No</u> Rods/<u>No</u> Pool Cooling

- By ~2 hours - containment failure

Run #8 - W/O Pool Cooling, all else OK

- Still shutdown ~35 min.
- Max pool temp @60 min ~170°F & rising slowly
- Now a TW - type sequence, need cooling by ~24 hours
- Pressure (containment) is ~50 psig @ 20 hours

Run #9 - Stuck Open Valve(s)

- No big difference except run risk of low pressure injection
- 1 valve - HPCI keeps going
- 2 valves - HPCI isolates on low pressure ~15 min.
- Shutdown ~30 - 35 minutes

no source of injection to the reactor vessel, the downcomer level fell steadily until it reached the TAF, 360" at 1685 sec and the 240 level, 2 ft above the BAF, at approximately 4,065 sec as indicated in Figure A-1.

For the containment failure calculation, the MSIV's were closed and numerous sources of injection to the reactor vessel were available for this accident sequence. The intent of the simulation was to determine the status of the core, intact or damaged, at the time of containment failure, at approximately 175 psia. It was hoped that the containment failure would occur prior to core damage, allowing the SRV's to reopen and enabling low pressure injection systems to supply water to the vessel, recovering the core. By definition, a water level of 2 feet above the bottom of active fuel, the 240" level, or higher would prevent core damage.

The reactor vessel water level was maintained solely by the RCIC system pump in the initial phase of the accident, with the operator controlling reactor vessel water level between 500" and 540" as indicated in Figure A-2. No Control Rod Drive (CRD) pump injection was allowed initially, in order to allow the RCIC pump to maintain the level. The scenario proceeded in this manner until the suppression pool heat capacity limit was reached at 16,500 sec (4.6 hours) when the pool temperature reached approximately 174°F. At that point the reactor vessel was manually depressurized to a target range of 200 psia over a 10 minute period as indicated in Figure A-3. The 200 psia reactor vessel pressure level was high enough to allow the RCIC and HPCI turbine to function if demanded. The condensate pumps had been tripped, making them unavailable for injection as the reactor vessel depressurized below their shutoff pressures. The RCIC system pump continued to inject until the suppression pool temperature reached 250°F at 35780 sec (9.9 hours), where it tripped because of high pool temperature. (Note: The RCIC system was manually shifted to suppression pool suction at the same suppression pool level as the HPCI system would automatically shift, +7.0"). Although the HPCI system has not been demanded at that point in the accident, it became unavailable at the same time as the RCIC system for the same reason, the pump would trip because of high suppression pool temperature. At 36,000 sec (10.0 hours), the operator started a single CRD pump, and controlled the reactor vessel water level between 546" and 582", delivering approximately 180 gpm to the reactor vessel in its depressurized state. The single CRD pump maintained the water level between the desired setpoints until the SRV's were forced closed by high containment atmosphere pressure, approximately 96 psia at that point, at 97,100 sec (27.0 hours). With the reactor vessel repressurized, the single CRD pump was able to maintain the collapsed water level at approximately 480" until the condensate storage tank depleted at 133,225 sec (37.0 hours). At this point, all high pressure injection systems were unavailable, and the low pressure systems were unable to inject with the reactor vessel pressurized. Thus at this point, the vessel water began to boiloff. During this final boiloff phase, the collapsed water level fell rapidly, reaching the TAF, 360", at 139,925 sec (38.9 hours). The 240" level, two feet above BAF, was reached at 147,500 sec (41.0 hours). When the 240" level was reached in the reactor vessel, the containment pressure was approximately 179 psia as indicated in Figure A-4. The drywell pressure atmosphere pressure reached 175 psia at 142200 sec (39.5 hours).

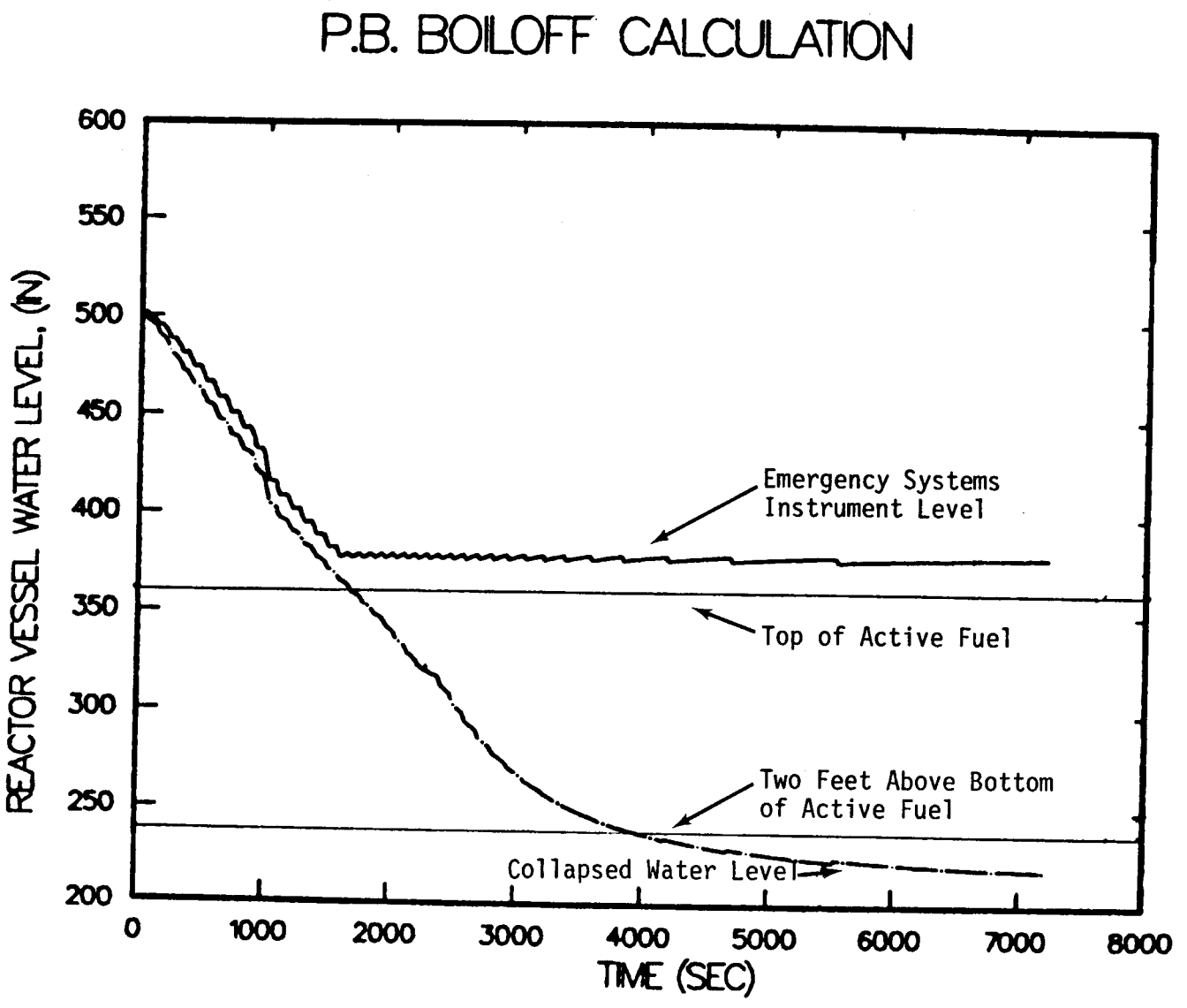

Figure A-1. Downcomer Water Level for Vessel Boiloff Calculation.

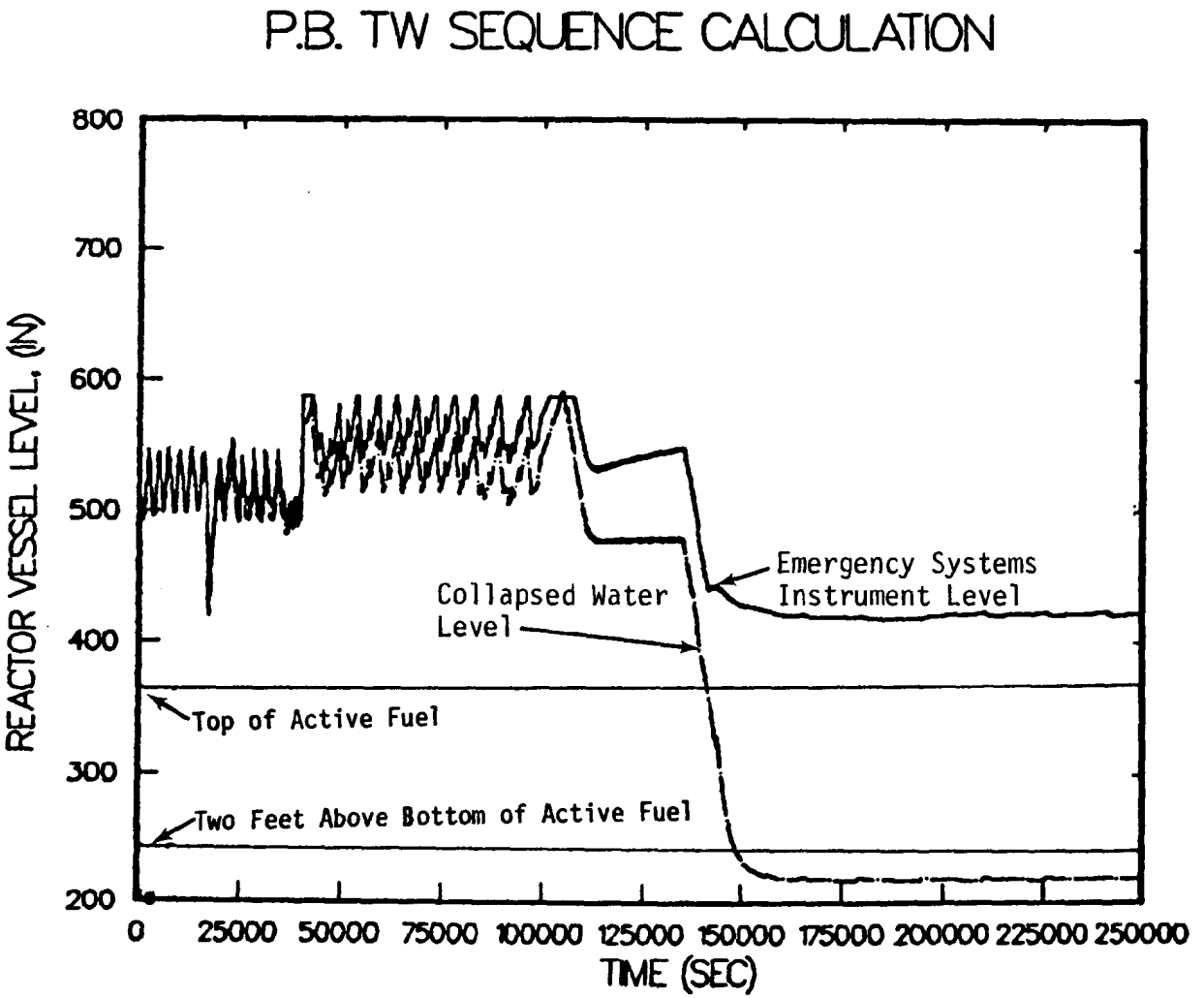

Figure A-2. Reactor Vessel Water Level for Loss of Containment Cooling Calculation.

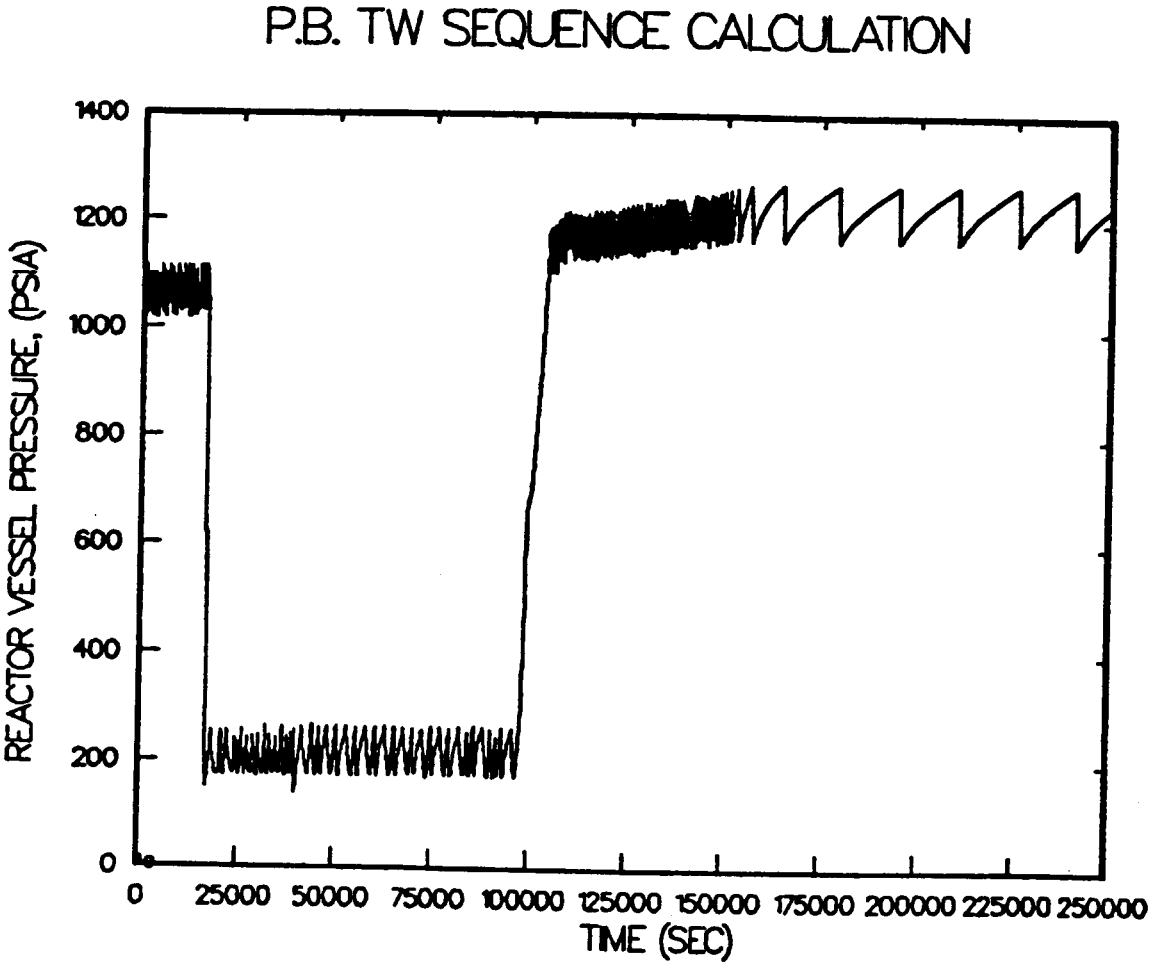

Figure A-3. Reactor Vessel Pressure for Loss of Containment Cooling Calculation.

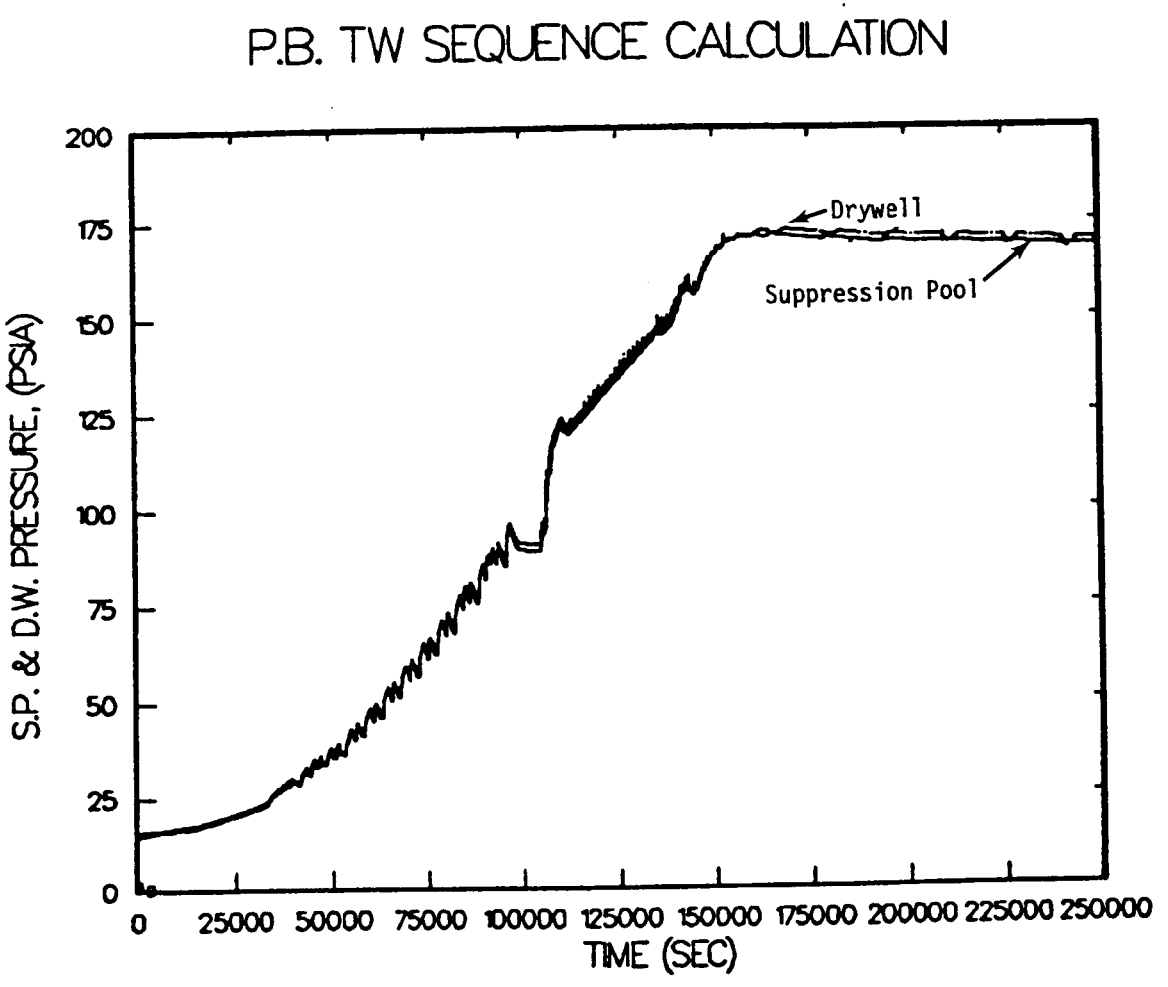

Figure A-4. Containment Pressure for Loss of Containment Cooling Calculation.

A.3 Success Criteria Supporting Calculations

A BWR-LTAS calculation was performed to determine if use of the CRD system in the enhanced flow mode (defined as both pumps operating) can cool the core in loss of injection type sequences. The MSIV's were closed and only injection by the two CRD system pumps to the reactor vessel was allowed. The simulation started 30 sec after the initiating event and assumed that the SRVs were operating in the automatic actuation mode. Reactor vessel pressure was relieved by a single SRV cycling between 1,115 psia and 1,015 psia. It was assumed that a single CRD pump was in operation from the start of the simulation, 30 sec into the accident, and that it was pumping through its normal flowpath delivering 109 gpm. At 1200 sec, the second CRD pump was brought on line with the flow path configured to allow an "enhanced flow of 212 gpm to the reactor vessel." That flow rate is sufficient to remove approximately 1.06% rated power. The reactor vessel level fell steadily at first but stabilized after 2000 sec as indicated in Figure A-5. The lowest collapsed water level was 364" reached at approximately 6900 sec. Beyond 70,000 seconds, CRD loses suction head when the reactor is depressurized to avoid reaching the Heat Capacity Temperature Limit in the suppression pool.

A second calculation was performed nearly identical to the previous calculation except the second CRD pump was initiated at 1800 sec. As indicated in Figure A-6, the collapsed water level dropped below the TAF reaching a minimum of 354" at approximately 6750 sec. The second CRD pump terminated the liquid level decrease.

A.4 Calculations Involving ESW Flow Diversion

During the Peach Bottom analysis, it became evident that in any accident involving loss of the Normal Service Water (NSW) system, failure of the Unit 2 or Unit 3 check valve 514 to reclose (a single failure) could provide a diversion path for Emergency Service Water flow back to Conowingo pond (refer to Figure 4.6.9-1 in the main report). If enough flow were diverted, essential loads such as the diesel generators, the various emergency coolant pumps, and pump rooms might not receive sufficient cooling. Estimates indicated that if diesel cooling were assumed insufficient, the station blackout contribution to the core damage frequency could double or even triple, particularly for loss of offsite power initiators (NSW would be lost).

Considering this potentially important finding, PECO performed a series of calculations accounting for various anomalies in ESW operation. These include the possibility of one or both valve 514s failing open, pipe breaks in the vicinity of the check valves, and the possibility of using the Reactor Building Cooling Water heat exchangers which uses water otherwise available to other essential loads. Pages A-15 to A-31 summarize the information supplied by PECO regarding these analyses.

It is concluded on the bases of this work that backleakage failure of these check valves is not likely to cause insufficient cooling to most of the essential loads. Some degradation does occur for the pumps rooms

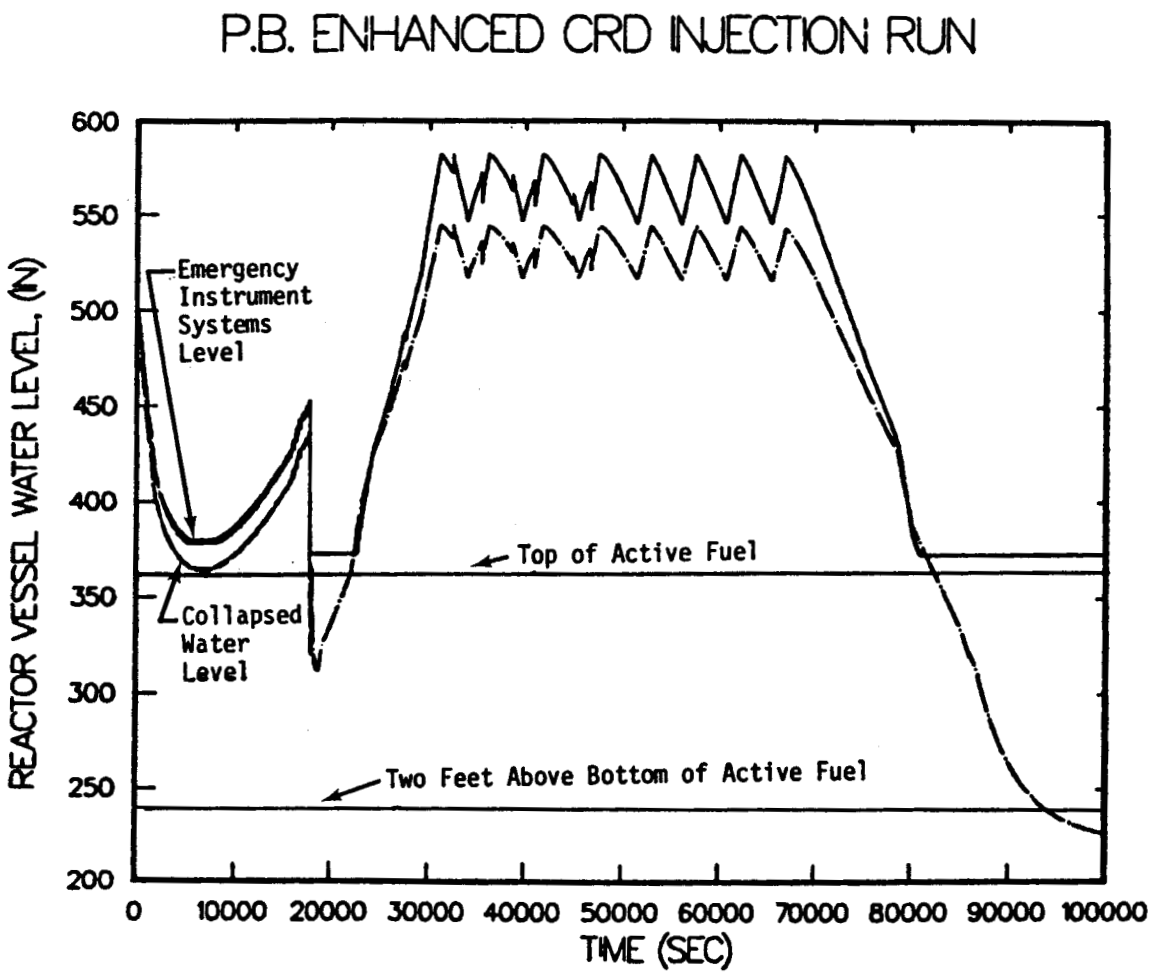

Figure A-5. Reactor Vessel Water Level for CRD Injection Calculation (Case 1).

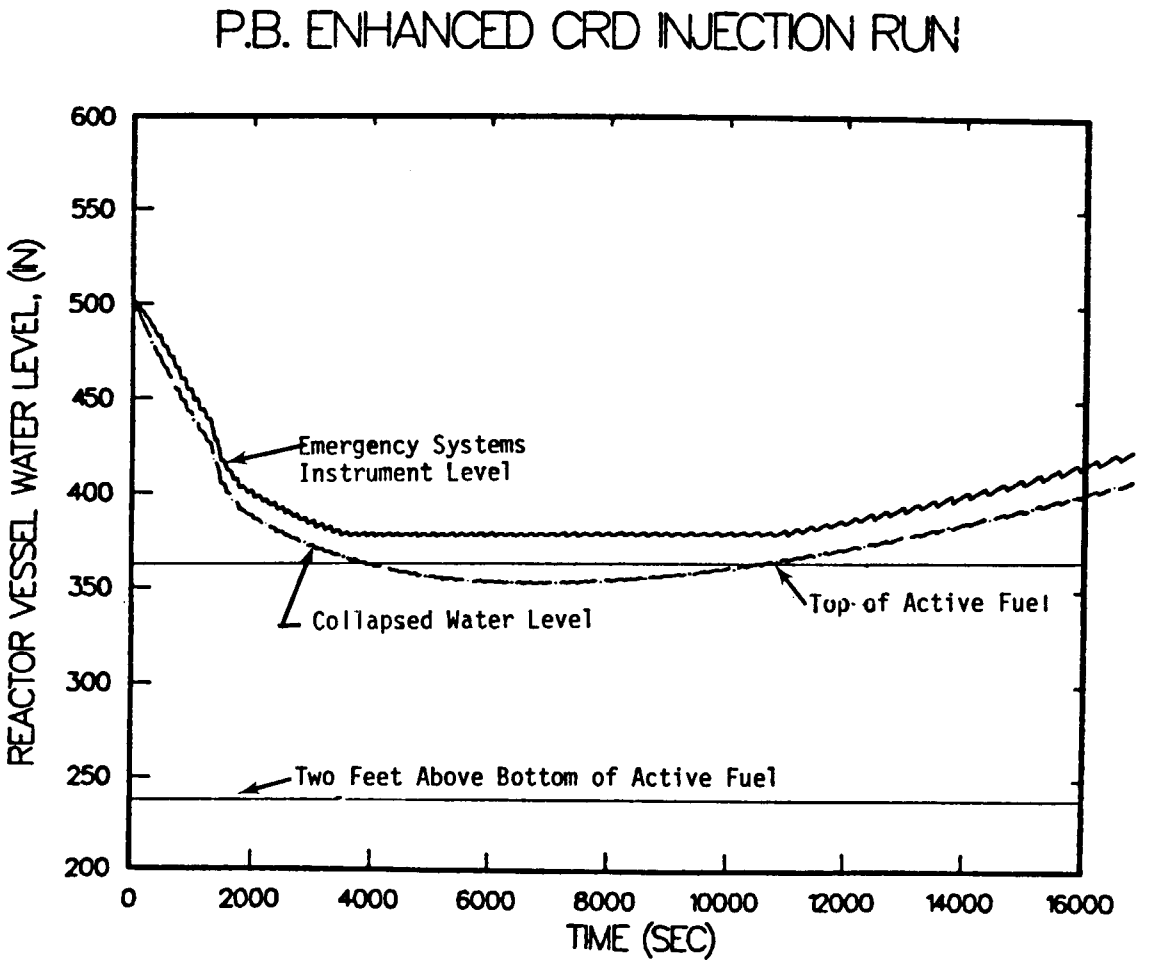

Figure A-6. Reactor Vessel Water Level for CRD Injection Calculation (Case 2).

PHILADELPHIA ELECTRIC COMPANY
2301 MARKET STREET
P.O. BOX 8699
PHILADELPHIA, PA 19101
(215) 841-4000

OCT 14 1988

NUCLEAR ENGINEERING DEPARTMENT

Mr. Wallis R. Cramond
Reactor Systems Safety Analysis
Division 6412
Sandia National Laboratories
Abuquerque, NM 87185

SUBJECT: Peach Bottom Atomic Power Station
Emergency Service Water (ESW) System Diversion

REFERENCE: Letter, A. J. Marie (PECo) to W. R. Cramond (Sandia) dated September 30, 1988

Dear Wally;

The reference letter outlined the flow analysis quantifying the amount of ESW diversion and its impact on cooling loads supplied by ESW. A more detailed discussion of the analysis is attached.

In a recent discussion with G. A. Krueger, A. M. Kolaczkowski (SAIC) questioned the bounding nature of the ESW modes analyzed. In the reference letter we indicated that the modes analyzed are considered bounding and conservative in that (1) it would not be expected that both interfacing check valves would be failed simultaneously and (2) initially 2 ESW pumps would be operating.

The mode of operation in question would be one in which only one ESW pump would be operating with the Reactor Building Cooling Water (RBCW) heat exchangers requiring cooling in addition to other loads. This mode was not specifically analyzed but preliminary investigation using additional information indicates that there is sufficient flow margin available that one ESW pump can supply sufficient cooling water to the loads analyzed in mode E of the calculation in addition to the RBCW load.

If we can be of any further assistance on this matter please contact G. A. Krueger.

Very truly yours,

A. J. Marie
Acting Manager
Nuclear & Environmental Section

Attachment

GAK/jet/10138802

Bechtel Power Corporation
Engineers—Constructors

Fifty Beale Street
San Francisco, California
Mail Address: P.O. Box 3965, San Francisco, CA 94119

Contract No. ME-387472

In reply please reference:
BLP- 24617

Doc. Control No. 024647

Mr. T. E. Shannon
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

AUG 2 9 1988

Subject: Job No. 11187-104-080, Philadelphia Electric Co.
Peach Bottom Atomic Power Station, Units 2 & 3

Emergency Diesel Generator ESW Flow Study

References: 1. BLP-24525 dated July 8, 1988
Doc. Control No 024356

2. Transaction Order #946080

3. Calculation 103 Rev. 0
dated 8/1/88

Enclosures: 1. Results of ESW Flow Analysis with Service Water Supply Check Valve Failure

Dear Tom:

Enclosure 1 is a summary of our engineering analysis to determine the emergency service water (ESW) flow through the emergency diesel generator if the ESW/SW check valve failed in the open position.

The results of the two cases are:

1. If the service water supply check valve failed open with no pipe break on the service water piping, the ESW system can still supply adequate coolant flow to the diesel-generator heat exchangers at the current aging condition (about 15 years plant life). Moderate to minor flow deficiencies are expected at safeguard equipment room coolers.

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Bechtel Power Corporation

024647

2. If the service water supply check valve failed open with a guillotine pipe break on the ESW tie-in point, and one ESW pump is running, the diesel generator heat exchangers will receive only about 50% of the required coolant flow. In the mode of running emergency cooling water pump and booster pump, our analysis showed that there will be inadequate NPSH at the booster pump and the emergency cooling water pump will be subjected to run-out conditions. A mode was also analyzed with the booster pump tripped. In this mode the ESW flow through the diesel generator heat exchangers is only 25% of the required coolant flow with the cooling water discharging through the break points.

This completes our scope for the above engineering analysis.

If you have any questions, please call W. Feir at (415) 768-3525.

Action Items
None

Very truly yours,

B. A. Porter for
E. D. Patel
Project Engineer

Written Response Req'd: No

WF/OAN(MA):md

cc: Mr. C. Wiedersum, w/a
Philadelphia Electric Co.

T-55/21

Results of ESW Flow Analysis

1. Purpose

The purpose of this engineering analysis is to calculate the diesel generator heat exchanger coolant flows during two emergency service water (ESW) operation modes and two cases of assumed service water (SW) supply check valve failure.

2. Cases Analysed:

Service Water Supply Failure:

Case 1: Service water supply check valve 2-514 and 3-514 both failed open, ESW flows partly diverted to the Unit 2 and 3 discharge culvert.

Case 2: Service water supply line at tie-in point to ESW system experience guillotine break. ESW flow is discharged through the breaks of each unit, and its original mode discharge point.

ESW mode studied:

Mode E: two units, one ESW pump (pump A assumed) operation, all redundant coolers, all four diesel generators, no RBCW, return to pond through overflow.

Mode F: two units, one ECW pump and one booster pump, all redundant coolers, all four diesel generators, no RBCW, return to emergency cooling tower.

Mode F3: same as mode F except assuming that the booster pump failed due to inadequate NPSH (studied for case 2 only)

3. Assumptions

Assumptions for Both Cases:

1. ESW valves for the diesel-generator heat exchangers are not throttled.

2. Safeguard equipment room coolers valves are throttled at positions for ESW flow. ESW ring header supply piping has been changed from 4" Ø to 6" Ø.

3. Loss of instrument air, namely secondary and primary room coolers are supplied with ESW because the air operated valves for the coolers have failed open.

4. For both cases, two ESW flow paths will be analyzed:

   a) From ESW pumphouse (all sluice gates open), one ESW pump, safeguard equipment room coolers D/G H_x, back to the discharge pond. RBCW heat exchangers are isolated.

   b) From emergency cooling tower basin, emergency cooling water pump, safeguard equipment room coolers, D/G H_x, ESW booster pump, back to the emergency cooling tower. RBCW heat exchangers are isolated.

5. Consider a piping system aged at 15 years but newly cleaned heat exchangers/coolers.

6. Piping equivalent lengths for PBAPS Unit 3 is approximately close to those of Unit 2. Therefore the result of the study for Unit 2 will be the same for Unit 3.

Specific Assumptions for Case 1:

1. Detailed flow network analysis is not available for PBAPS service water system, therefore the basis for the service water equivalent resistance will be approximated from existing service water delta-P calculations (microfilm #1906 to 1927). The path of least resistance to the backflow appears to be through the generator-stator coolers through the spillover line at elevation 129'-6".

2. Generator stator cooler CV-2687 and 4" Ø globe valve are for winter operation use only therefore are closed during summer operation. Flow is through 10" Ø butterfly valve that is fully open.

3. Service water pump discharge check valves are closed with negligible backflow leakage.

4. Backflow through the other networks is negligible because the spill-over lines are much higher in elevation than the stator cooler spill-over line.

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C_v of backflow path from check valve 2-514 to discharge culvert:

C_v defined as: Equivalent Flow Coefficient

$$C_v = \frac{Q}{\sqrt{\text{Delta-P}}}$$

Q = flow in gpm (600 gpm)
Delta-P = Pipe press. friction loss, in psi (3.527 psi)

C_v for piping only = 319.0
(clean piping)

Two generator-stator cooler are in series.
Q = 2000 gpm
Delta-P = 15.9 psi each cooler, (clean tubes)

Result of Analysis:

Case 1: The diesel generator heat exchangers coolant flow meet or exceed the design requirement of 550 gpm in both mode E and F operations.

In mode E, RCIC pump room coolers and Core Spray pump motor oil coolers meet flow requirement. RHR pump seal water coolers have very minor flow deficiency. All other safeguard equipment room coolers have about 20 to 30% flow deficiencies.

In mode F, the flow deficiencies of Core Spray pump room coolers and some of RHR room coolers are very minor. The flow at HPCI pump room coolers is short at about 15% or less.

Case 2: In mode E, the diesel generator heat exchangers have only about 50% of the required flow passing through. Part of the diesel generator return flow flows backward through the safeguard equipment room coolers.

In mode F, the theoretical calculation results, assuming no flashing will occur, indicated that the suction pressure at booster pump would be -18.15 psig. Since this negative absolute pressure is not possible, it is concluded that the booster pump would tripped due to inadequate NPSH. If the booster pump would not tripped, the emergency cooling water pump would be very close to the runout condition while running at 10040 gpm.

T-55/21

In mode F3, which assumes that the booster pump failed or tripped due to inadequate NPSH, the diesel generator heat exchangers experienced only about 110 to 135 gpm coolant flow. The diesel generator return flow could not return to the cooling tower, instead, return (backward) through safeguard equipment room coolers of both Units before discharged through the break points. The emergency cooling water pump may also be very close to the runout condition while running at 9930 gpm.

The flows of the diesel generator and other ECCS coolers for the different cases and modes are tabulated in Fig. 1.1 through 1.5.

T-55/21

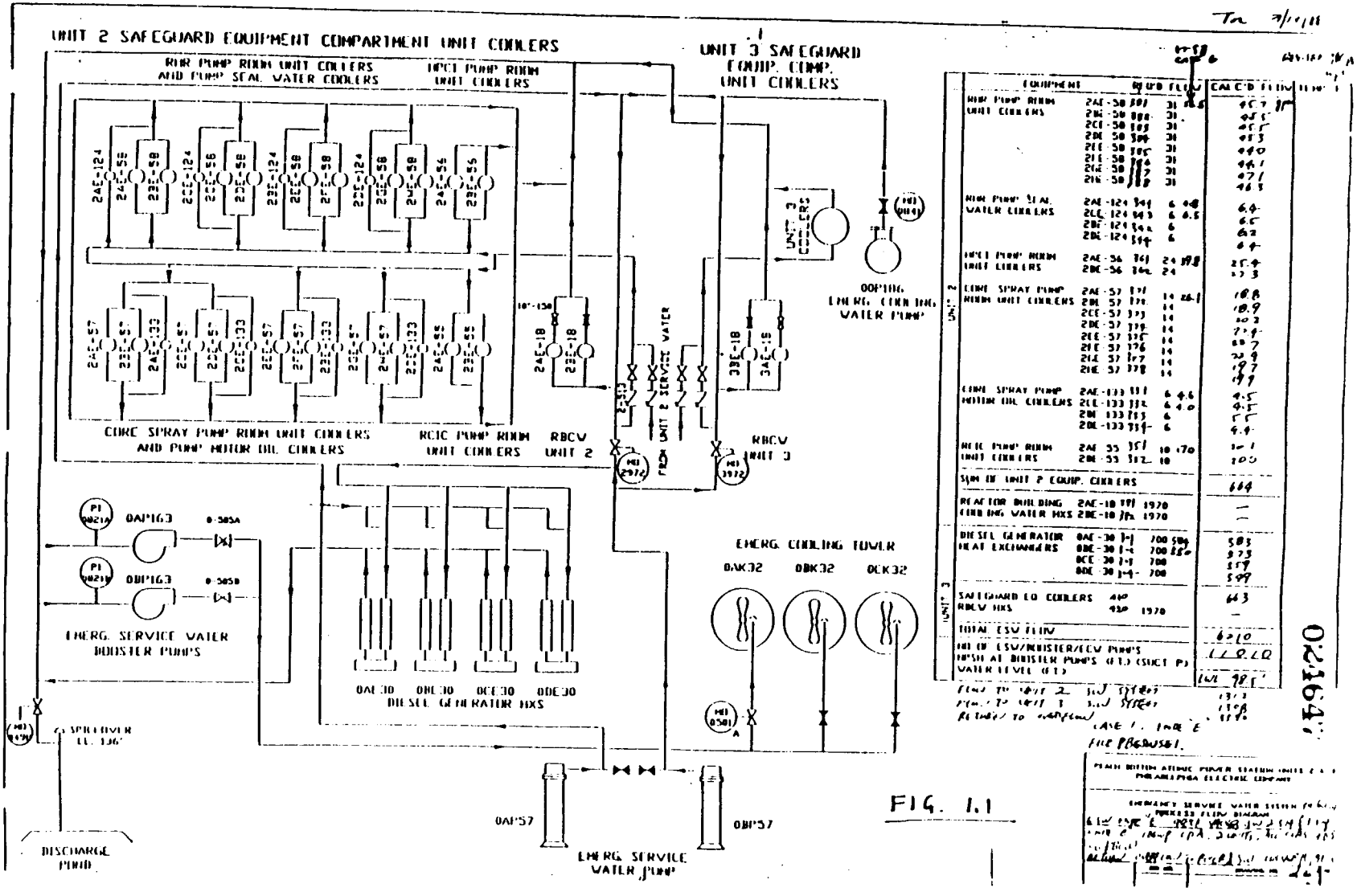
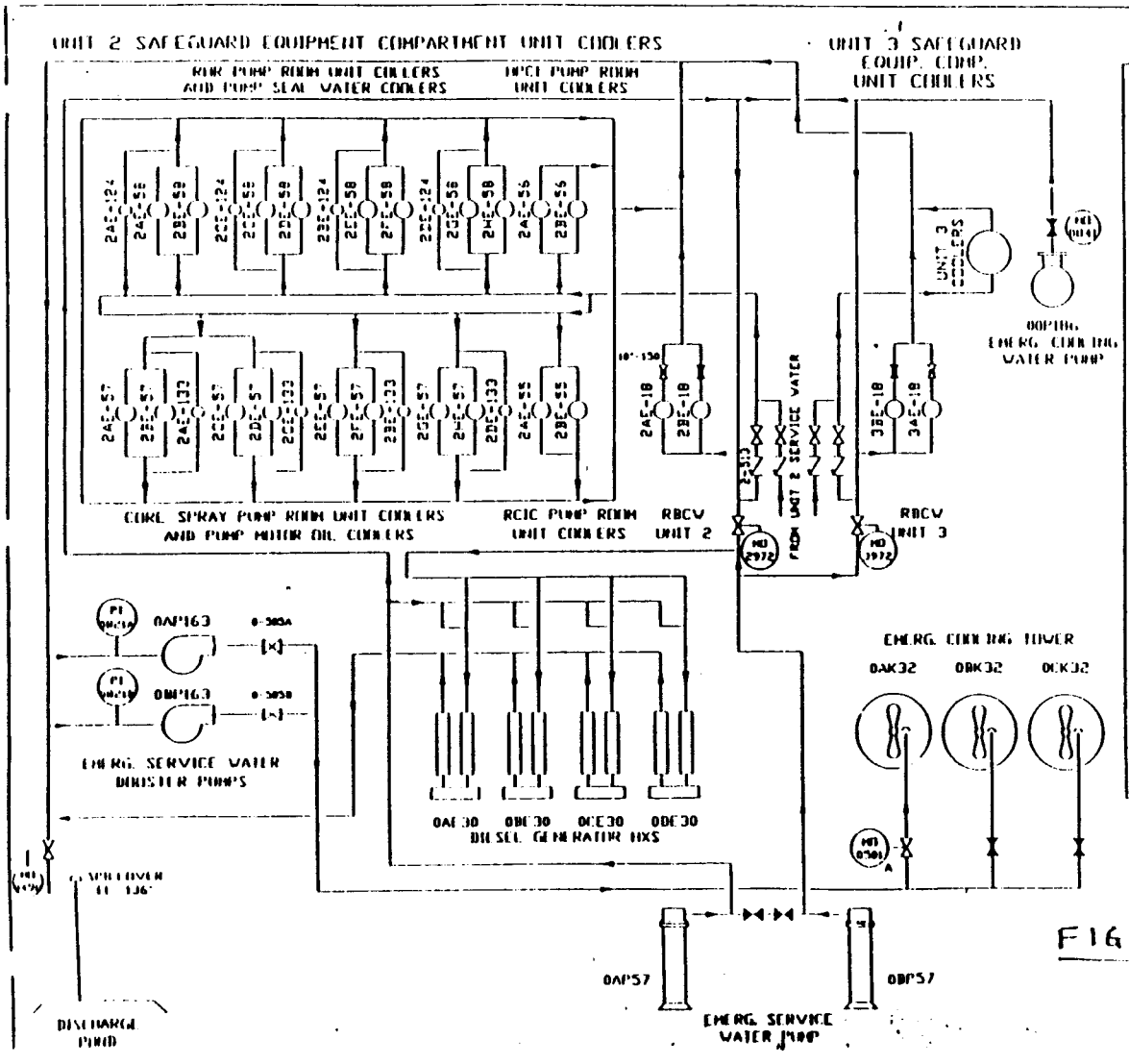

UNIT 2 SAFEGUARD EQUIPMENT COMPARTMENT UNIT COOLERS
RHR PUMP ROOM UNIT COOLERS AND PUMP SEAL WATER COOLERS
HPCI PUMP ROOM UNIT COOLERS
UNIT 3 SAFEGUARD EQUIP. COMP. UNIT COOLERS
CORE SPRAY PUMP ROOM UNIT COOLERS AND PUMP MOTOR OIL COOLERS
RCIC PUMP ROOM UNIT COOLERS
RBCV UNIT 2
RBCV UNIT 3
FROM UNIT 2 SERVICE WATER
EMERG. COOLING TOWER
0AK32
0BK32
0CK32
0AP163
0BP163
EMERG. SERVICE WATER BOOSTER PUMPS
0AE30
0BE30
0CE30
0DE30
DIESEL GENERATOR HXS
0AP57
0BP57
EMERG. SERVICE WATER PUMP
DISCHARGE POND
SPILLOVER EL. 136'
EQUIPMENT
CALC'D FLOW
UNIT 2
UNIT 3
SUM OF UNIT 2 EQUIP. COOLERS
REACTOR BUILDING COOLING WATER HXS
DIESEL GENERATOR HEAT EXCHANGERS
SAFEGUARD EQ COOLERS RBCV HXS
TOTAL ESW FLOW
NO OF ESW/BOOSTER/ECW PUMPS
NPSH AT BOOSTER PUMPS (FT.) (SUCT P)
WATER LEVEL (FT)
CASE 1, INDEX E
FILE PBGDUSE1.
PEACH BOTTOM ATOMIC POWER STATION UNITS 2 & 3
PHILADELPHIA ELECTRIC COMPANY
EMERGENCY SERVICE WATER SYSTEM
PROCESS FLOW DIAGRAM

FIG. 1.1

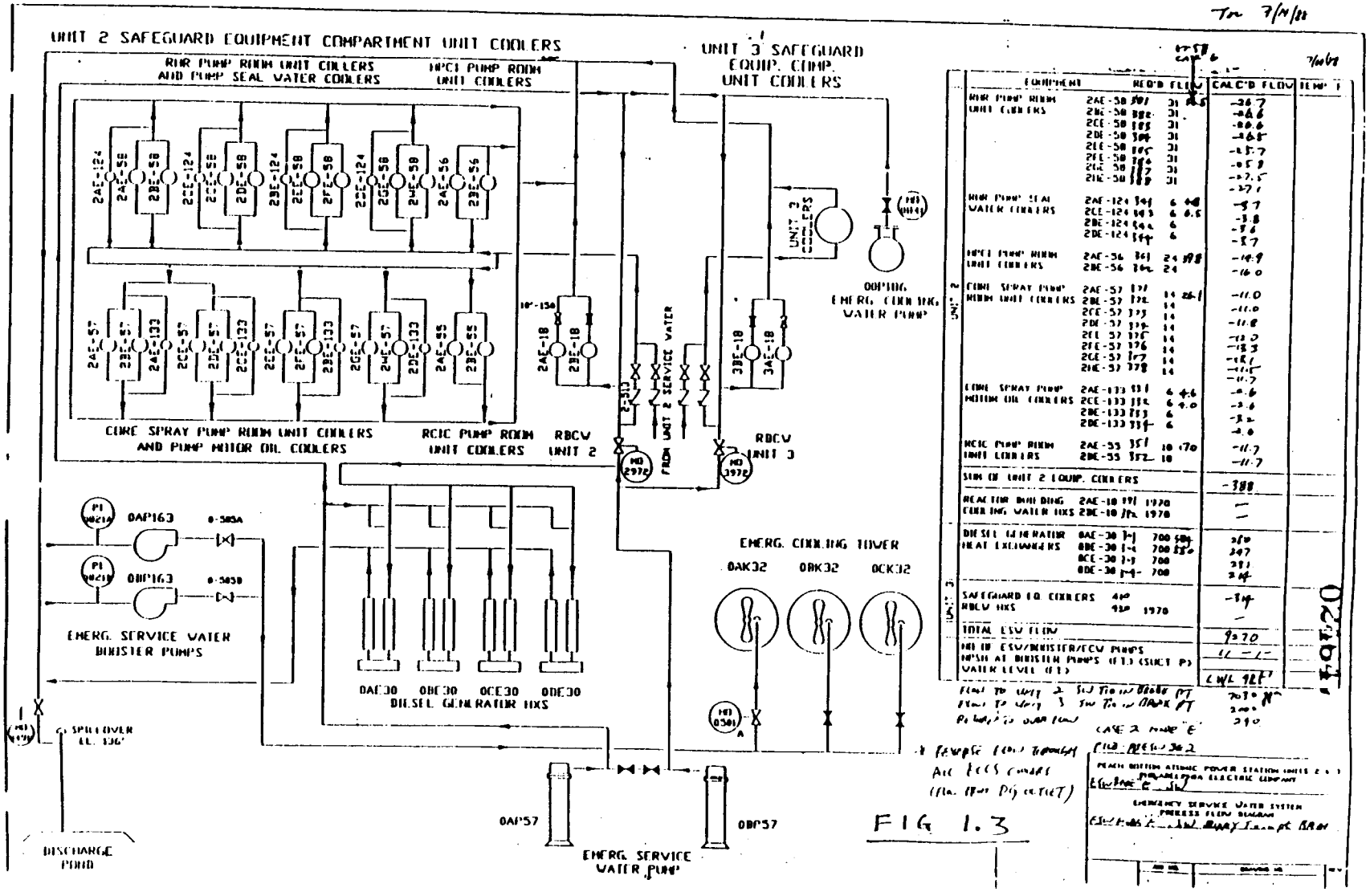


	EQUIPMENT		REQ'D	FLOW	CALC'D FLOW	TEMP F
UNIT 2	RHR PUMP ROOM UNIT COOLERS	2AE-58	301	31	57.2	
		2BE-58	302	31	56.9	
		2CE-58	303	31	56.9	
		2DE-58	304	31	56.7	
		2EE-58	305	31	55.0	
		2FE-58	306	31	55.2	
		2GE-58	307	31	58.9	
		2HE-58	308	31	58.0	
	RHR PUMP SEAL WATER COOLERS	2AE-124	341	6	8.0	
		2CE-124	343	6	8.1	
		2BE-124	342	6	7.7	
		2DE-124	344	6	8.0	
	HPCI PUMP ROOM UNIT COOLERS	2AE-56	361	24	31.8	
		2BE-56	362	24	34.1	
	CORE SPRAY PUMP ROOM UNIT COOLERS	2AE-57	371	14	28.6	
		2BE-57	372	14	28.6	
		2CE-57	373	14	25.3	
		2DE-57	374	14	25.6	
		2EE-57	375	14	28.5	
		2FE-57	376	14	28.1	
		2GE-57	377	14	24.6	
		2HE-57	378	14	24.9	
	CORE SPRAY PUMP MOTOR OIL COOLERS	2AE-133	331	6	5.6	
		2CE-133	332	6	5.6	
		2BE-133	333	6	6.9	
		2DE-133	334	6	5.5	
	RCIC PUMP ROOM UNIT COOLERS	2AE-55	351	10	26.2	
		2BE-55	352	10	25.1	
	SUM OF UNIT 2 EQUIP. COOLERS				830	
	REACTOR BUILDING COOLING WATER HXS	2AE-10	391	1970	—	
		2BE-10	392	1970	—	
UNIT 3	DIESEL GENERATOR HEAT EXCHANGERS	0AE-30	701	700	699	
		0BE-30	702	700	689	
		0CE-30	703	700	673	
		0DE-30	704	700	660	
	SAFEGUARD EQ. COOLERS RBCV HXS		410	1970	839	
			410	1970	—	
	TOTAL ESW FLOW				7090	
	NO OF ESW/BOOSTER/ECW PUMPS				0 1 1 1	
	NPSH AT BOOSTER PUMPS (FT) (SUCT P)				—	
	WATER LEVEL (FT)				117	
	TO UNIT 2 S.W. SYSTEM				1353	
	TO UNIT 3 S.W. SYSTEM				1352	
	RETURN TO COOLING TOWER CASE 1, 1-1-76 F				4385	

FIG 1.2

PEACH BOTTOM ATOMIC POWER STATION UNITS 2 & 3
PHILADELPHIA ELECTRIC COMPANY

EMERGENCY SERVICE WATER SYSTEM
PROCESS FLOW DIAGRAM



EQUIPMENT		REQ'D FLOW	CALC'D FLOW
RHR PUMP ROOM UNIT COOLERS	2AE-58	31	-26.7
	2BE-58	31	-26.6
	2CE-58	31	-26.6
	2DE-58	31	-26.8
	2EE-58	31	-25.7
	2FE-58	31	-25.8
	2GE-58	31	-25.5
	2HE-58	31	-27.1
RHR PUMP SEAL WATER COOLERS	2AE-124	6	-5.7
	2CE-124	6	-3.8
	2BE-124	6	-5.6
	2DE-124	6	-5.7
HPCI PUMP ROOM UNIT COOLERS	2AE-56	24	-16.9
	2BE-56	24	-16.0
CORE SPRAY PUMP ROOM UNIT COOLERS	2AE-57	14	-11.0
	2BE-57	14	-11.0
	2CE-57	14	-11.8
	2DE-57	14	-13.0
	2EE-57	14	-13.3
	2FE-57	14	-12.1
	2GE-57	14	-11.5
	2HE-57	14	-11.7
CORE SPRAY PUMP MOTOR OIL COOLERS	2AE-133	6	-4.6
	2CE-133	6	-4.0
	2BE-133	6	-3.2
	2DE-133	6	-4.0
RCIC PUMP ROOM UNIT COOLERS	2AE-55	10	-11.7
	2BE-55	10	-11.7
SUM OF UNIT 2 EQUIP. COOLERS			-388
REACTOR BUILDING COOLING WATER HXS	2AE-10	1970	—
	2BE-10	1970	—
DIESEL GENERATOR HEAT EXCHANGERS	0AE-30	700	280
	0BE-30	700	247
	0CE-30	700	281
	0DE-30	700	244
SAFEGUARD EQ. COOLERS		410	-394
RBCV HXS		930 1970	—
TOTAL ESW FLOW			9270
HEIGHT ESW/BOOSTER/ECW PUMPS			—
NPSH AT BOOSTER PUMPS (FT) (SUCT P)			—
WATER LEVEL (FT)			CWL 92 FT

Flow to Unit 2 [illegible]
Flow to Unit 3 [illegible]
Return to river flow 290

CASE 2 PUMP "E"

Air ECCS coolers (Min. flow Pg 0.0 [illegible])

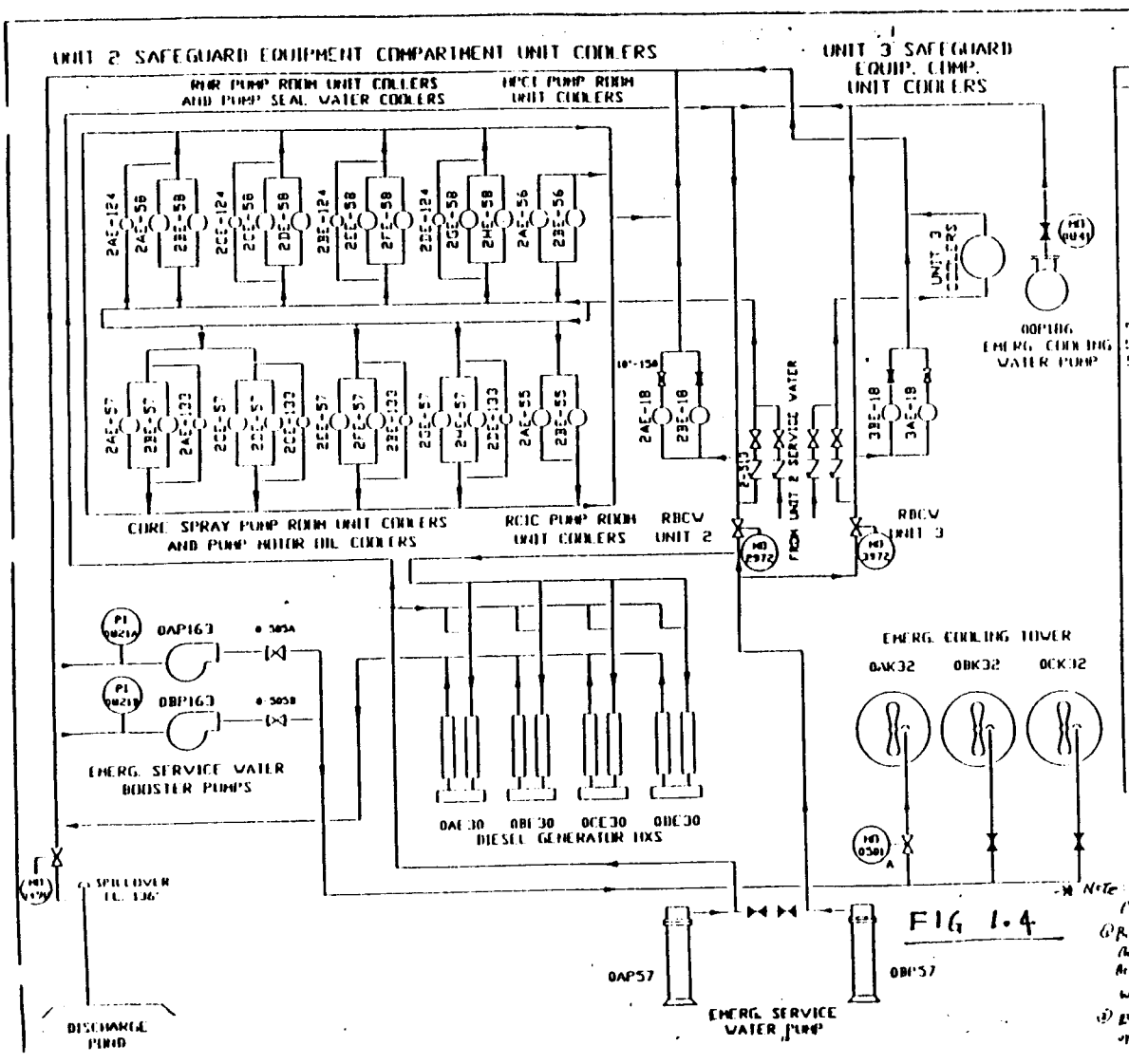


FIG 1.4

	EQUIPMENT		REQ'D	FLOW	CALC'D FLOW	TEMP
UNIT 2	RHR PUMP ROOM UNIT COOLERS	2AE-58	301	31	41.2	*
		2BE-58	302	31	41.0	*
		2CE-58	303	31	41.0	*
		2DE-58	304	31	41.0	*
		2EE-58	305	31	39.6	*
		2FE-58	306	31	39.8	*
		2GE-58	307	31	42.5	*
		2HE-58	308	31	41.8	*
	RHR PUMP SEAL WATER COOLERS	2AE-124	341	6	5.8	*
		2CE-124	343	6	5.8	*
		2BE-124	342	6	5.6	*
		2DE-124	344	6	5.7	*
	HPCI PUMP ROOM UNIT COOLERS	2AE-56	361	24	22.9	*
		2BE-56	362	24	24.6	*
	CORE SPRAY PUMP ROOM UNIT COOLERS	2AE-57	371	14	17.0	*
		2BE-57	372	14	17.0	*
		2CE-57	373	14	18.2	*
		2DE-57	374	14	18.4	*
		2EE-57	375	14	20.5	*
		2FE-57	376	14	20.2	*
		2GE-57	377	14	17.7	*
		2HE-57	378	14	18.0	*
	CORE SPRAY PUMP MOTOR OIL COOLERS	2AE-133	351	6	4.6	*
		2CE-133	352	6	4.0	*
		2BE-133	353	6	4.9	*
		2DE-133	354	6	4.0	*
	RCIC PUMP ROOM UNIT COOLERS	2AE-55	351	10	12.1	*
		2BE-55	352	10	10.1	*
	SUM OF UNIT 2 EQUIP. COOLERS				598	*
	REACTOR BUILDING COOLING WATER HXS	2AE-18	391	1970	—	
		2BE-18	392	1970	—	
UNIT 3	DIESEL GENERATOR HEAT EXCHANGERS	0AE-30	301	700	594	*
		0BE-30	302	700	535	*
		0CE-30	303	700	521	*
		0DE-30	304	700	512	*
	SAFEGUARD EQ COOLERS		410		649	*
	RBCW HXS		420	1970	—	
	TOTAL ESW FLOW				1040	*
	NO OF ESW/BOOSTER/ECW PUMPS				[illegible]	
	NPSH AT BOOSTER PUMPS (FT.) (SUCT P)				[illegible]	*
	WATER LEVEL (FT.)				117	

Plan to unit 2 SW to in Bank PT
Plan to unit 3 SW to in Bank PT
Return to cooling tower
Case 2 [illegible]
File: [illegible]

Note: This [illegible] have no practical [illegible]
(1) Booster pump [illegible] will be [illegible] & pump will be [illegible] off. No flow will be supplied to DGs
(2) ECW pump [illegible] at [illegible] close to [illegible]

PEACH BOTTOM ATOMIC POWER STATION UNITS 2 & 3
PHILADELPHIA ELECTRIC COMPANY

EMERGENCY SERVICE WATER SYSTEM
PROCESS FLOW DIAGRAM
[illegible]

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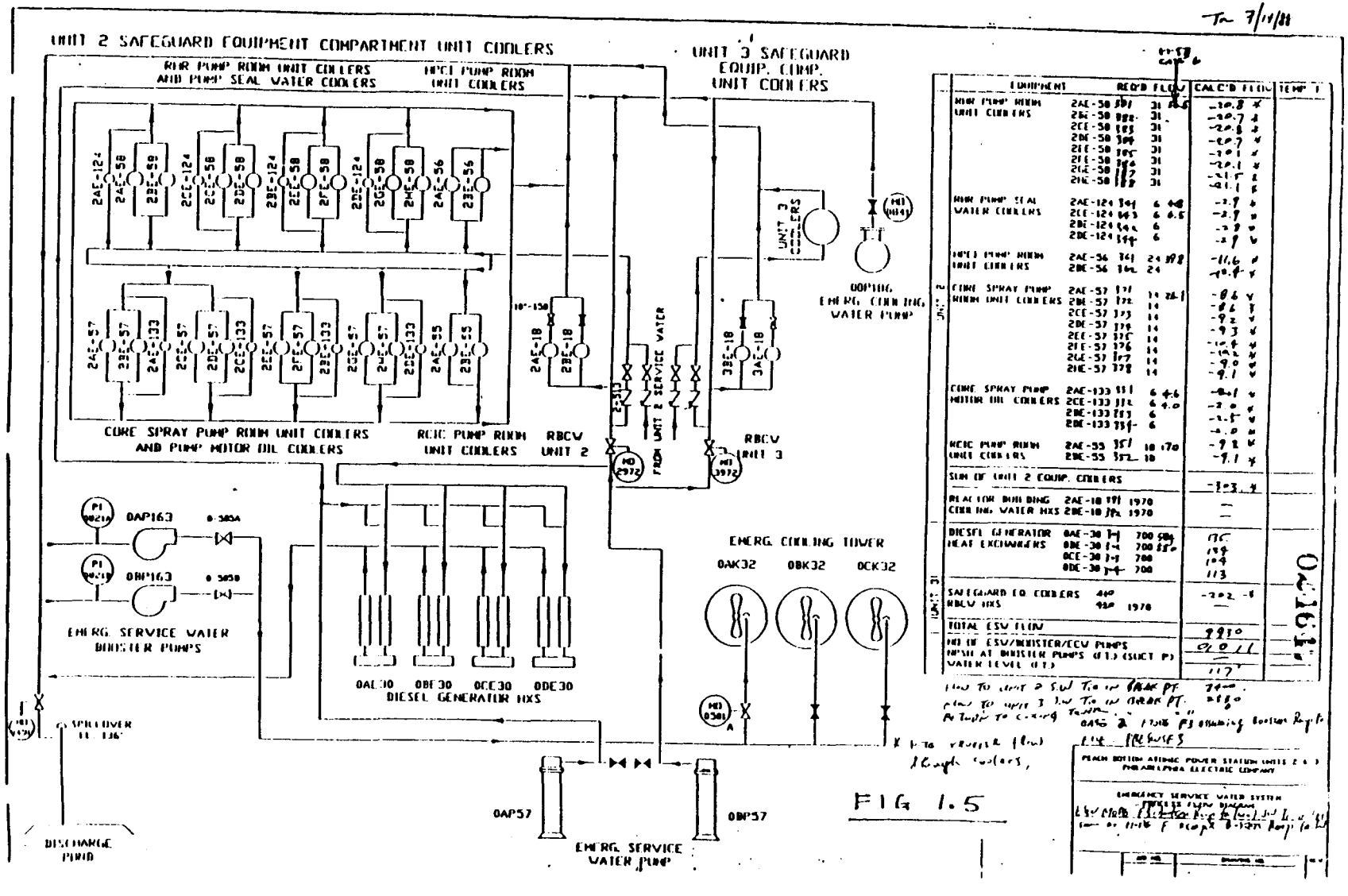

UNIT 2 SAFEGUARD EQUIPMENT COMPARTMENT UNIT COOLERS
RHR PUMP ROOM UNIT COOLERS AND PUMP SEAL WATER COOLERS
HPCI PUMP ROOM UNIT COOLERS
UNIT 3 SAFEGUARD EQUIP. COMP. UNIT COOLERS
CORE SPRAY PUMP ROOM UNIT COOLERS AND PUMP MOTOR OIL COOLERS
RCIC PUMP ROOM UNIT COOLERS
RBCV UNIT 2
RBCV UNIT 3
FROM UNIT 2 SERVICE WATER
EMERG. COOLING TOWER
0AK32
0BK32
0CK32
EMERG. SERVICE WATER BOOSTER PUMPS
0AP163
0BP163
0AC30
0BC30
0CC30
0DC30
DIESEL GENERATOR HXS
SPILLOVER
DISCHARGE PIPE
0AP57
0BP57
EMERG. SERVICE WATER PUMP
EQUIPMENT
REQ'D FLOW
CALC'D FLOW
TEMP
CORE SPRAY PUMP ROOM UNIT COOLERS
CORE SPRAY PUMP MOTOR OIL COOLERS
RCIC PUMP ROOM UNIT COOLERS
SUM OF UNIT 2 EQUIP. COOLERS
REACTOR BUILDING COOLING WATER HXS
DIESEL GENERATOR HEAT EXCHANGERS
SAFEGUARD EQ. COOLERS
RBCV HXS
TOTAL ESW FLOW
NO. OF ESW/BOOSTER/ECW PUMPS
WATER LEVEL (FT.)
FIG 1.5

PHILADELPHIA ELECTRIC COMPANY
2301 MARKET STREET
P.O. BOX 8699
PHILADELPHIA, PA. 19101
(215) 841-4000

NOV 23 1988

NUCLEAR ENGINEERING DEPARTMENT

Mr. Wallis R. Cramond
Reactor Systems Safety Analysis
Division 6412
Sandia National Laboratories
Albuquerque, NM 87185

SUBJECT: Peach Bottom Atomic Power Station
Emergency Service Water (ESW) Diversion

REFERENCE: Letter, A. J. Marie (PECo) to W. R. Cramond (Sandia) dated October 14, 1988

Dear Wally,

The reference letter described preliminary investigation into an ESW mode of operation which would require the accounting of Reactor Building Cooling Water (RBCW) load in addition to other cooling loads requiring ESW. Subsequently a detailed flow analysis has been performed to establish the effects of RBCW operation on flow diversion from the diesel generators. Attached is a copy of this analysis.

The mode of operation analyzed assumes one ESW pump in operation in conjunction with the Unit 2 ESW/Service Water interface check valve failed open. The RBCW heat exchangers must be manually valved in, and as such the period of time prior to valving in RBCW would be represented by previous analyses.

The analysis indicates that the mode of operation described results in a degraded room cooling flow but design flow to the diesel generators is maintained. This mode of ESW operation or the others analyzed does not provide any indication of loss of emergency AC power based upon diversion through the interface check valves.

If we can be of further assistance on this matter please contact G. A. Krueger.

Very truly yours,

A. J. Marie
Acting Manager
Nuclear and Environmental Section

GAK/bls/11158803

Bechtel Power Corporation
Engineers - Constructors

Fifty Beale Street
San Francisco, California
Mail Address: P.O. Box 3965, San Francisco, CA 94119

Contract #ME-387472

In reply please reference:
BLP- 24752

Doc. Control No. 025085

NOV 1 1 1988

Mr. T. Shannon
Philadelphia Electric Company
2301 Market Street
Philadelphia, Pennsylvania 19101

Subject: Job No. 11187-104-080, Philadelphia Electric Co.
Peach Bottom Atomic Power Station, Units 2 & 3

ESW Flow Network Analysis with Service Water Supply

Reference: BLP-24617 dated 8/29/88
(Document Control #024647)

Enclosures:
1. ESW Network Analysis Summary and Results for two Modes of one Unit ESW Operation & a Service Water Supply Check Valve Failure
2. Flow Diagram for Mode E4
3. Flow Diagram for Mode F4

Dear Tom:

The following is a complete reply to the telecon request of your Mr. C. Wiedersum to our Mr. W. Feir dated October 14, 1988 to provide additional ESW network analysis. Two modes of one Unit ESW flow analysis with failure of the service water supply check valve in the open position was performed. Enclosure 1 provides the summary of the analysis. Enclosures 2 & 3 are the tabulations of the flows.

Please advise if you require additional data.

Very truly yours,

B. A. Patel

E. D. Patel
Project Engineer

Written Response Req'd: No
CWL/OAN(MA):nc
cc: Mr. C. Wiedersum, w/a PECo
T-1/9

ESW Network Flow Analysis-Summary Results for Two Modes of One Unit ESW Operation with a Service Water Supply Check Valve Failure

Per PECo's request an additional two modes of operation for the case 1 service water check valve and isolation valve failure scenario (Reference 1) was performed.

case 1: Service water supply check valve 2-514 and 3-514 both failed open with no pipe break, ESW flows partly diverted to the Unit 2 and 3 discharge culvert (Reference 1). One unit ESW operation, all coolers (LOA, loss of air), four DGs, with one RBCW Hx.

mode E4 One ESW pump operating (Loop A), suction from river LWL 98.5 ft., return to river overflow at el. 136 ft, and one unit Service Water culvert at el. 196.5 ft.

mode F4 The ECW pump and one ESW booster pump operating, suction from emergency cooling tower basin water level el. 117 ft., return to one emergency cooler tower at el. 180.5 ft, and one unit Service Water culvert at el. 196.5 ft.

The study was performed for the as-built 15 years plant aging condition.

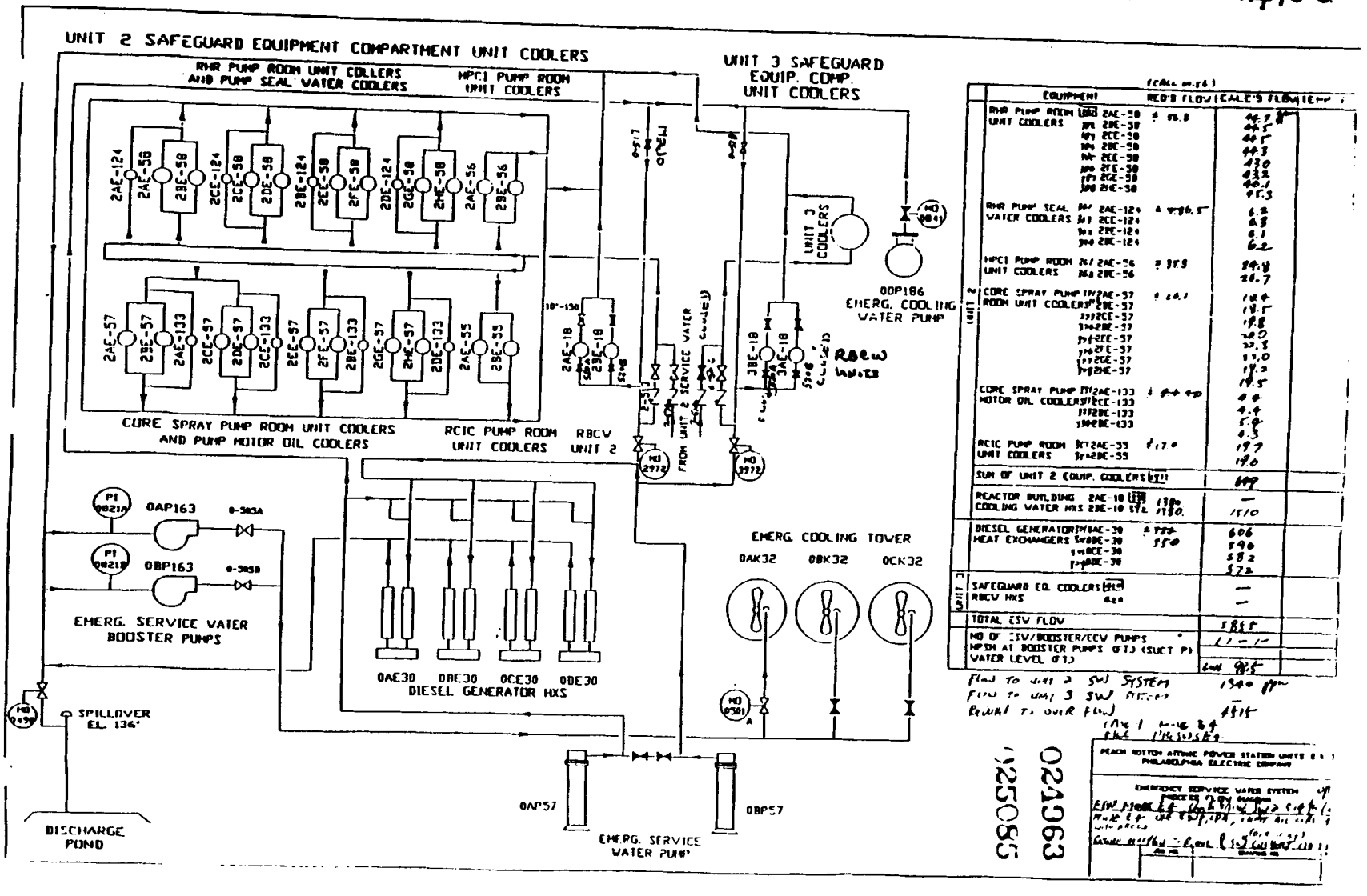
It should be noted that in the one unit ESW operation, the unit isolation valve 2-503 or 3-503 is closed for the isolated unit safeguard equipment room coolers, and the appropriate RBCW isolation valve 33-520A and B are also closed accordingly. Valves 0-517 and 0-518 are open during the one unit operation.

Since only one unit is running on the ESW system, the service water system check valve failed open scenario is applicable to the unit in ESW operation.

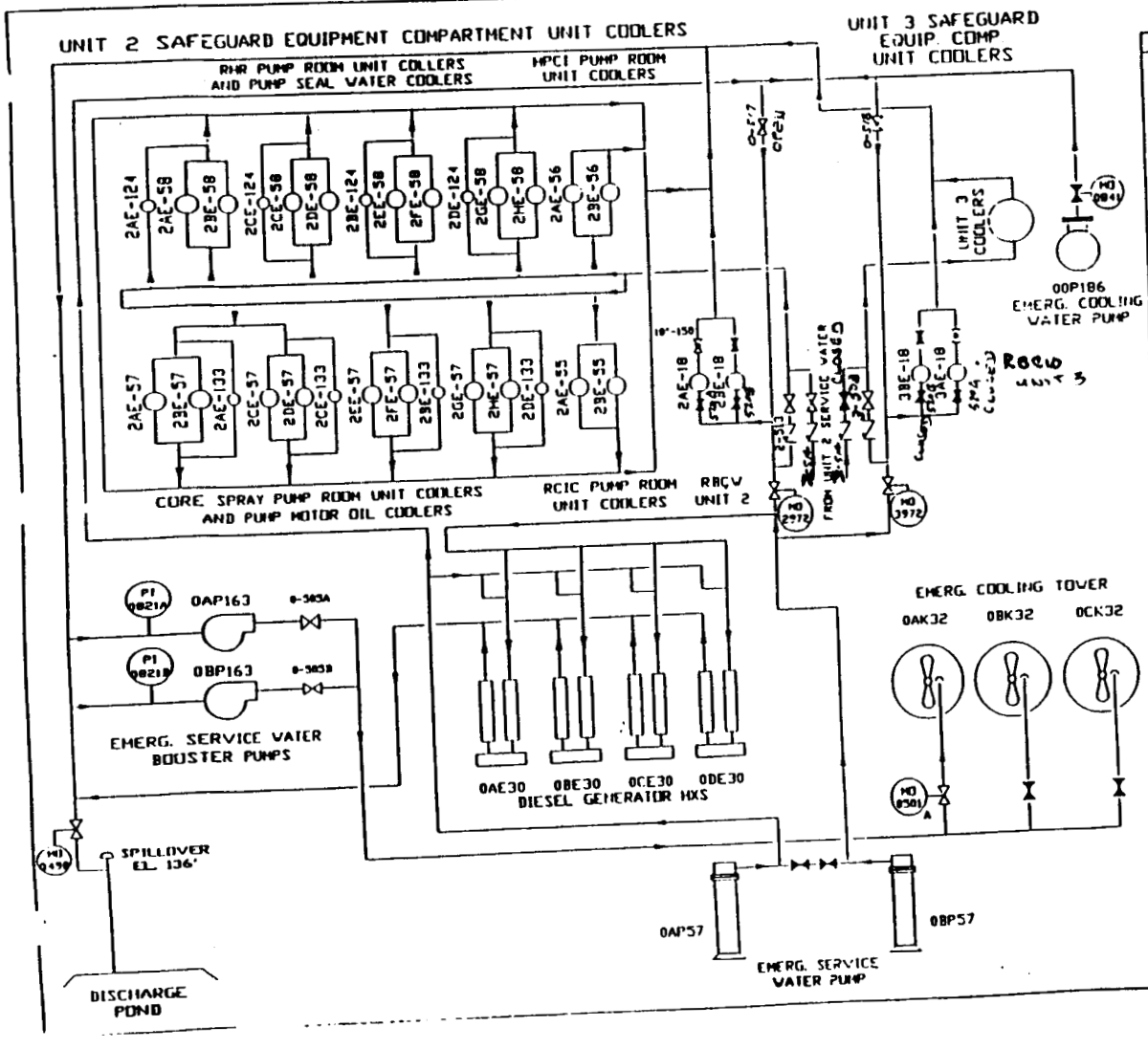
The results of DG coolers and safeguard equipment and room coolers coolant flow rates are tabulated in the Enclosures 2 & 3. Diesel Generator coolers meet the flow measurements of 550 gpm in both modes studied.

T-1/9

ENCLOSURE 2 TO BLP-24752



ENCLOSURE 3 TO ISLP 24752



	EQUIPMENT		REQ'D FLOW	CALC'D FLOW	TEMP
UNIT 2	RHR PUMP ROOM UNIT COOLERS	2AE-58	88.8	49.2	
		2BE-58		48.9	
		2CE-58		49.0	
		2DE-58		48.8	
		2EE-58		47.4	
		2FE-58		47.5	
		2GE-58		[illegible]	
		2HE-58		[illegible]	
	RHR PUMP SEAL WATER COOLERS	2AE-124	486.5	6.9	
		2CE-124		7.0	
		2BE-124		6.7	
		2DE-124		6.9	
	HPCI PUMP ROOM UNIT COOLERS	2AE-56	393	27.3	
		2BE-56		29.3	
	CORE SPRAY PUMP ROOM UNIT COOLERS	2AE-57	24.1	20.3	
		2BE-57		20.3	
		2CE-57		21.8	
		2DE-57		22.0	
		2EE-57		24.5	
		2FE-57		24.2	
		2GE-57		21.2	
		2HE-57		21.5	
	CORE SPRAY PUMP MOTOR OIL COOLERS	2AE-133	[illegible]	4.9	
		2CE-133		4.8	
		2BE-133		5.9	
		2DE-133		4.7	
	RCIC PUMP ROOM UNIT COOLERS	2AE-55	170	24.7	
		2BE-55		21.6	
	SUM OF UNIT 2 EQUIP. COOLERS			719.8	
	REACTOR BUILDING COOLING WATER HXS	2AE-10	1380	—	
		2BE-10	1380	1605	
	DIESEL GENERATOR HEAT EXCHANGERS	0AE-30	550	643	
		0BE-30		635	
		0CE-30		640	
		0DE-30		607	
UNIT 3	SAFEGUARD EQ. COOLERS			—	
	RBCW HXS			—	
	TOTAL ESW FLOW			6310	
	NO OF ESW/BOOSTER/ECW PUMPS			01111	
	NPSH AT BOOSTER PUMPS (FT) (SUCT P)				
	WATER LEVEL (FT)			117'	

FLOW TO UNIT 2 SW SYSTEM 1425
FLOW TO UNIT 3 SW SYSTEM 4885
RETURN TO COOLING TOWER

PEACH BOTTOM ATOMIC POWER STATION UNITS 2 & 3
PHILADELPHIA ELECTRIC COMPANY

EMERGENCY SERVICE WATER SYSTEM
PROCESS FLOW DIAGRAM

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which could cause a very late failure (10 hours or greater) of some core significantly affected. As the long term failure mode is not significant to the results, the backleakage failure mode of the 514 valves was not maintained in the analysis and is not considered in the ESW fault trees.

A.5 Abbreviations

ADS	Automatic Depressurization System
ATWS	Anticipated Transient Without Scram
BAF	Bottom of Active Fuel
BWR	Boiling Water Reactor
CRD	Control Rod Drive
HPCI	High Pressure Coolant Injection
MSIV	Main Steam Isolation Valve
ORNL	Oak Ridge National Laboratory
RCIC	Reactor Core Isolation Cooling
RHR	Residual Heat Removal
RV	Reactor Vessel
SLC	Standby Liquid Control
SP	Suppression Pool
SRV	Safety Relief Valve
TAF	Top of Active Fuel

A.6 References

[1] R. M. Harrington and L. C. Fuller, BWR-LTAS: A Boiling Water Reactor Long-Term Accident Simulation Code, Oak Ridge National Laboratory, NUREG/CR-3764, ORNL/TM-9163, February 1985.

[2] Assessment of BWR Mitigation of ATWS (NUREG-0460 Alternate No.3), General Electric, NEDO-24222, 80NED021, CLASS I, February 1981.

[3] R. M. Harrington and S. A. Hodge, ATWS at Browns Ferry Unit One - Accident Sequence Analysis, Oak Ridge National Laboratory, NUREG/CR-3470, ORNL/TM-8902, July 1984.

[4] R. J. Dallman, et al., Severe Accident Sequence Analysis Program - Anticipated Transient Without Scram Simulations for Browns Ferry Nuclear Plant Unit 1, Idaho National Engineering Laboratory (EG&G Idaho), NUREG/CR-4165, EG&G-2379 (Draft), February 1985.

APPENDIX B

PEACH BOTTOM SYSTEM FAULT TREES

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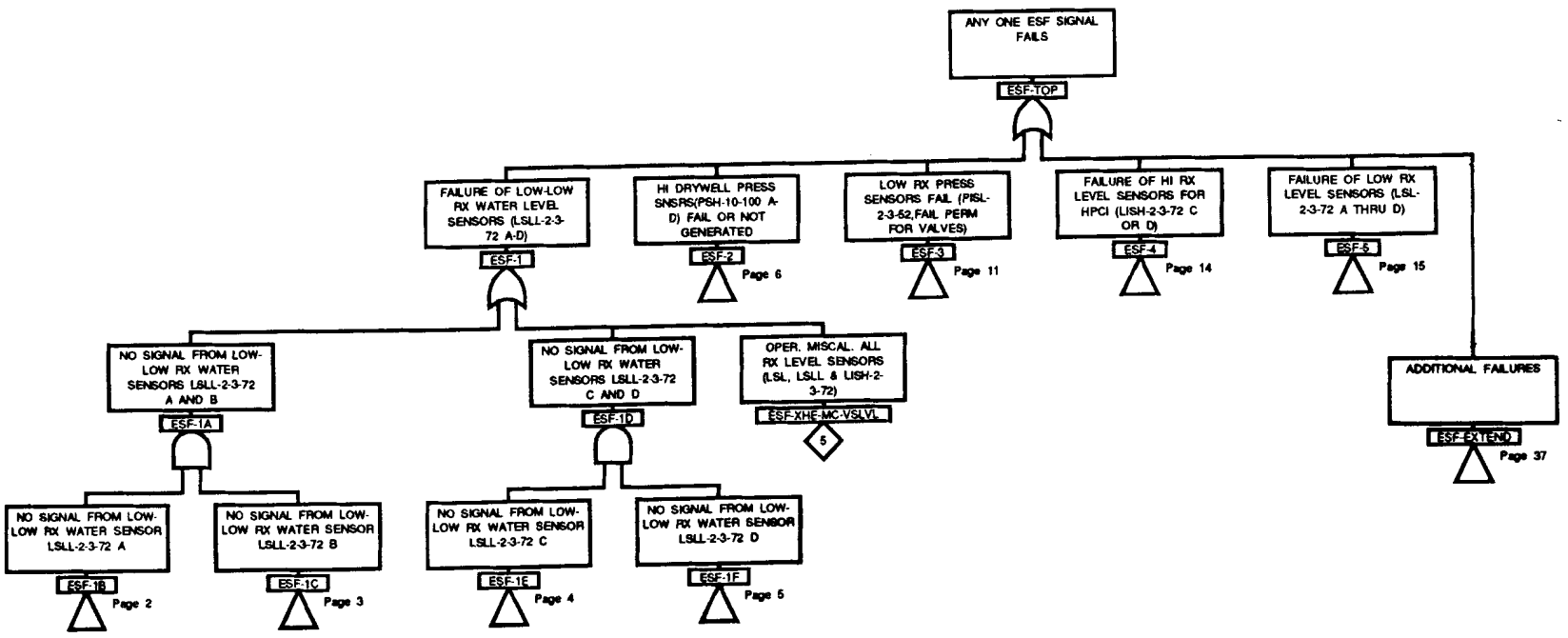

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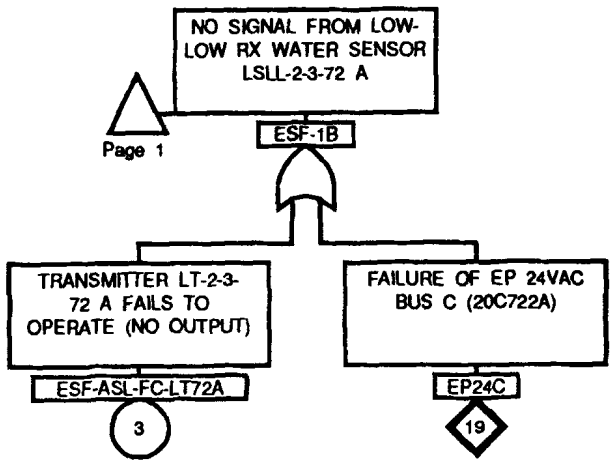

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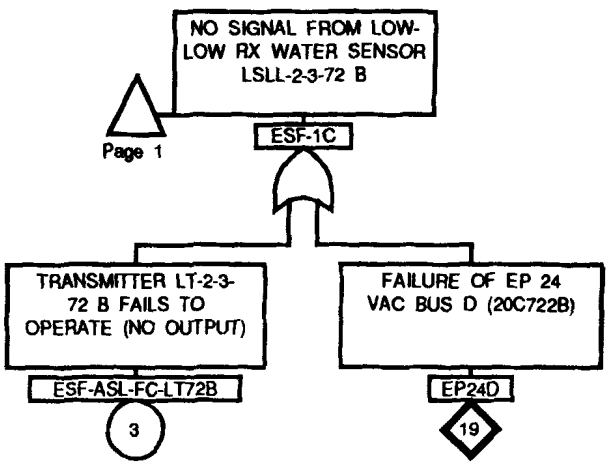

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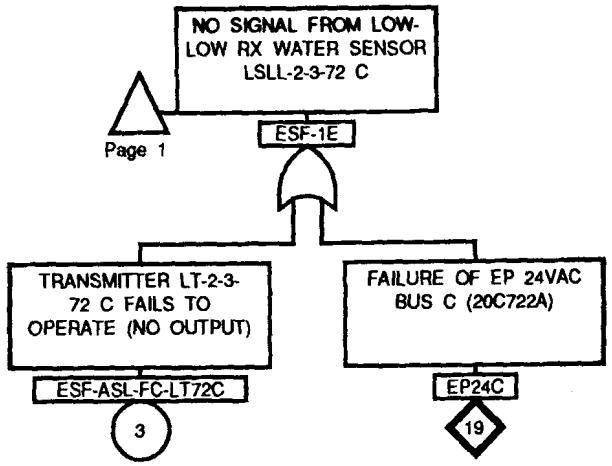

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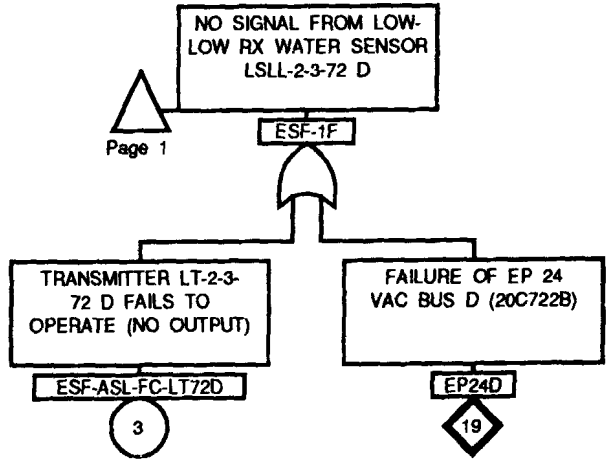

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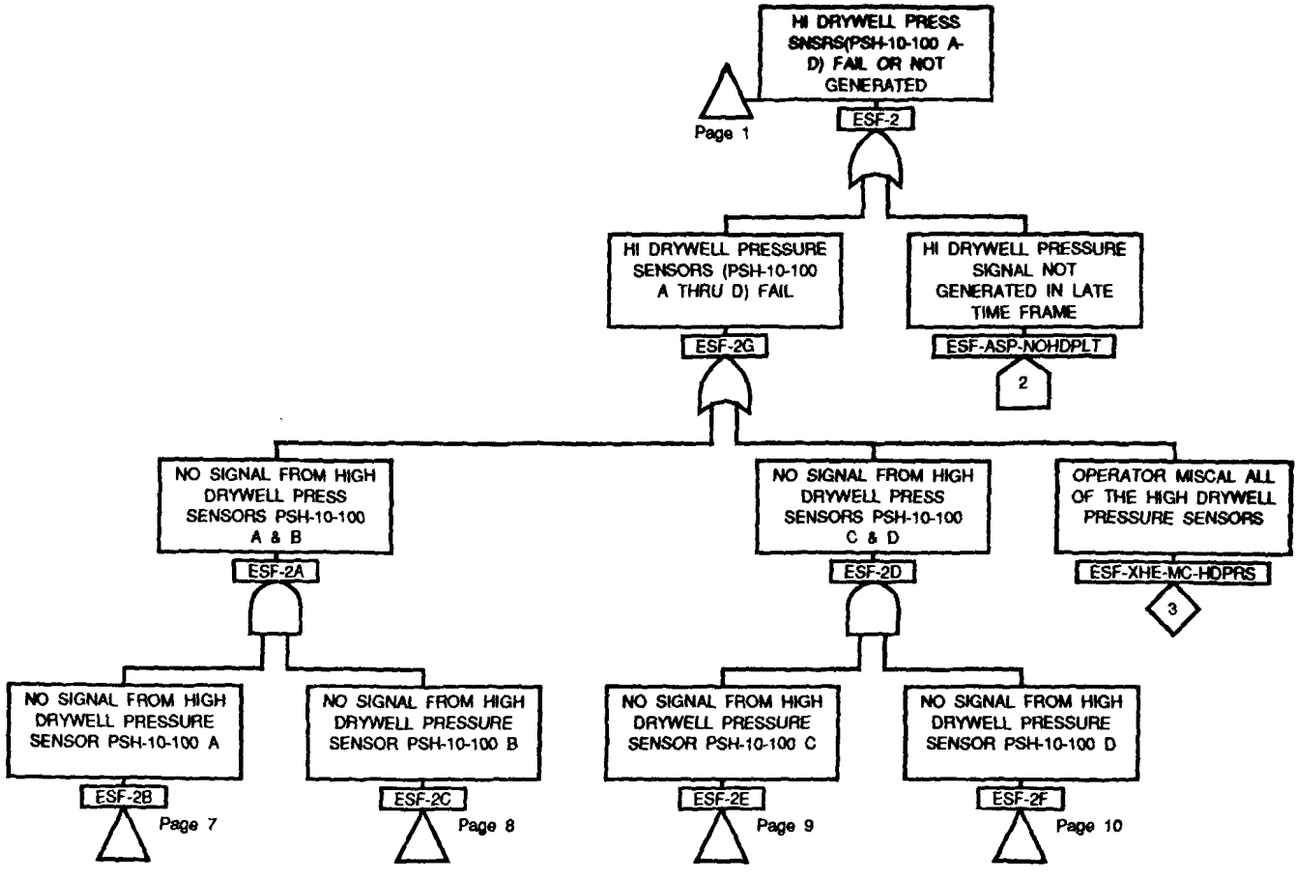

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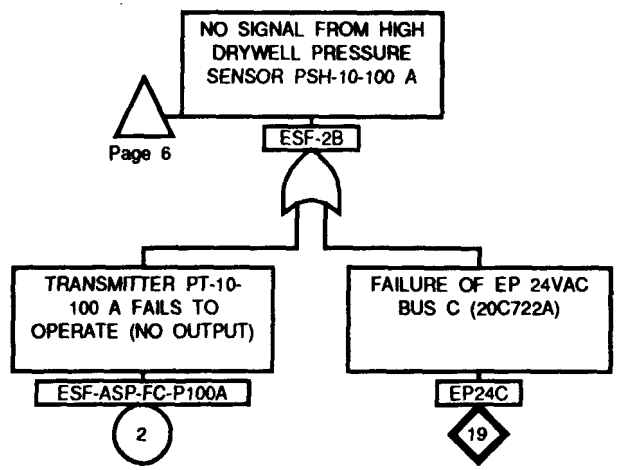

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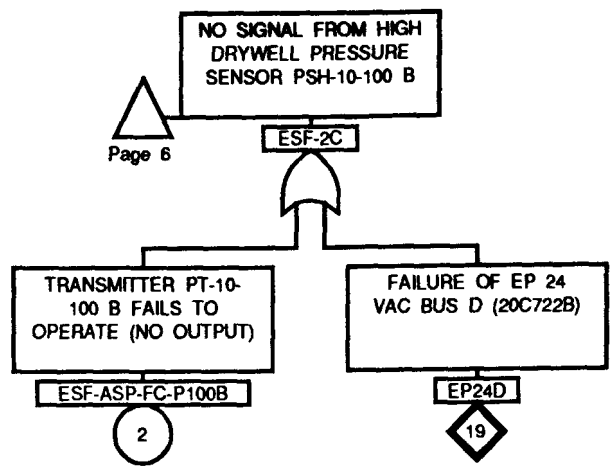

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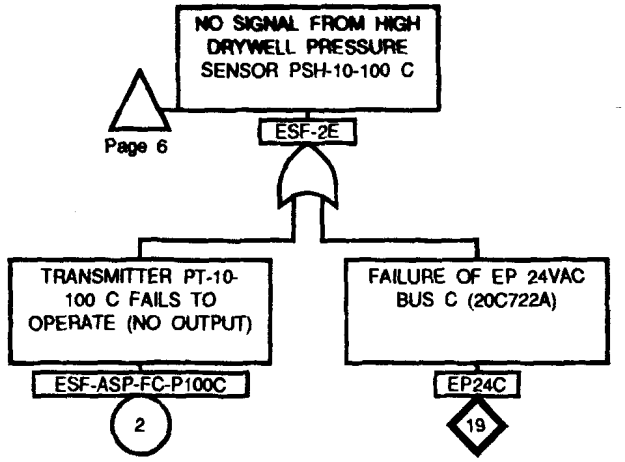

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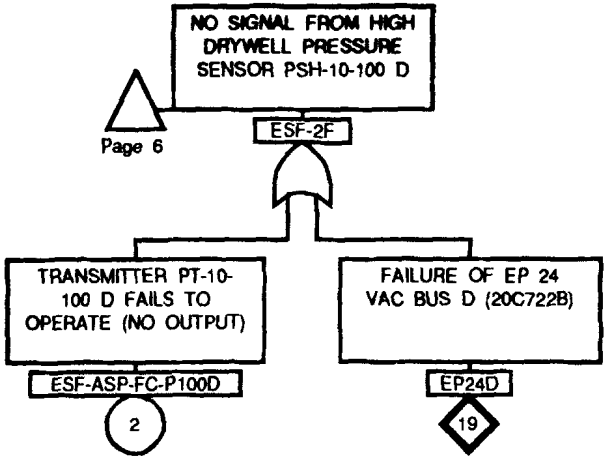

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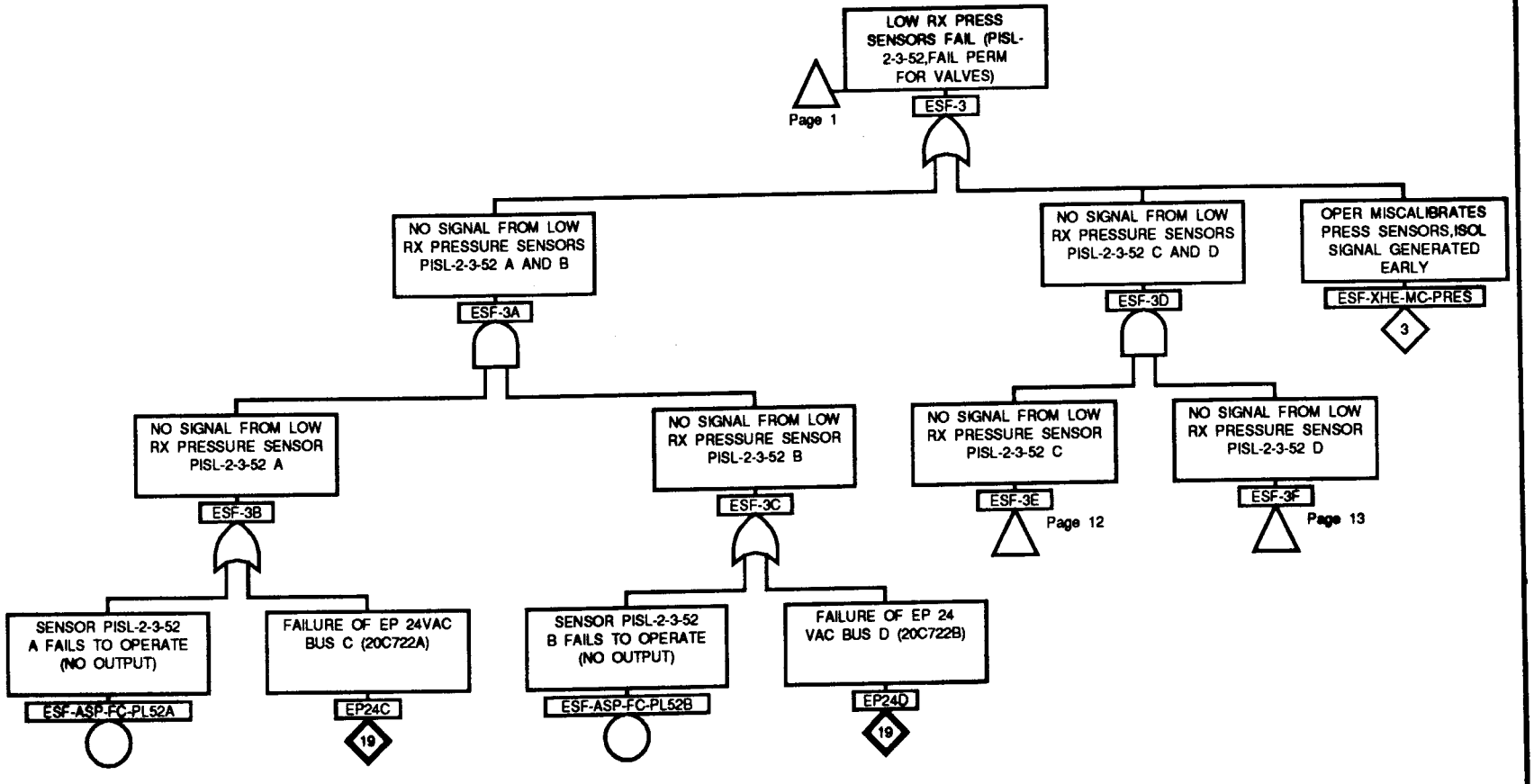

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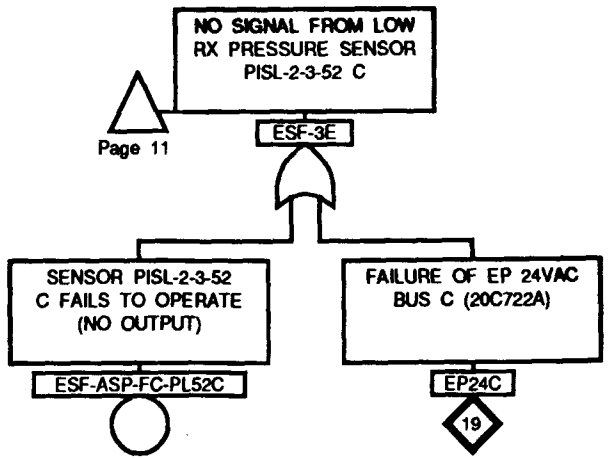

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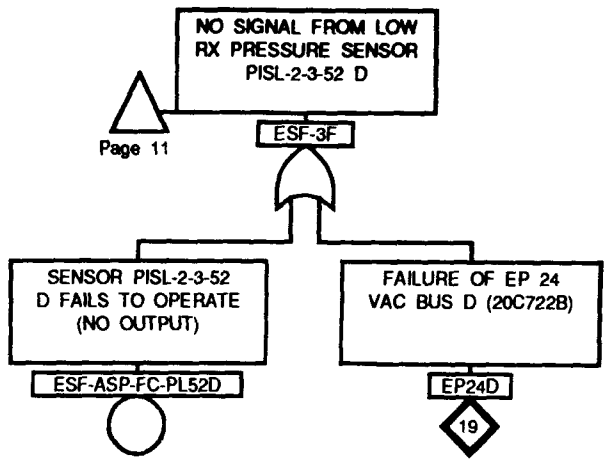

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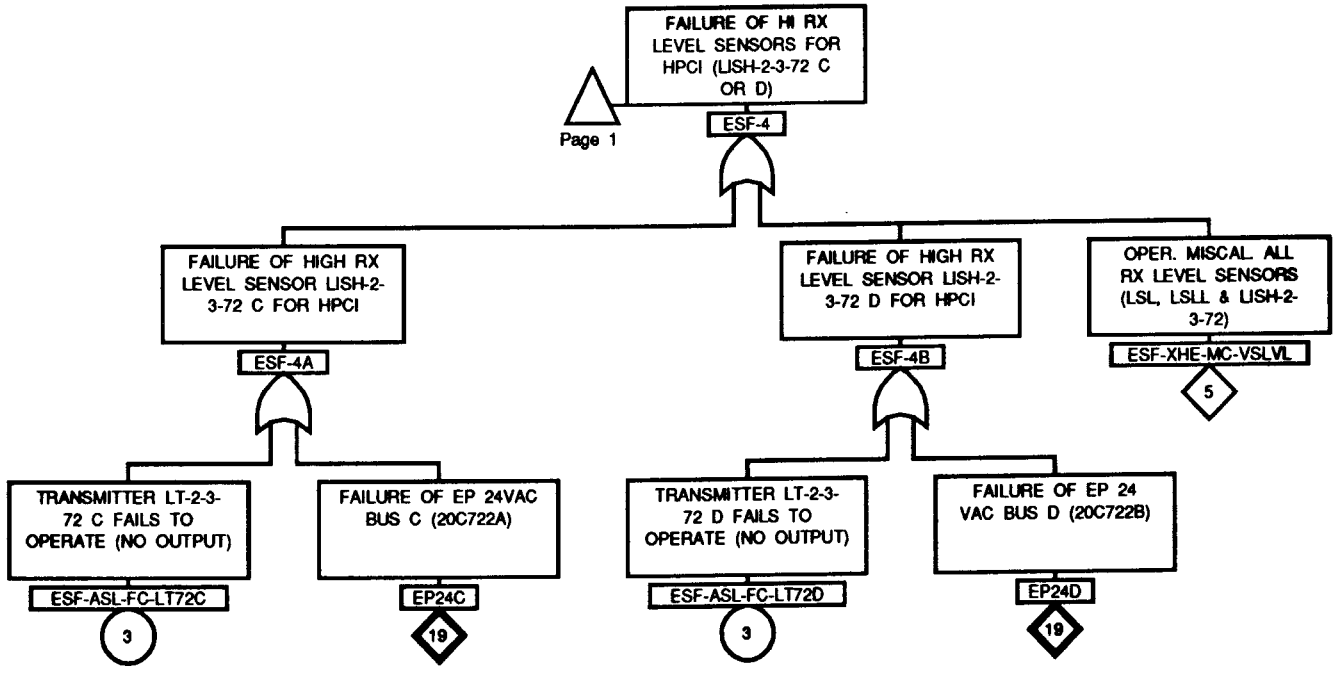

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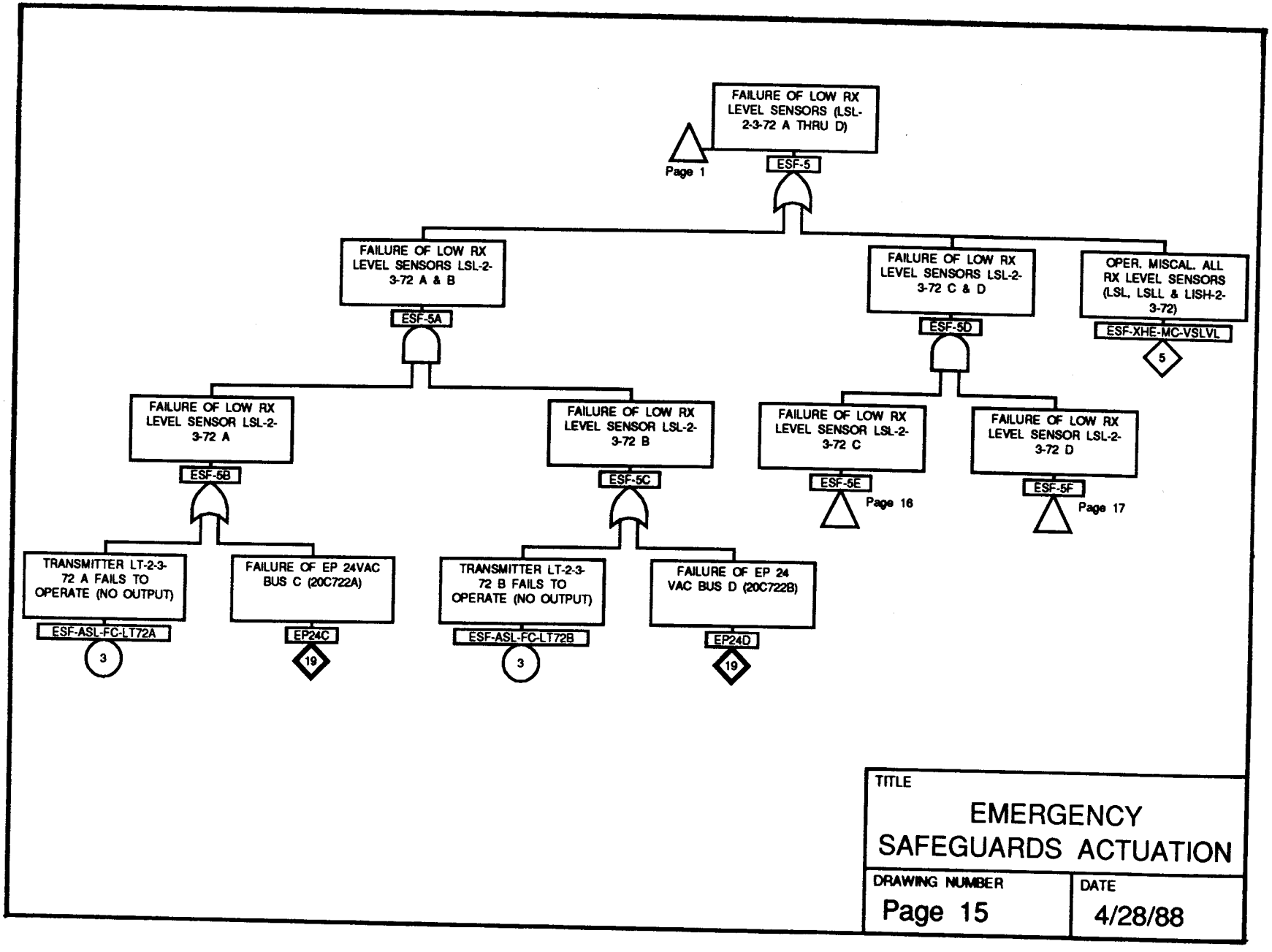
FAILURE OF LOW RX LEVEL SENSORS (LSL-2-3-72 A THRU D)
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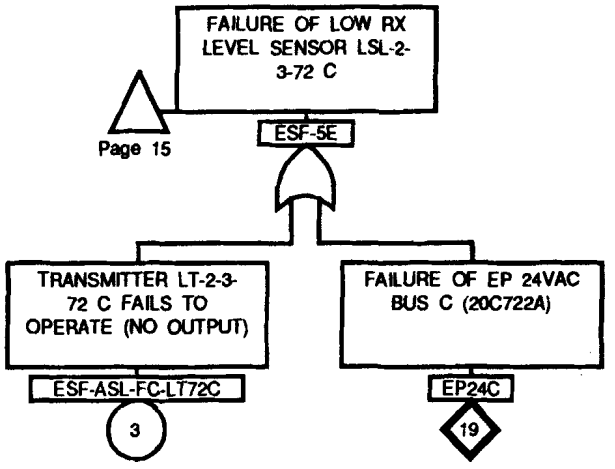

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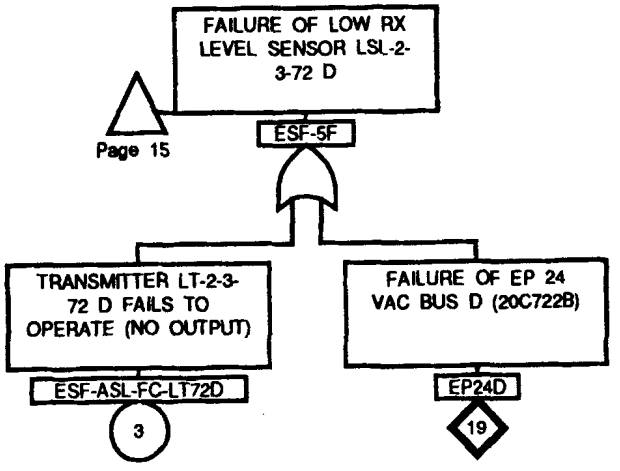

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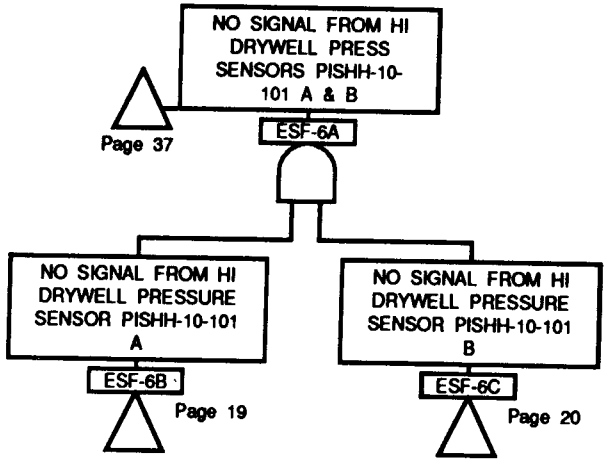

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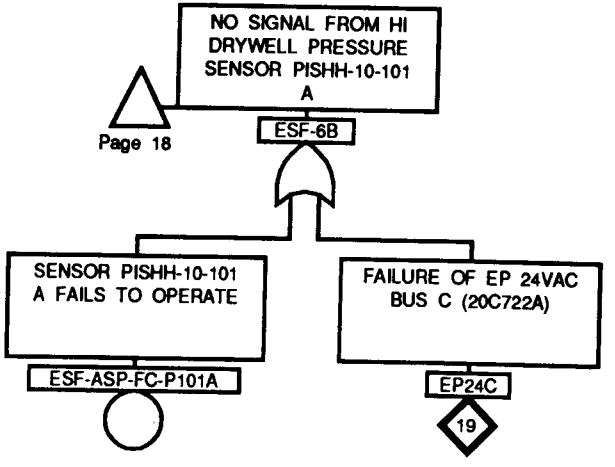

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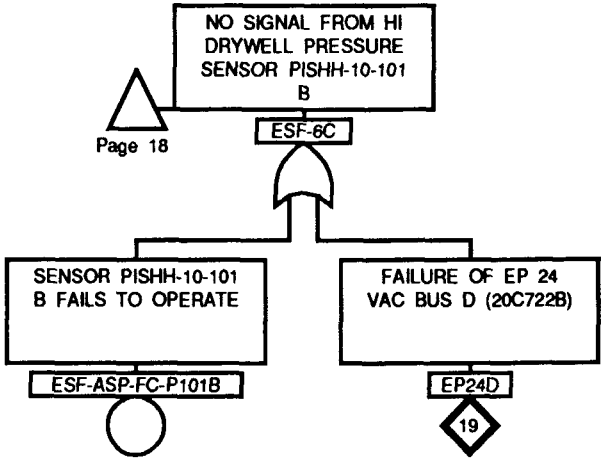

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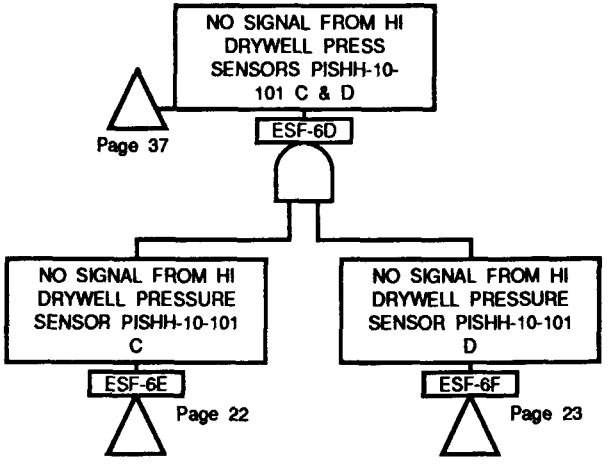

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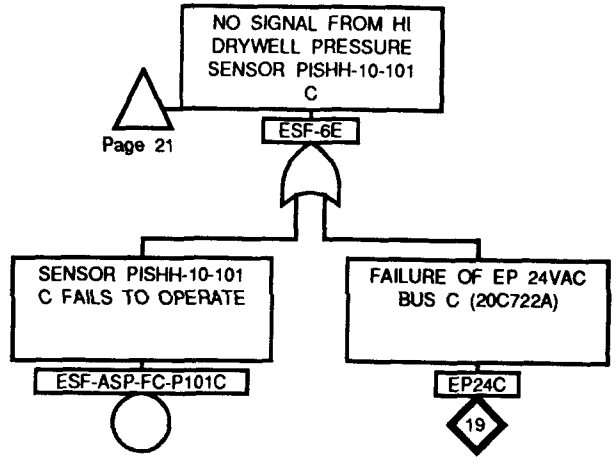

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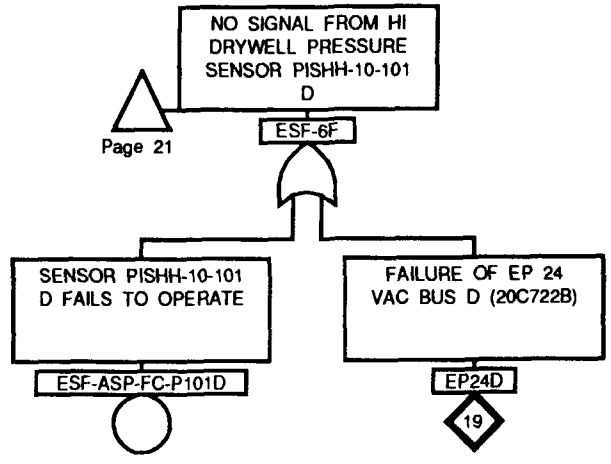

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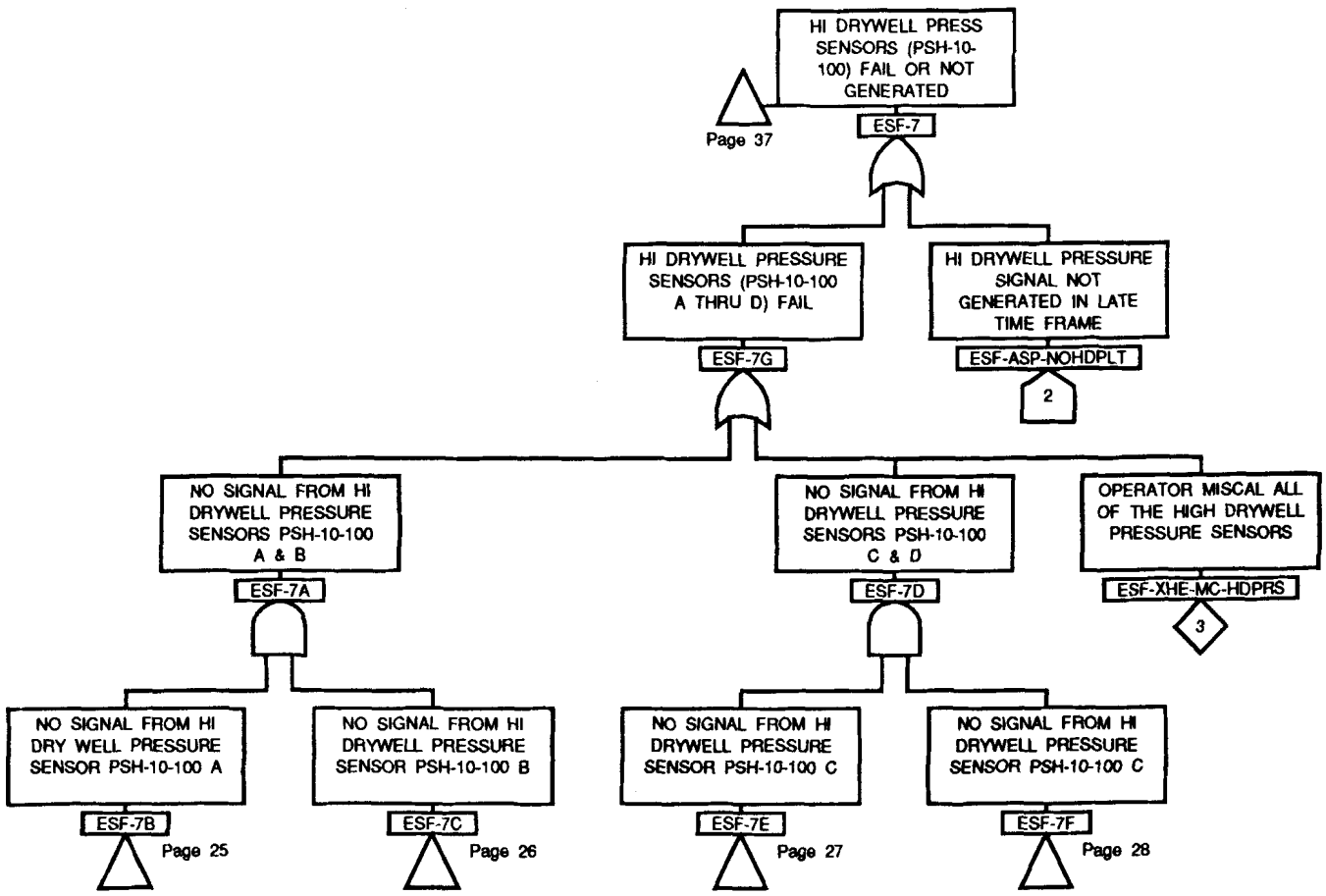

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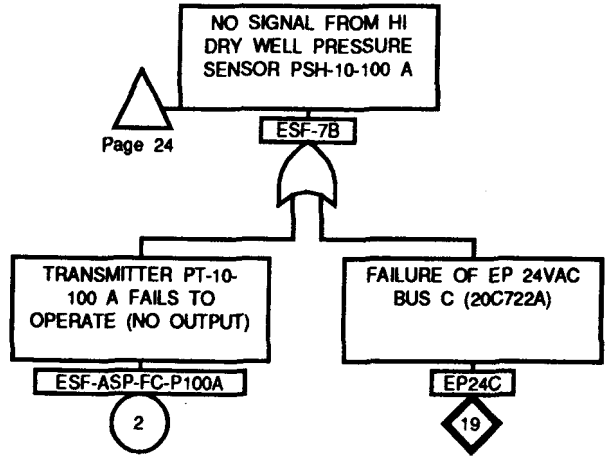

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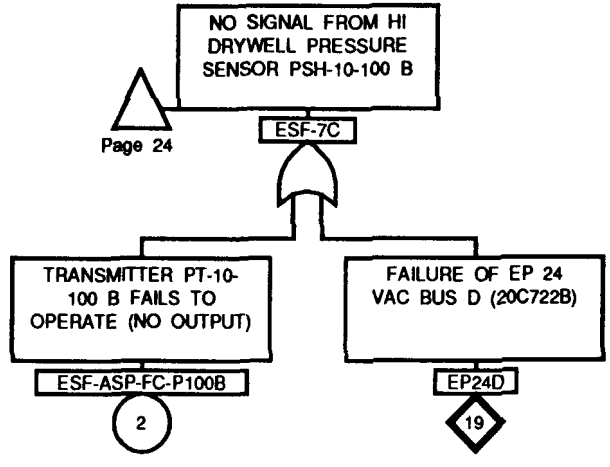

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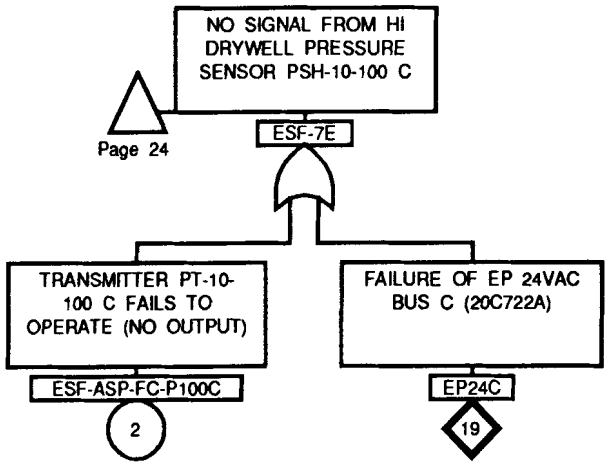

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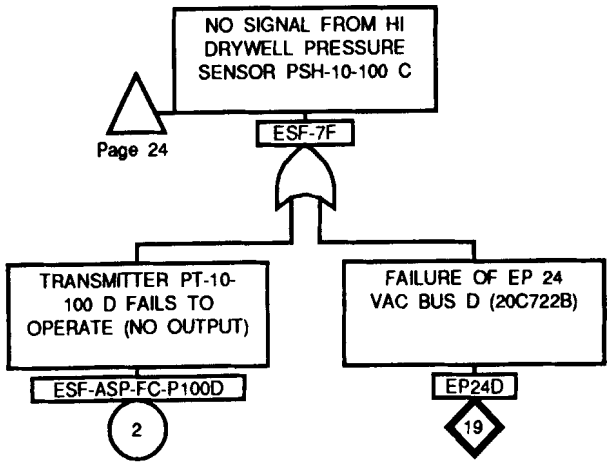

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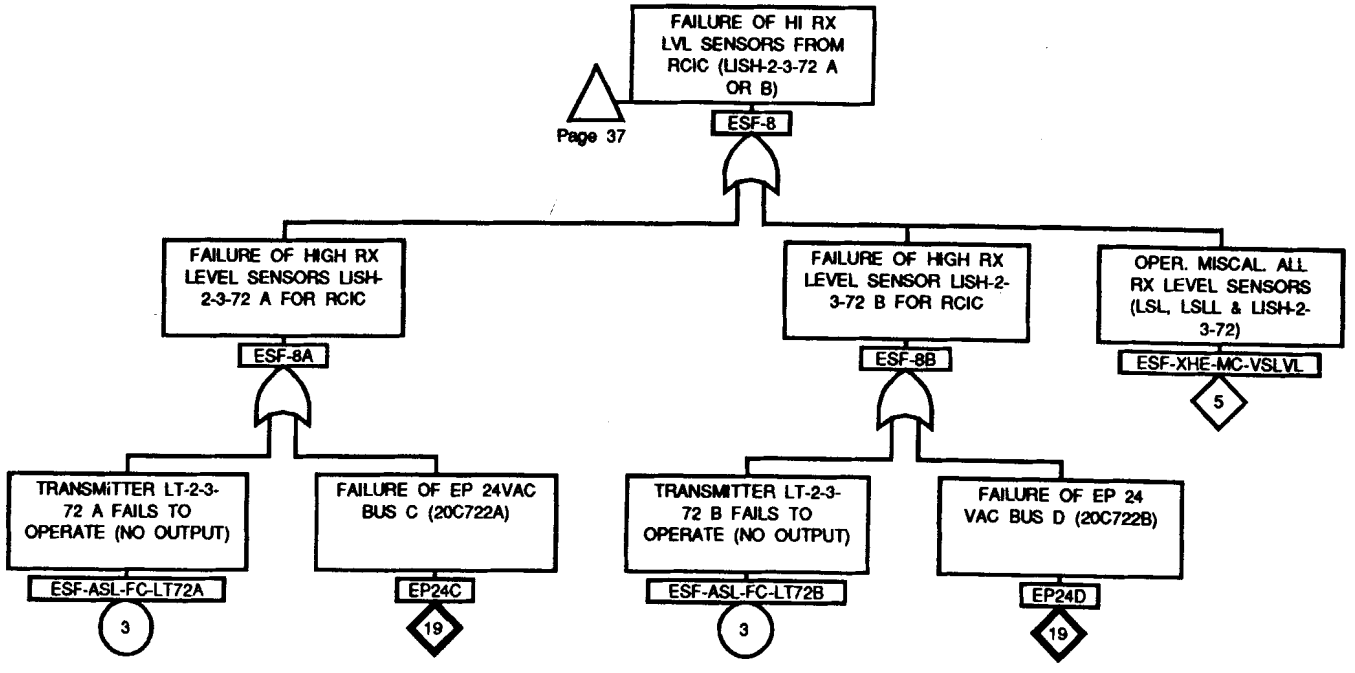

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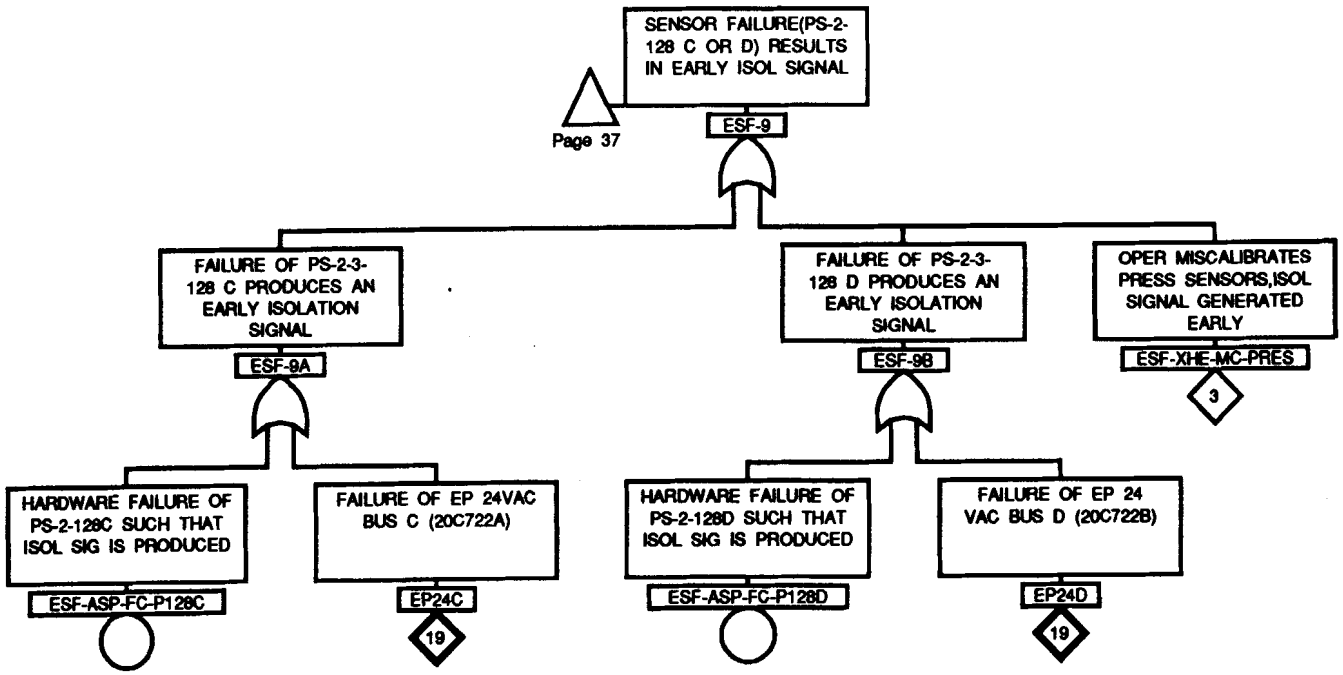

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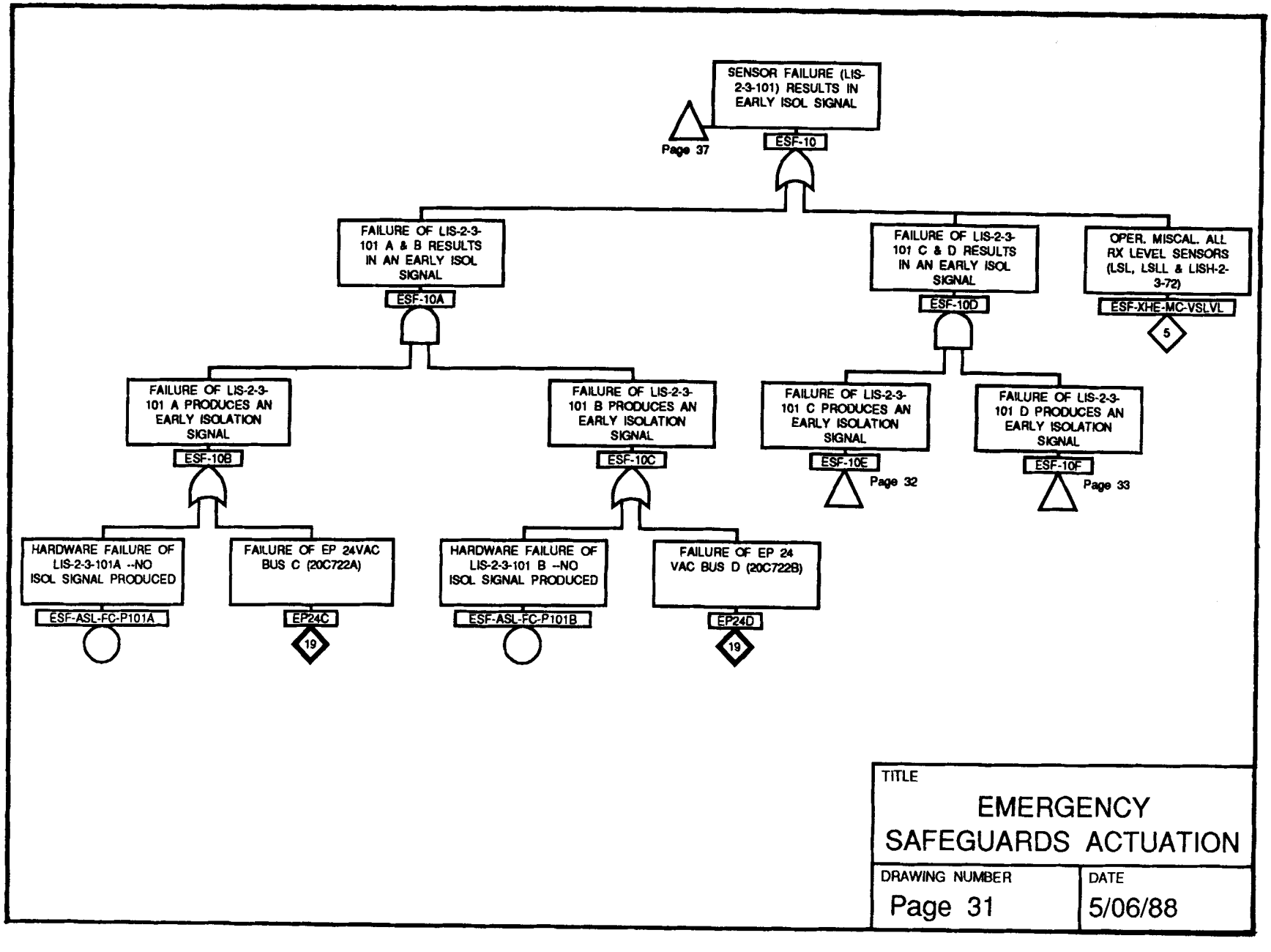

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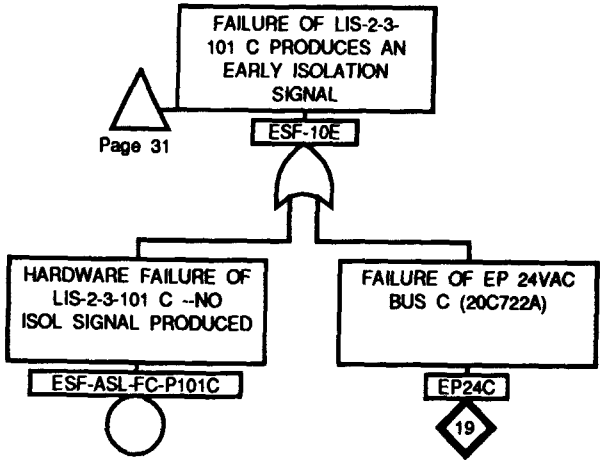

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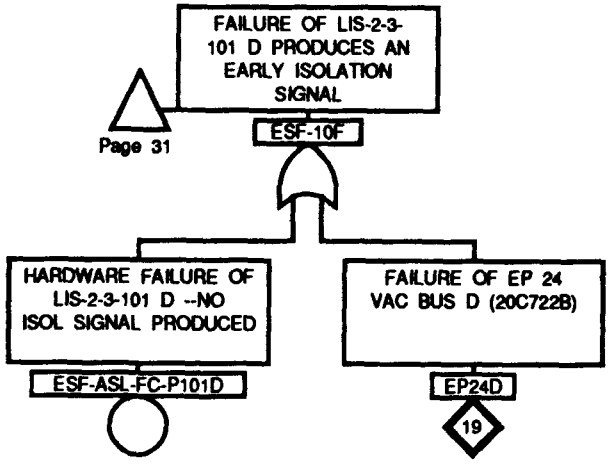
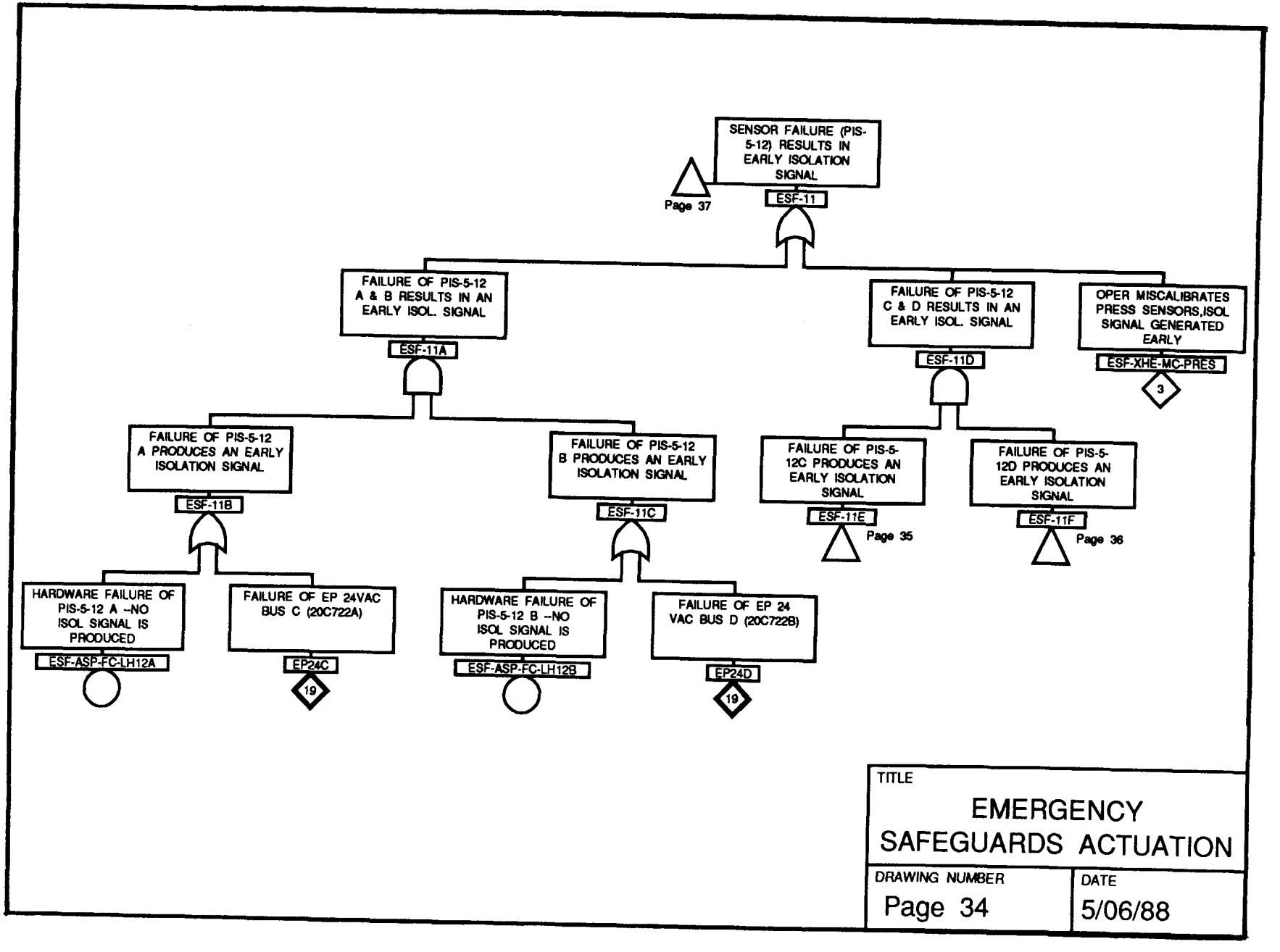
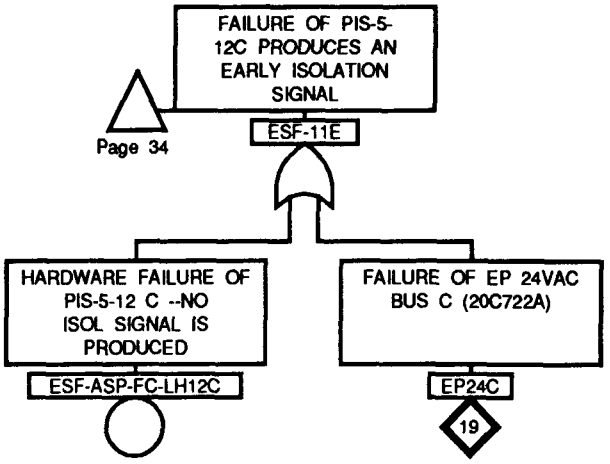
DRAWING NUMBER	DATE
Page 32	5/06/88



TITLE
EMERGENCY SAFEGUARDS ACTUATION

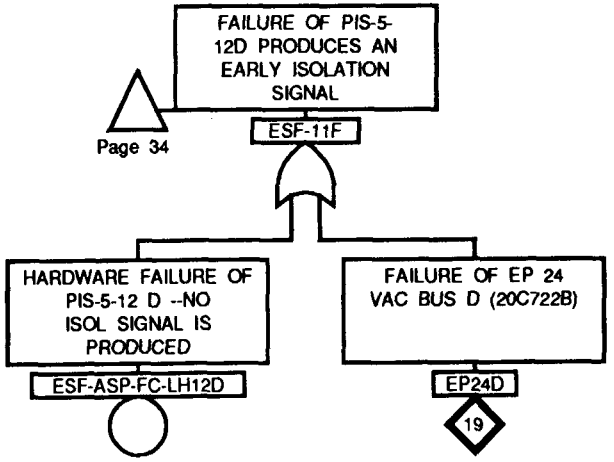
DRAWING NUMBER	DATE
Page 33	5/06/88


SENSOR FAILURE (PIS-5-12) RESULTS IN EARLY ISOLATION SIGNAL
ESF-11
Page 37
FAILURE OF PIS-5-12 A & B RESULTS IN AN EARLY ISOL. SIGNAL
ESF-11A
FAILURE OF PIS-5-12 C & D RESULTS IN AN EARLY ISOL. SIGNAL
ESF-11D
OPER MISCALIBRATES PRESS SENSORS,ISOL SIGNAL GENERATED EARLY
ESF-XHE-MC-PRES
3
FAILURE OF PIS-5-12 A PRODUCES AN EARLY ISOLATION SIGNAL
ESF-11B
FAILURE OF PIS-5-12 B PRODUCES AN EARLY ISOLATION SIGNAL
ESF-11C
FAILURE OF PIS-5-12C PRODUCES AN EARLY ISOLATION SIGNAL
ESF-11E
Page 35
FAILURE OF PIS-5-12D PRODUCES AN EARLY ISOLATION SIGNAL
ESF-11F
Page 36
HARDWARE FAILURE OF PIS-5-12 A --NO ISOL SIGNAL IS PRODUCED
ESF-ASP-FC-LH12A
FAILURE OF EP 24VAC BUS C (20C722A)
EP24C
19
HARDWARE FAILURE OF PIS-5-12 B --NO ISOL SIGNAL IS PRODUCED
ESF-ASP-FC-LH12B
FAILURE OF EP 24 VAC BUS D (20C722B)
EP24D
19
TITLE
EMERGENCY SAFEGUARDS ACTUATION
DRAWING NUMBER
Page 34
DATE
5/06/88



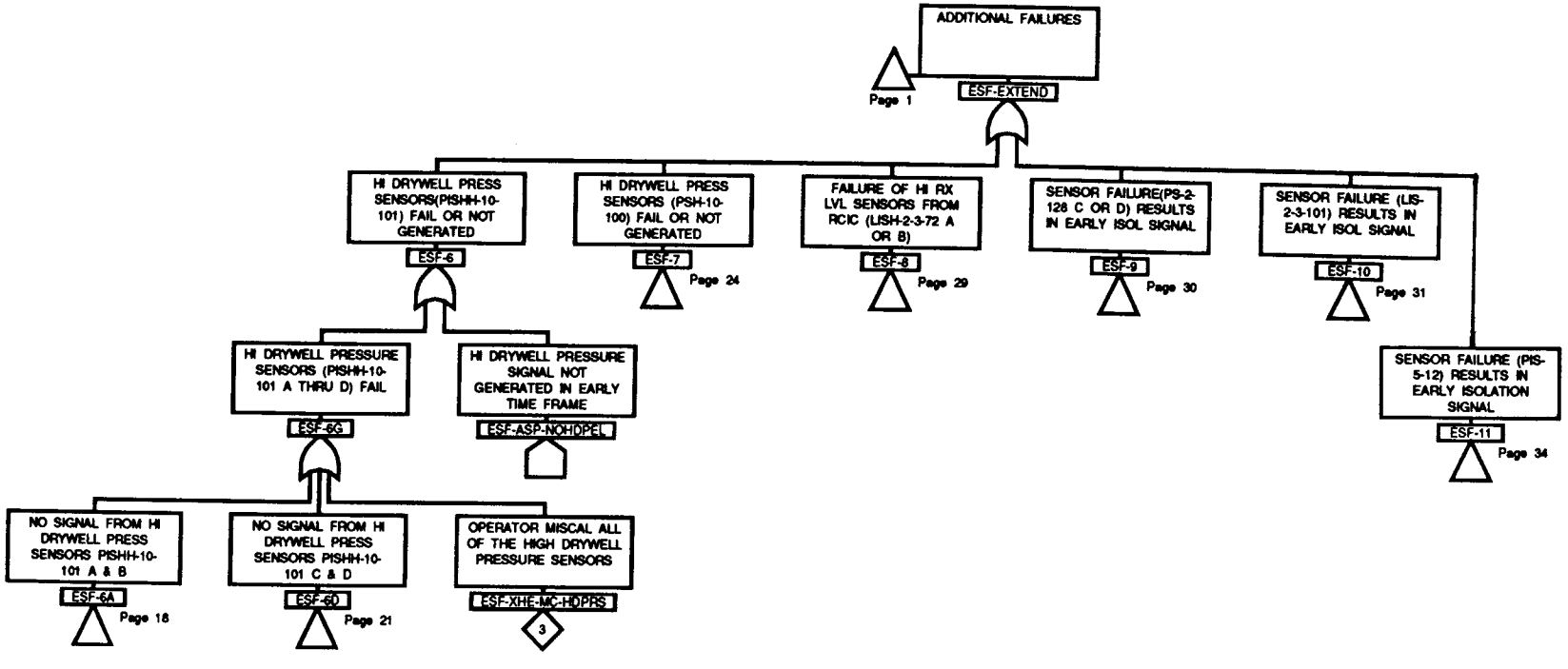
TITLE
EMERGENCY SAFEGUARDS ACTUATION

DRAWING NUMBER	DATE
Page 35	5/06/88



TITLE
EMERGENCY SAFEGUARDS ACTUATION

DRAWING NUMBER	DATE
Page 36	4/28/88



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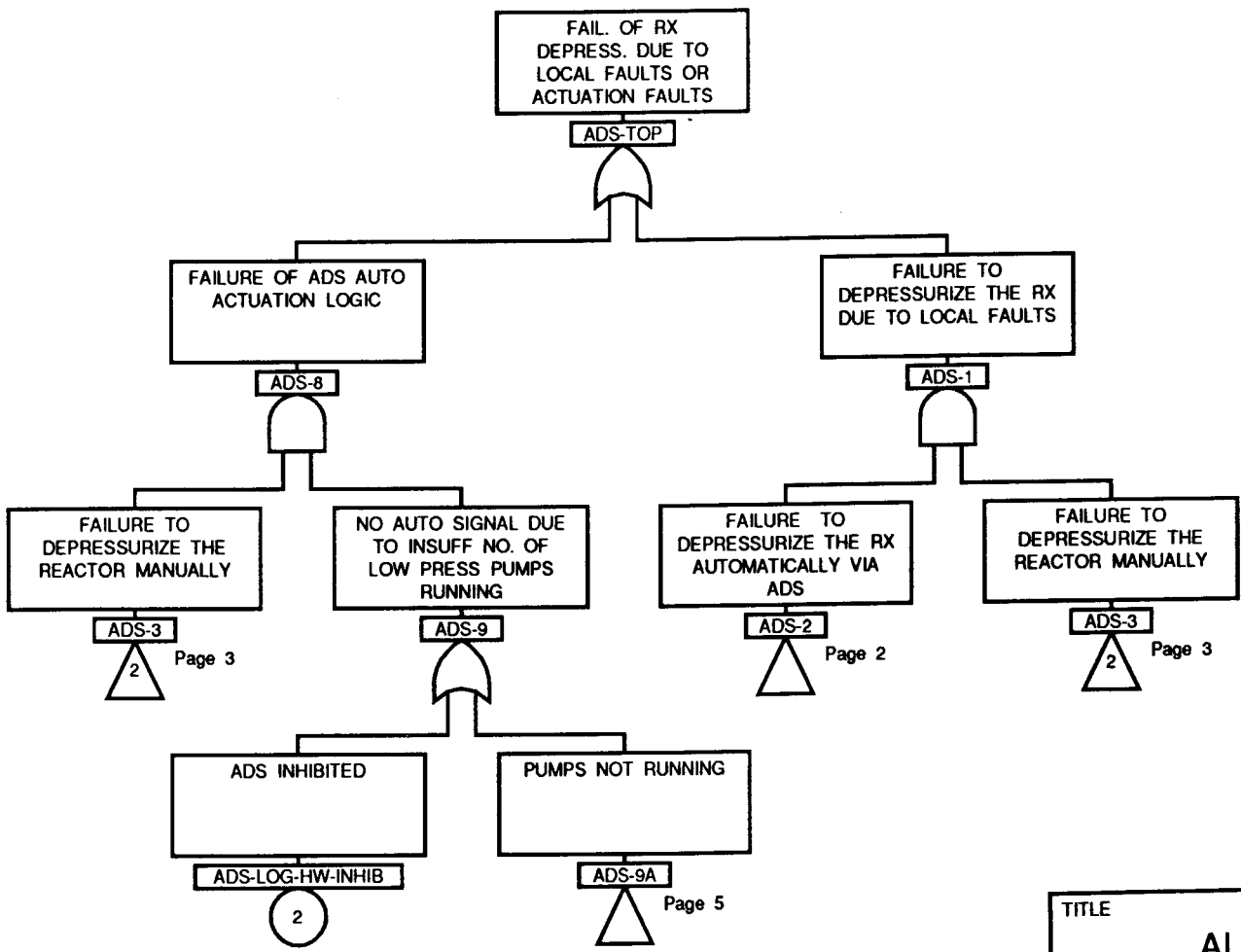
EMERGENCY SAFEGUARDS ACTUATION	
DRAWING NUMBER	DATE
Page 37	4/28/88



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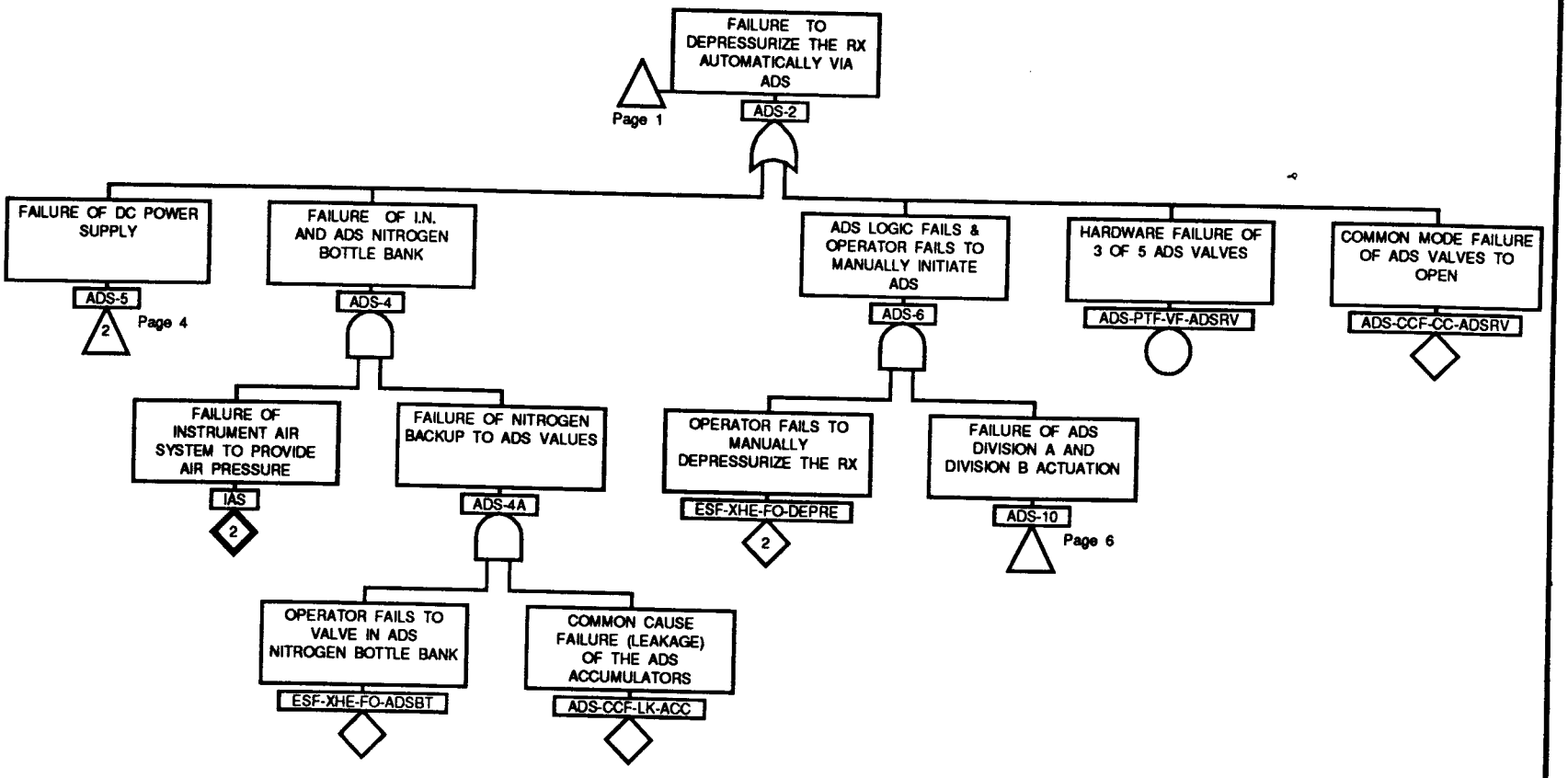
AUTOMATIC DEPRESSURIZATION

DRAWING NUMBER	DATE
Page 1	4/20/88



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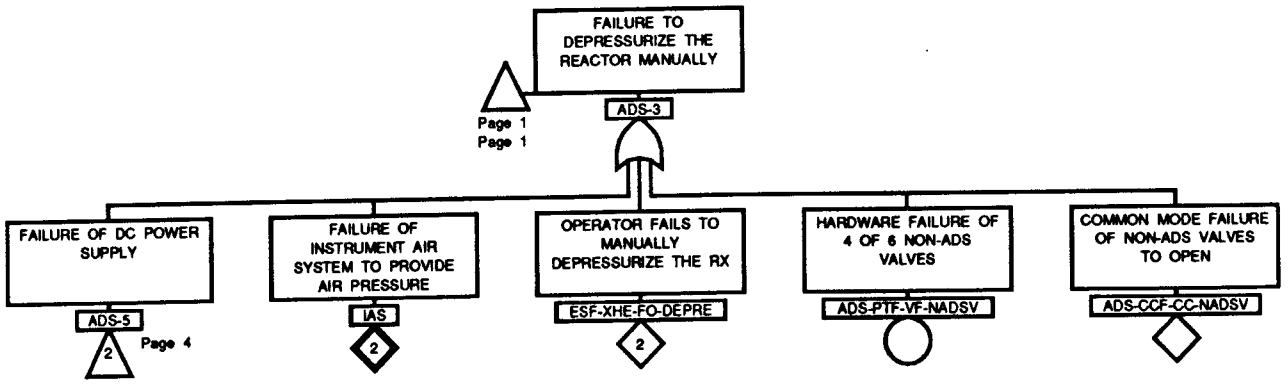
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER Page 2	DATE 4/20/88



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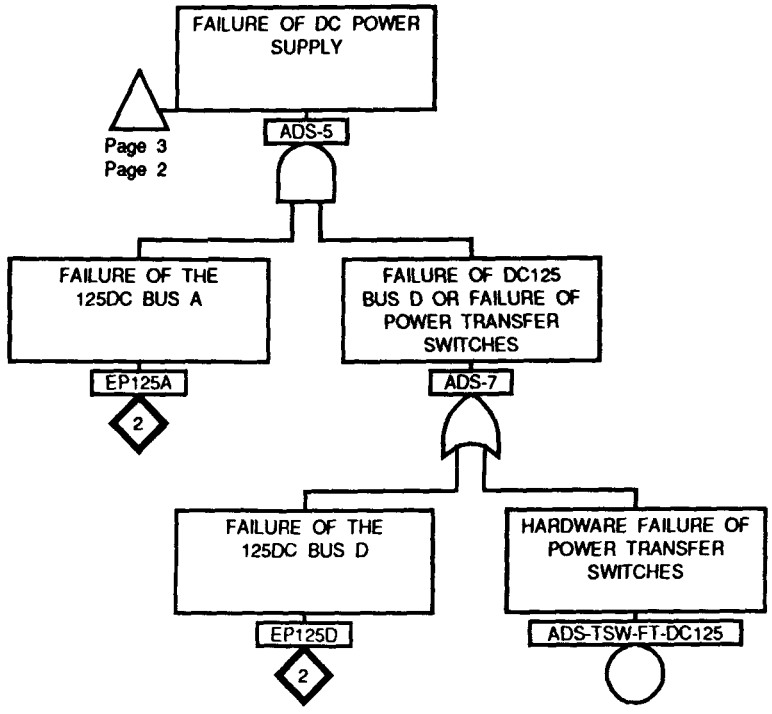
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER Page 3	DATE 4/20/88



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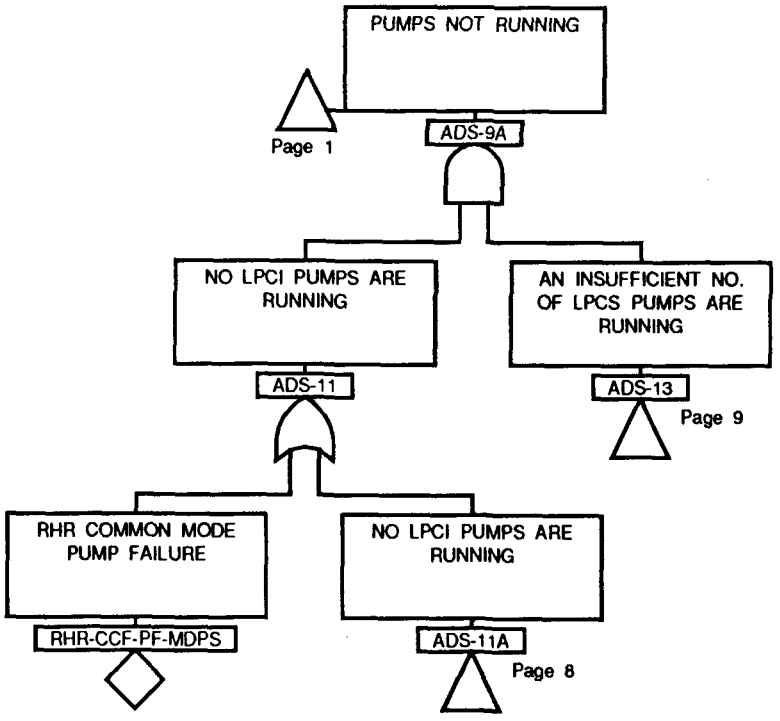
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER Page 4	DATE 4/20/88



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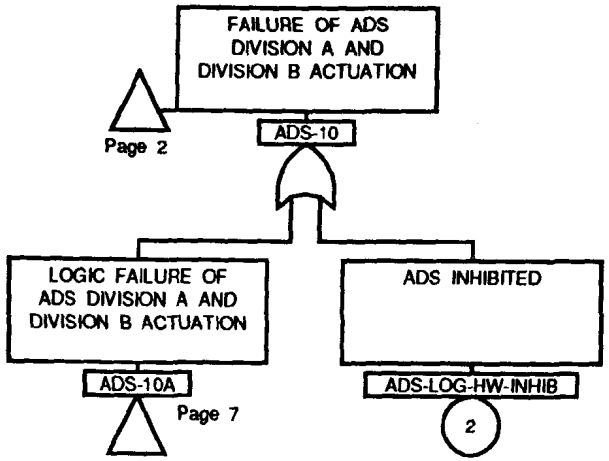
DRAWING NUMBER Page 5	DATE 4/20/88



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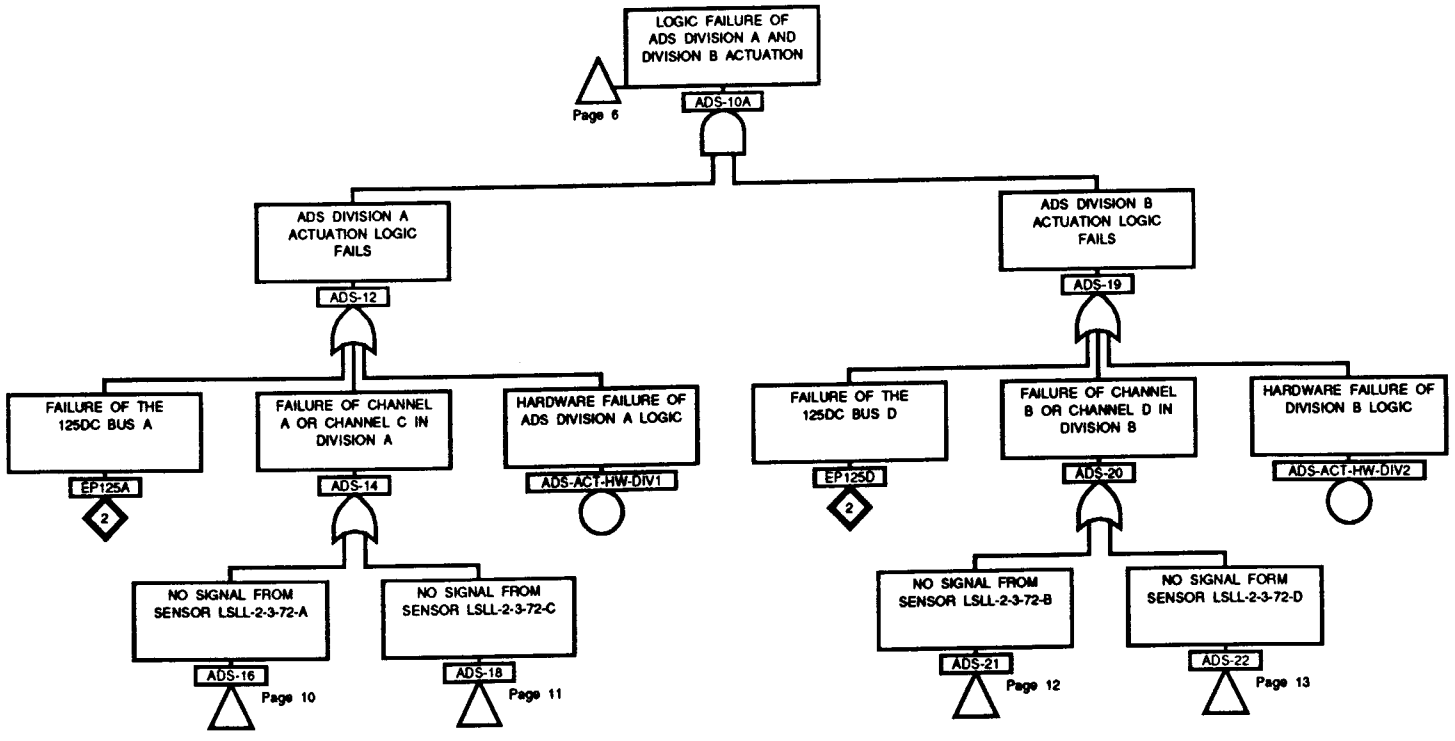
DRAWING NUMBER Page 6	DATE 4/20/88



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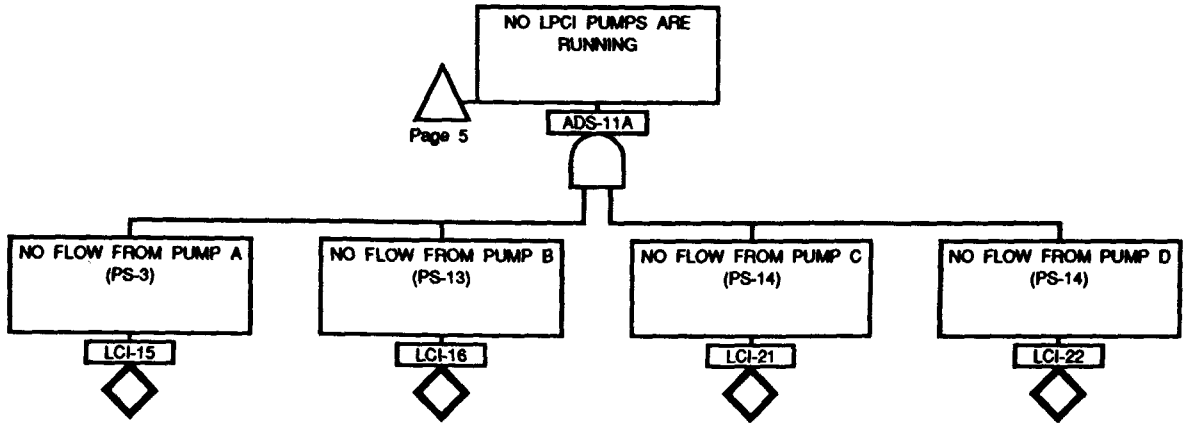
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER Page 7	DATE 4/20/88



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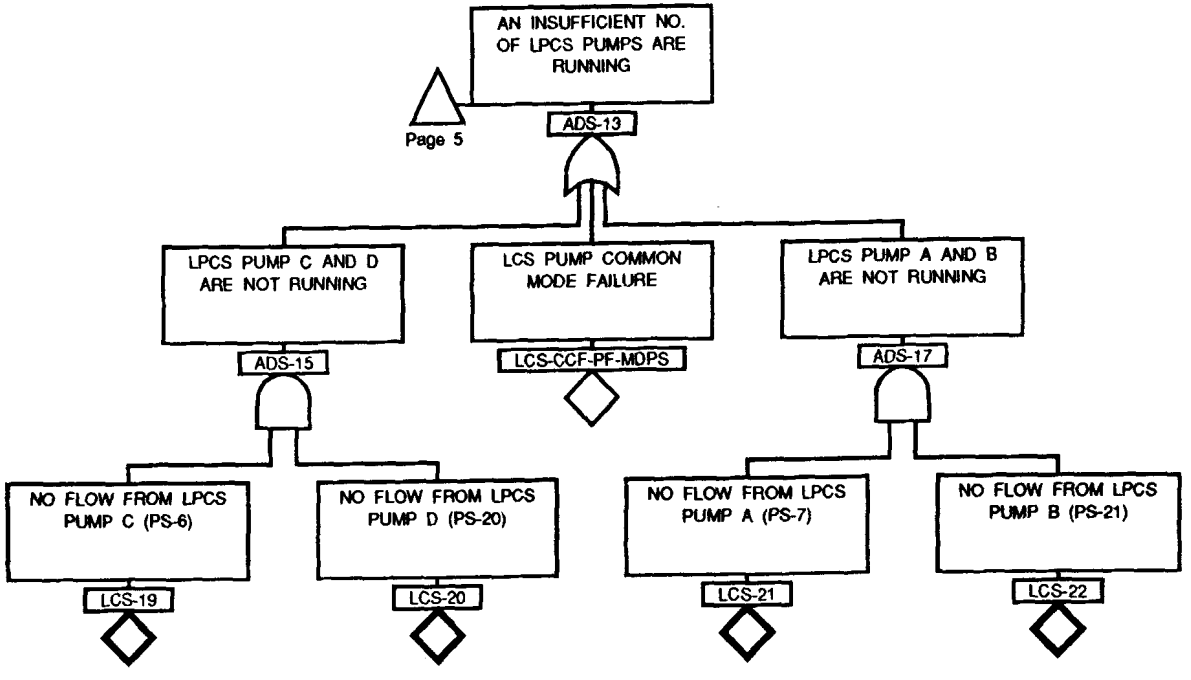
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER Page 8	DATE 4/20/88



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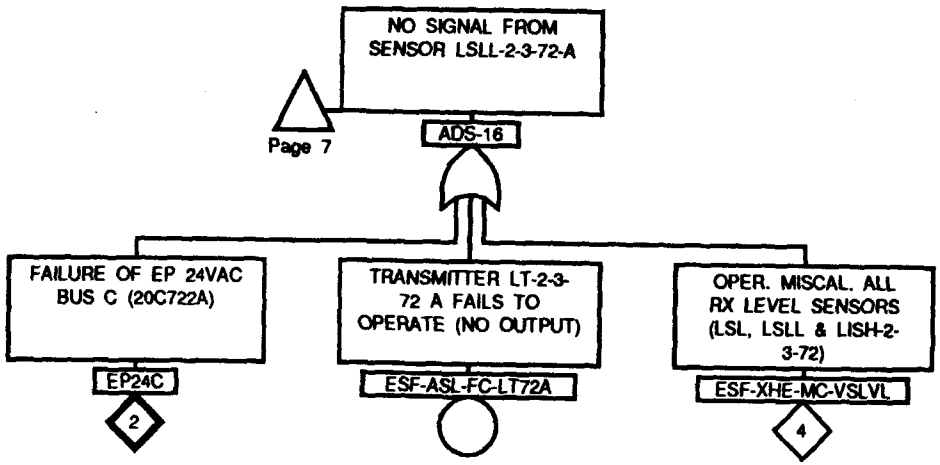
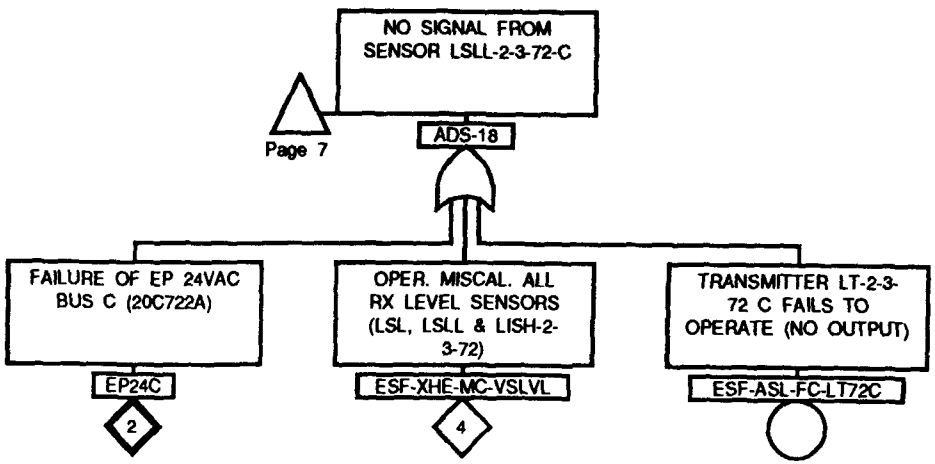
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER	DATE
Page 9	4/20/88



TITLE	
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER	DATE
Page 10	4/20/88



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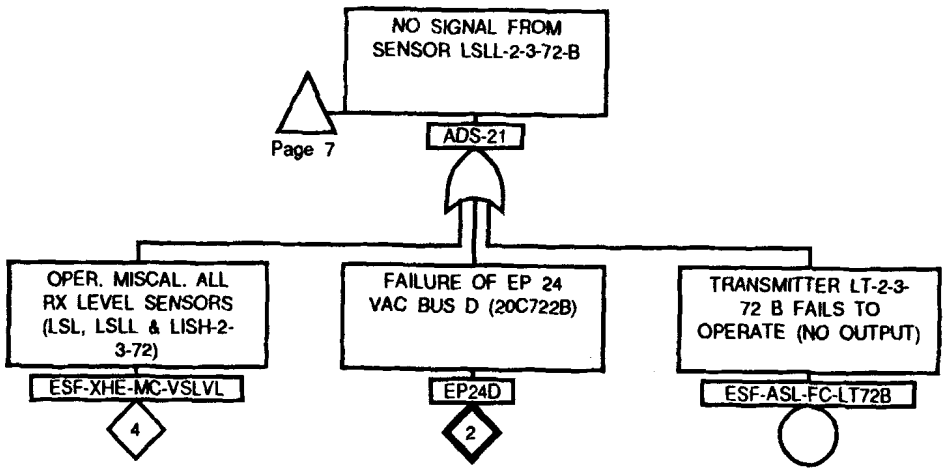
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER	DATE
Page 11	4/20/88



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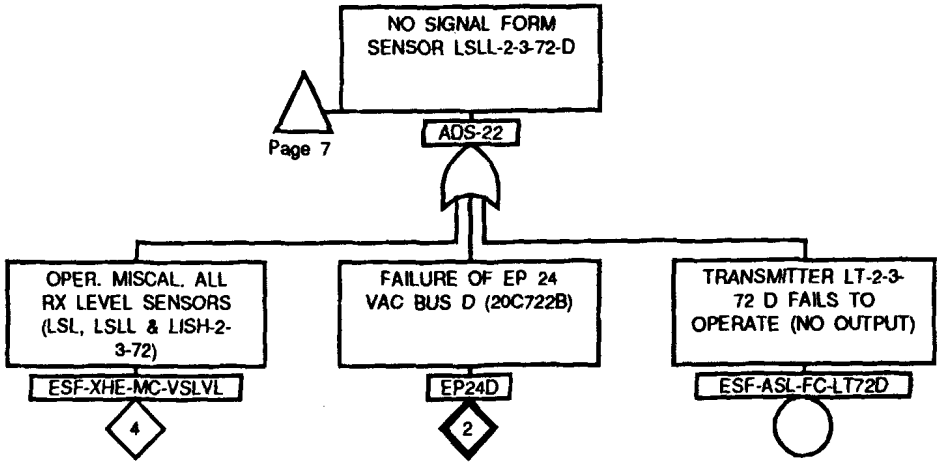
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER	DATE
Page 12	4/20/88



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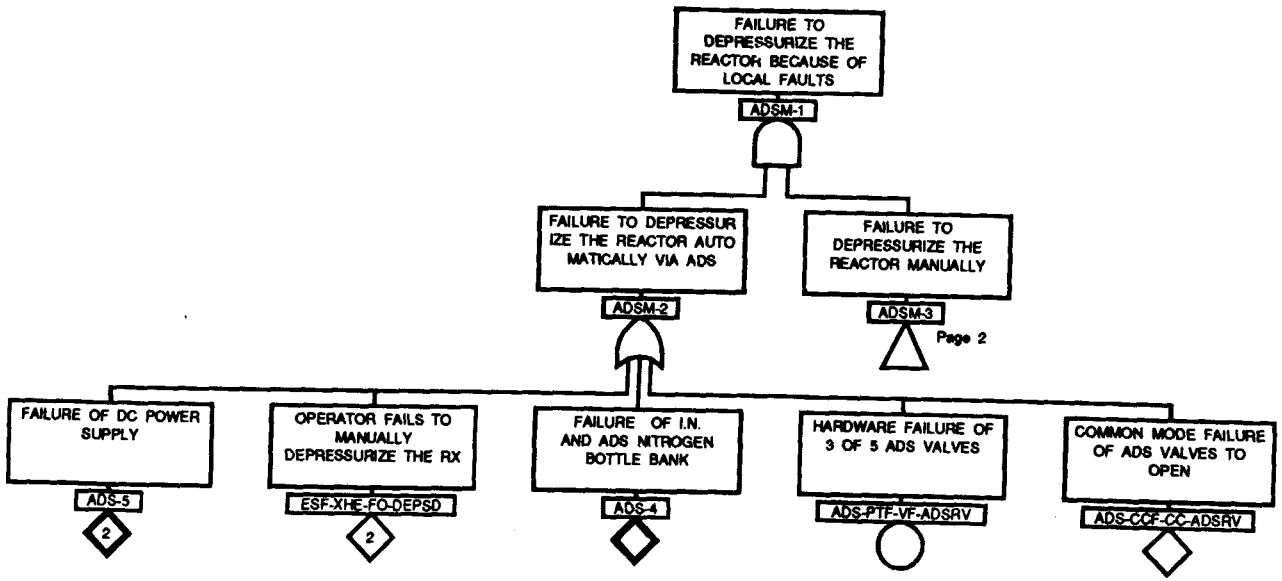
AUTOMATIC DEPRESSURIZATION	
DRAWING NUMBER	DATE
Page 13	4/20/88



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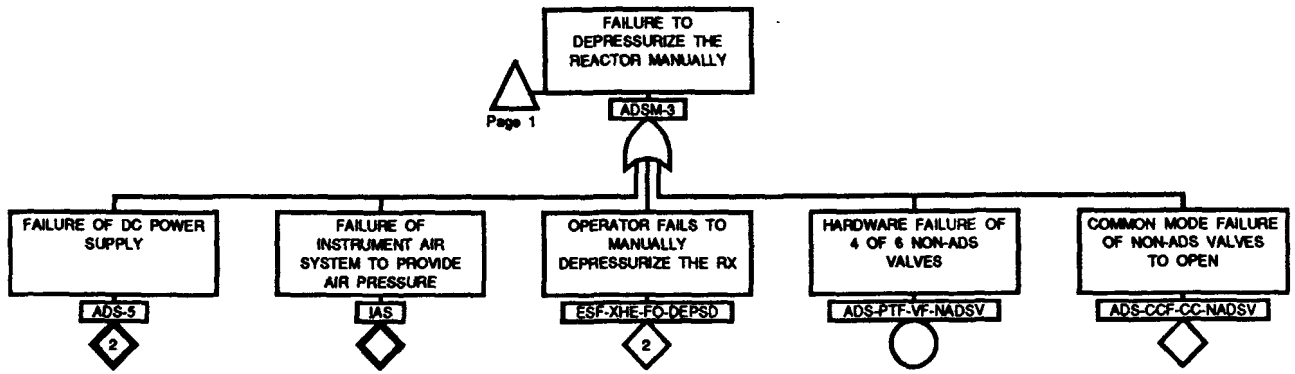
MANUAL DEPRESSURIZATION	
DRAWING NUMBER	DATE
Page 1	6/01/88



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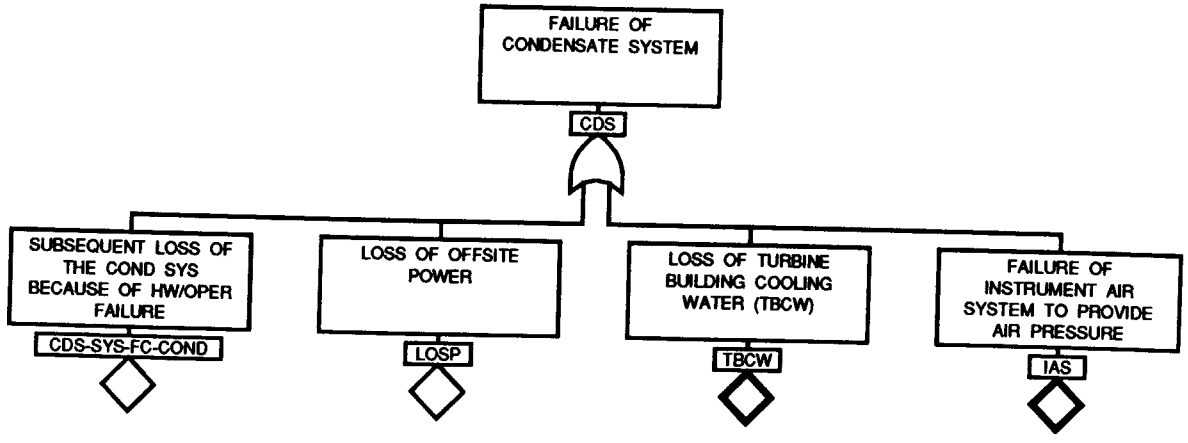
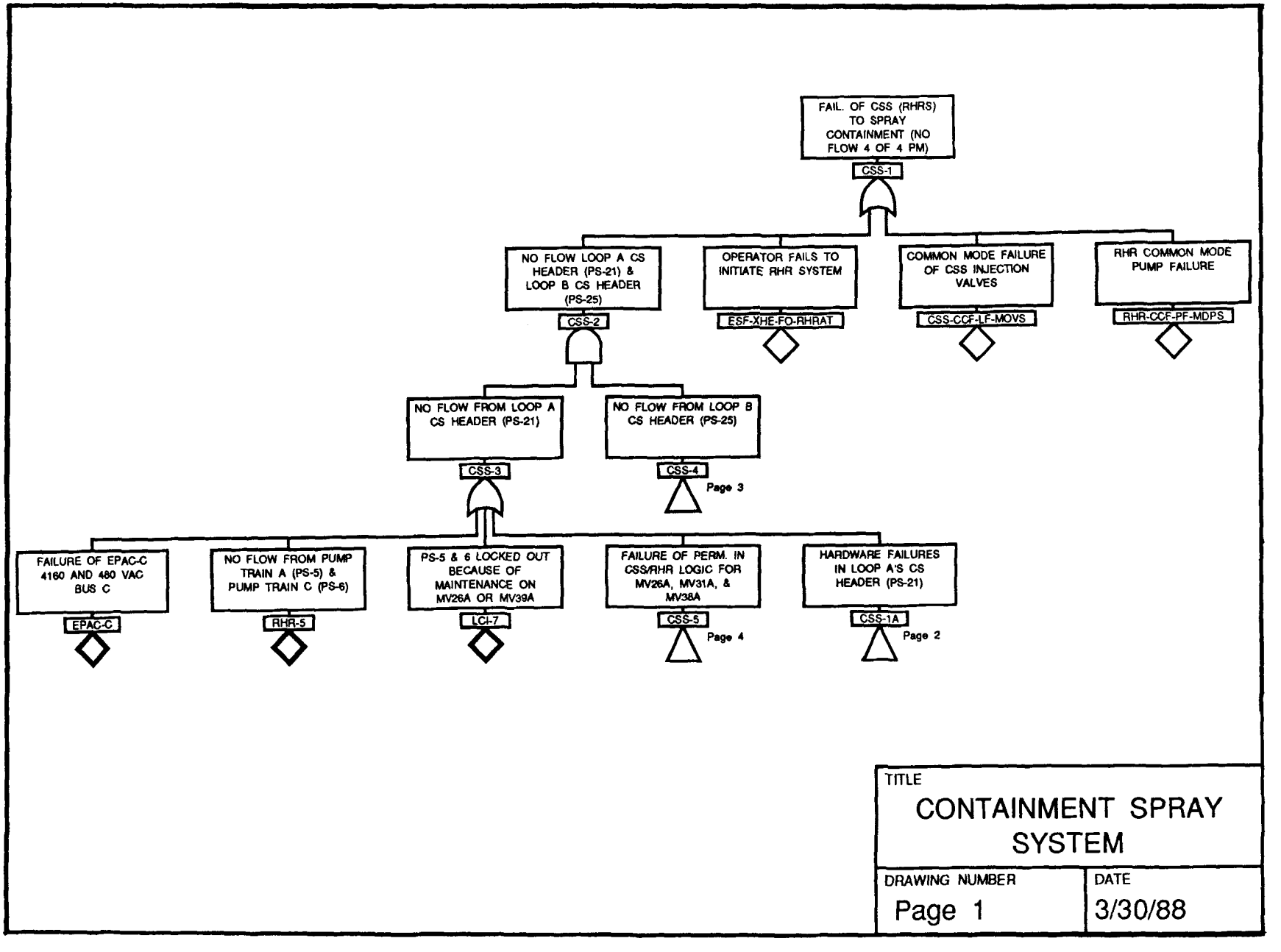
MANUAL DEPRESSURIZATION	
DRAWING NUMBER	DATE
Page 2	3/30/88



TITLE	
CONDENSATE SYSTEM	
DRAWING NUMBER Page 1	DATE 6/01/88


FAIL. OF CSS (RHRS) TO SPRAY CONTAINMENT (NO FLOW 4 OF 4 PM)
CSS-1
NO FLOW LOOP A CS HEADER (PS-21) & LOOP B CS HEADER (PS-25)
CSS-2
OPERATOR FAILS TO INITIATE RHR SYSTEM
ESF-XHE-FO-RHRAT
COMMON MODE FAILURE OF CSS INJECTION VALVES
CSS-CCF-LF-MOVS
RHR COMMON MODE PUMP FAILURE
RHR-CCF-PF-MDPS
NO FLOW FROM LOOP A CS HEADER (PS-21)
CSS-3
NO FLOW FROM LOOP B CS HEADER (PS-25)
CSS-4
Page 3
FAILURE OF EPAC-C 4160 AND 480 VAC BUS C
EPAC-C
NO FLOW FROM PUMP TRAIN A (PS-5) & PUMP TRAIN C (PS-6)
RHR-5
PS-5 & 6 LOCKED OUT BECAUSE OF MAINTENANCE ON MV26A OR MV39A
LCI-7
FAILURE OF PERM. IN CSS/RHR LOGIC FOR MV26A, MV31A, & MV38A
CSS-5
Page 4
HARDWARE FAILURES IN LOOP A'S CS HEADER (PS-21)
CSS-1A
Page 2
TITLE
CONTAINMENT SPRAY SYSTEM
DRAWING NUMBER
Page 1
DATE
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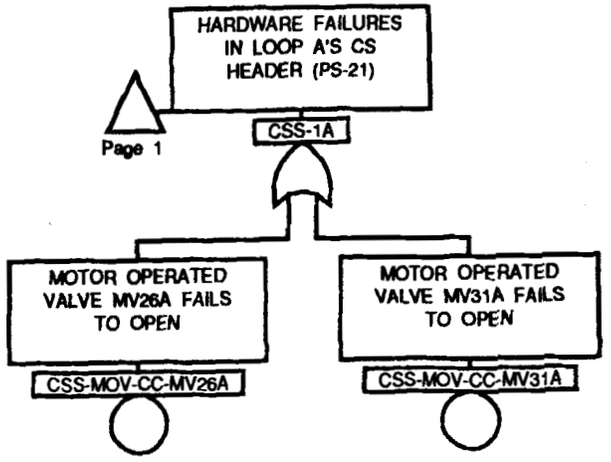
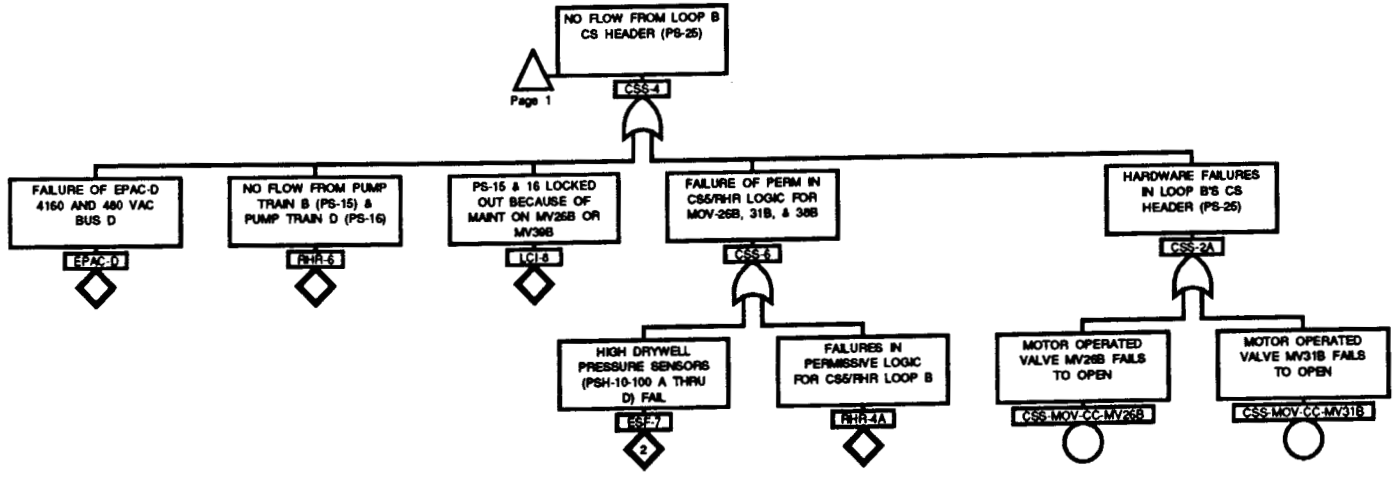


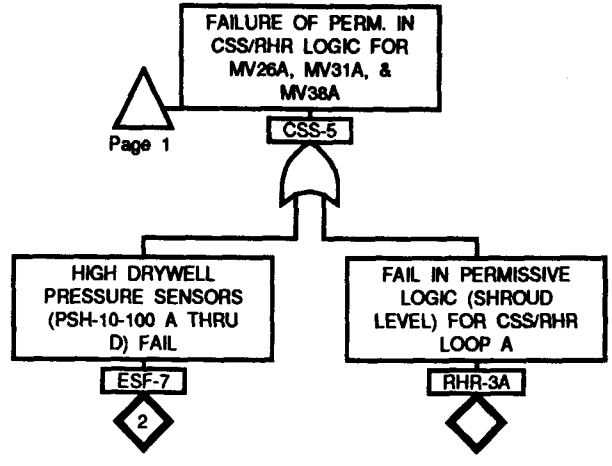
TITLE	
CONTAINMENT SPRAY SYSTEM	
DRAWING NUMBER	DATE
Page 2	3/30/88



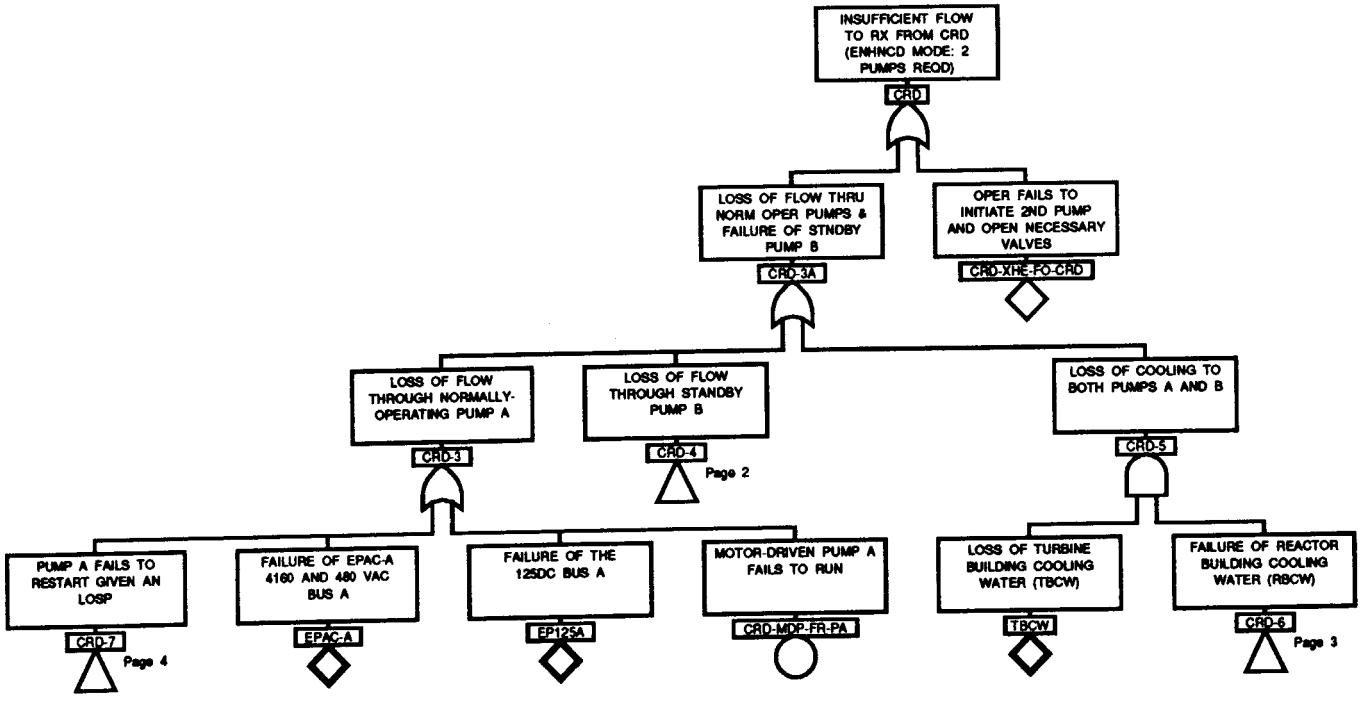
TITLE

CONTAINMENT SPRAY SYSTEM

DRAWING NUMBER	DATE
Page 3	4/06/88



TITLE	
CONTAINMENT SPRAY SYSTEM	
DRAWING NUMBER	DATE
Page 4	3/30/88



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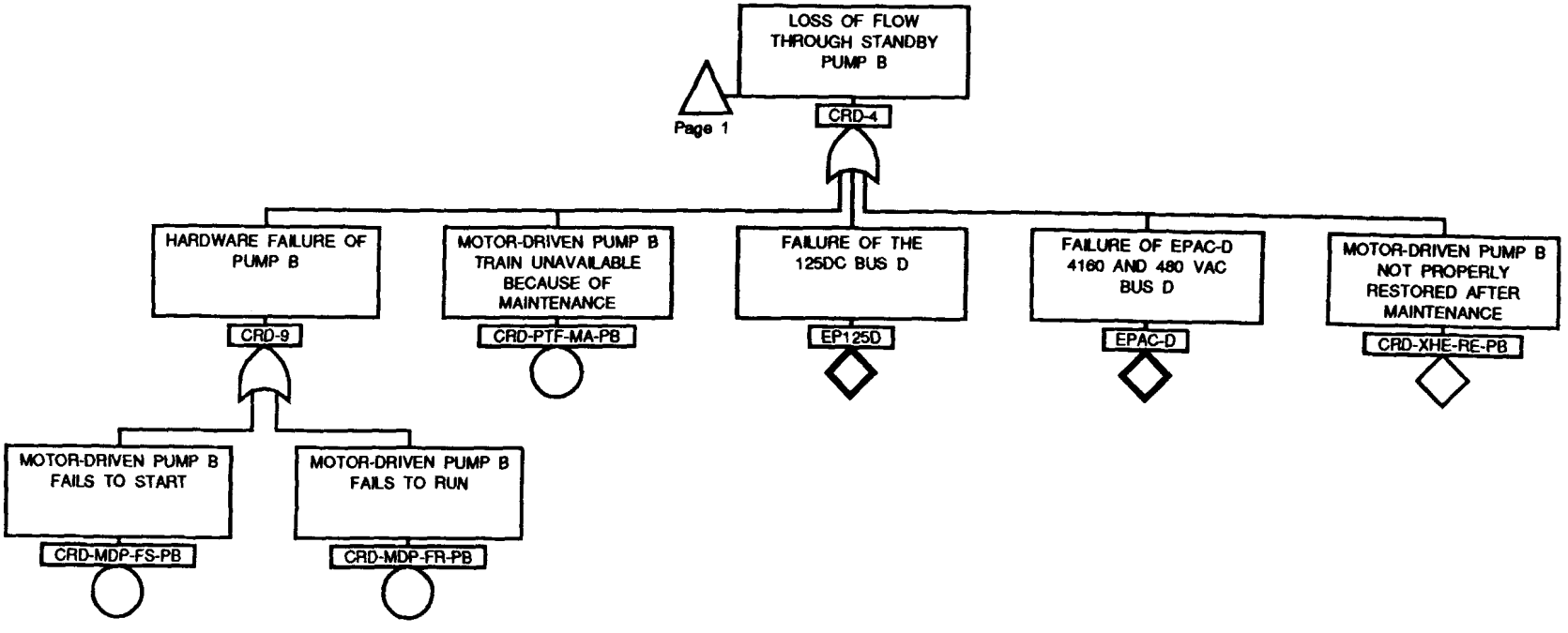
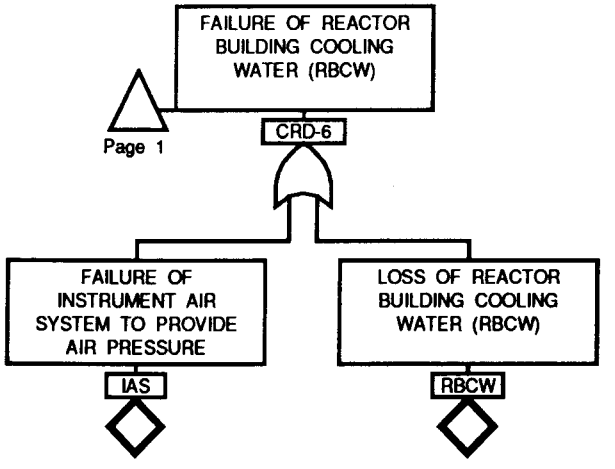
CONTROL ROD DRIVE (ENHANCED MODE)

DRAWING NUMBER	DATE
Page 1	4/28/88



TITLE	
CONTROL ROD DRIVE (ENHANCED MODE)	
DRAWING NUMBER Page 2	DATE 4/28/88



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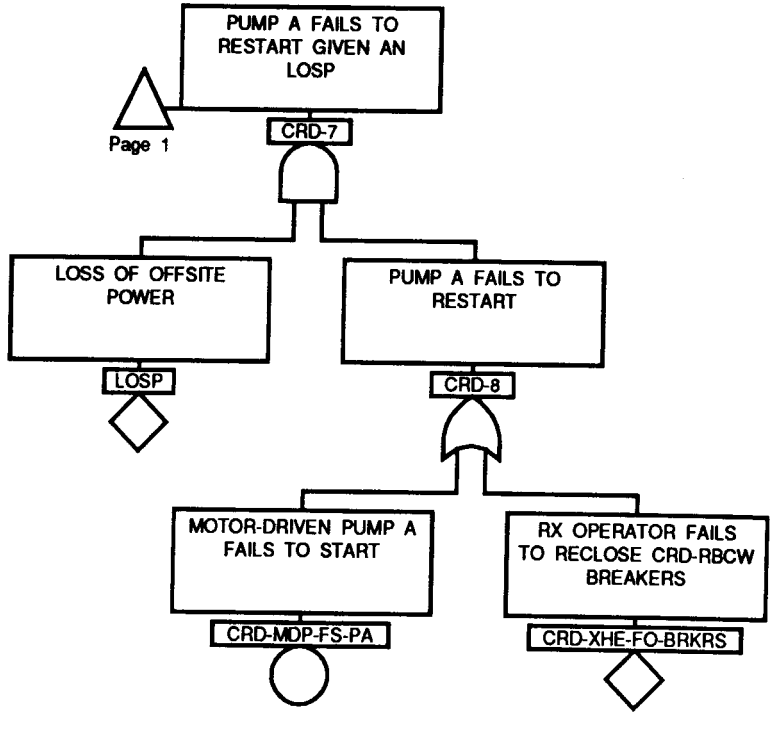
CONTROL ROD DRIVE (ENHANCED MODE)	
DRAWING NUMBER Page 3	DATE 4/28/88



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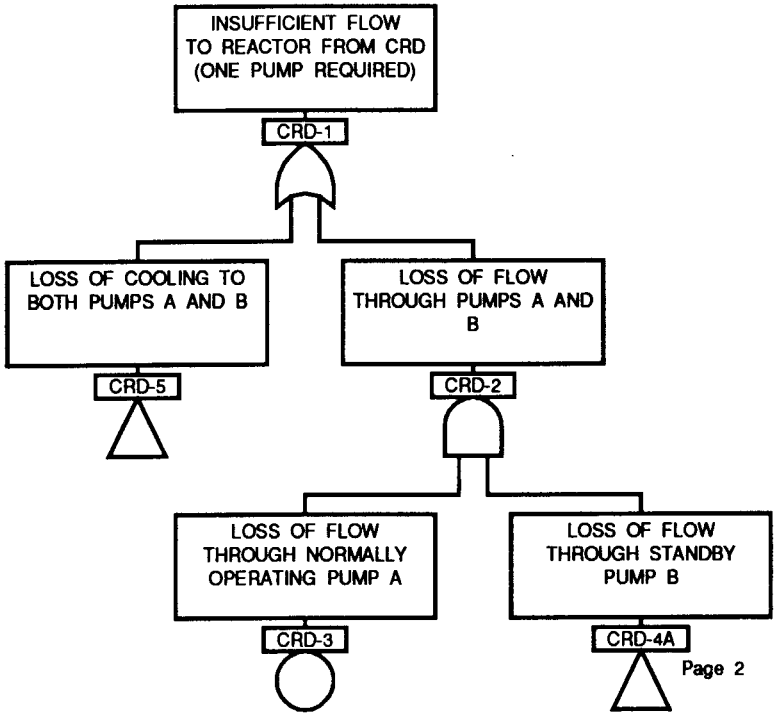
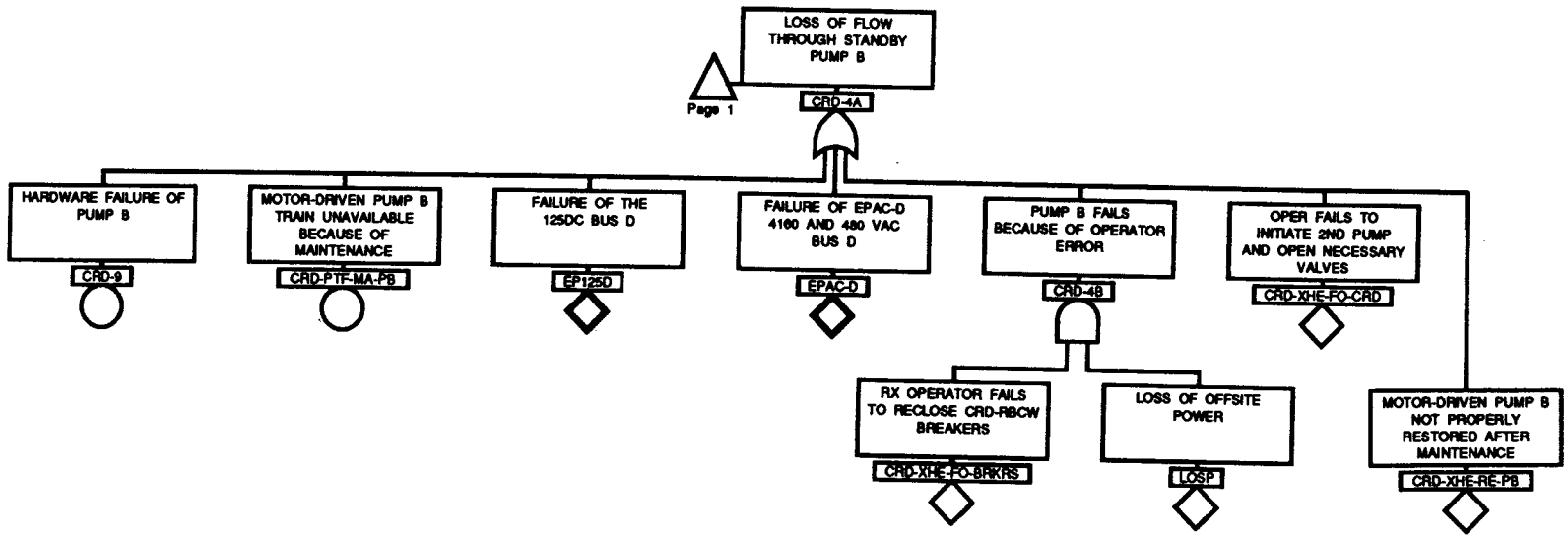
CONTROL ROD DRIVE (ENHANCED MODE)	
DRAWING NUMBER Page 4	DATE 5/06/88



TITLE	
CONTROL ROD DRIVE (ONE-PUMP MODE)	
DRAWING NUMBER Page 1	DATE 5/06/88



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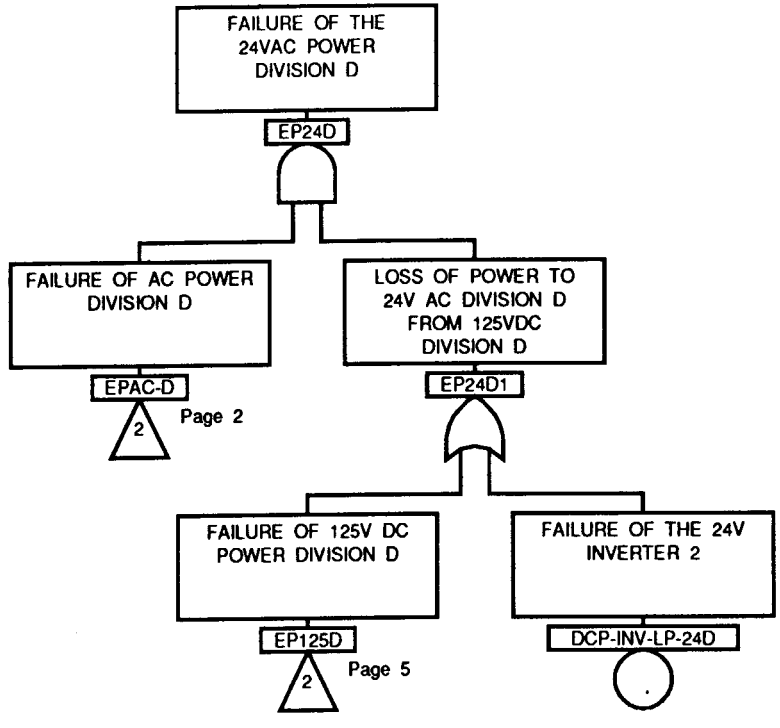
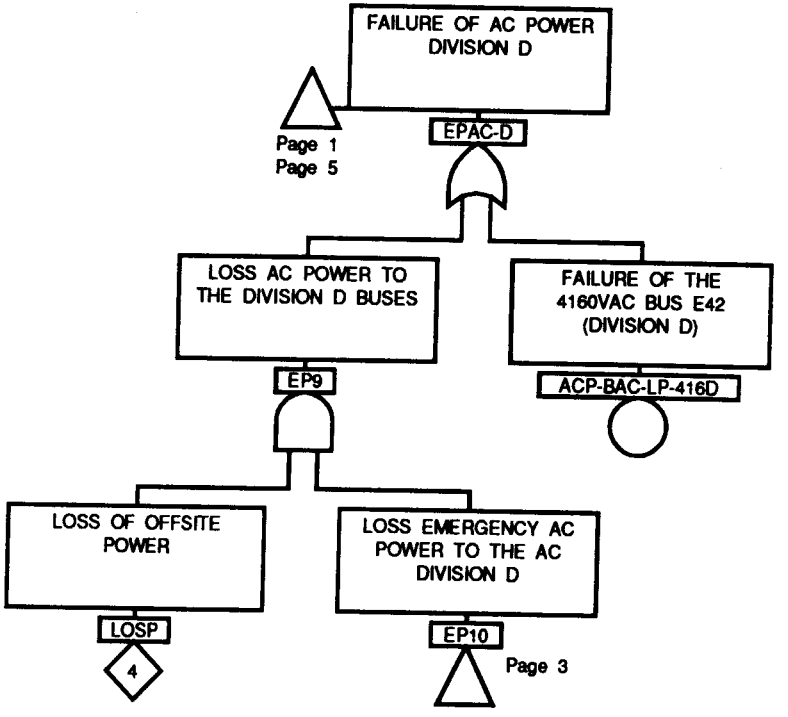
CONTROL ROD DRIVE (ONE-PUMP MODE)

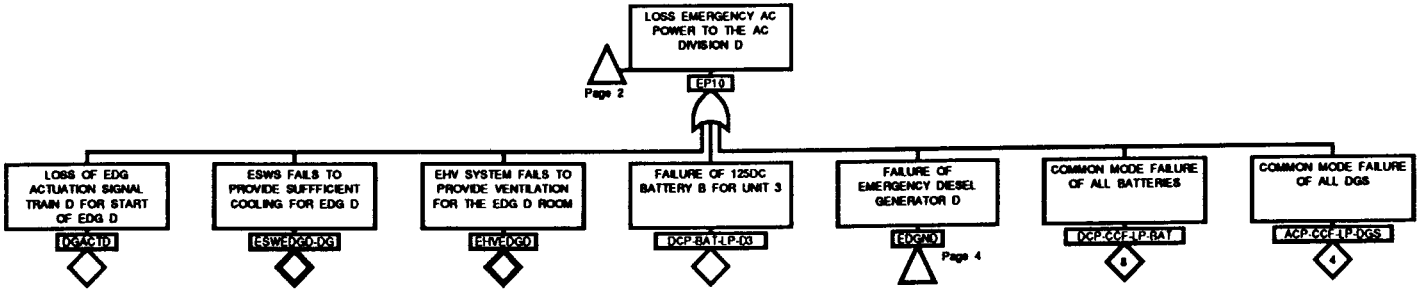
DRAWING NUMBER	DATE
Page 2	5/06/88



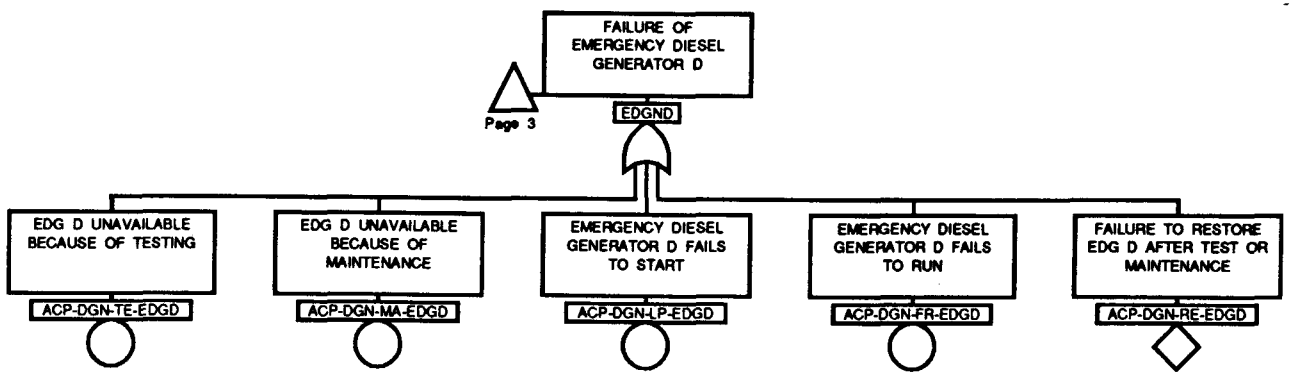
TITLE	
ELECTRIC POWER	
DRAWING NUMBER Page 1	DATE 4/20/88



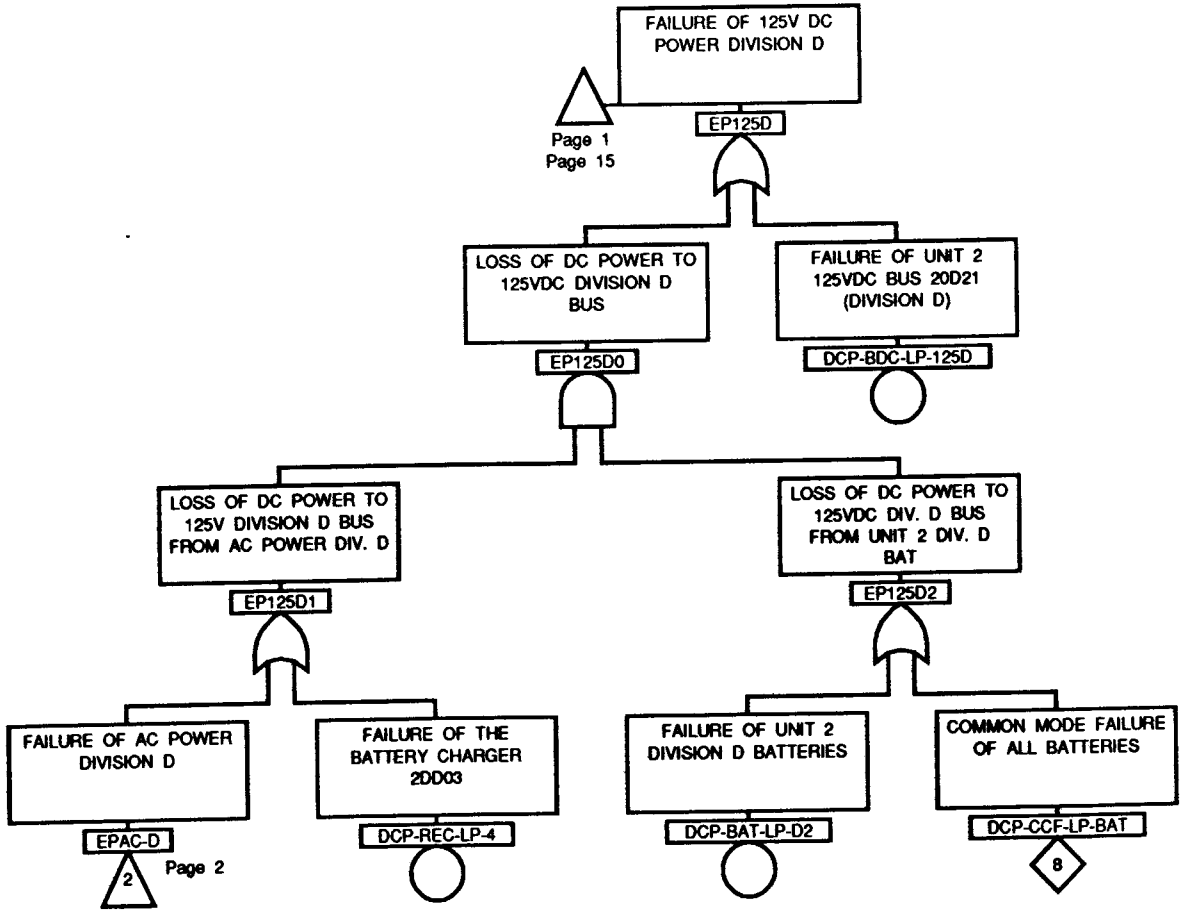
TITLE	
ELECTRIC POWER	
DRAWING NUMBER Page 2	DATE 5/06/88



TITLE	
ELECTRIC POWER	
DRAWING NUMBER Page 3	DATE 4/20/88



TITLE	
ELECTRIC POWER	
DRAWING NUMBER	DATE
Page 4	4/20/88



TITLE
ELECTRIC POWER

DRAWING NUMBER
Page 5

DATE
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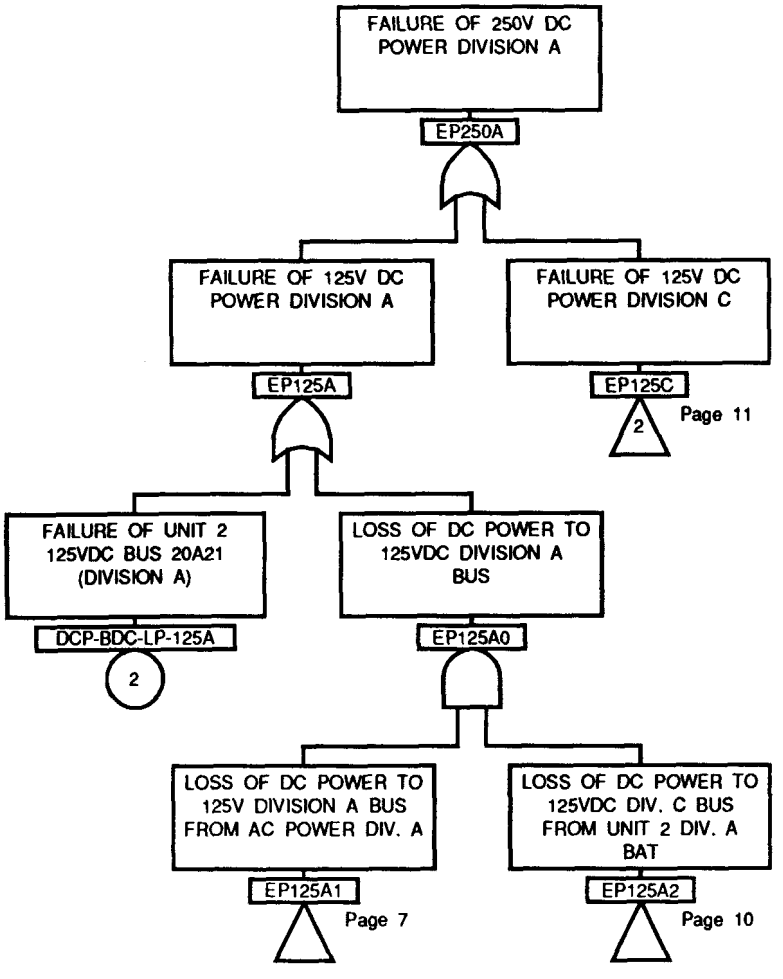
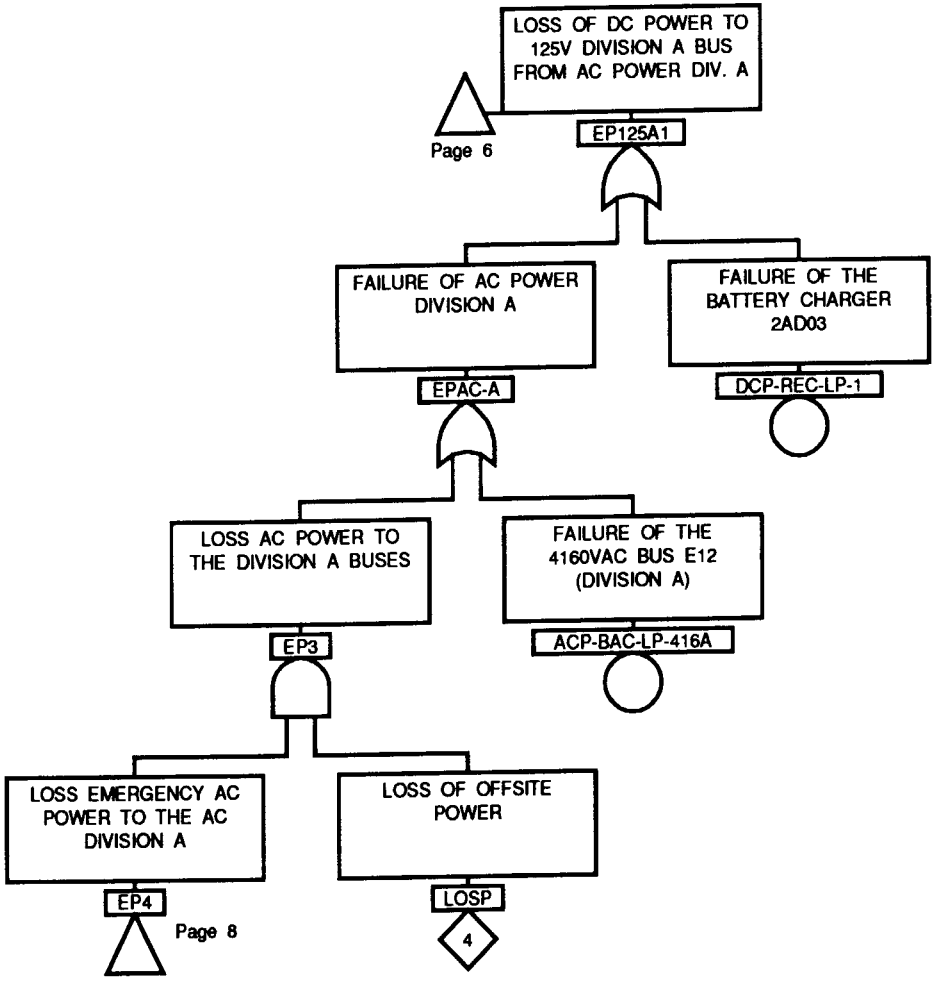
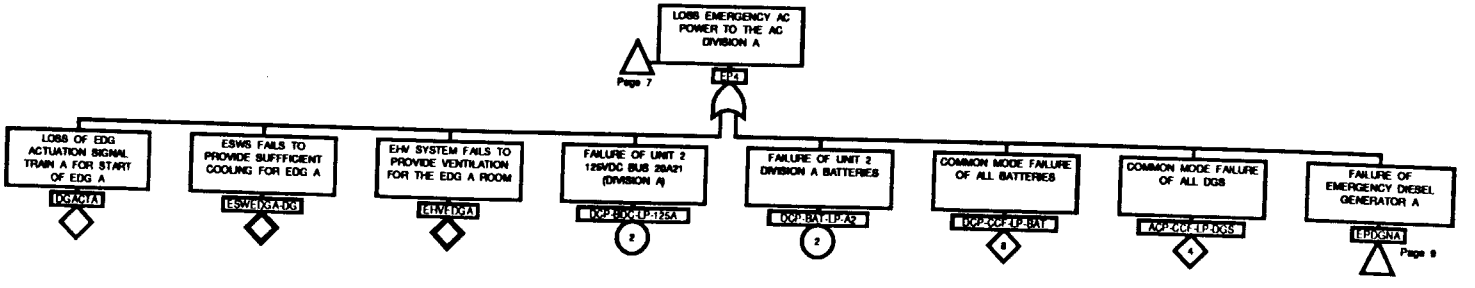


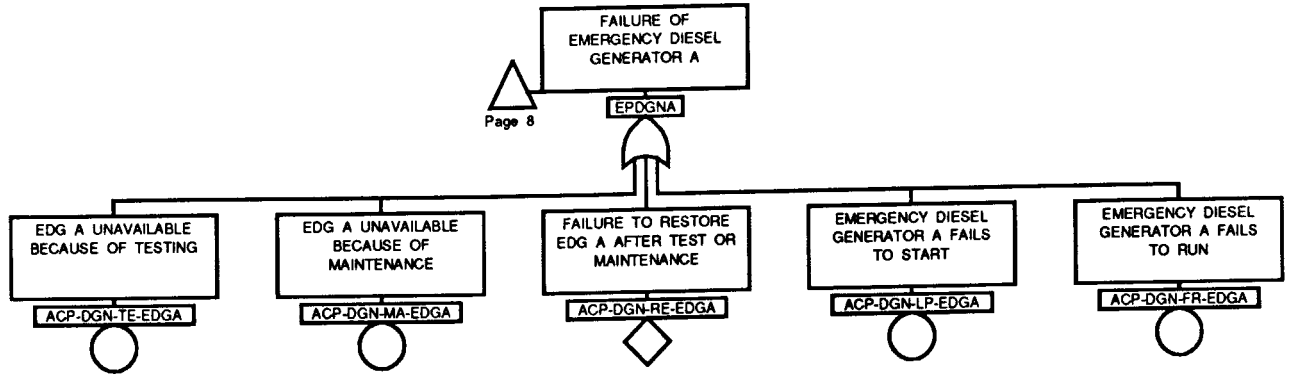
TITLE	
ELECTRIC POWER	
DRAWING NUMBER	DATE
Page 6	4/20/88



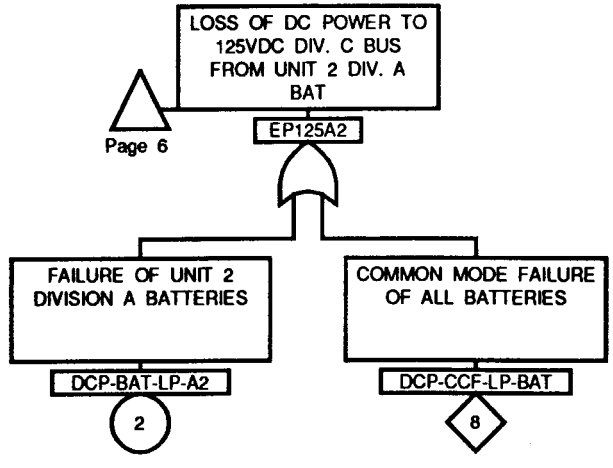
TITLE	
ELECTRIC POWER	
DRAWING NUMBER Page 7	DATE 5/06/88



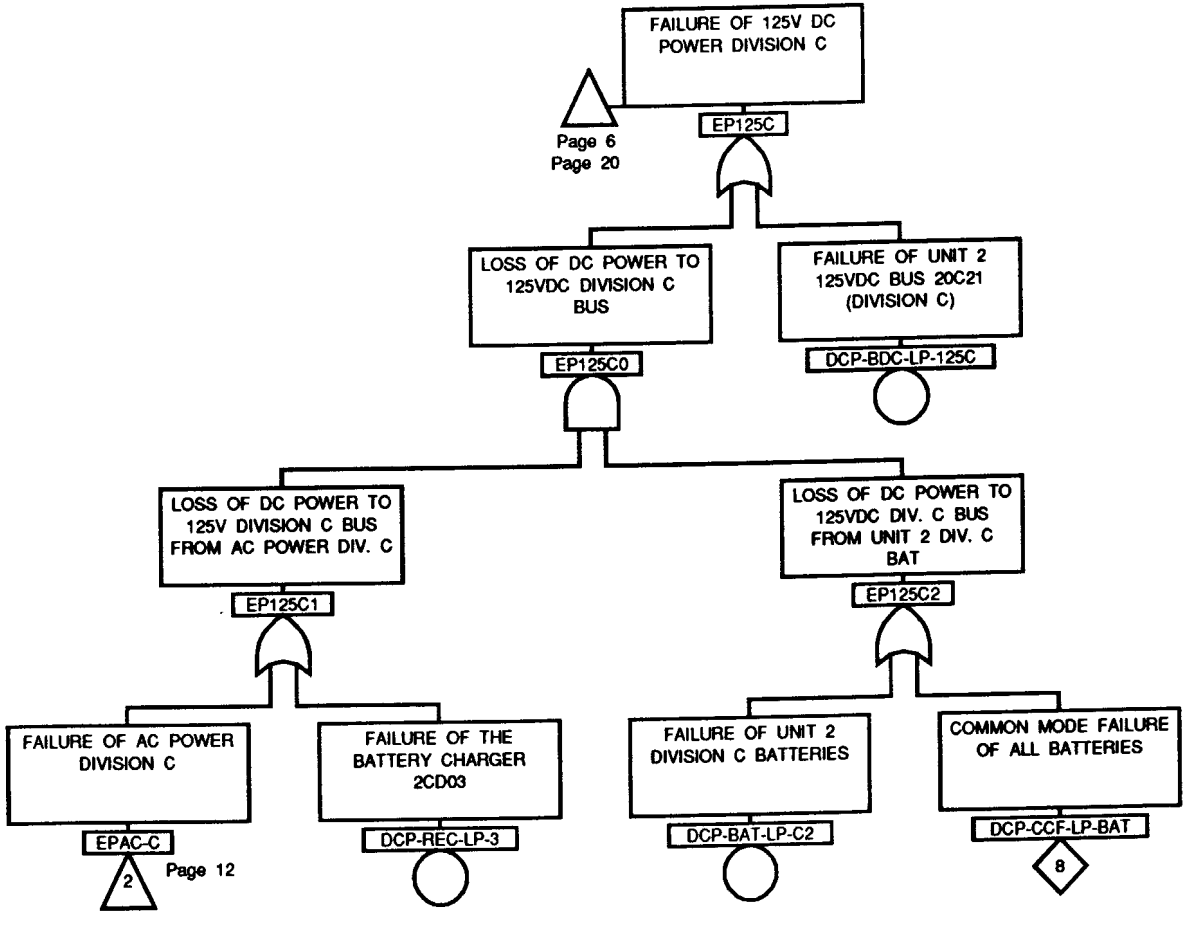
TITLE	
ELECTRIC POWER	
DRAWING NUMBER Page 8	DATE 4/20/88



TITLE	
ELECTRIC POWER	
DRAWING NUMBER Page 9	DATE 4/20/88



TITLE	
ELECTRIC POWER	
DRAWING NUMBER Page 10	DATE 4/20/88



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ELECTRIC POWER

DRAWING NUMBER
Page 11

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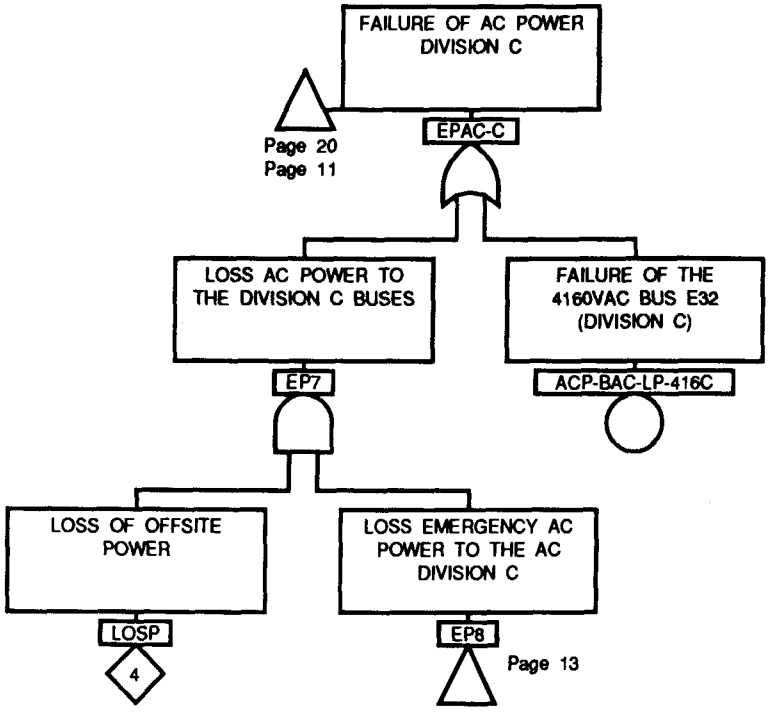

TITLE	
ELECTRIC POWER	
DRAWING NUMBER	DATE
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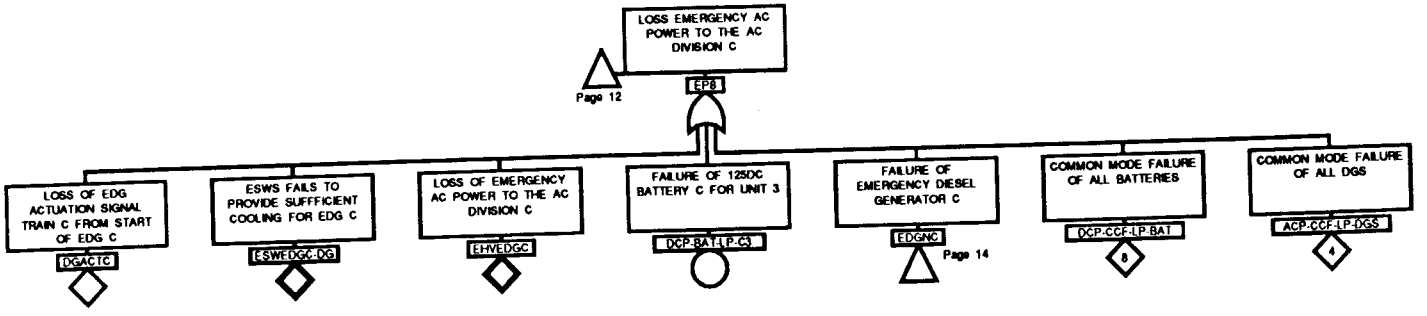

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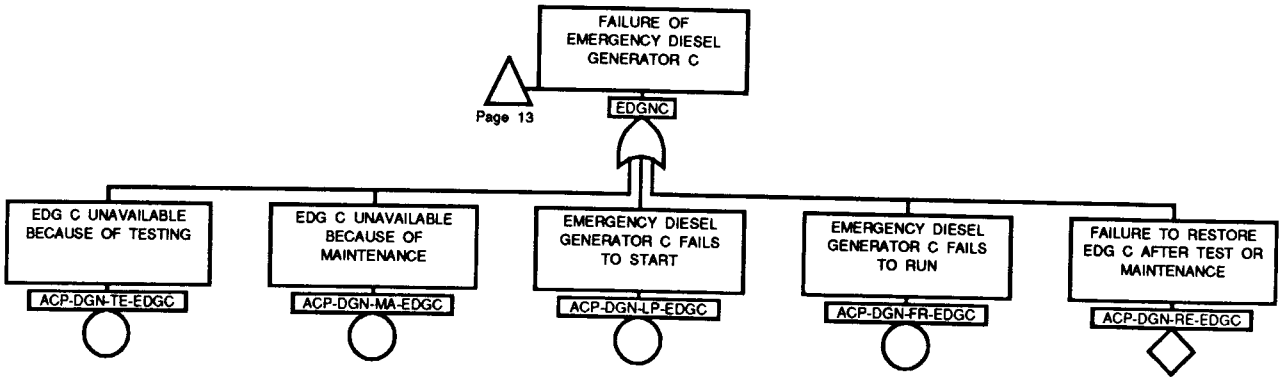
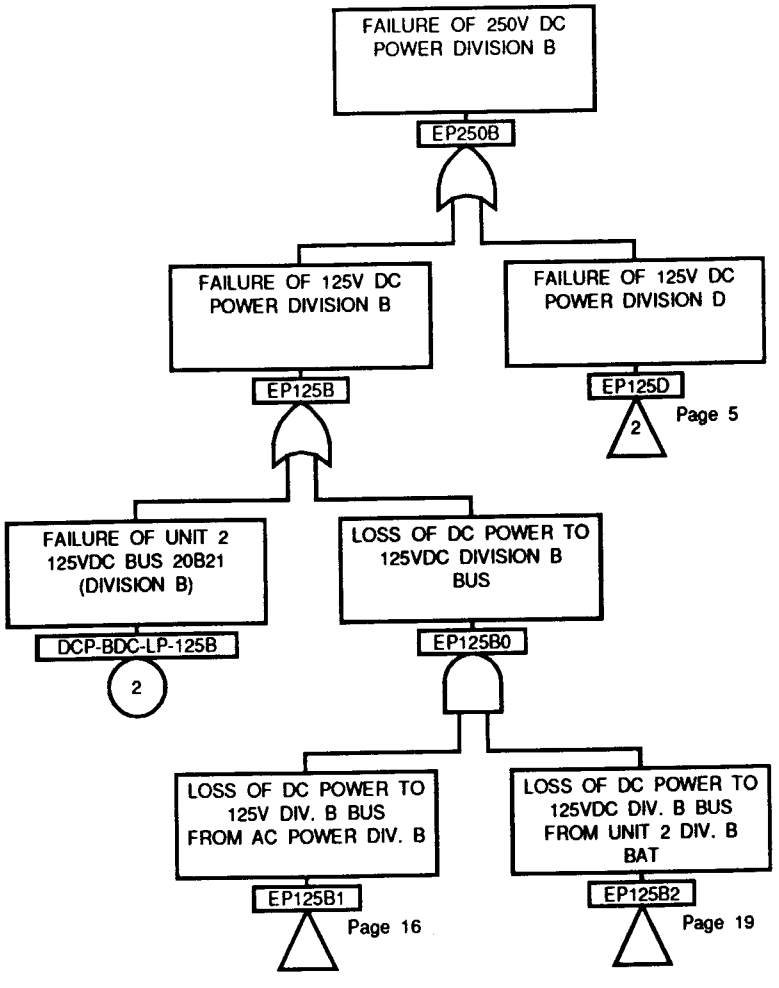
ELECTRIC POWER

DRAWING NUMBER	DATE
Page 13	4/28/88



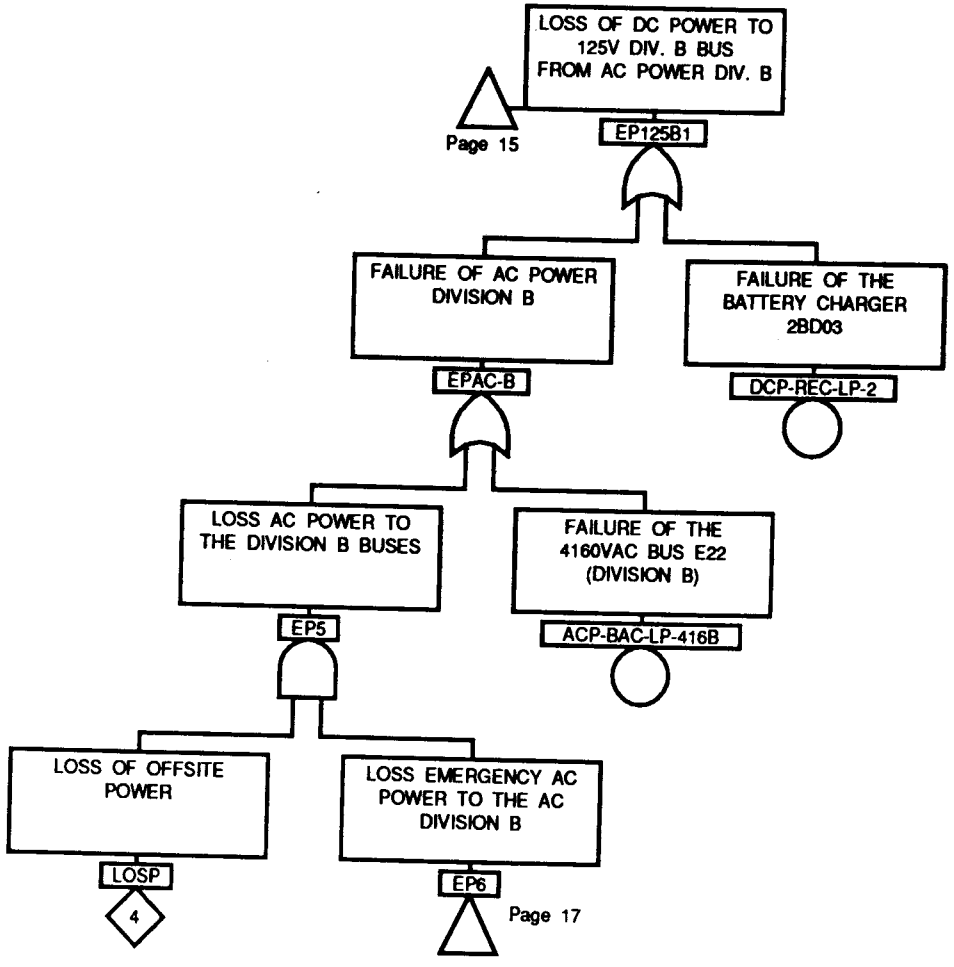
TITLE	
ELECTRIC POWER	
DRAWING NUMBER Page 14	DATE 4/28/88



TITLE
ELECTRIC POWER

DRAWING NUMBER
Page 15

DATE
4/20/88



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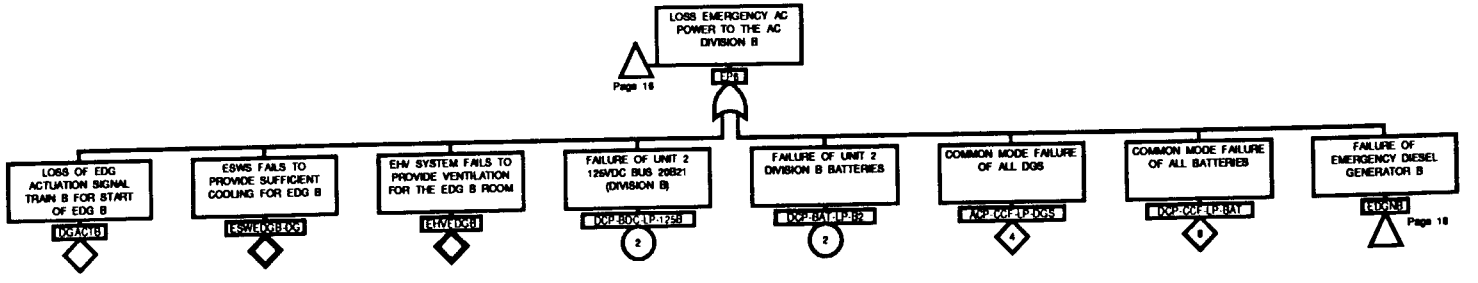
DRAWING NUMBER
Page 16

DATE
5/06/88



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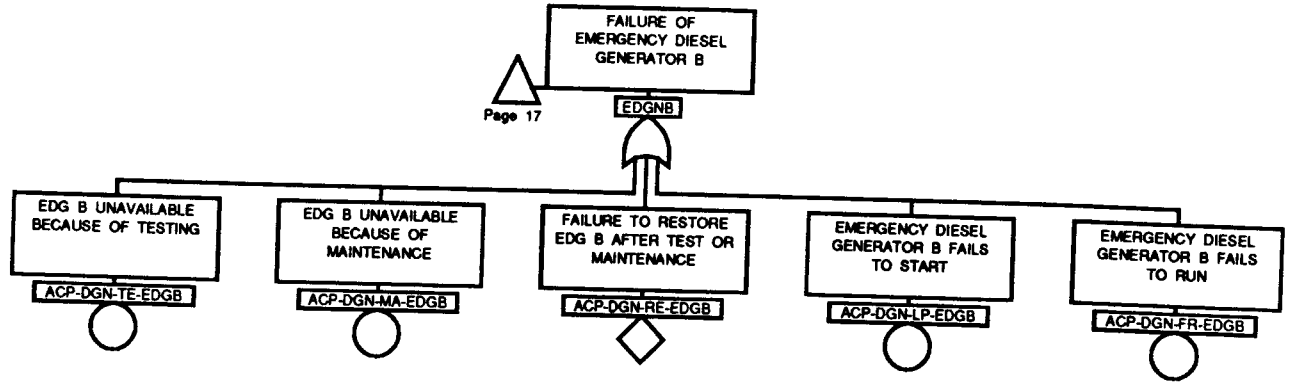
ELECTRIC POWER

DRAWING NUMBER	DATE
Page 17	6/01/88



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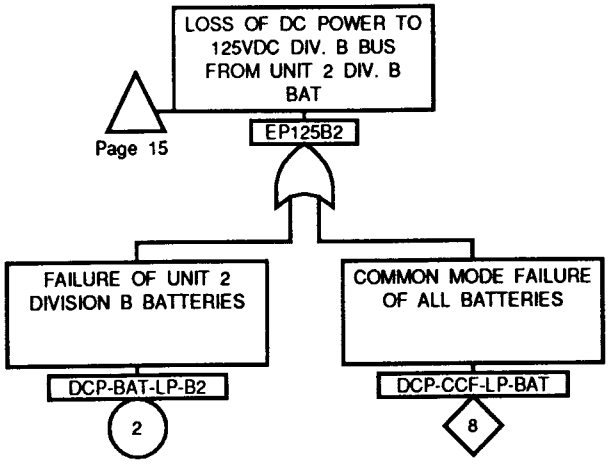
ELECTRIC POWER	
DRAWING NUMBER Page 18	DATE 4/20/88



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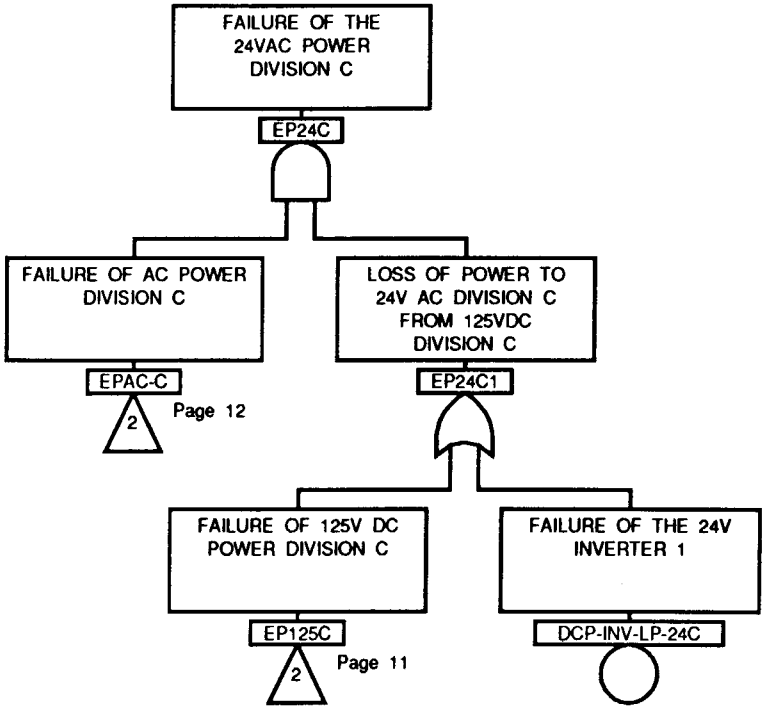
DRAWING NUMBER	DATE
Page 19	4/20/88



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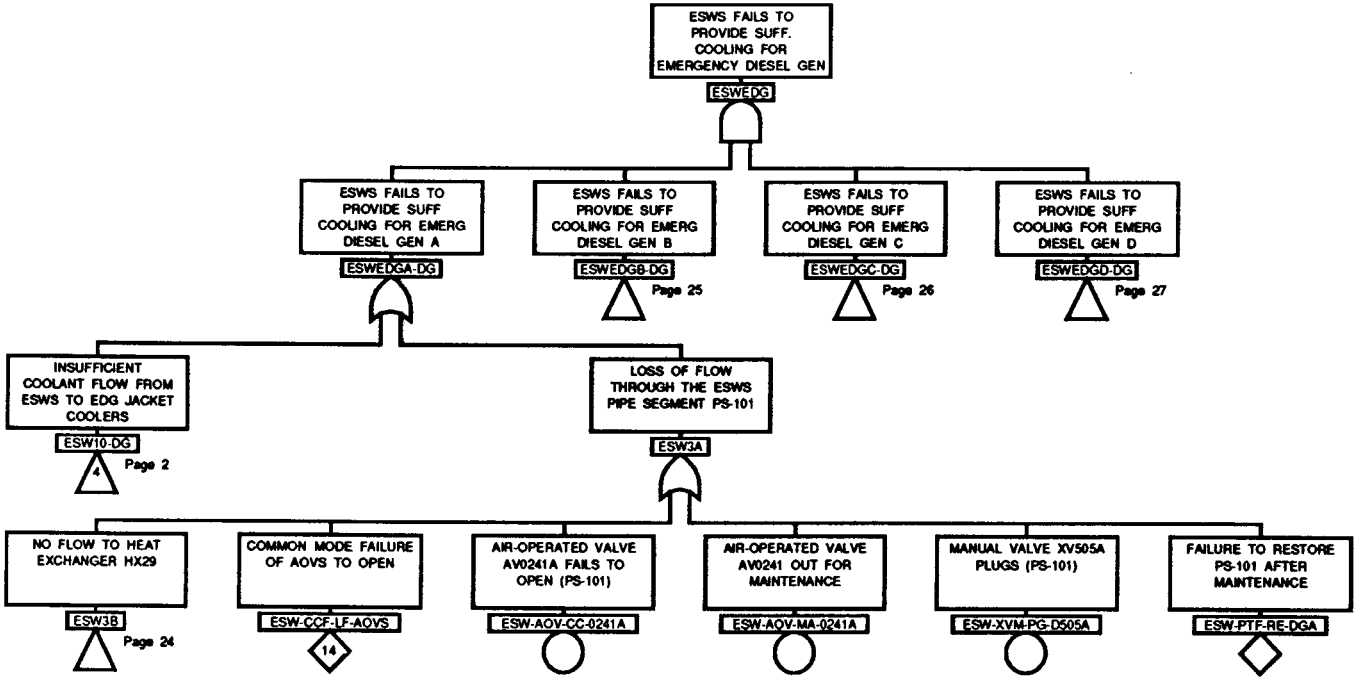
ELECTRIC POWER	
DRAWING NUMBER	DATE
Page 20	4/20/88



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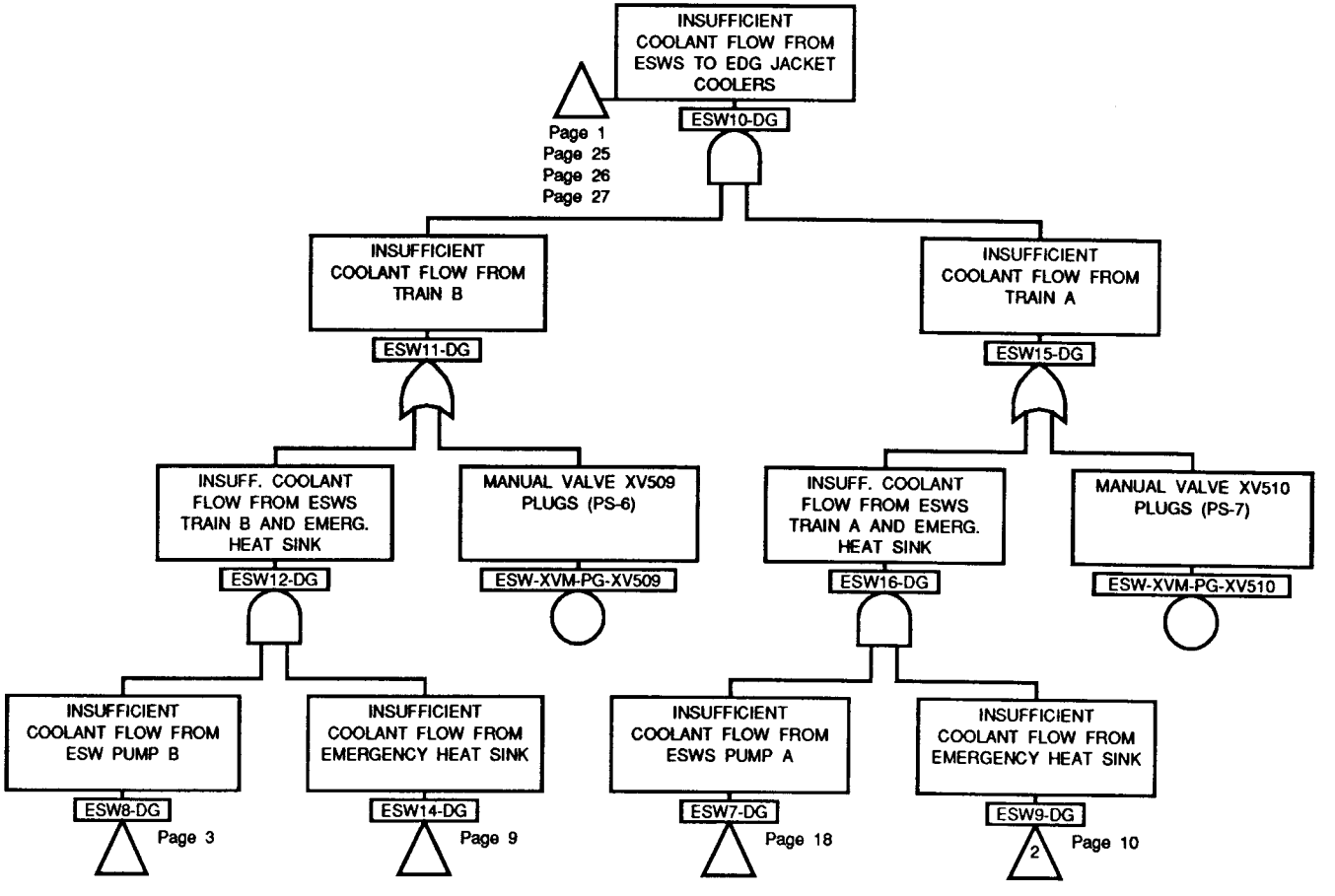
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 1	DATE 1/12/89



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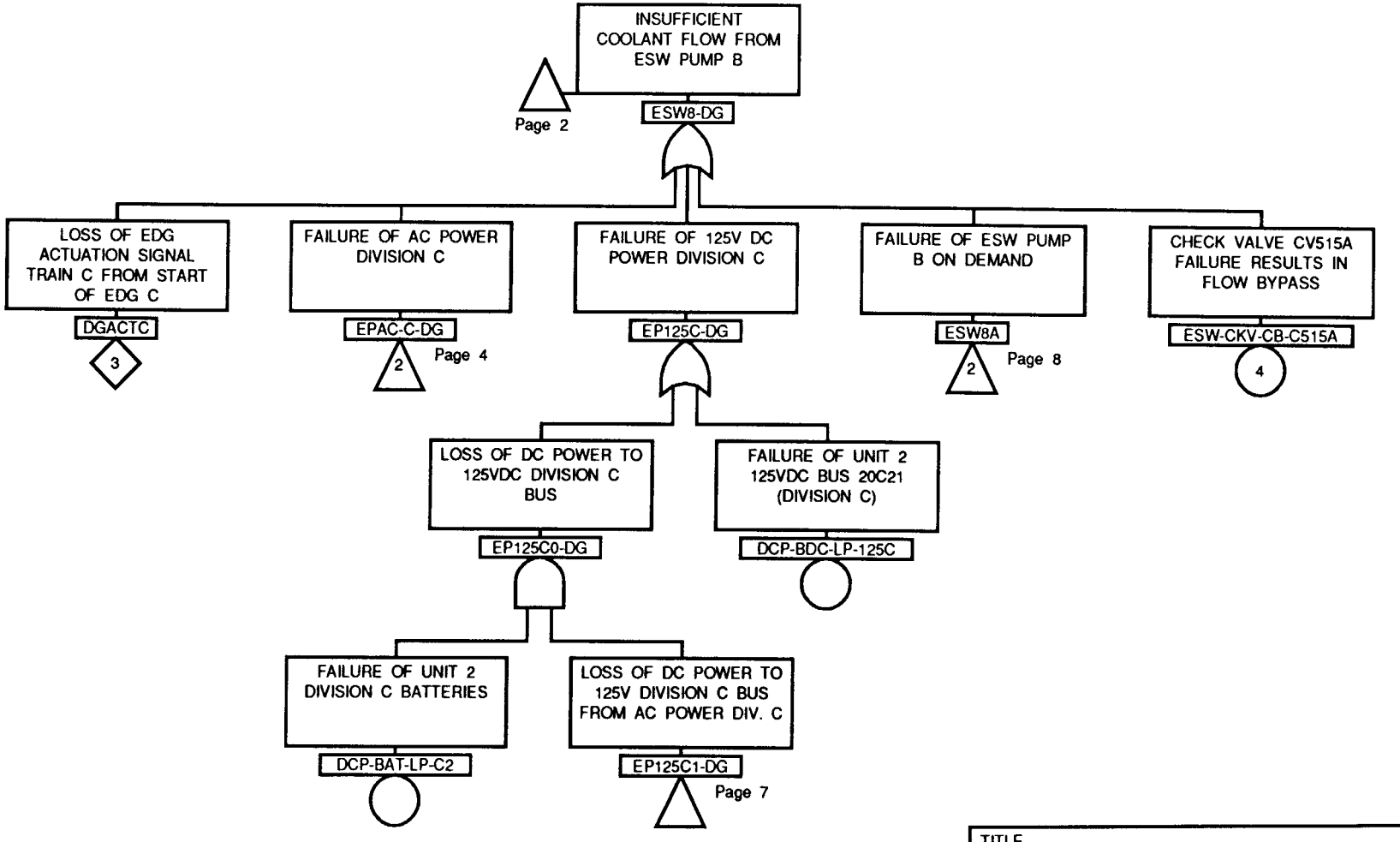
EMERGENCY SERVICE WATER

DRAWING NUMBER	DATE
Page 2	1/12/89



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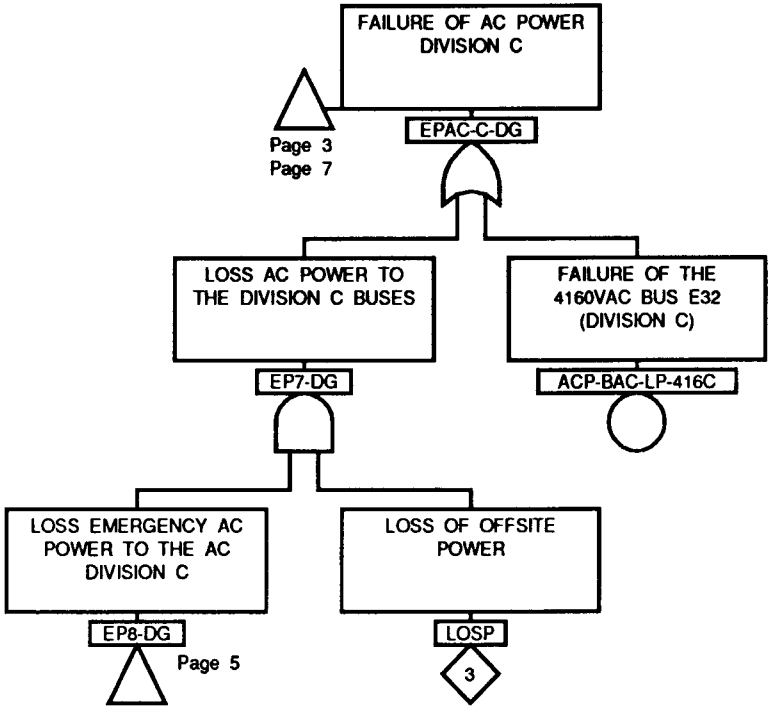
DRAWING NUMBER	DATE
Page 3	1/12/89



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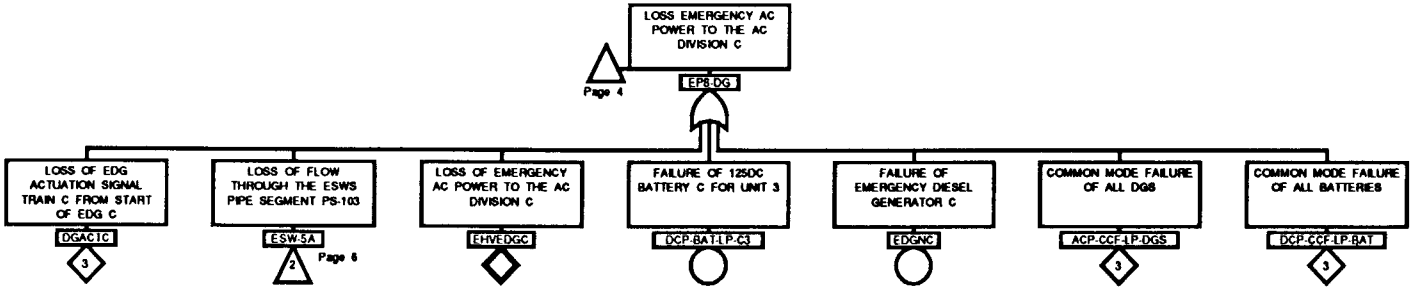
DRAWING NUMBER Page 4	DATE 1/12/89



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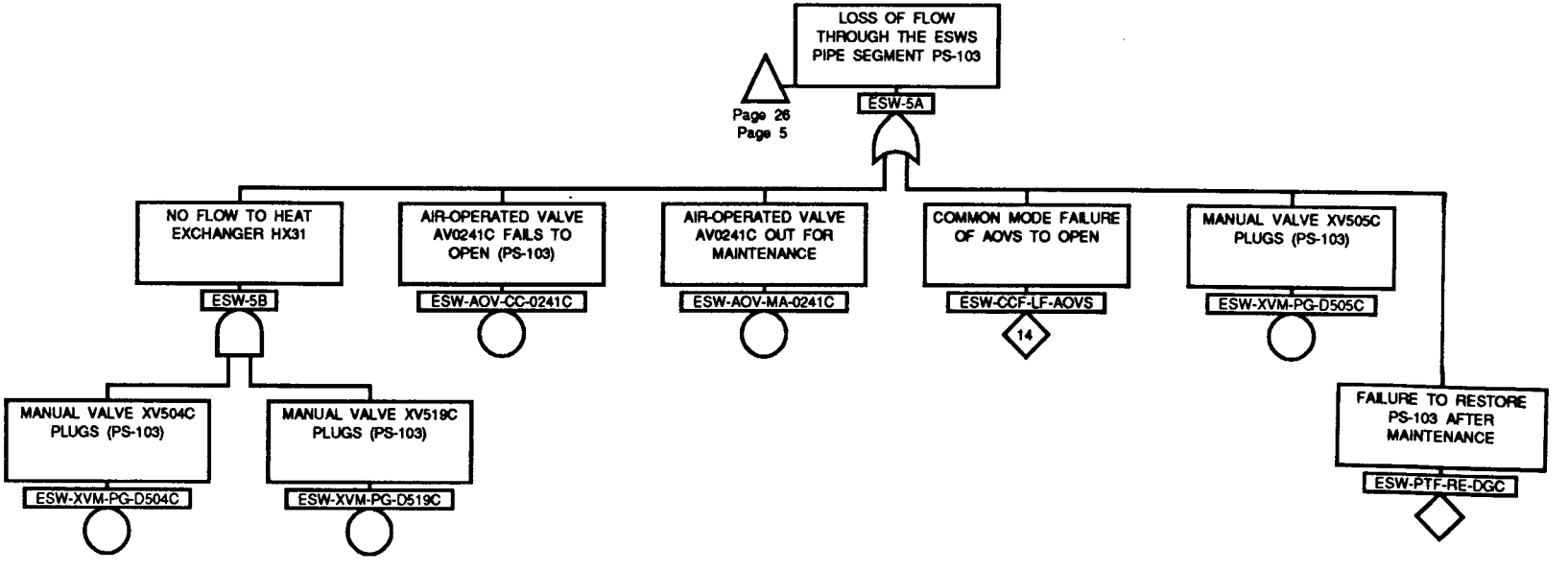
DRAWING NUMBER Page 5	DATE 1/12/89



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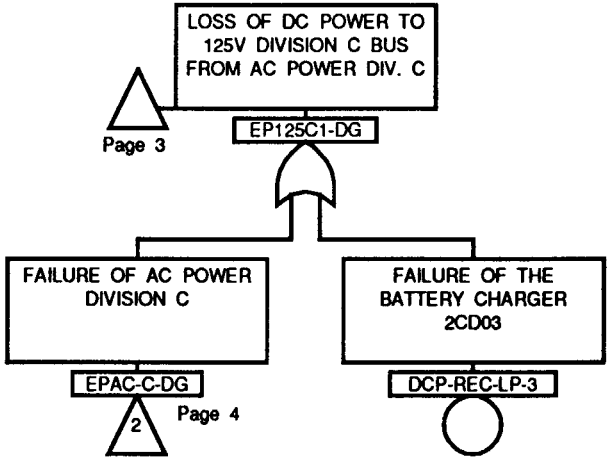
DRAWING NUMBER	DATE
Page 6	1/12/89



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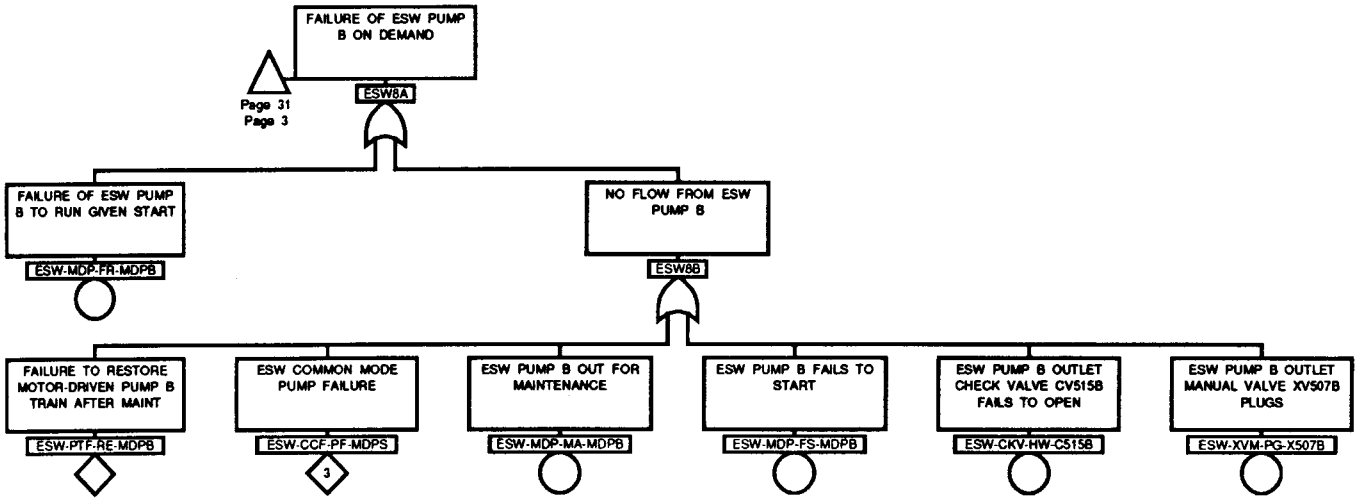
DRAWING NUMBER Page 7	DATE 1/12/89



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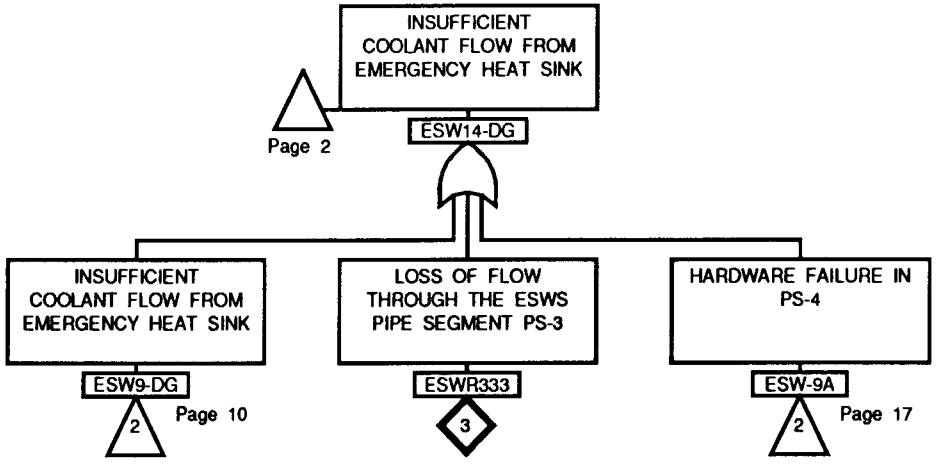
DRAWING NUMBER Page 8	DATE 1/12/89



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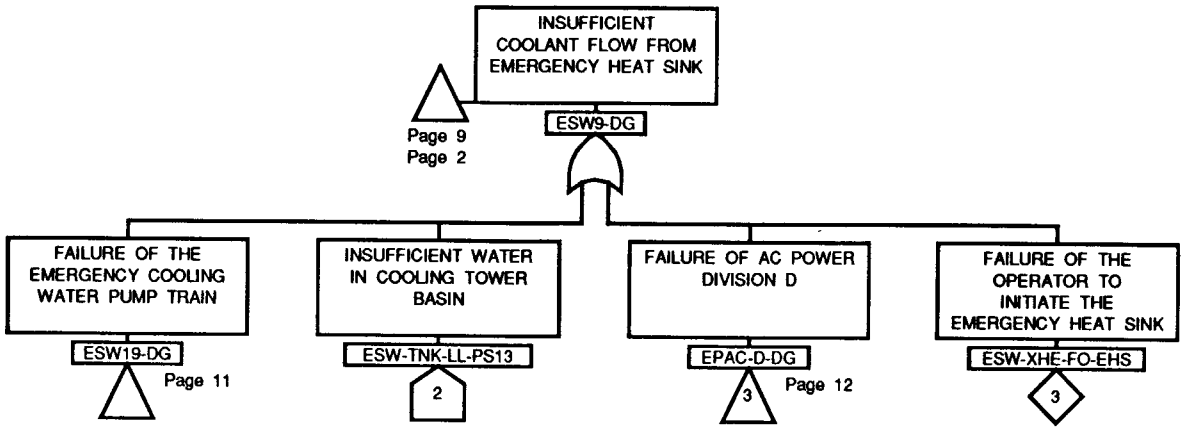
Page 9	1/12/89



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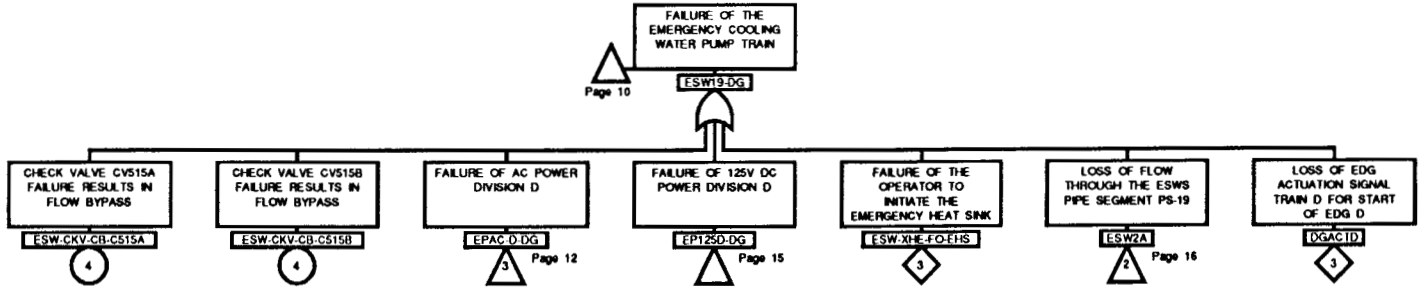
Page 10	1/12/89



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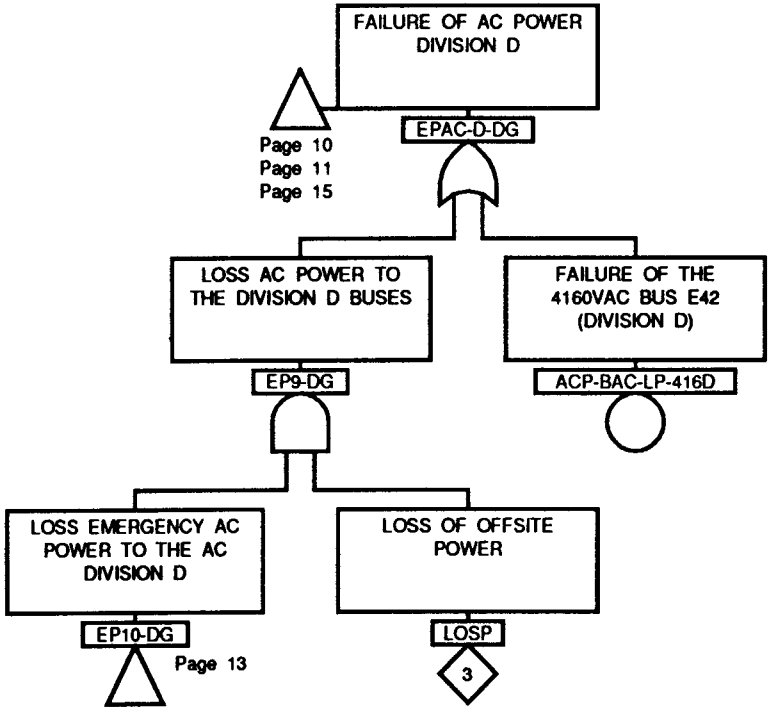

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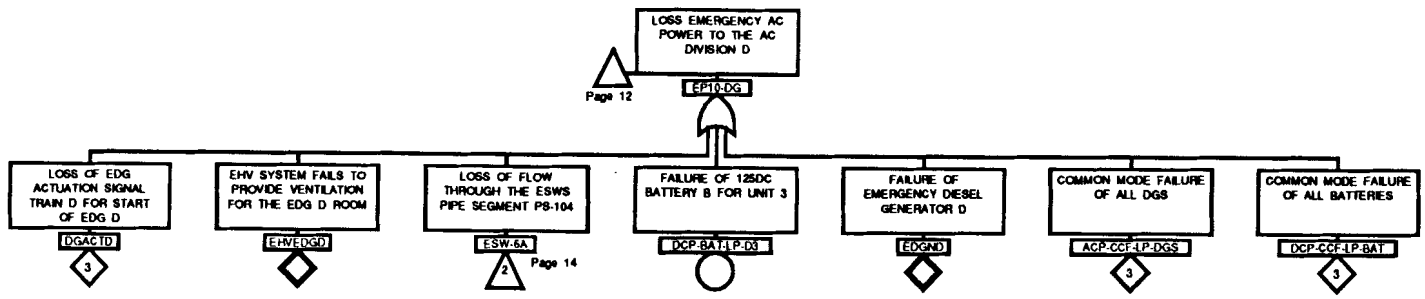

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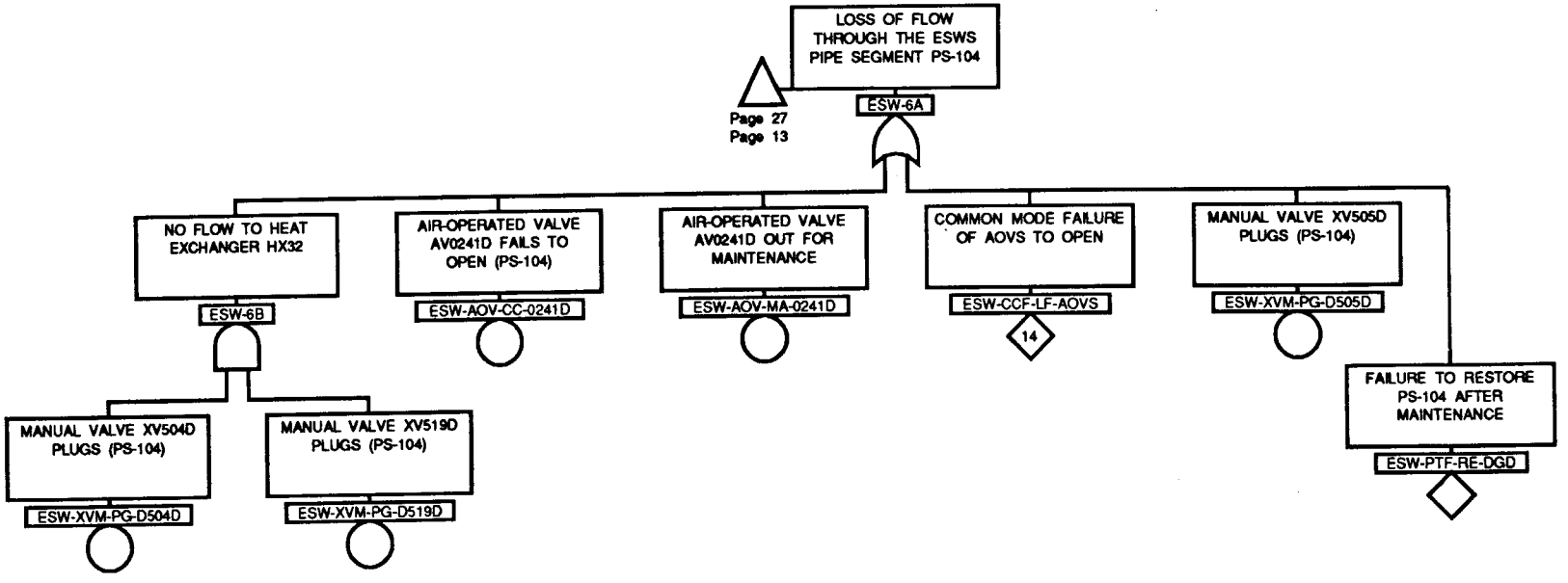
Page 13	1/12/89



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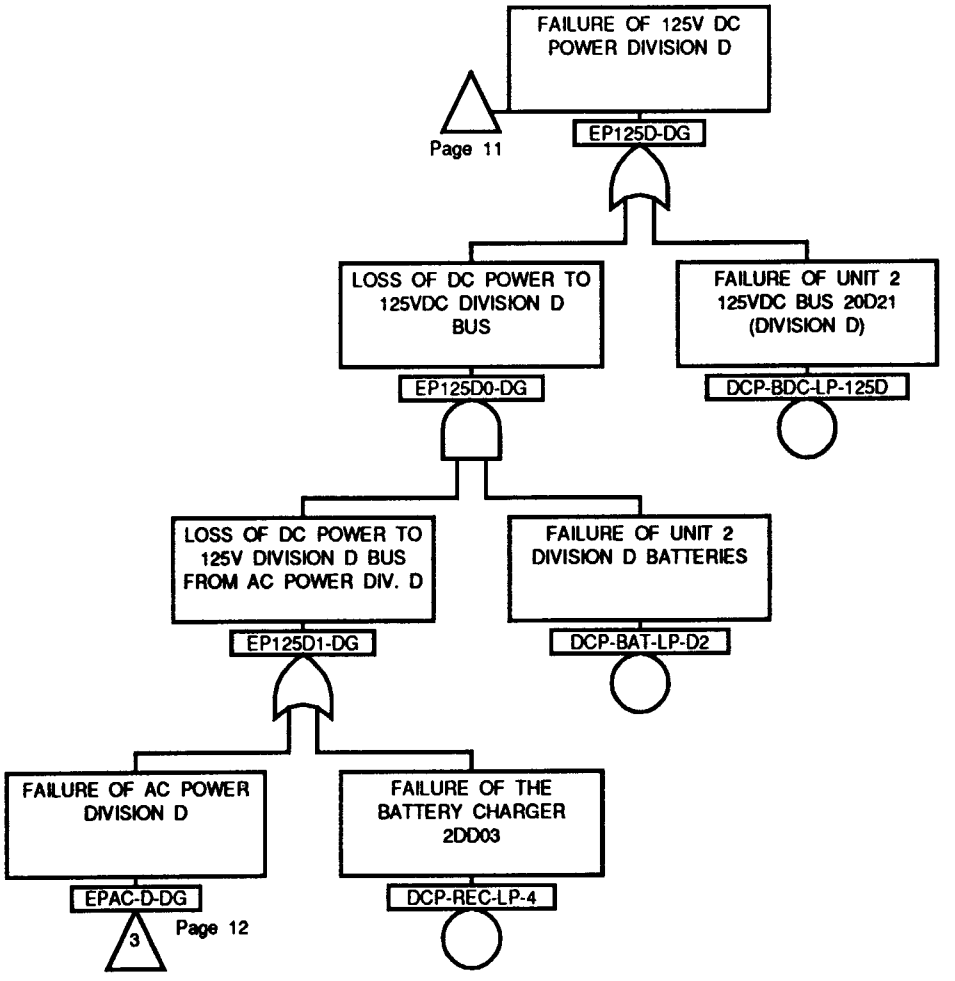

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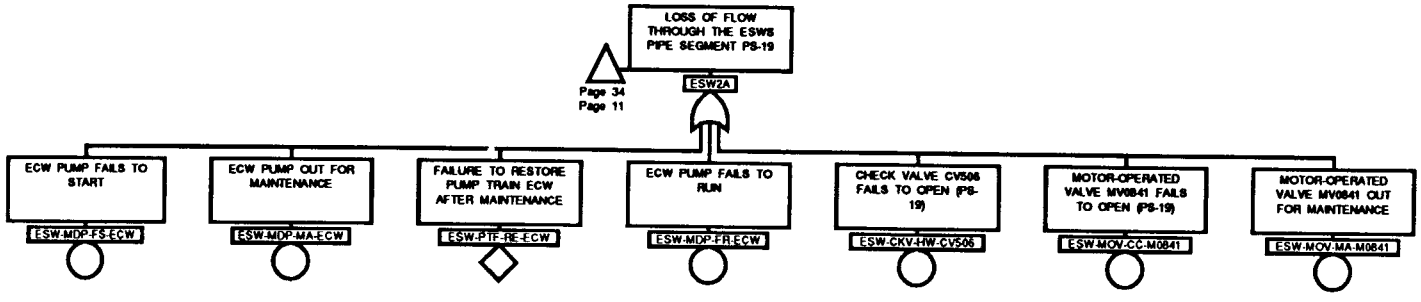

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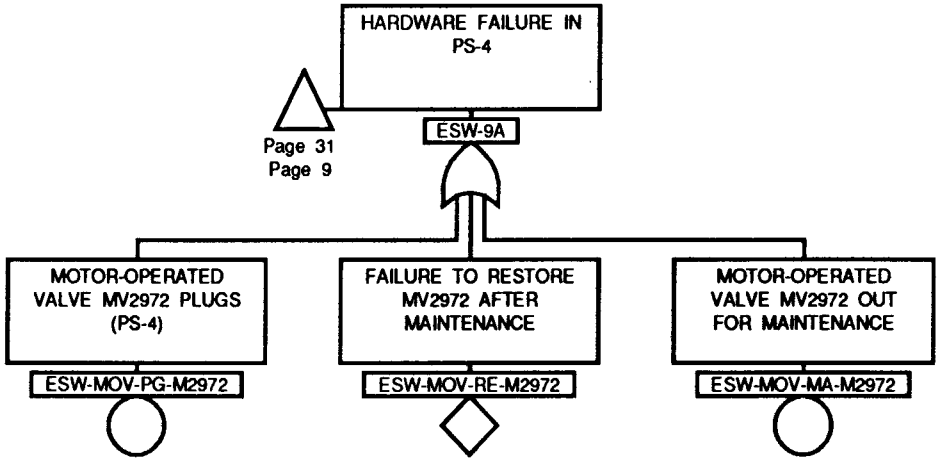

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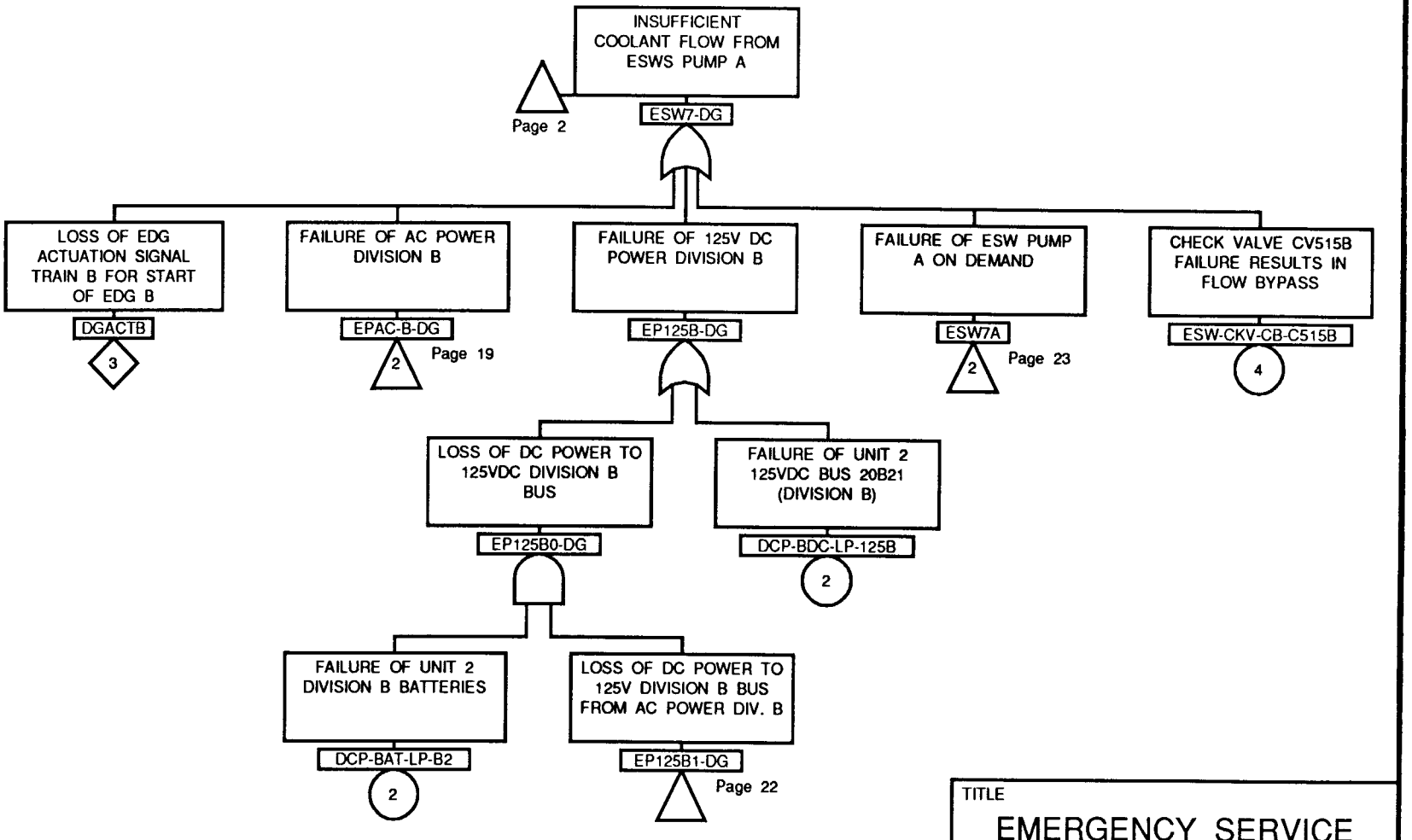
DRAWING NUMBER Page 17	DATE 1/12/89



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DATE
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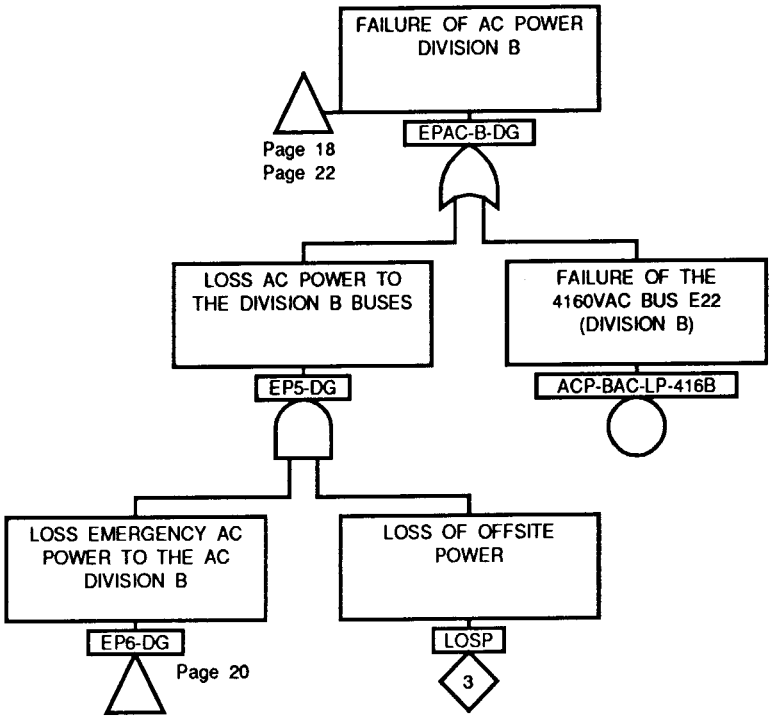

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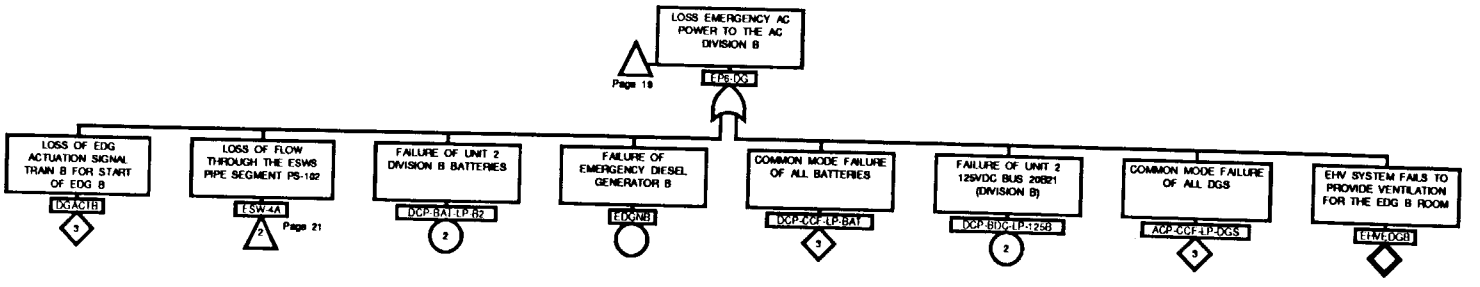

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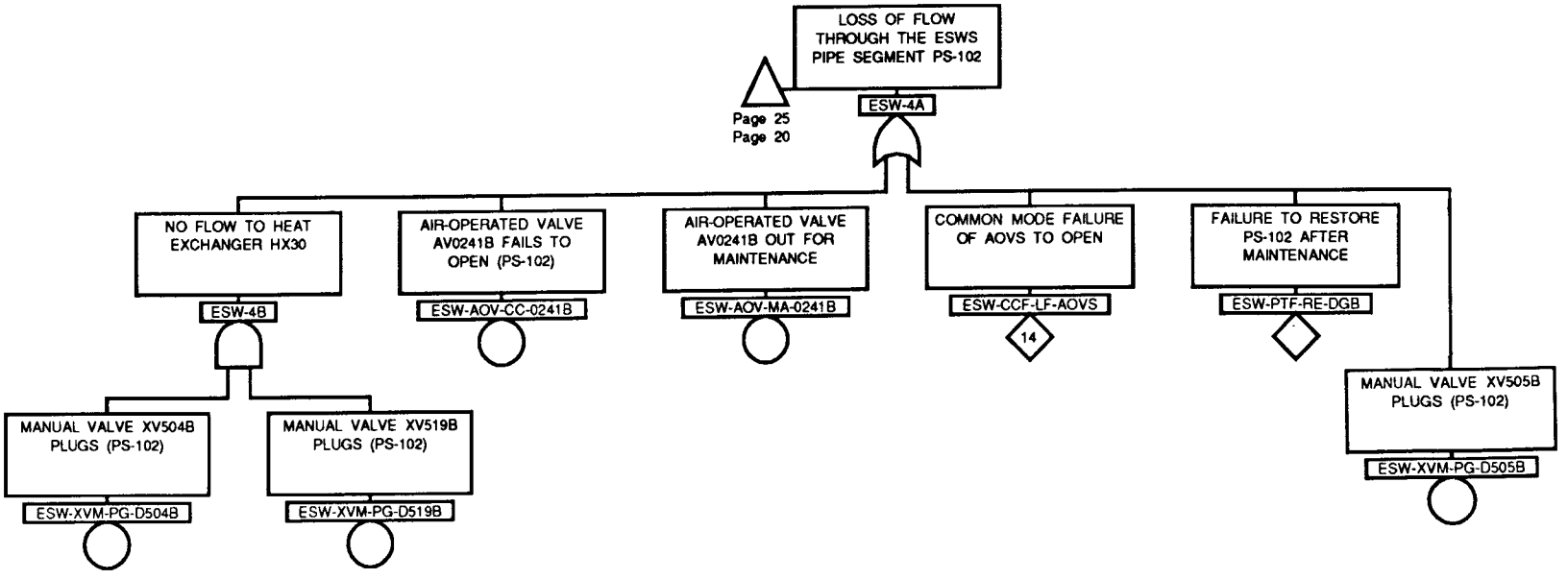
DRAWING NUMBER Page 20	DATE 1/12/89



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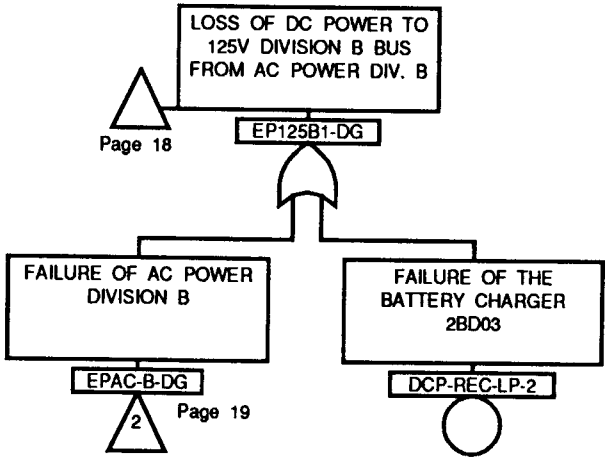

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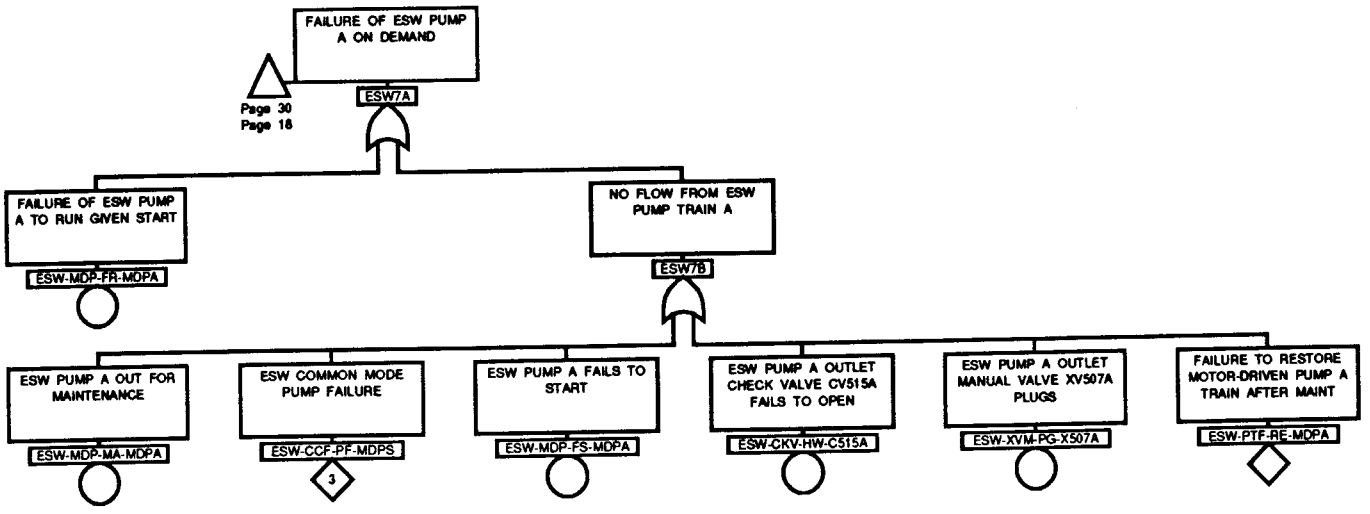

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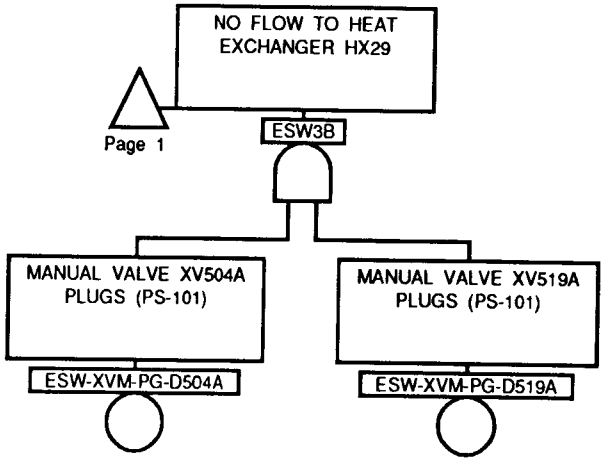

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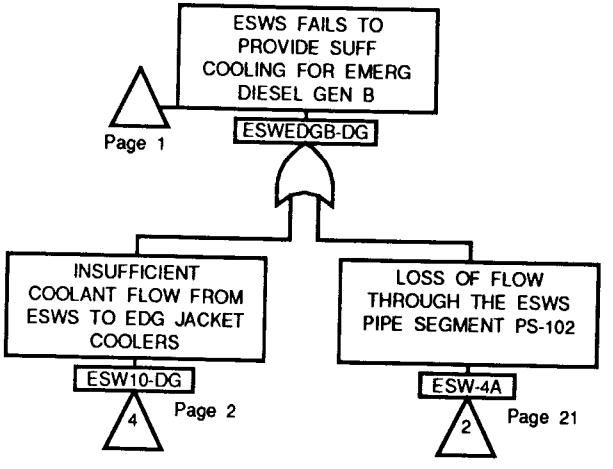

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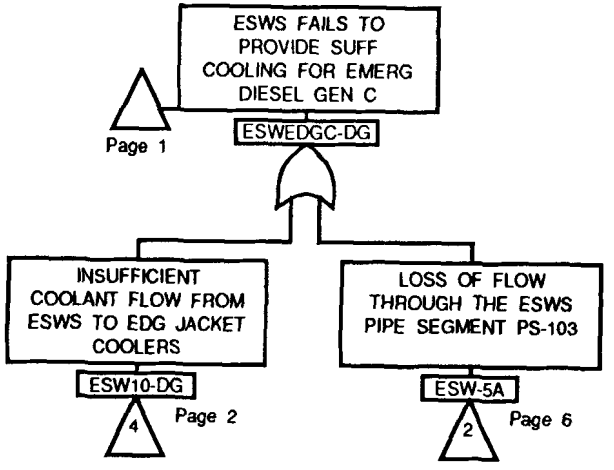

TITLE
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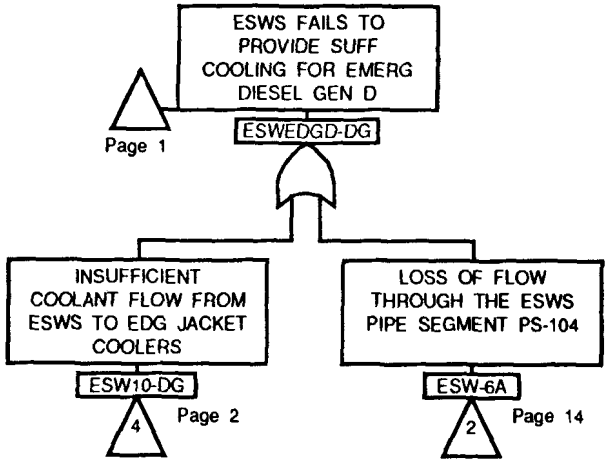

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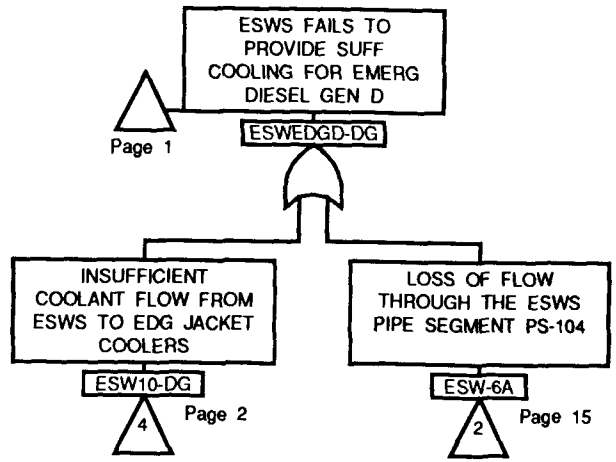

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Page 59, Page 62, Page 63
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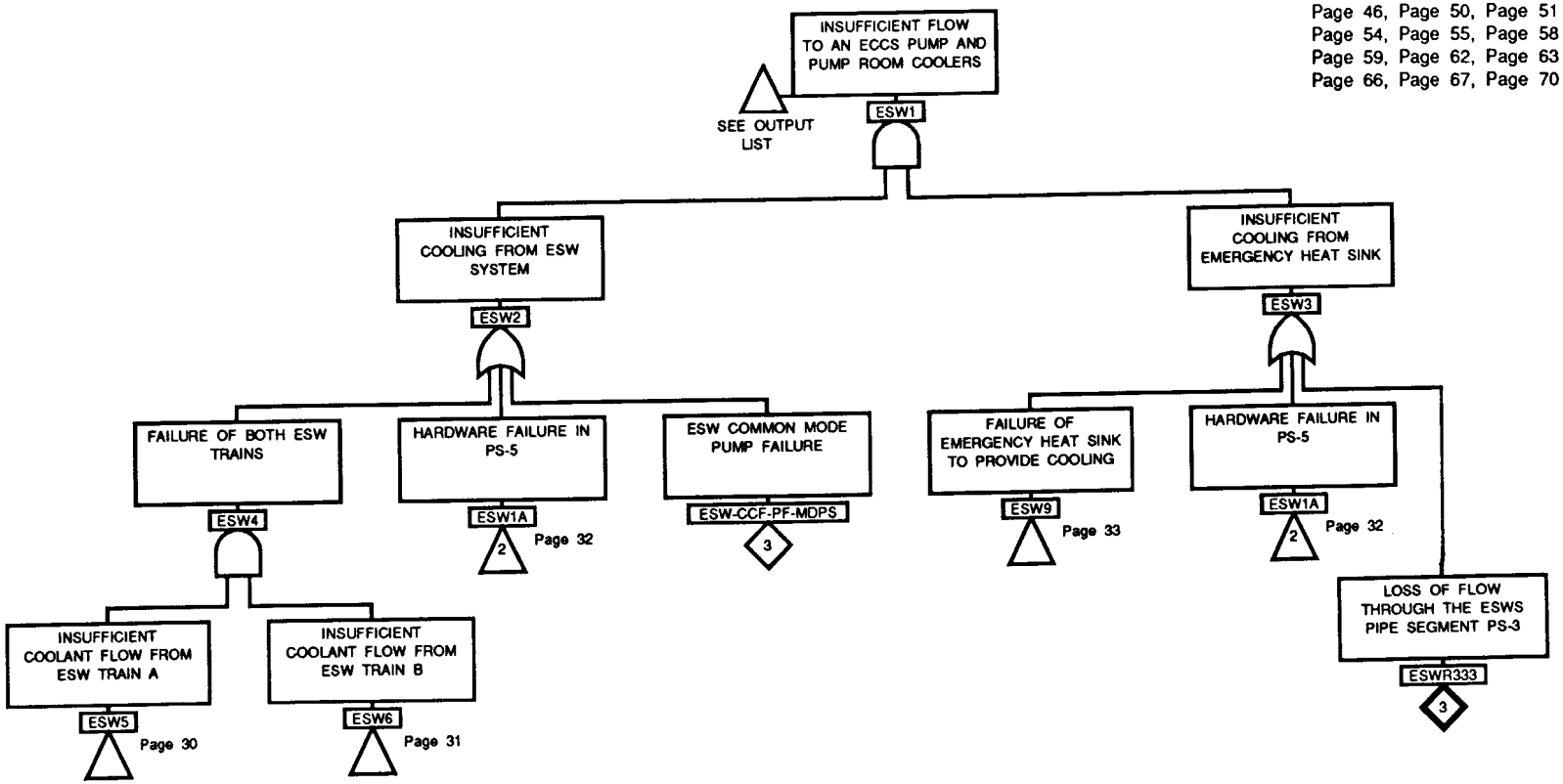

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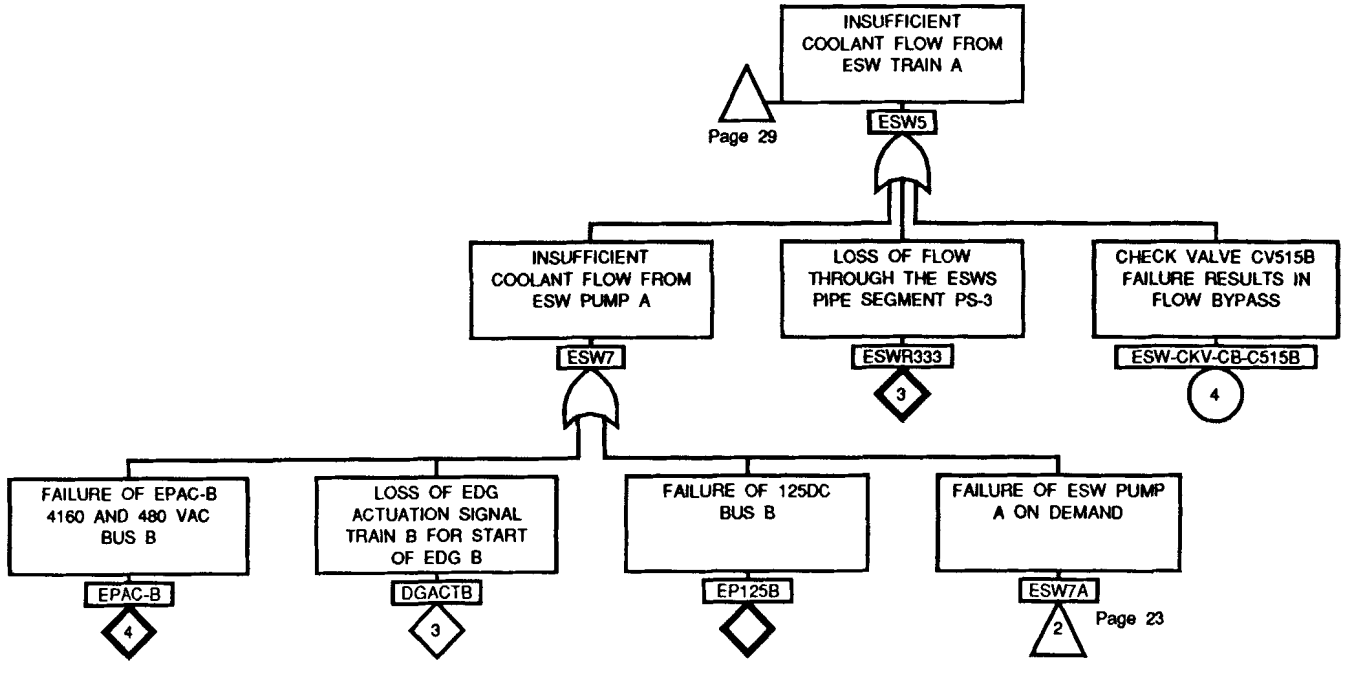

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EMERGENCY SERVICE WATER	
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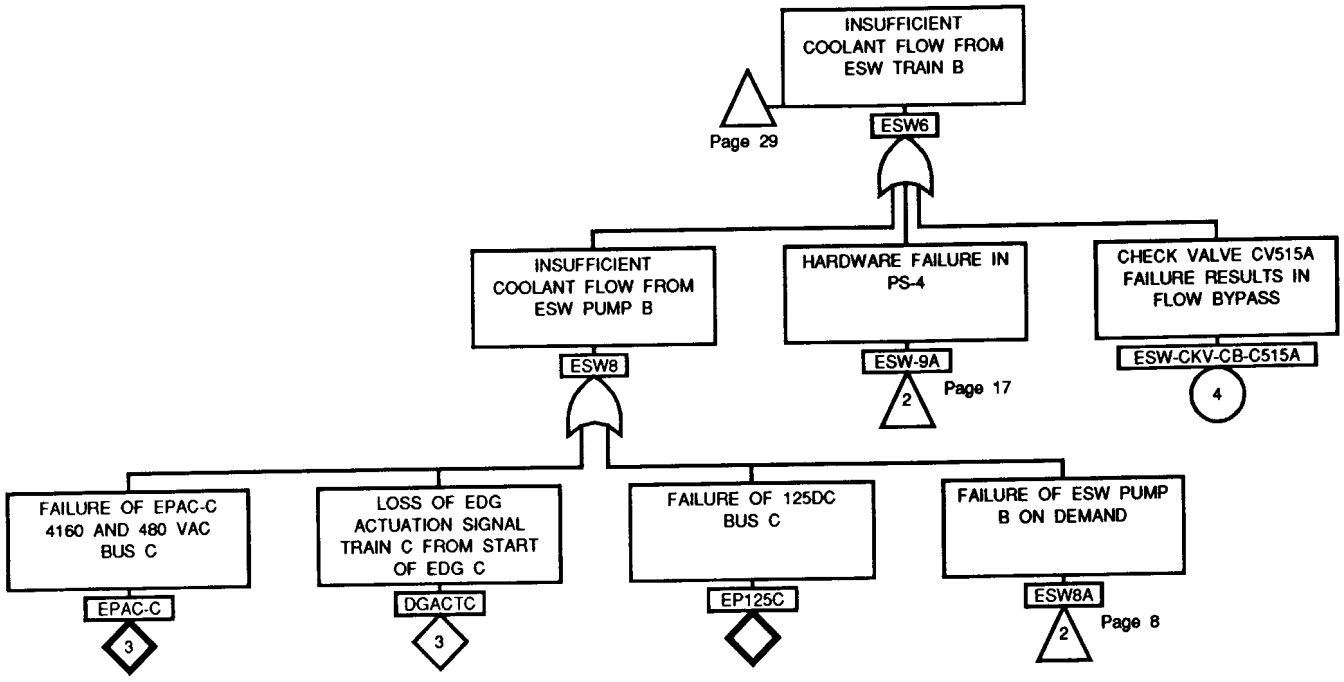

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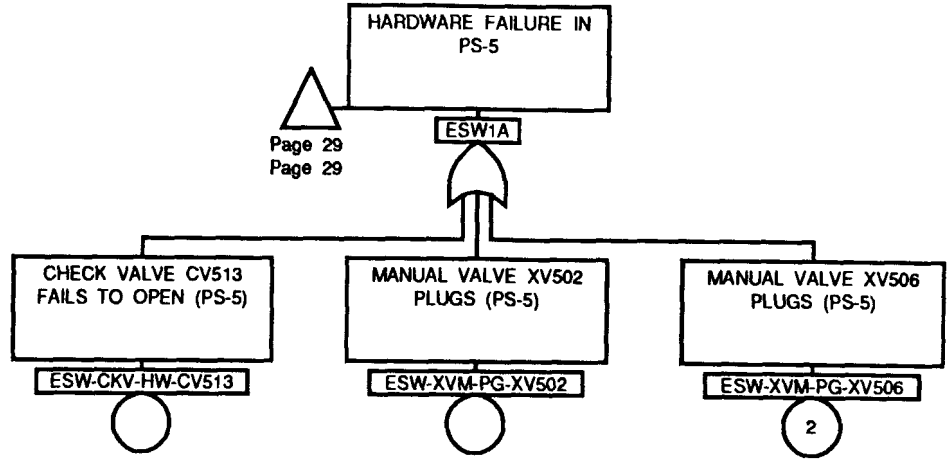

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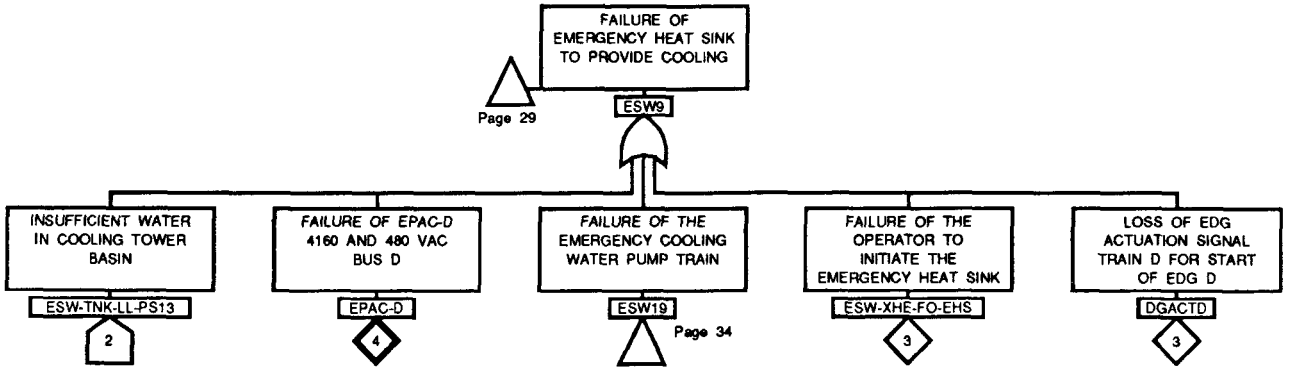

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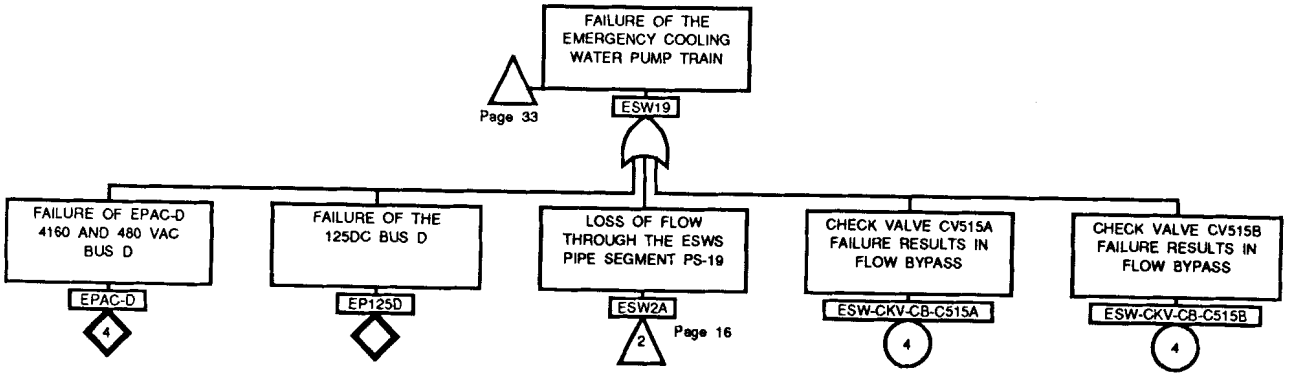

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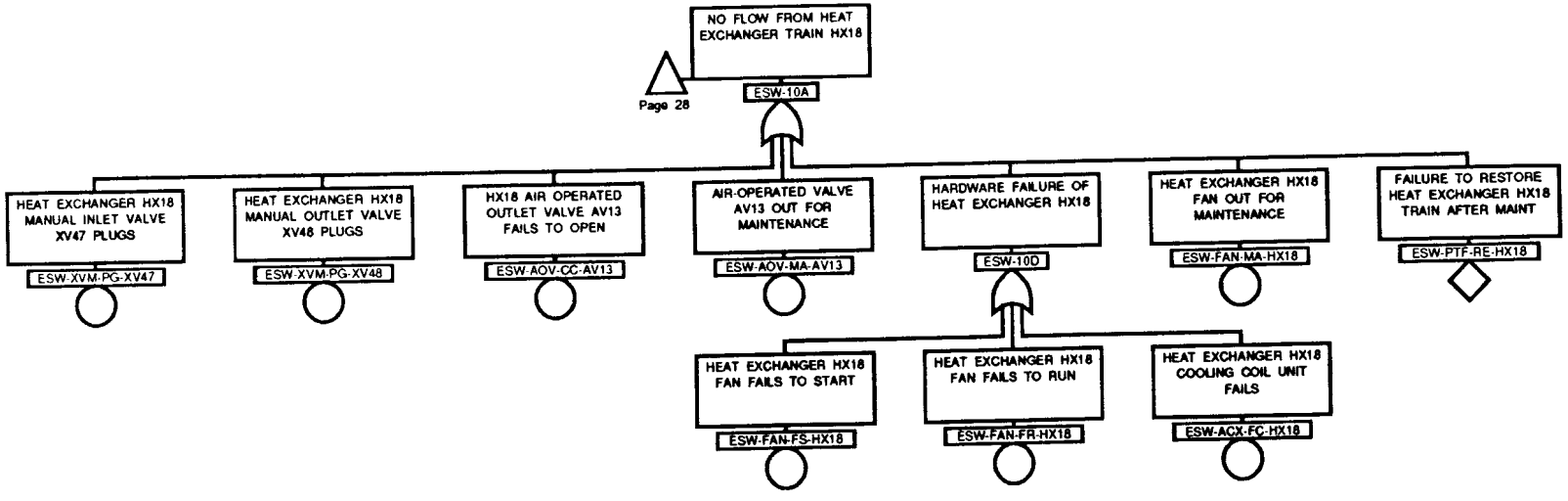

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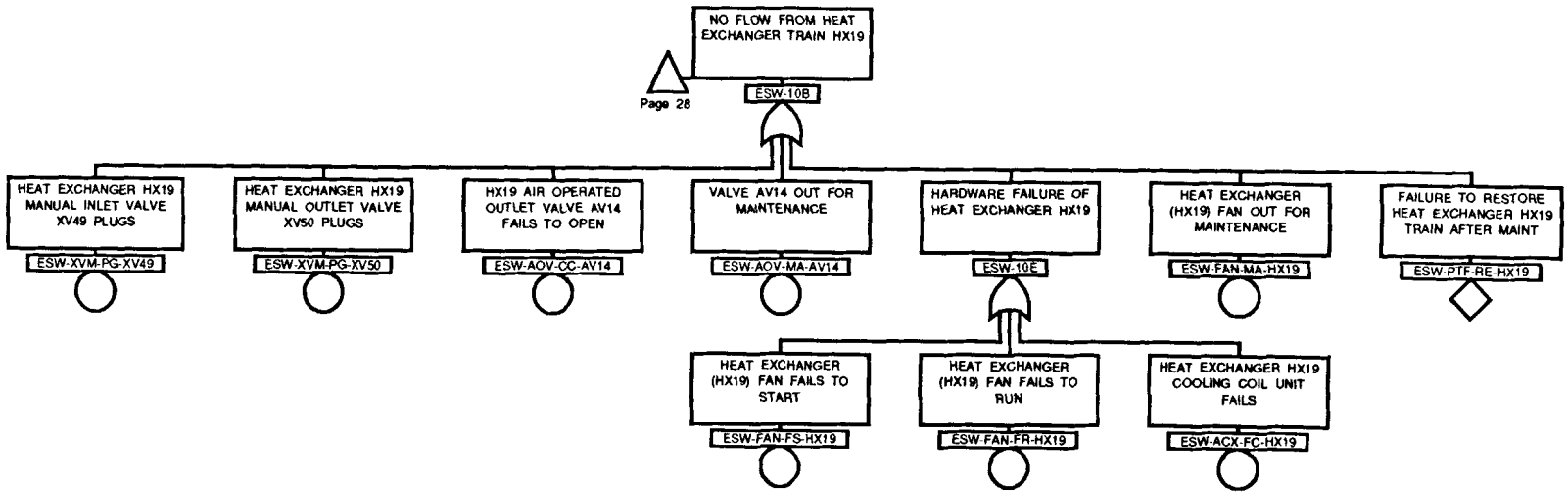

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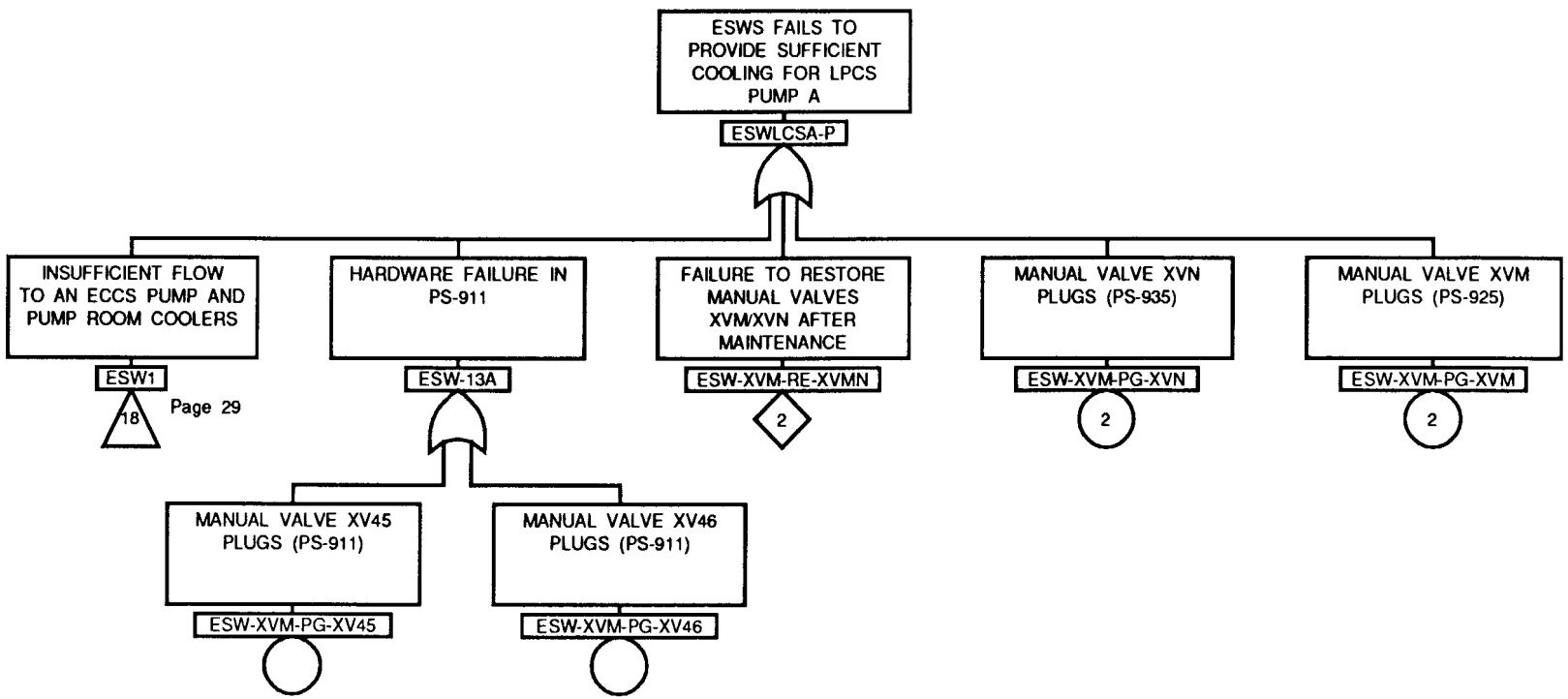

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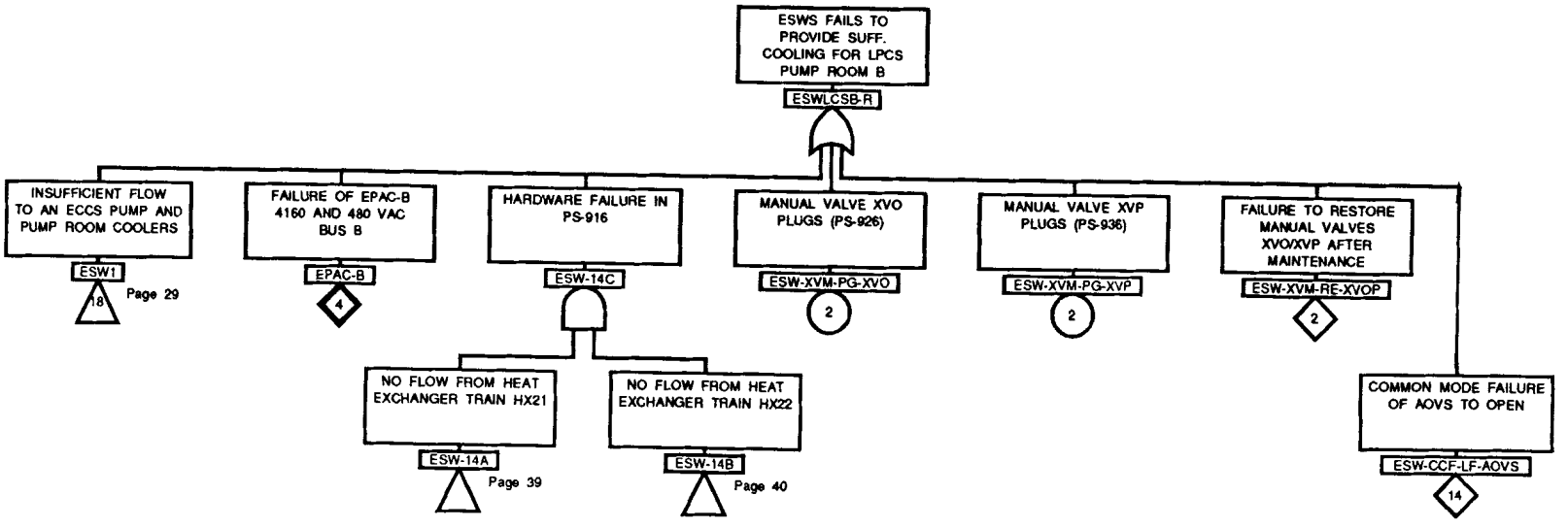

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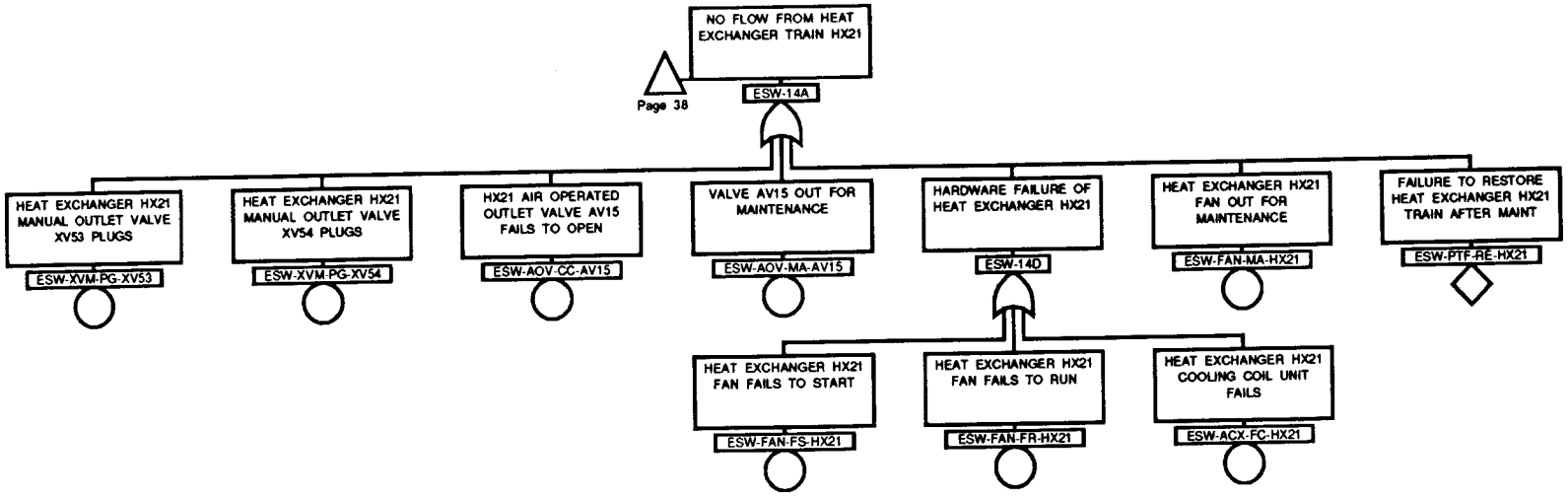

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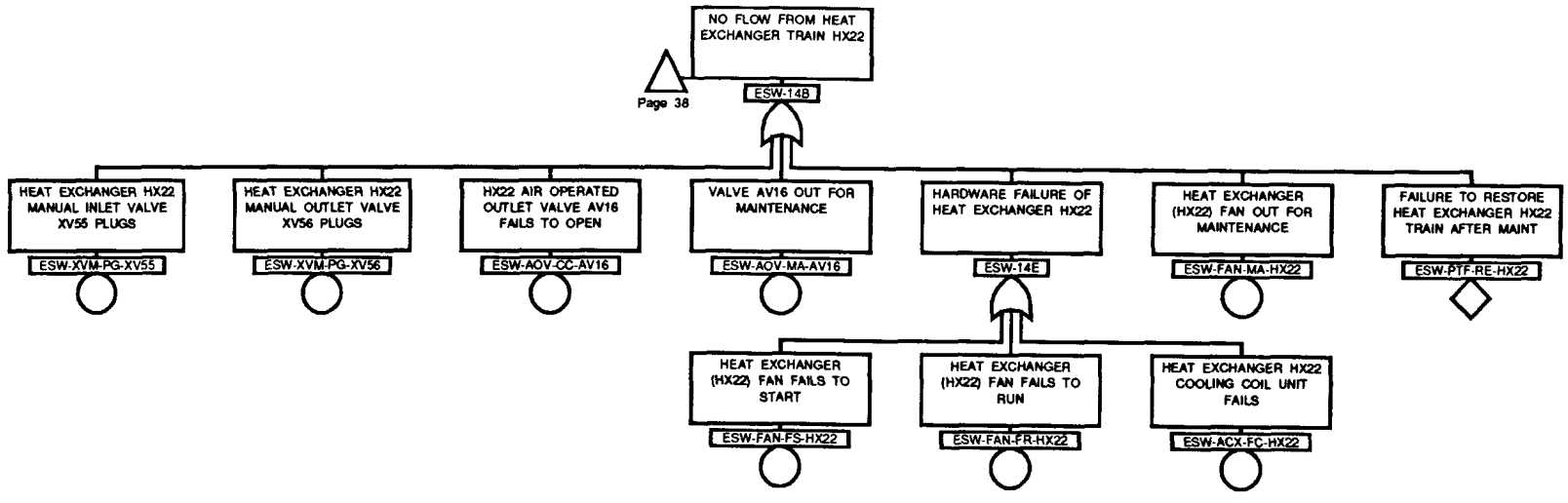

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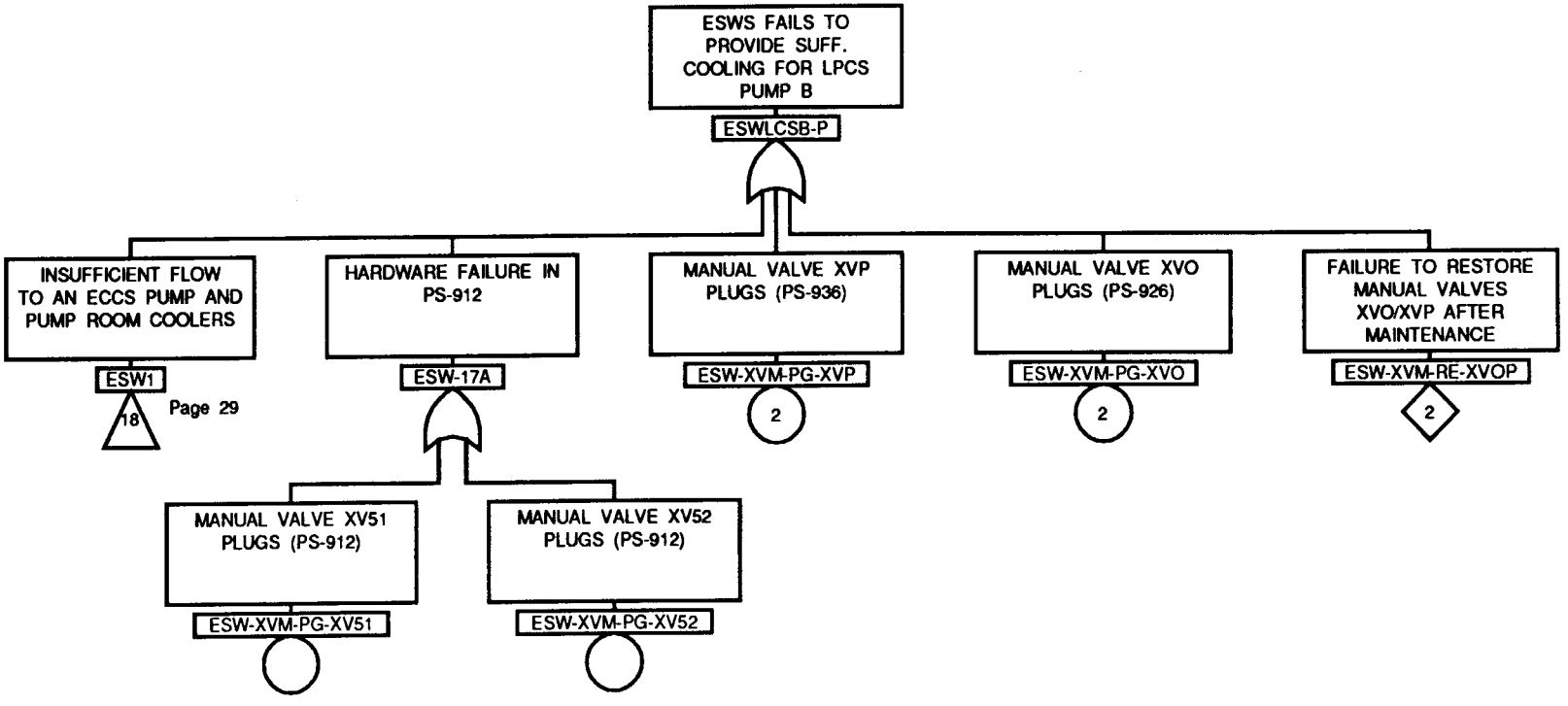

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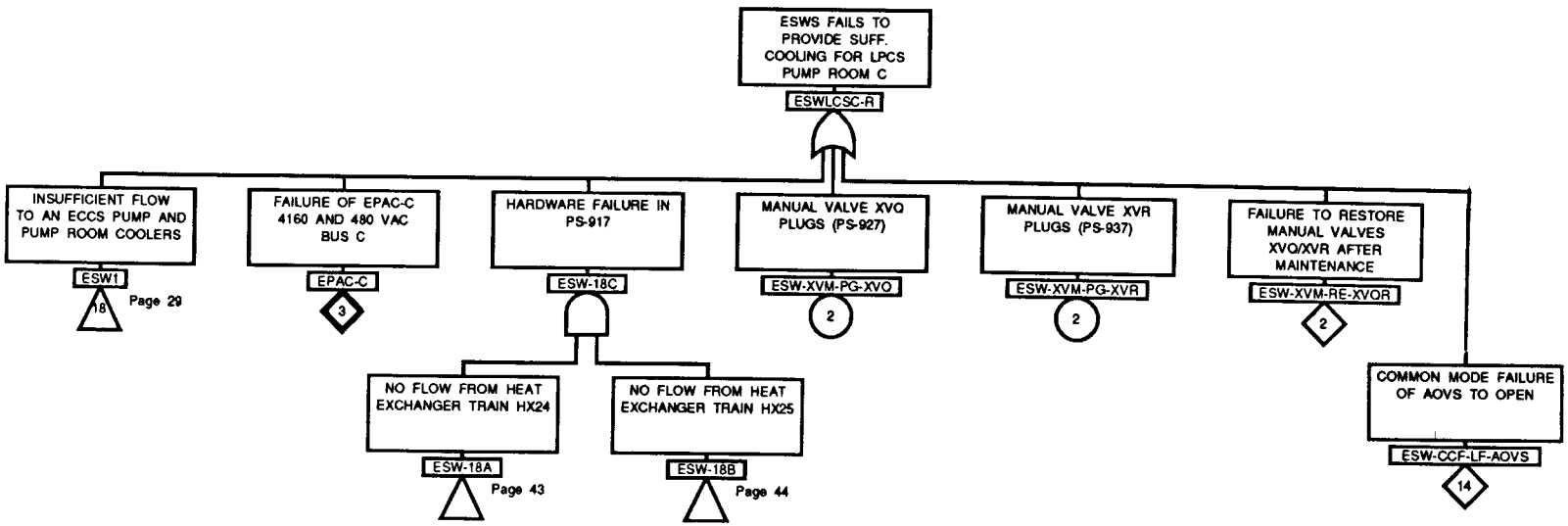
DRAWING NUMBER Page 41	DATE 1/12/89



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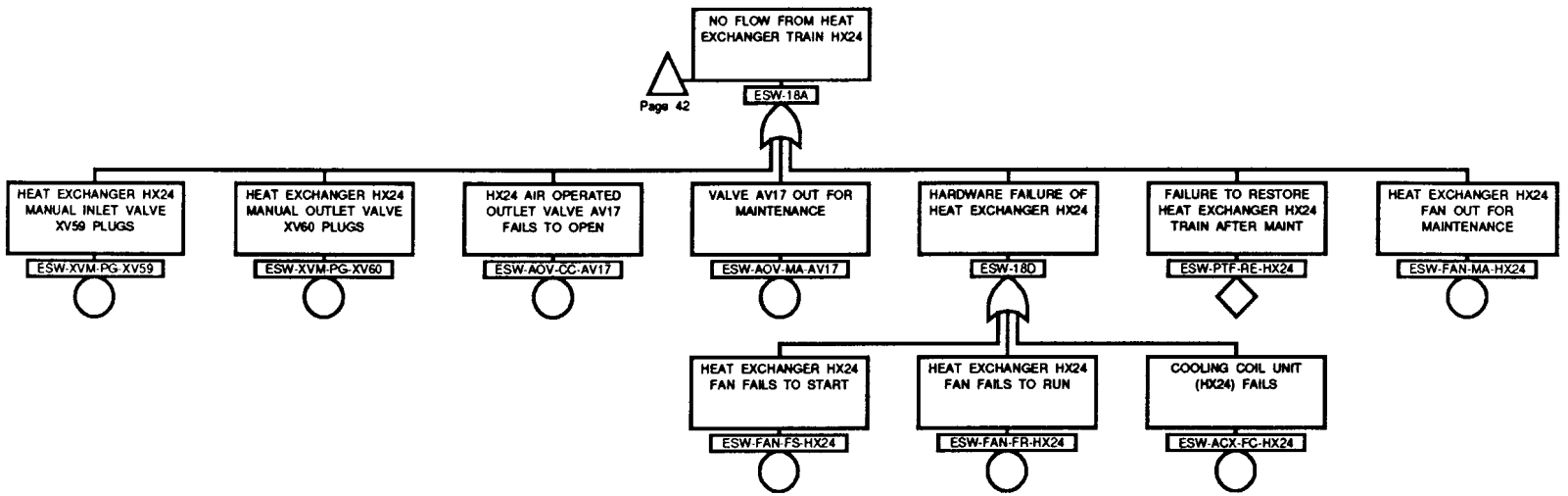
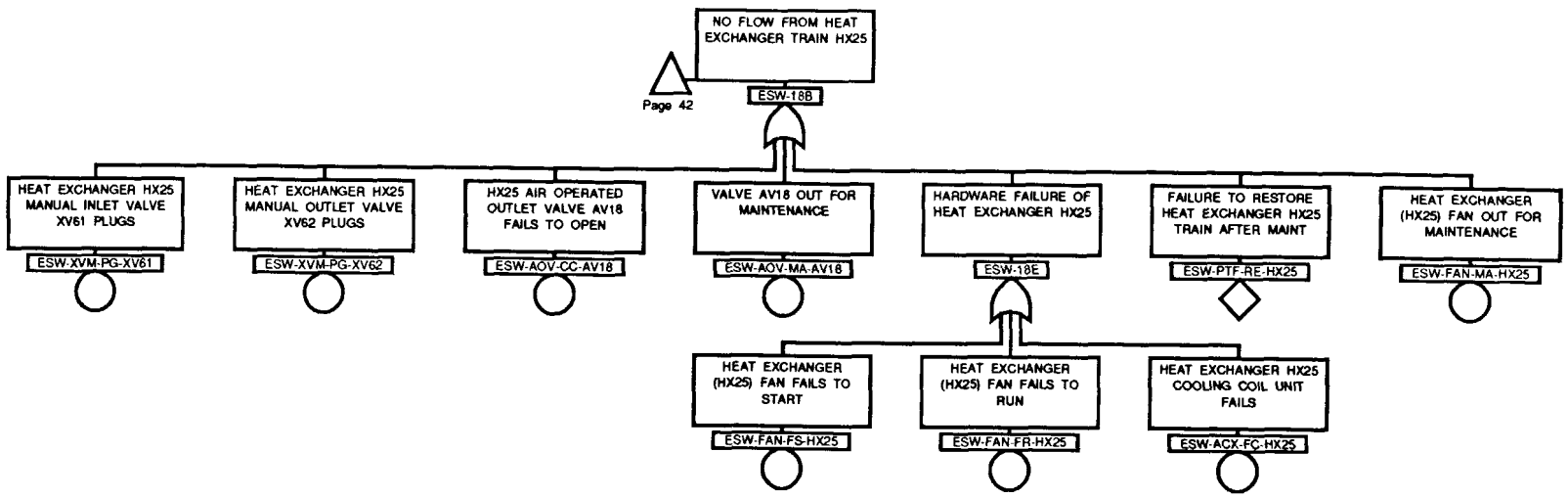
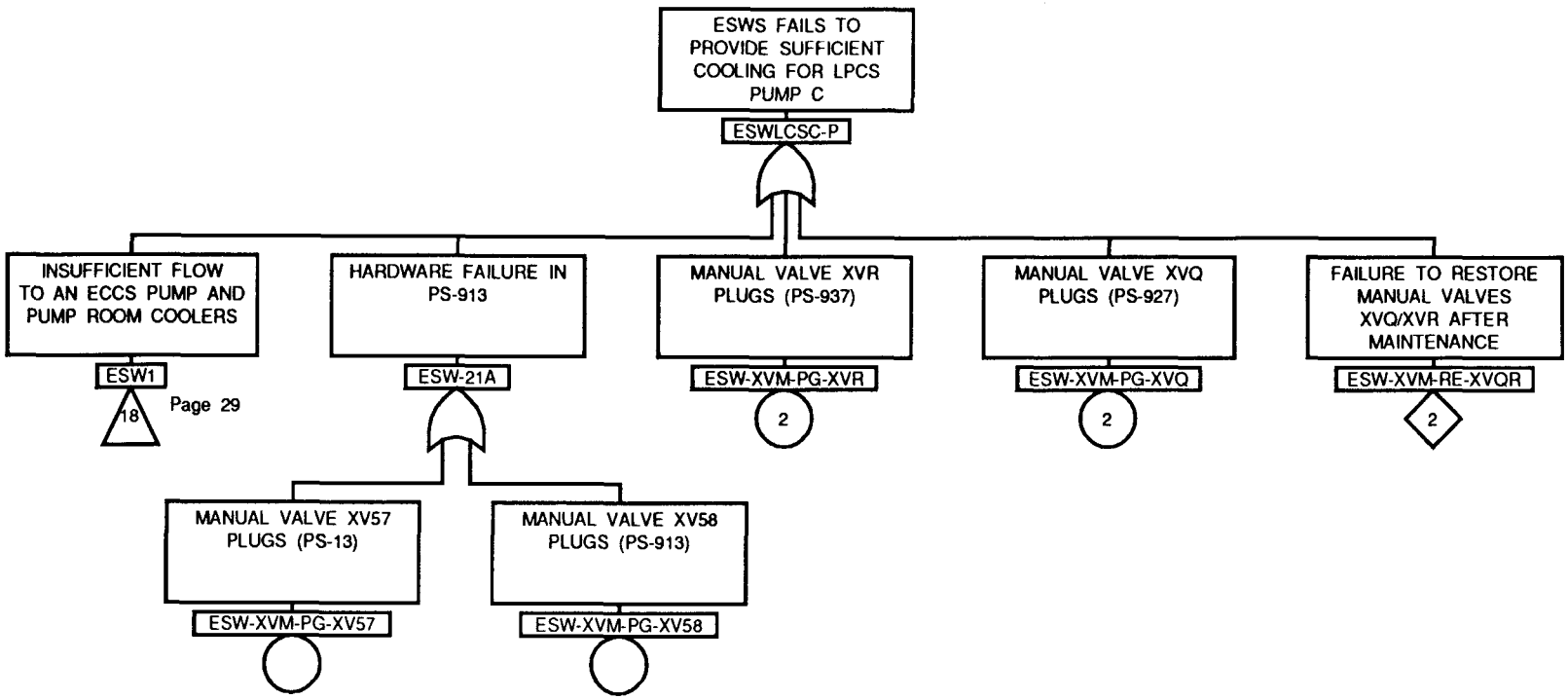


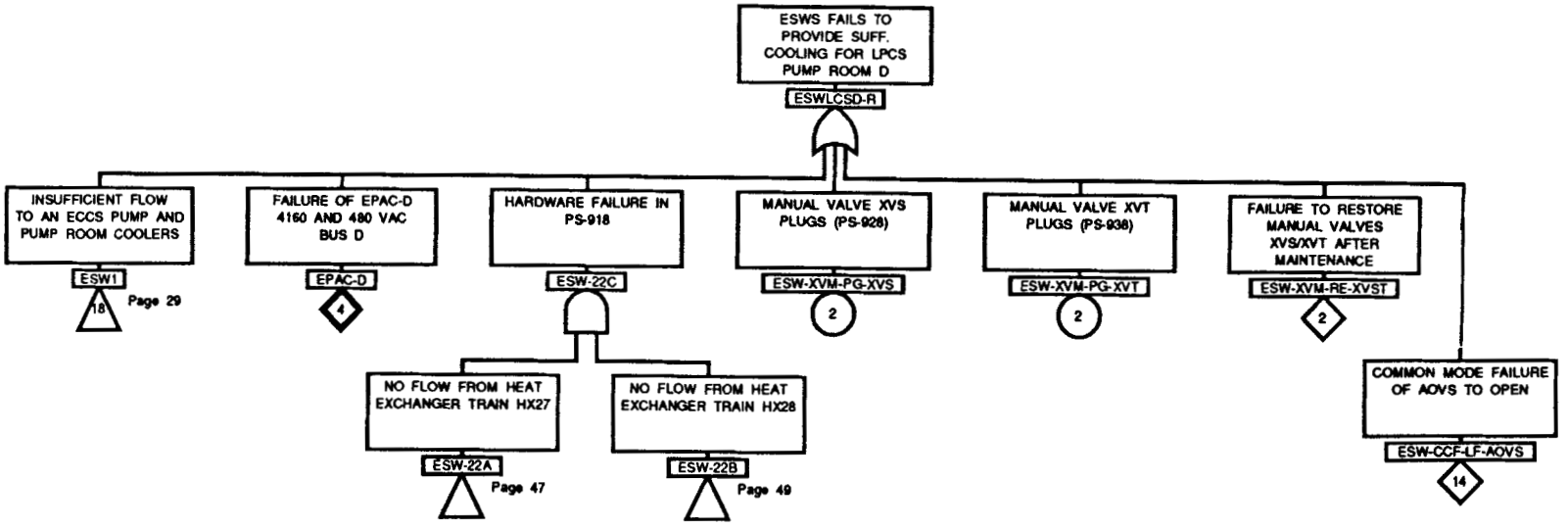
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 43	DATE 1/12/89



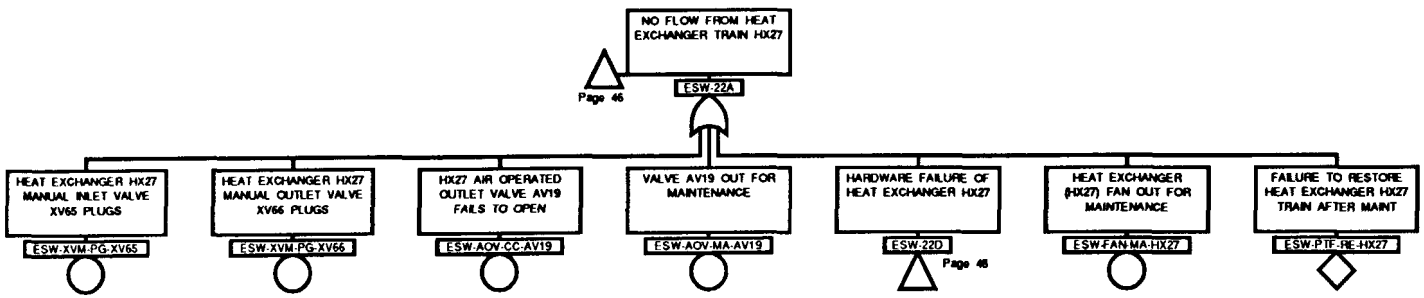
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER	DATE
Page 44	1/12/89



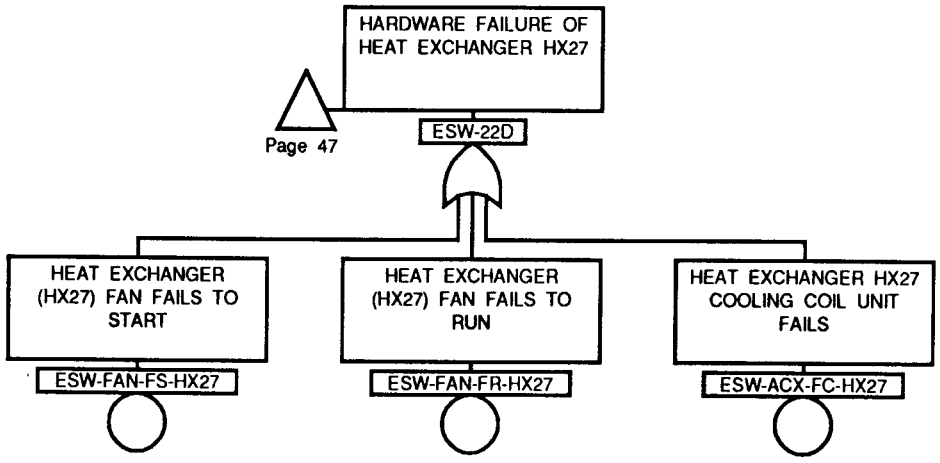
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER	DATE
Page 45	1/12/89



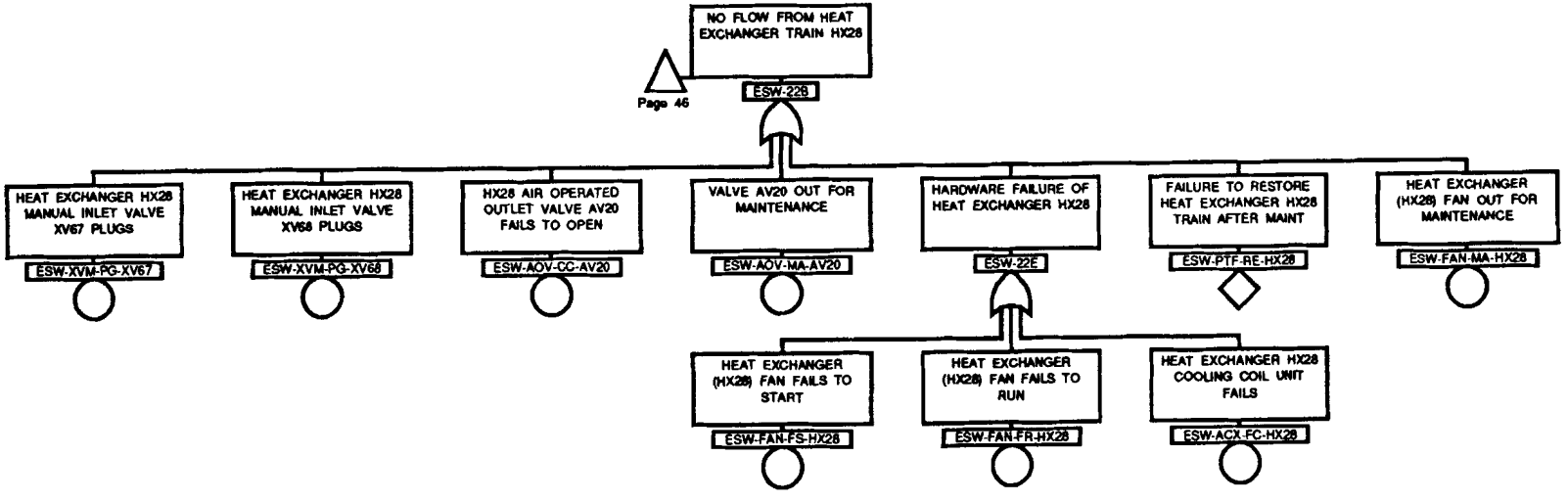
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER	DATE
Page 46	1/12/89



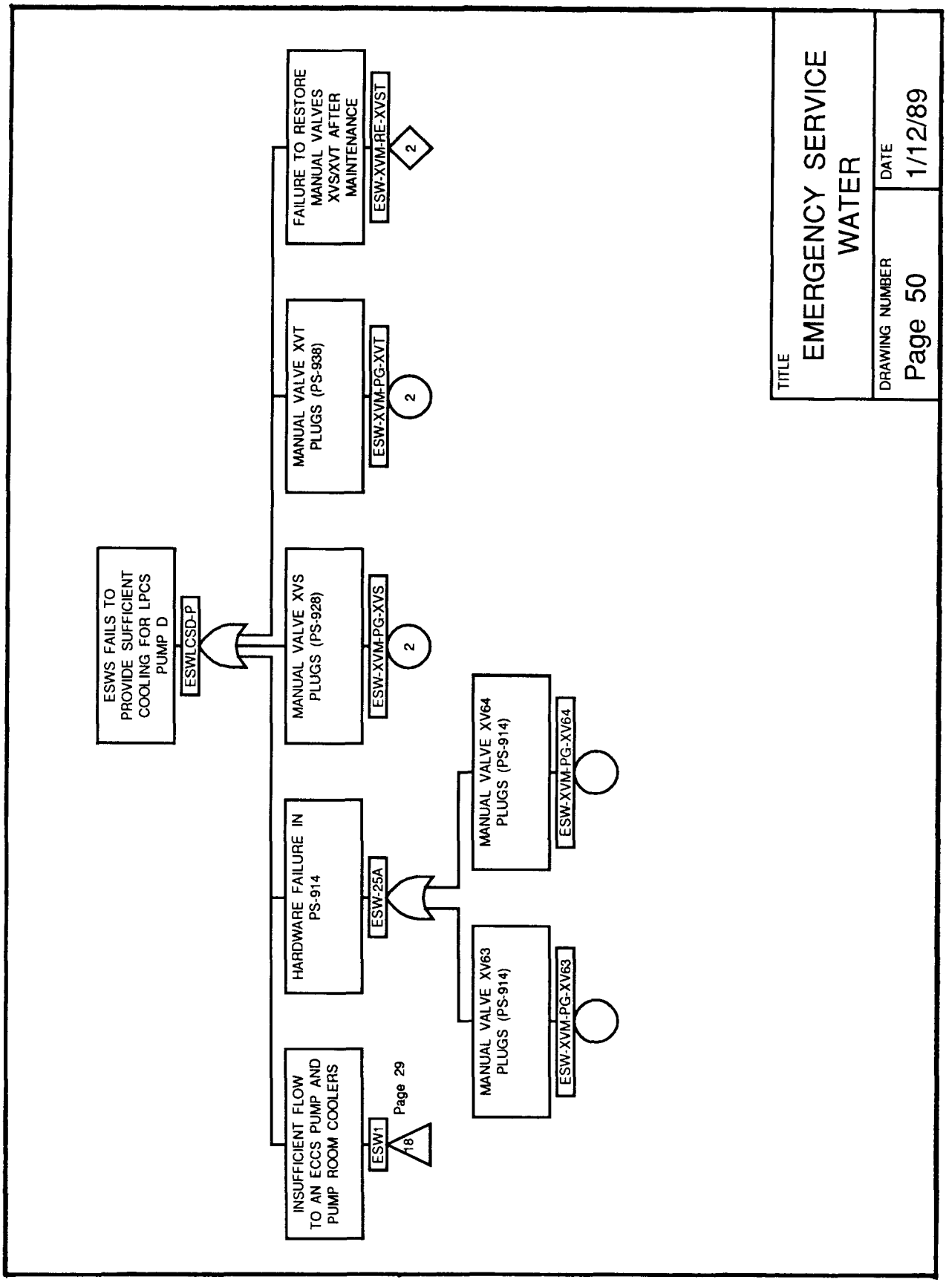
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER	DATE
Page 47	1/12/89

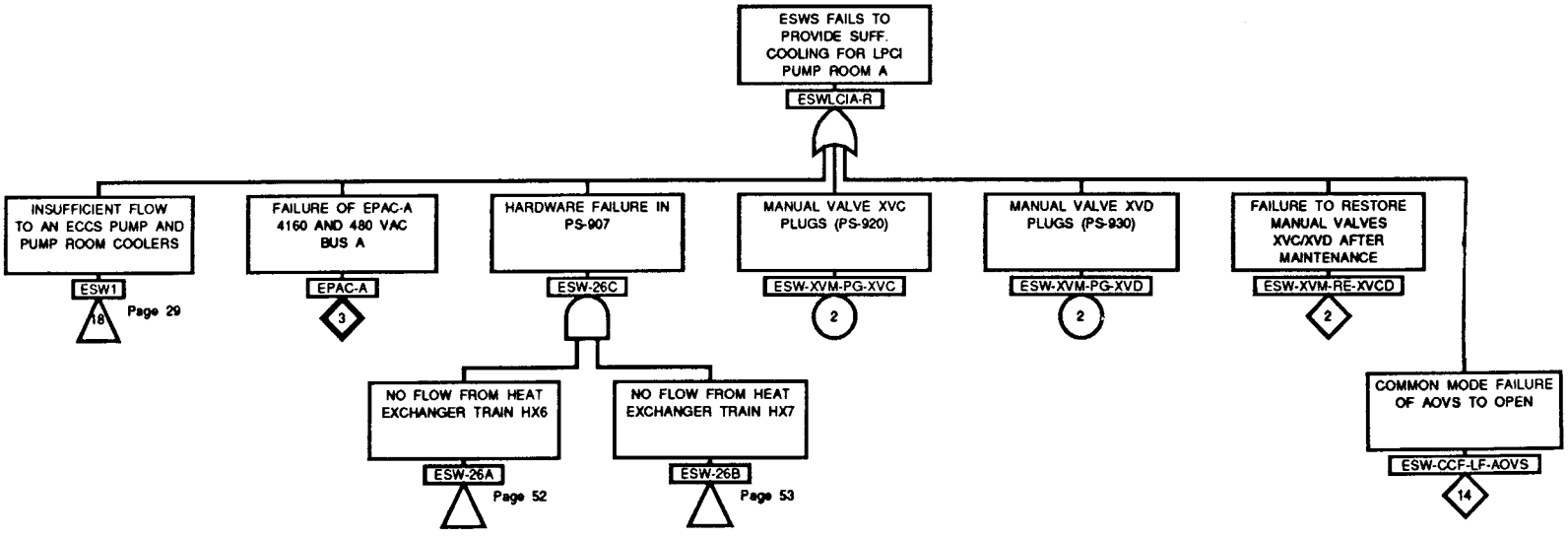


TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 48	DATE 1/12/89



TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER	DATE
Page 49	1/12/89

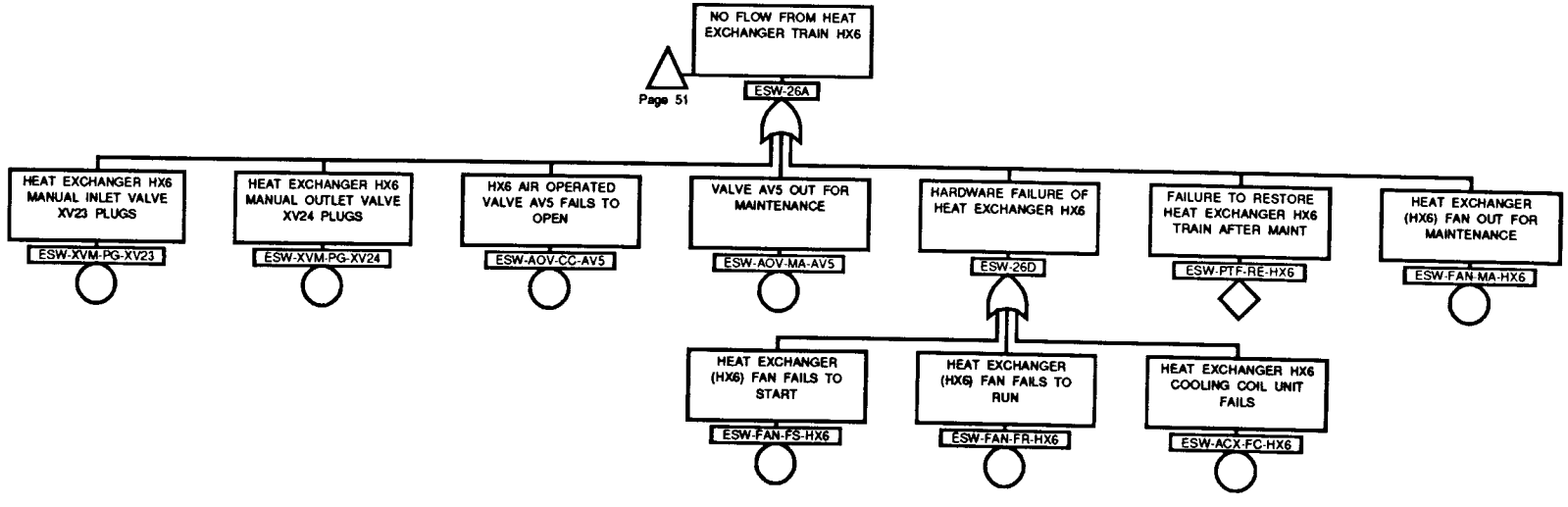

ESWS FAILS TO PROVIDE SUFFICIENT COOLING FOR LPCS PUMP D
ESWLCSD-P
INSUFFICIENT FLOW TO AN ECCS PUMP AND PUMP ROOM COOLERS
ESW1
18
Page 29
HARDWARE FAILURE IN PS-914
ESW-25A
MANUAL VALVE XVS PLUGS (PS-928)
ESW-XVM-PG-XVS
2
MANUAL VALVE XVT PLUGS (PS-938)
ESW-XVM-PG-XVT
2
FAILURE TO RESTORE MANUAL VALVES XVS/XVT AFTER MAINTENANCE
ESW-XVM-RE-XVST
2
MANUAL VALVE XV63 PLUGS (PS-914)
ESW-XVM-PG-XV63
MANUAL VALVE XV64 PLUGS (PS-914)
ESW-XVM-PG-XV64
TITLE
EMERGENCY SERVICE WATER
DRAWING NUMBER
Page 50
DATE
1/12/89



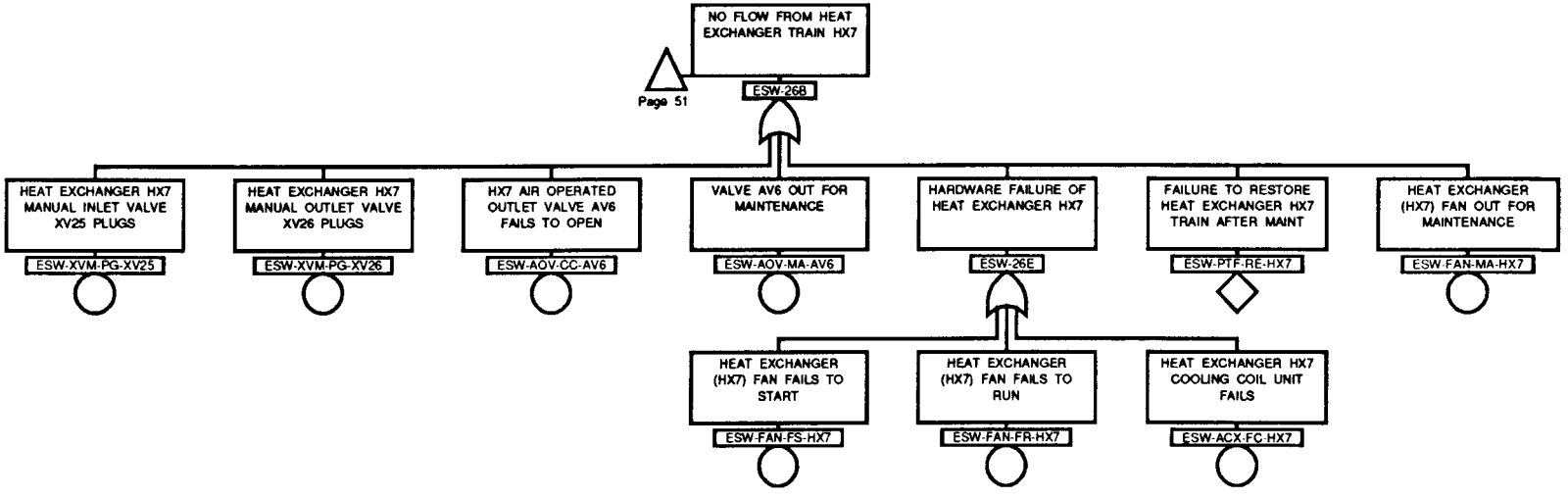
TITLE

EMERGENCY SERVICE WATER

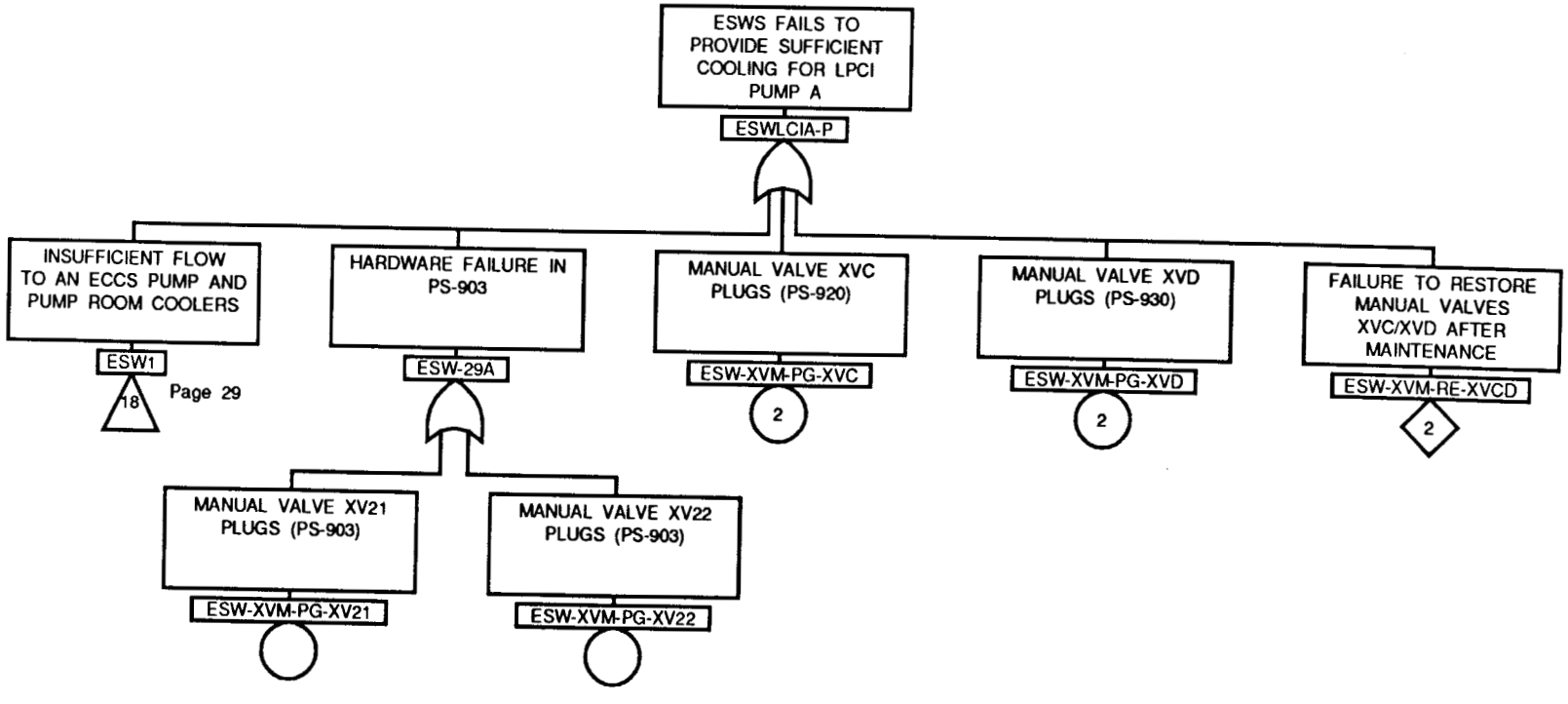
DRAWING NUMBER	DATE
Page 51	1/12/89



TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 52	DATE 1/12/89



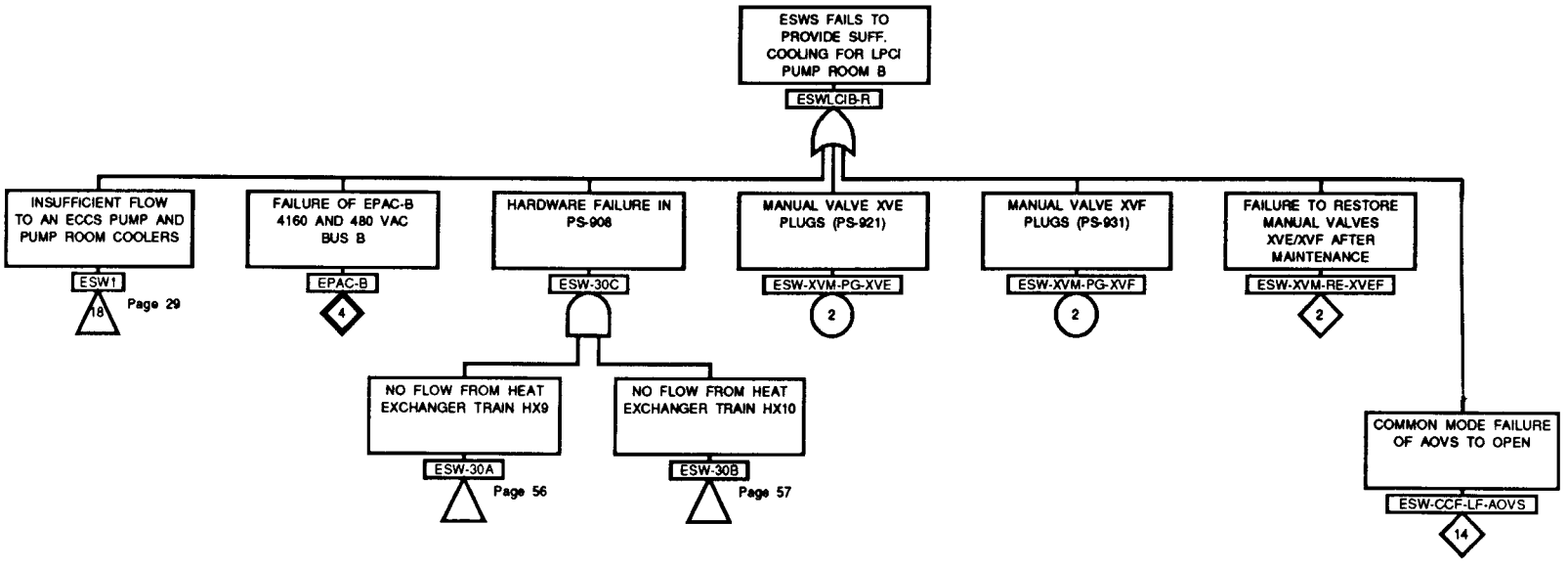
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 53	DATE 1/12/89



TITLE

EMERGENCY SERVICE WATER

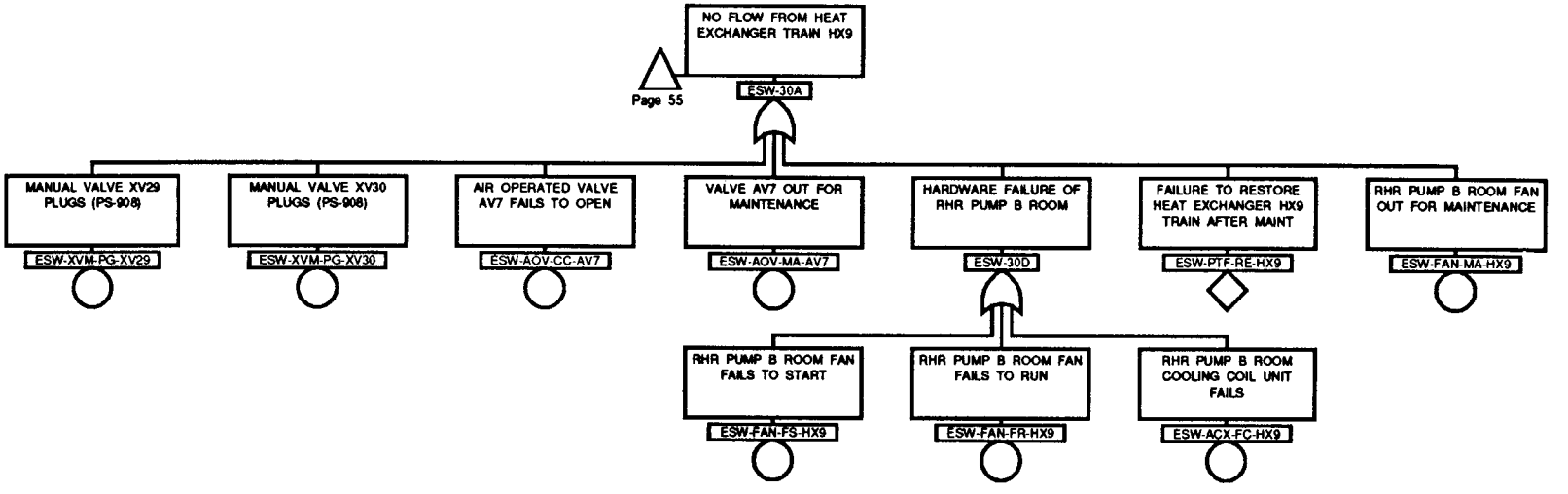
DRAWING NUMBER	DATE
Page 54	1/12/89



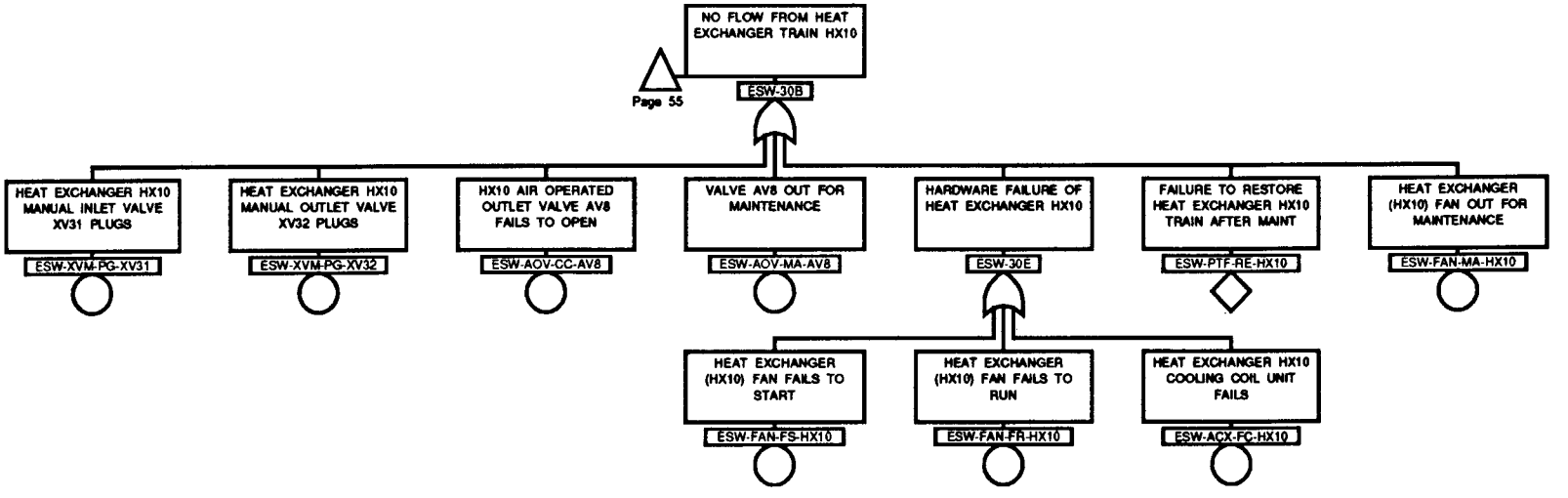
TITLE

EMERGENCY SERVICE WATER

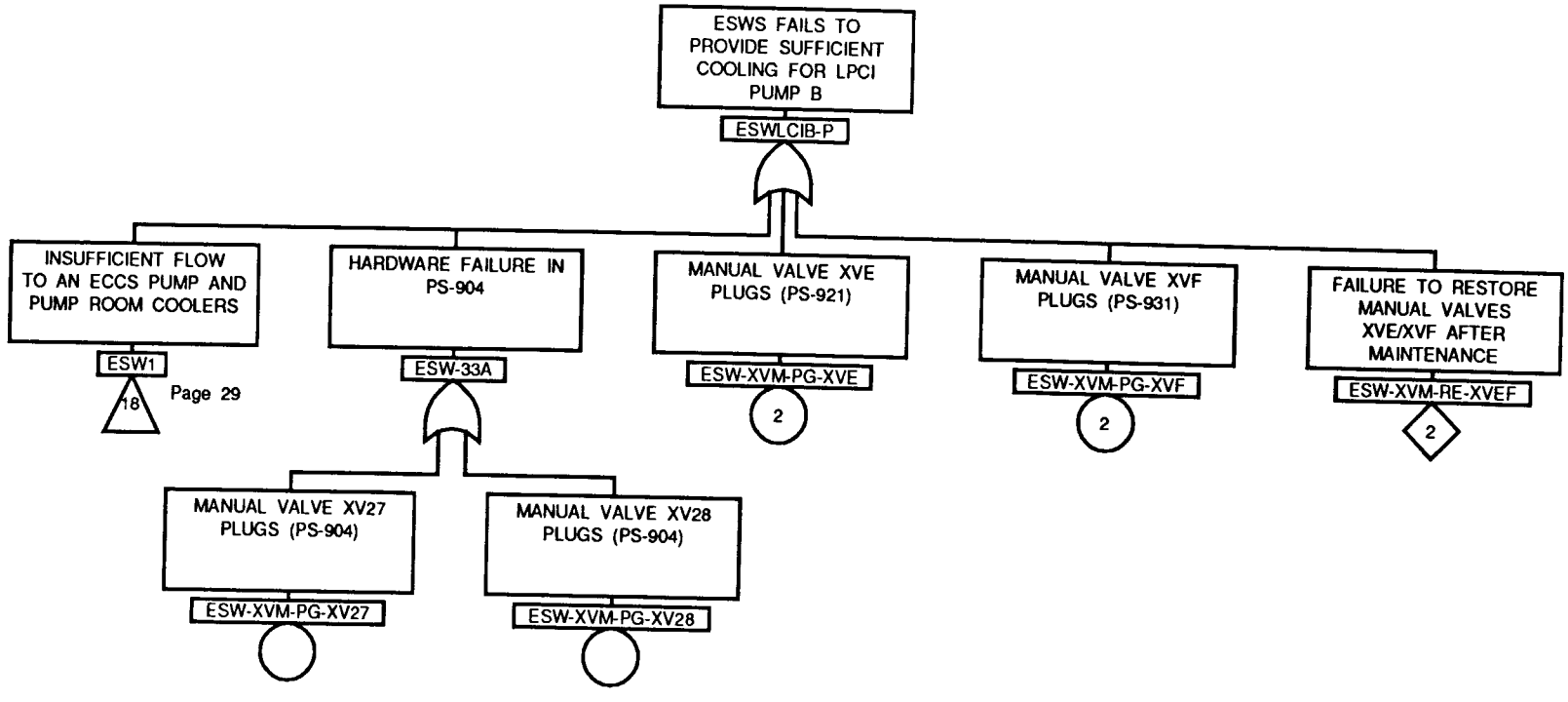
DRAWING NUMBER	DATE
Page 55	1/12/89



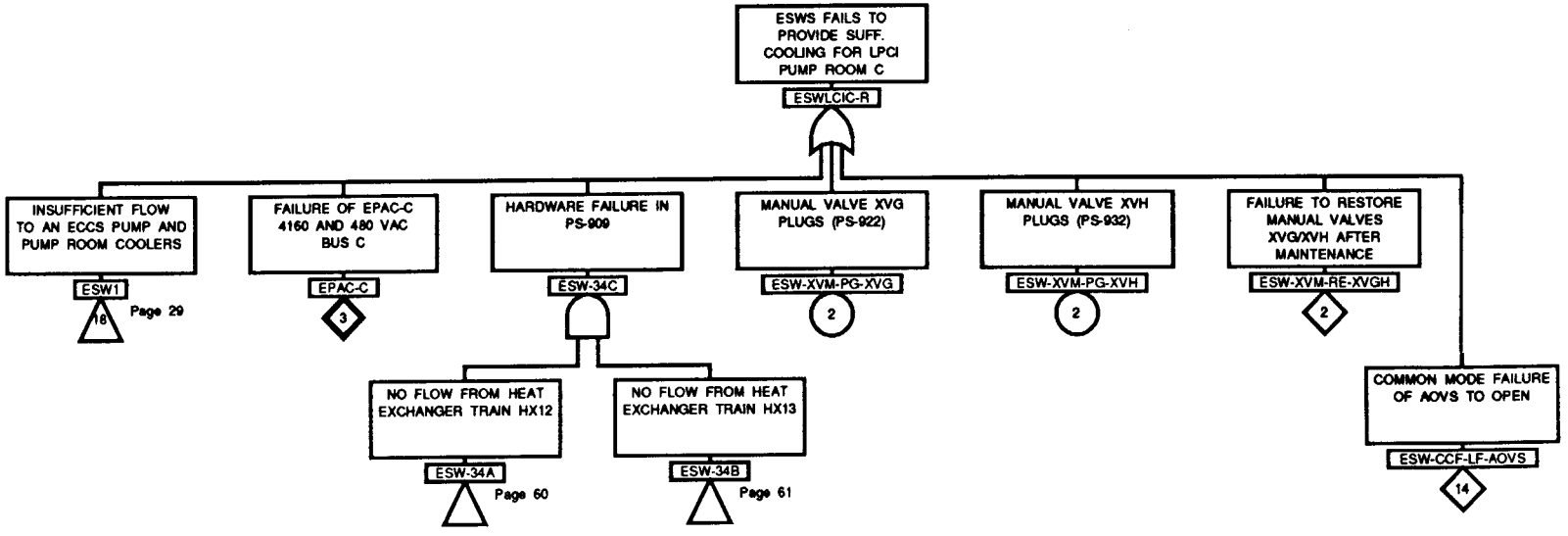
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER	DATE
Page 56	1/12/89



TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 57	DATE 1/12/89



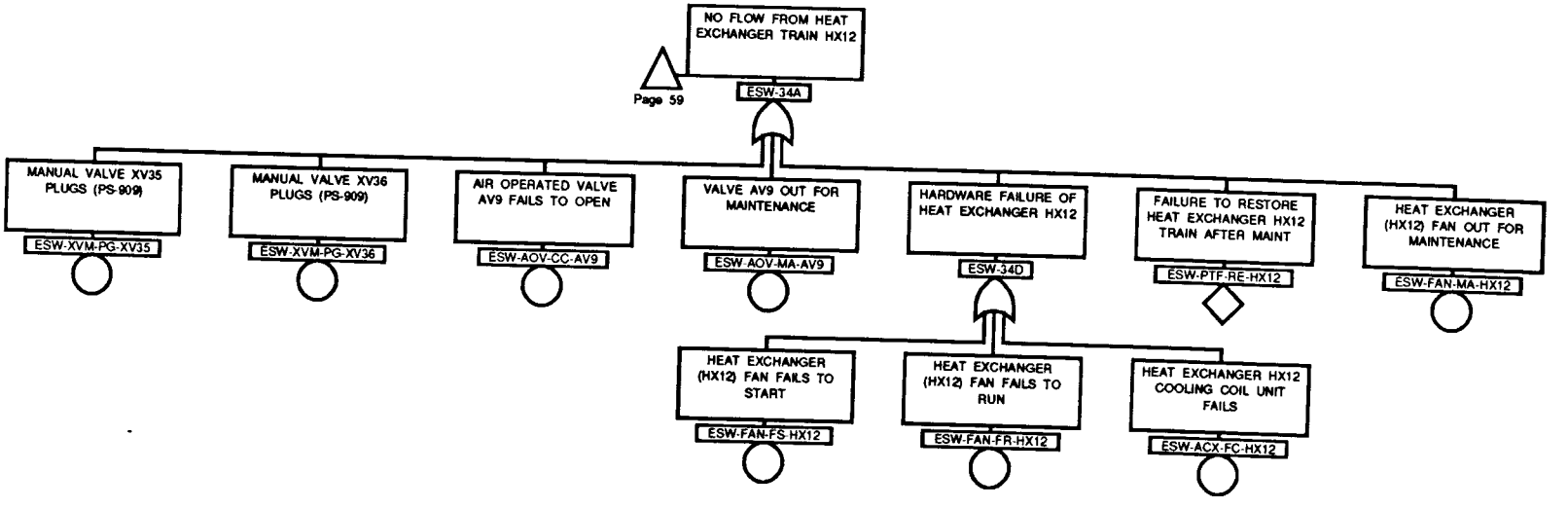
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 58	DATE 1/12/89



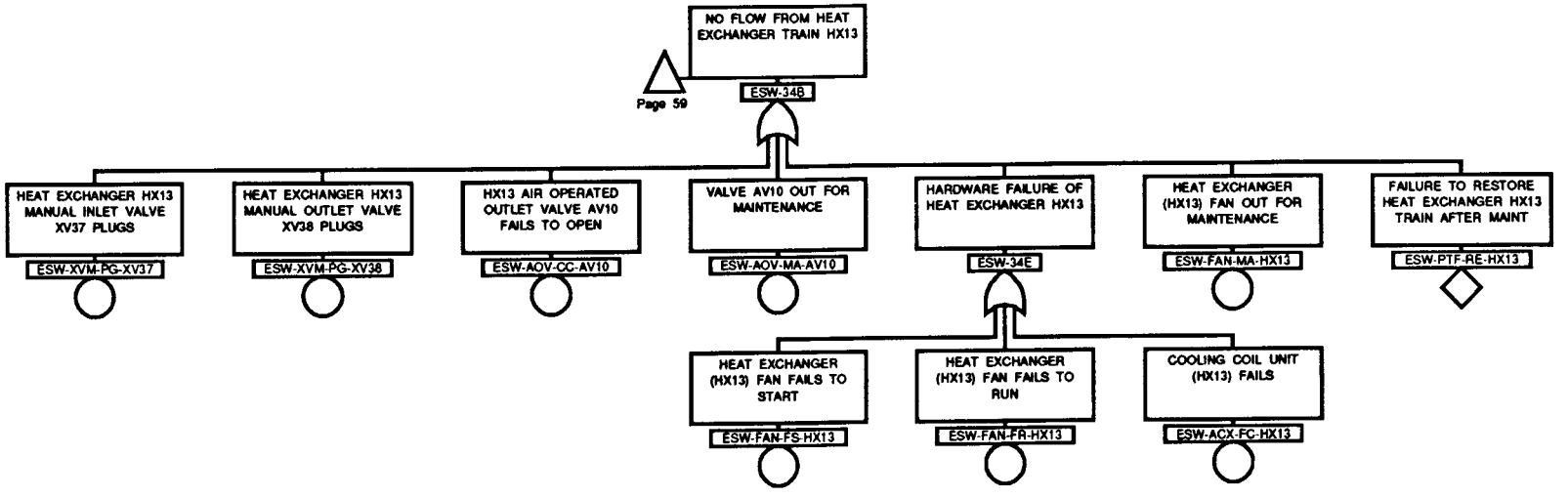
TITLE

EMERGENCY SERVICE WATER

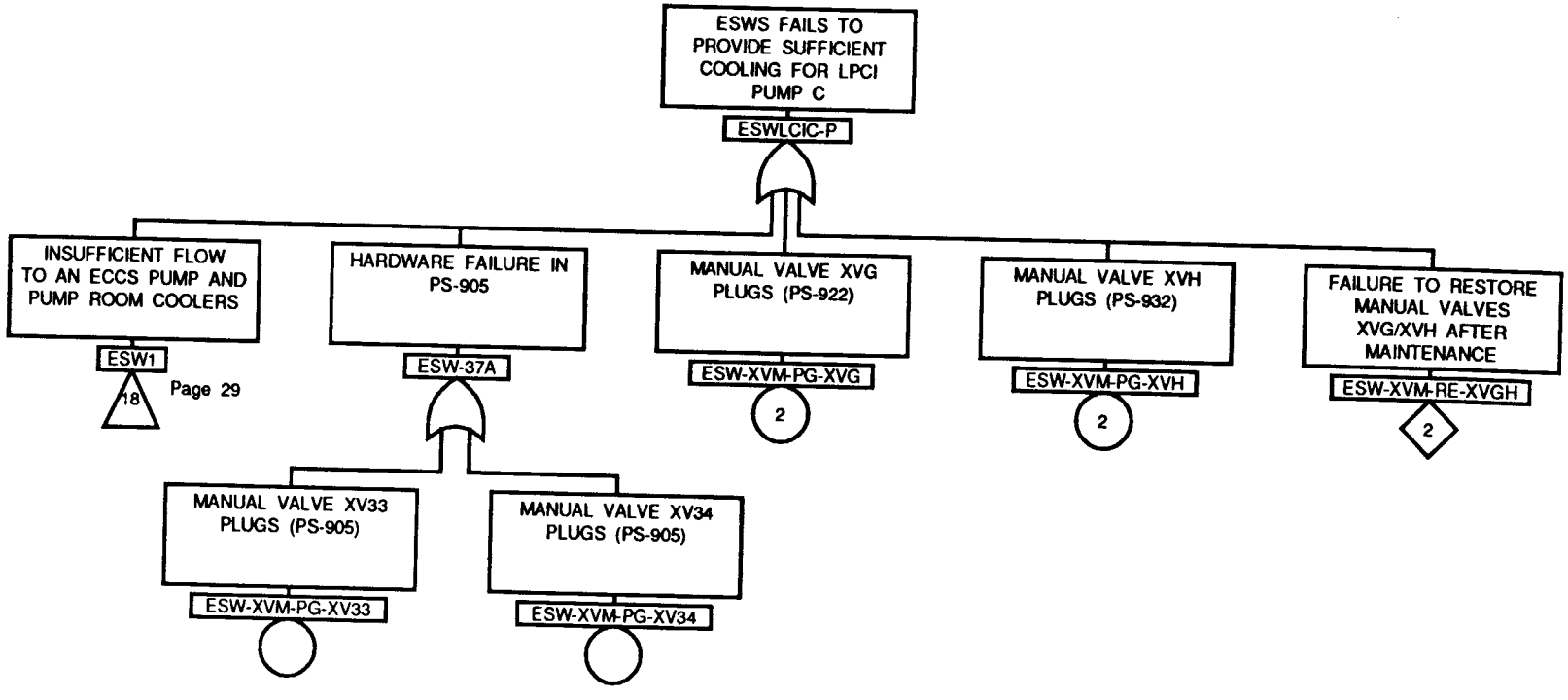
DRAWING NUMBER	DATE
Page 59	1/12/89



TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 60	DATE 1/12/89



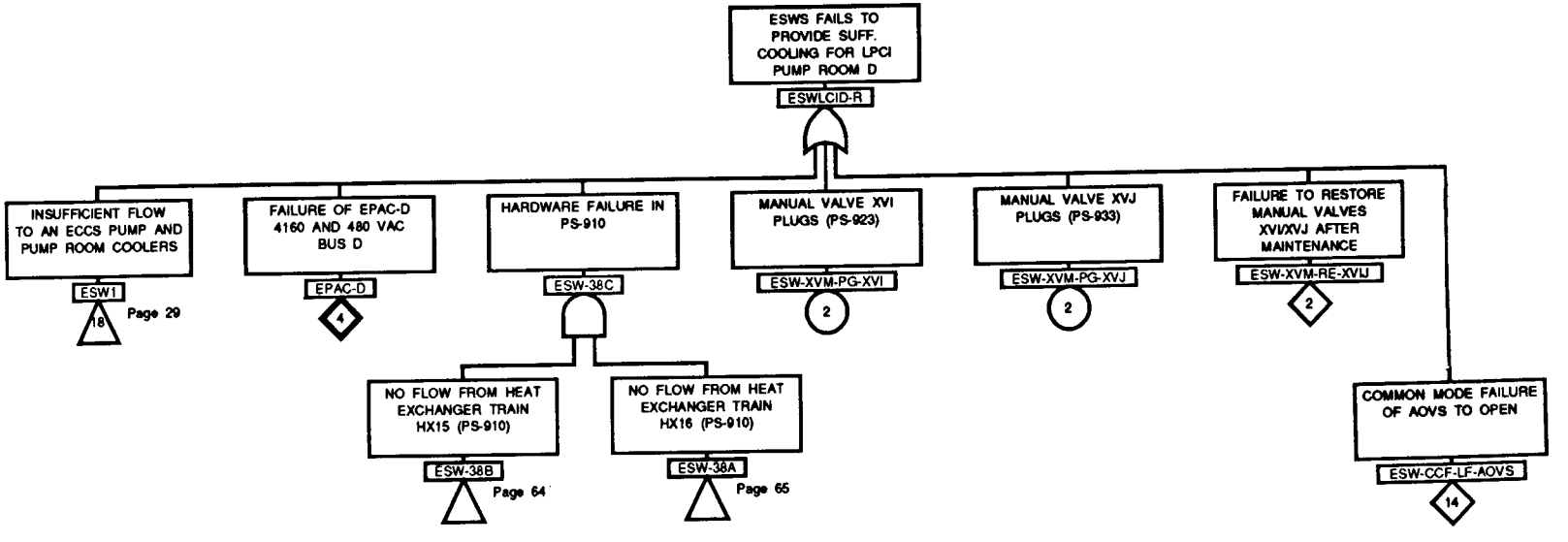
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 61	DATE 1/12/89



TITLE

EMERGENCY SERVICE WATER

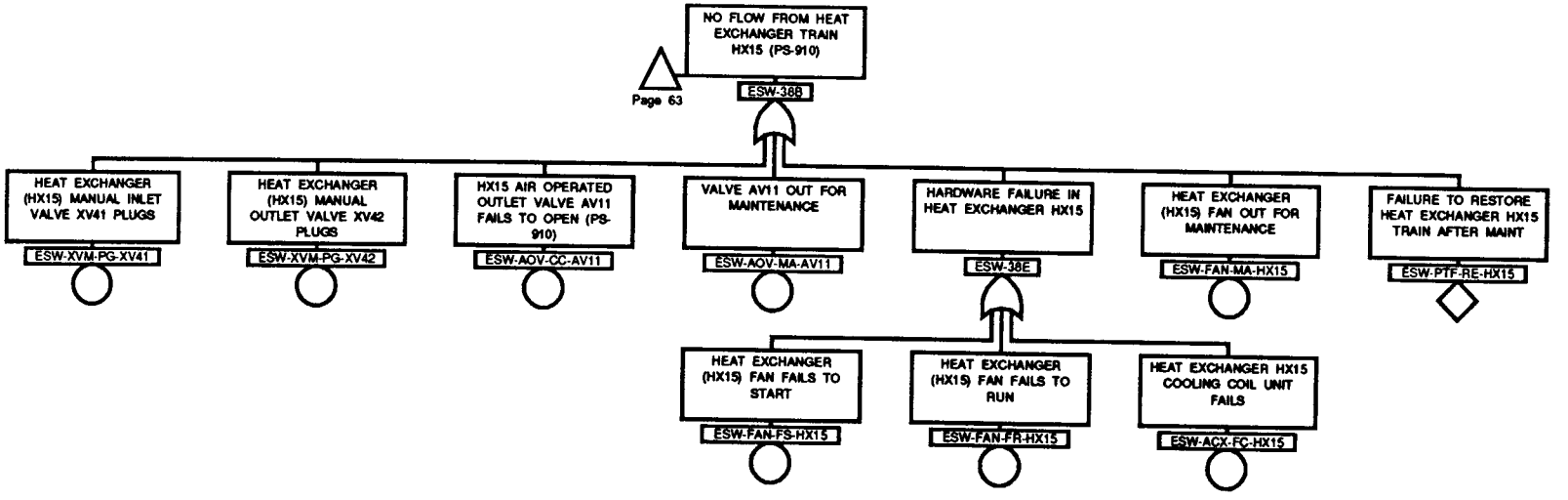
DRAWING NUMBER	DATE
Page 62	1/12/89



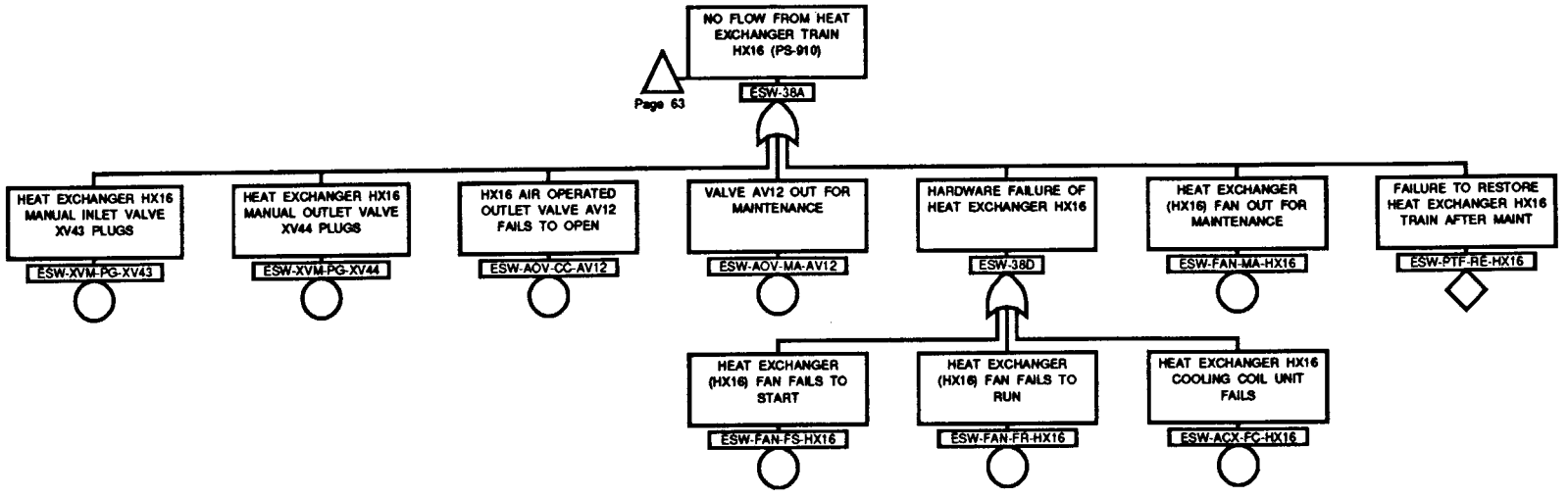
TITLE

EMERGENCY SERVICE WATER

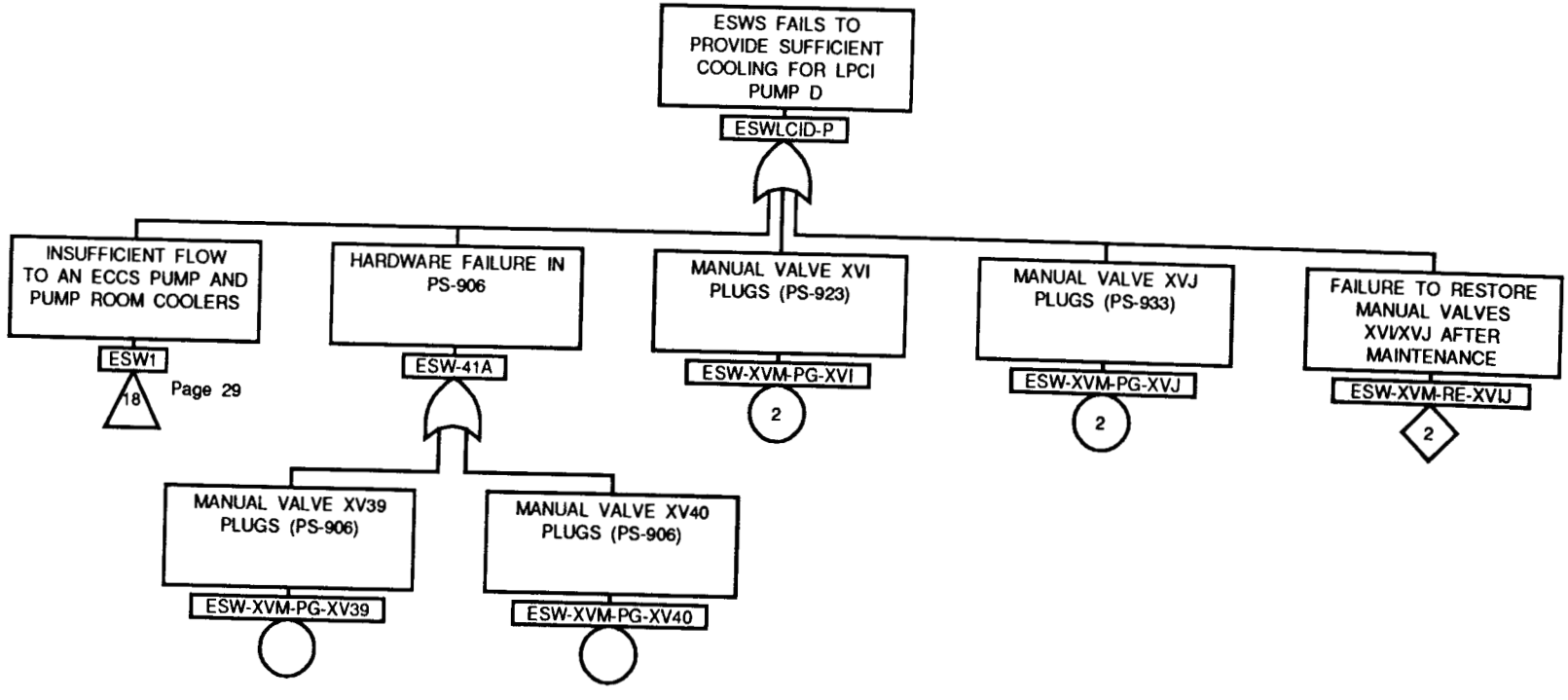
DRAWING NUMBER	DATE
Page 63	1/12/89



TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 64	DATE 1/12/89



TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 65	DATE 1/12/89



TITLE

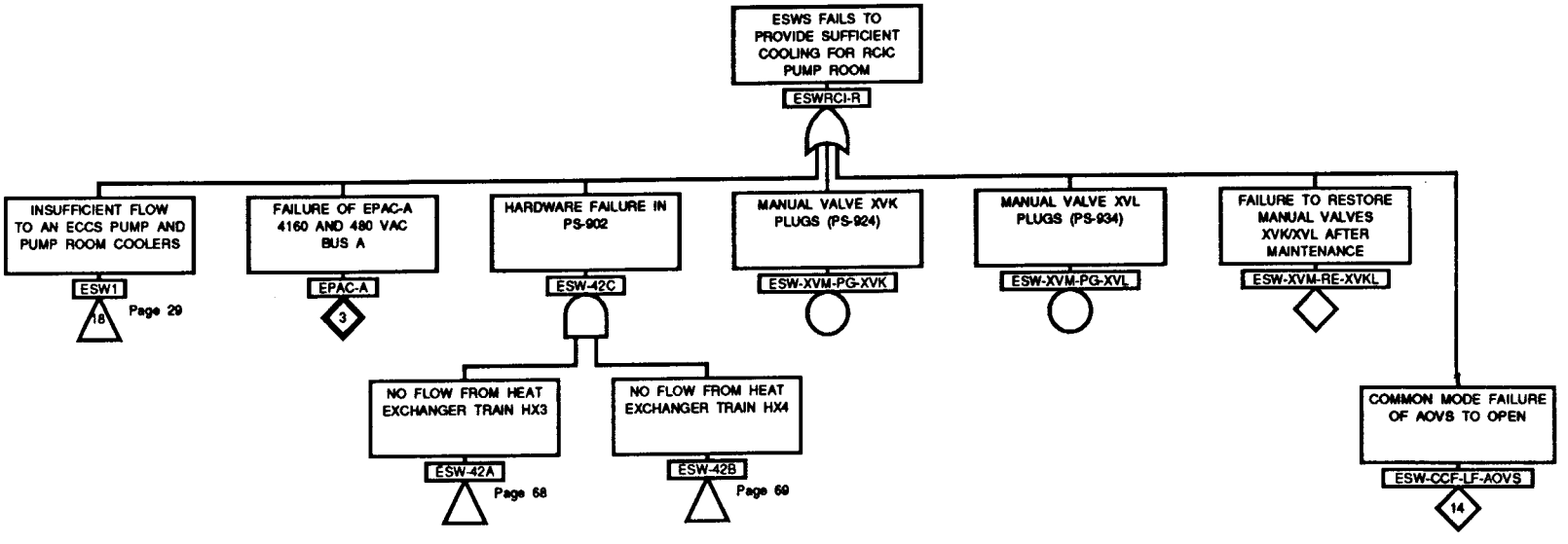
EMERGENCY SERVICE WATER

DRAWING NUMBER

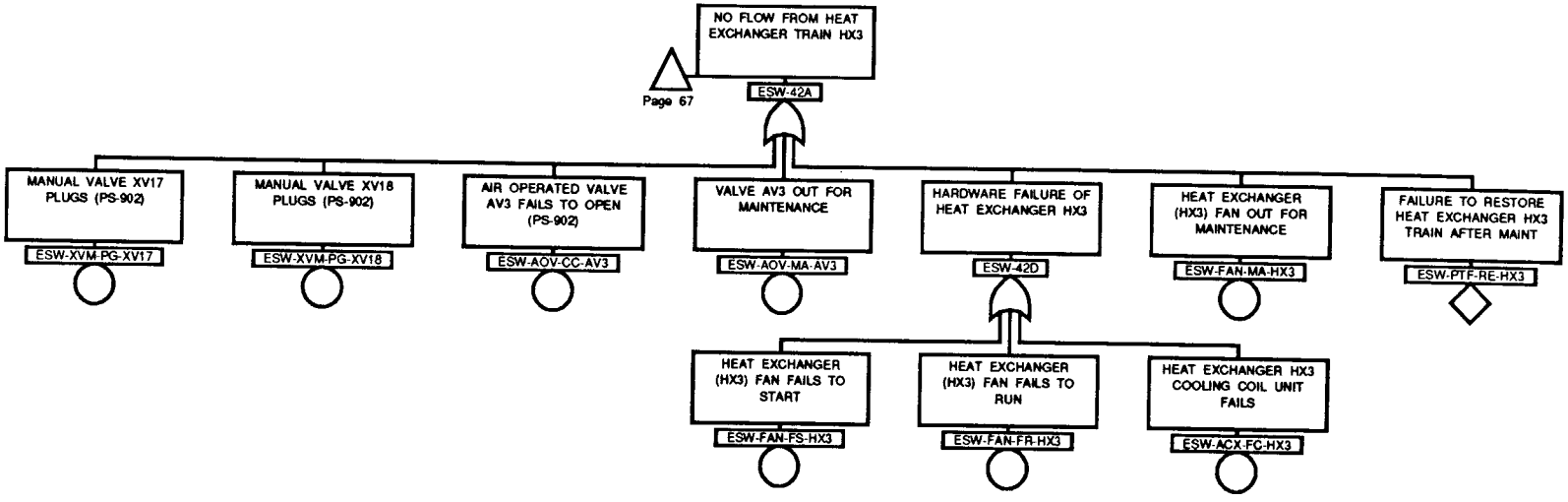
Page 66

DATE

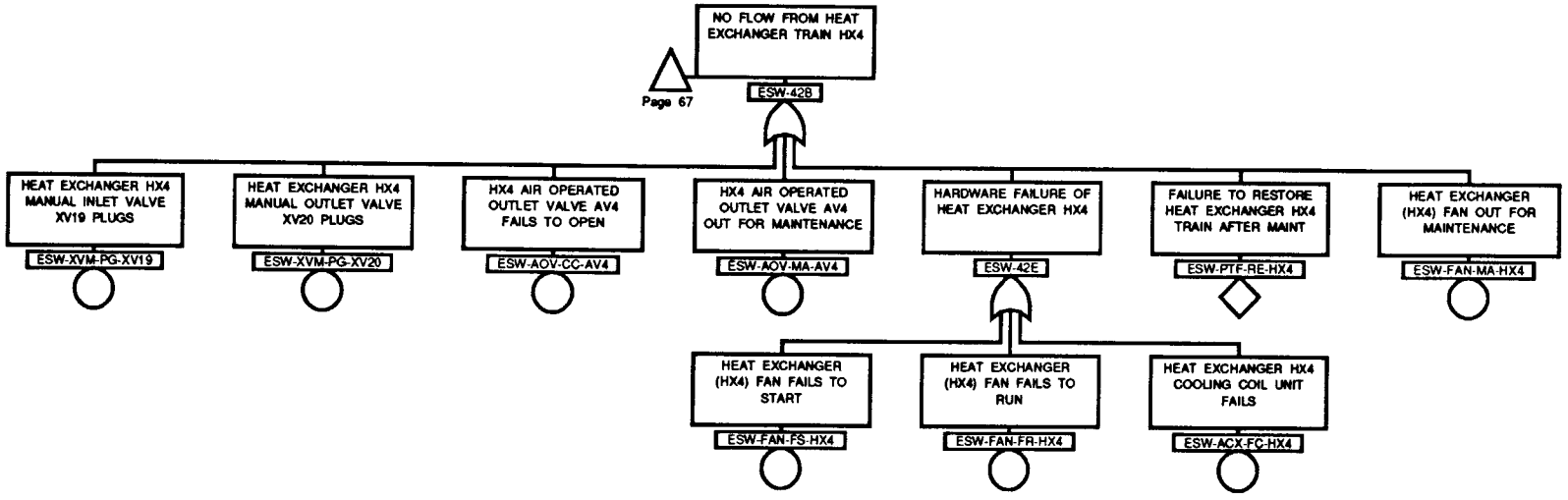
1/12/89



TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 67	DATE 1/12/89



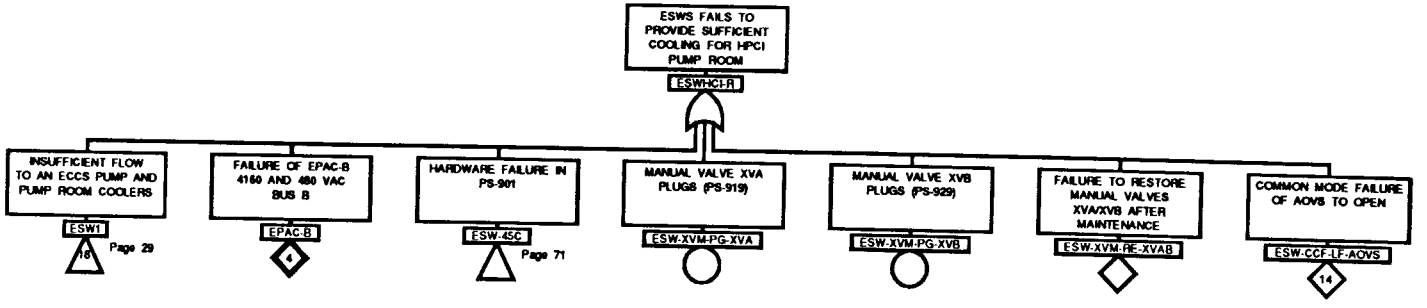
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 68	DATE 1/12/89



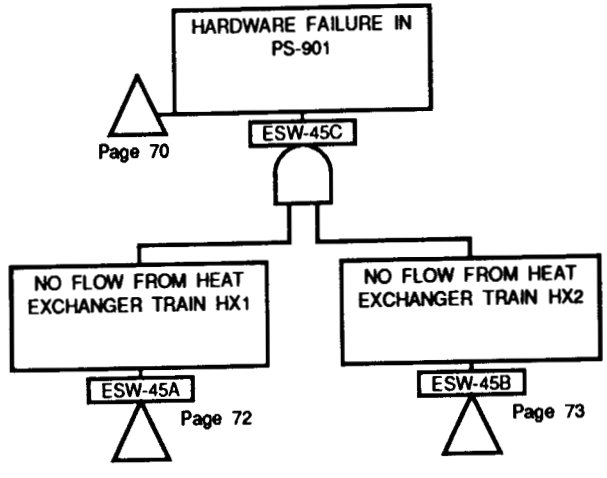
TITLE

EMERGENCY SERVICE WATER

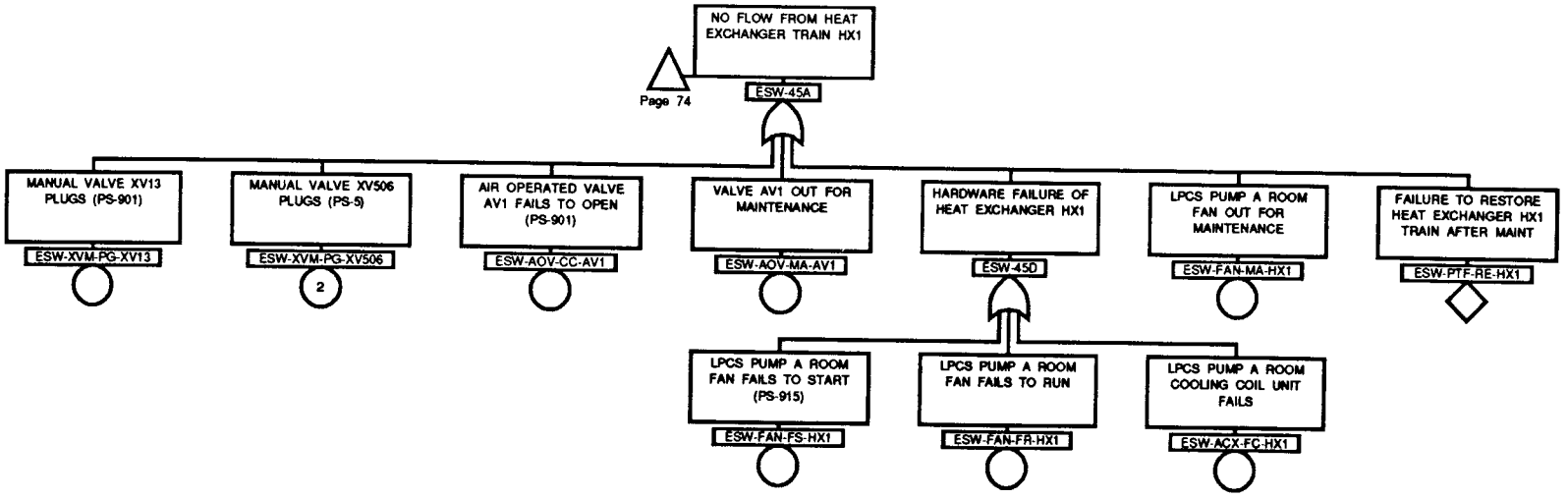
DRAWING NUMBER	DATE
Page 69	1/12/89



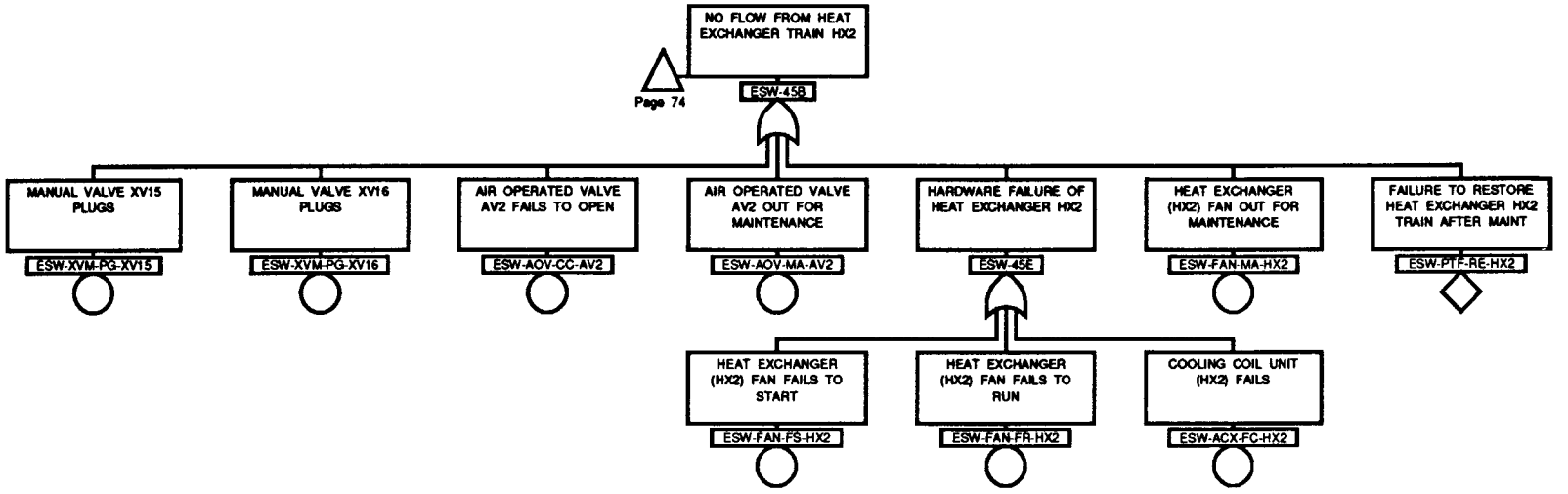
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 70	DATE 1/12/89



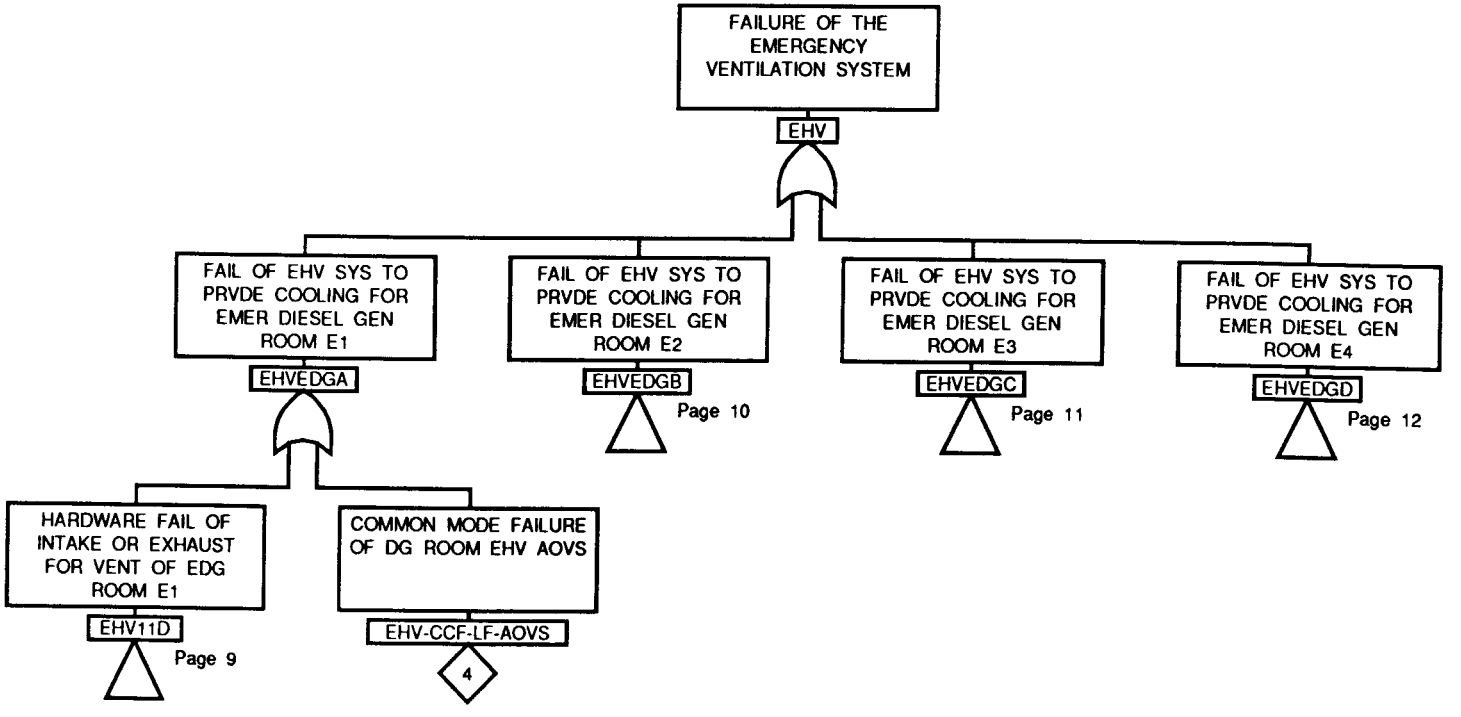
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER	DATE
Page 71	1/12/89



TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER Page 72	DATE 1/12/89



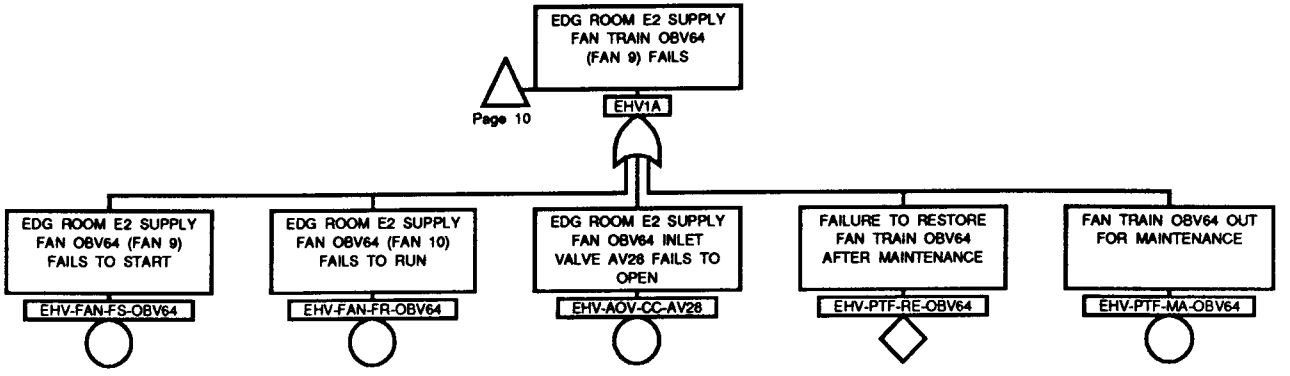
TITLE	
EMERGENCY SERVICE WATER	
DRAWING NUMBER	DATE
Page 73	1/12/89



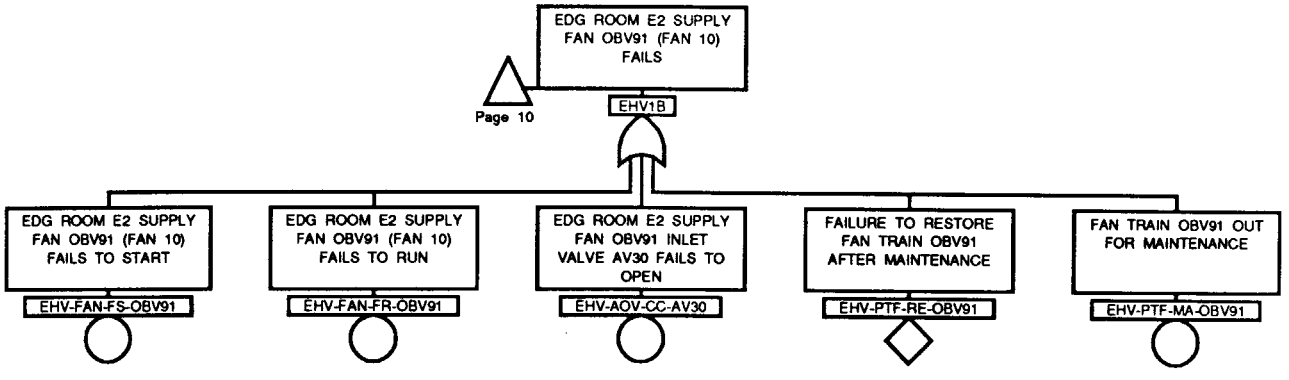
TITLE

EMERGENCY VENTILATION

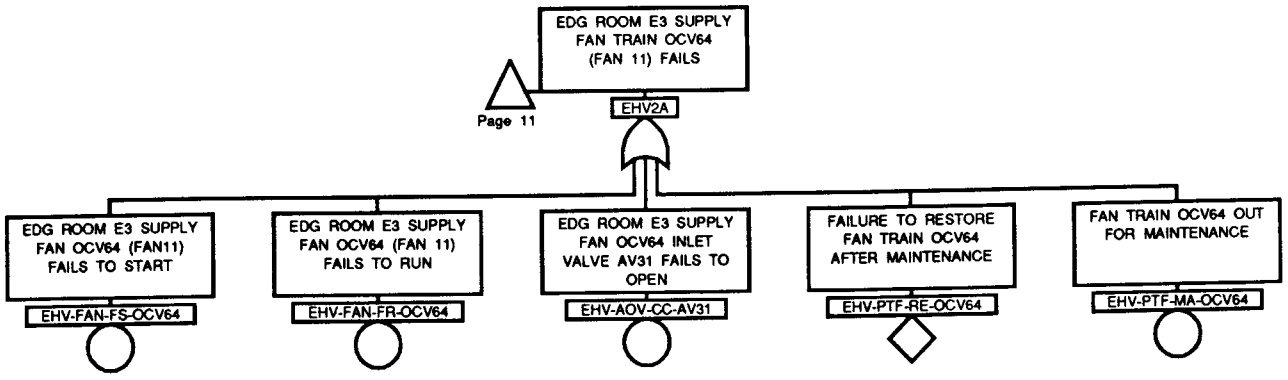
DRAWING NUMBER	DATE
Page 1	4/20/88



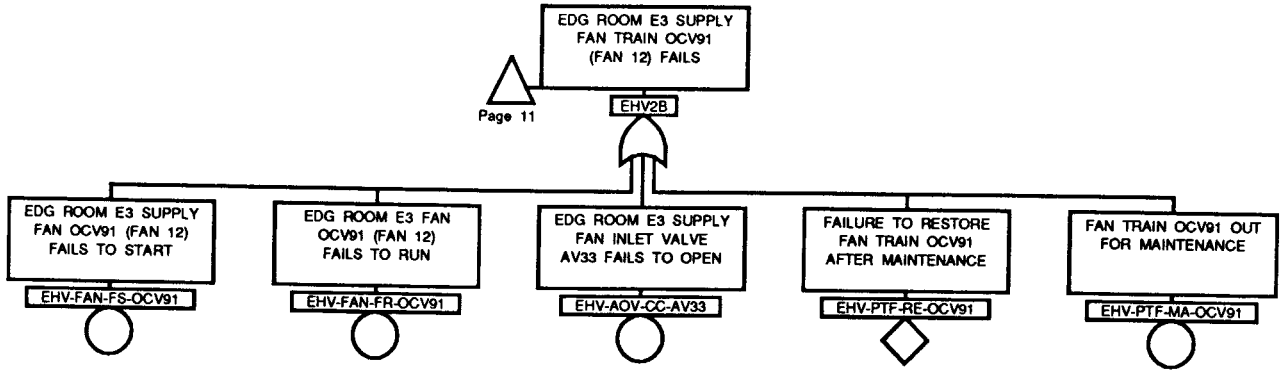
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 2	DATE 4/20/88



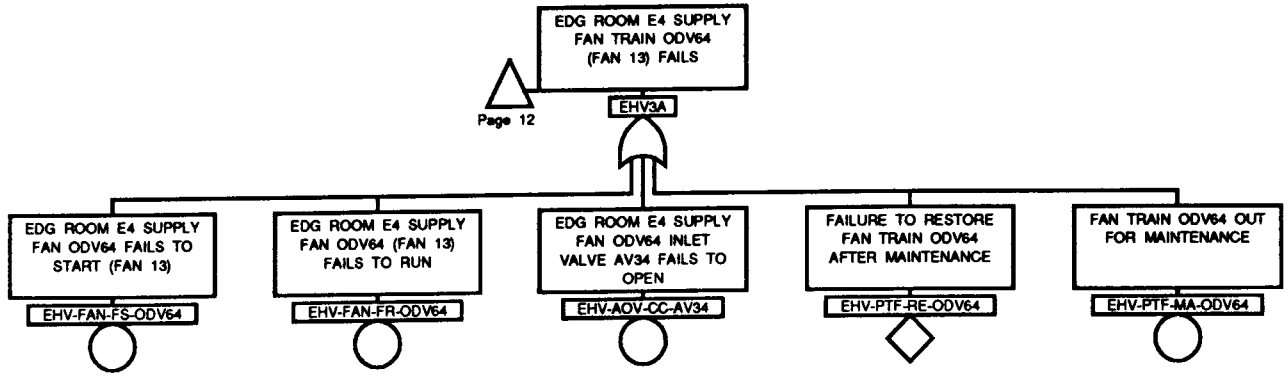
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 3	DATE 4/20/88



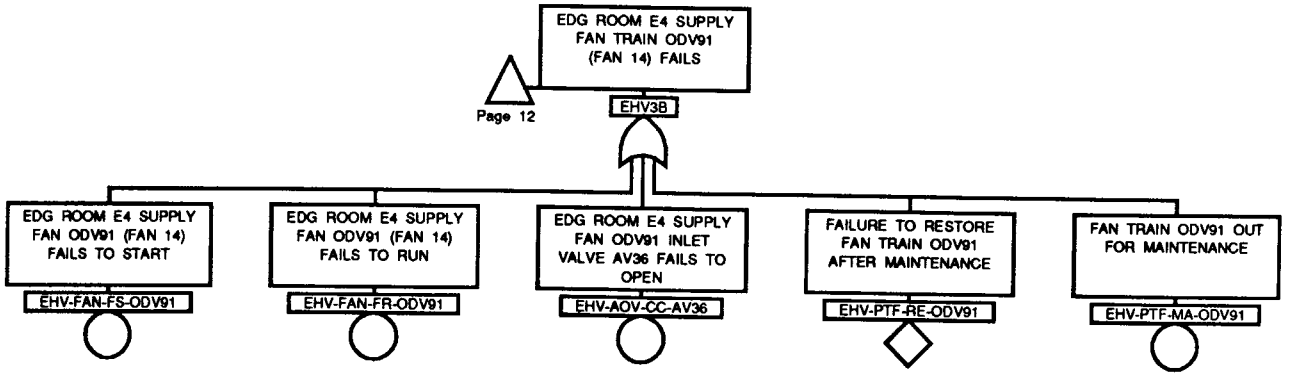
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 4	DATE 4/20/88



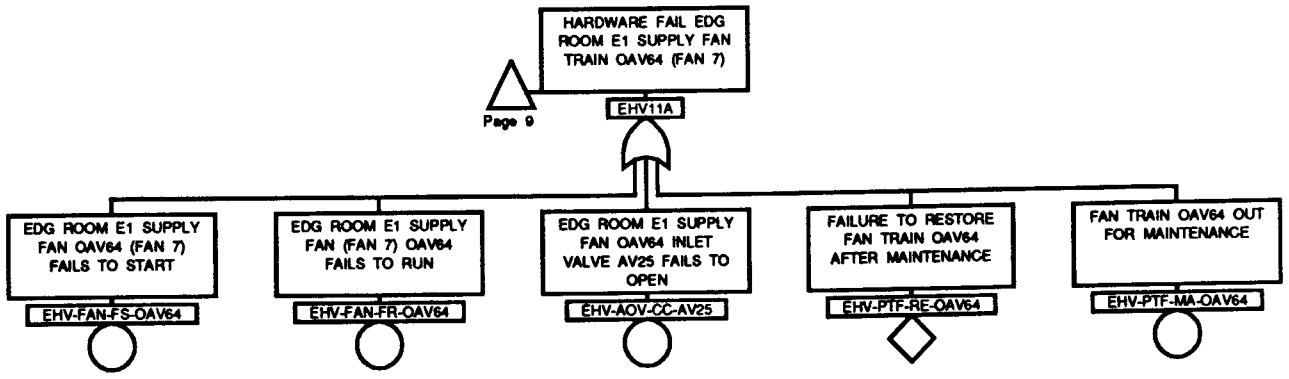
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 5	DATE 4/20/88



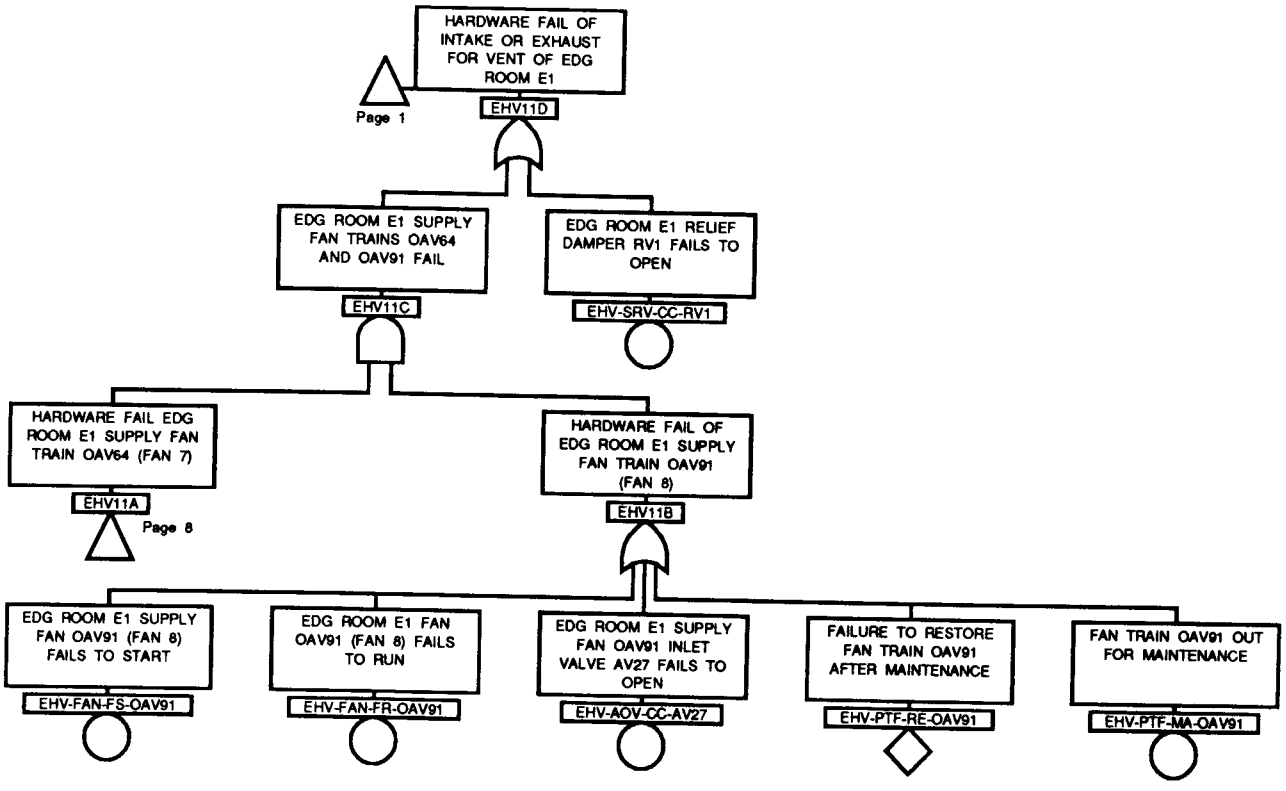
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 6	DATE 4/20/88



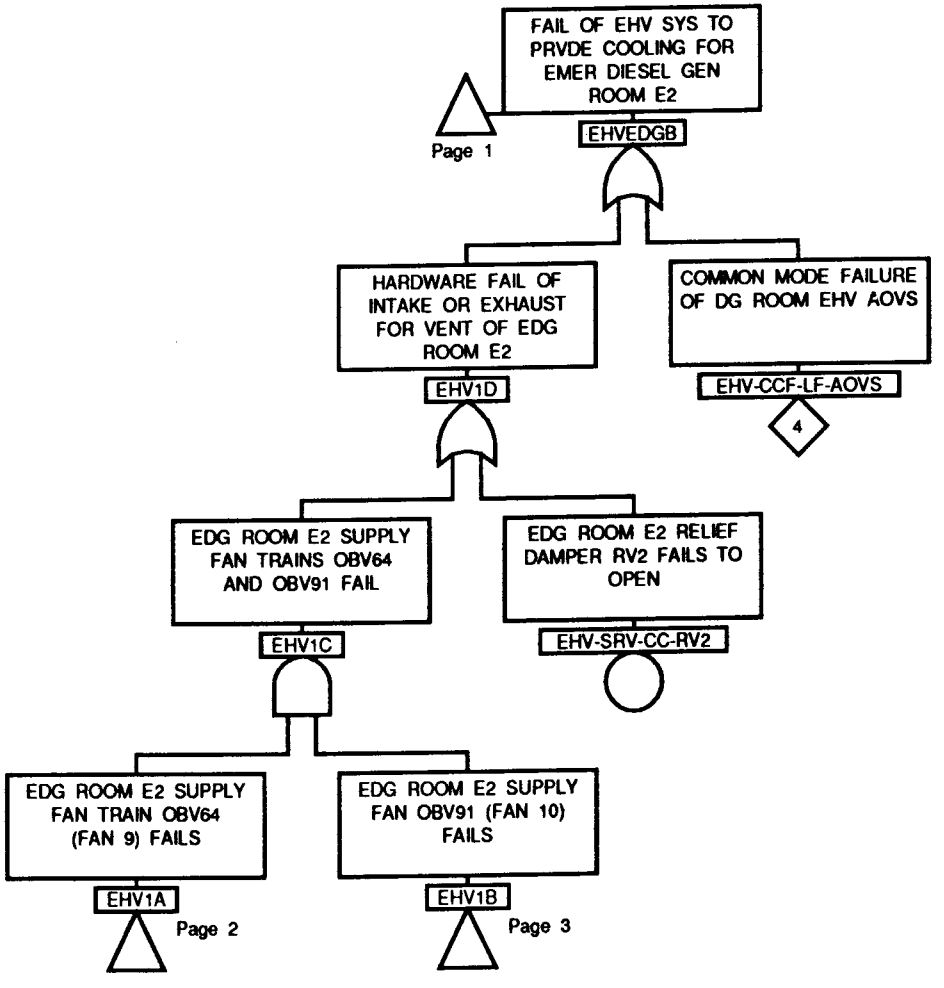
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 7	DATE 4/20/88



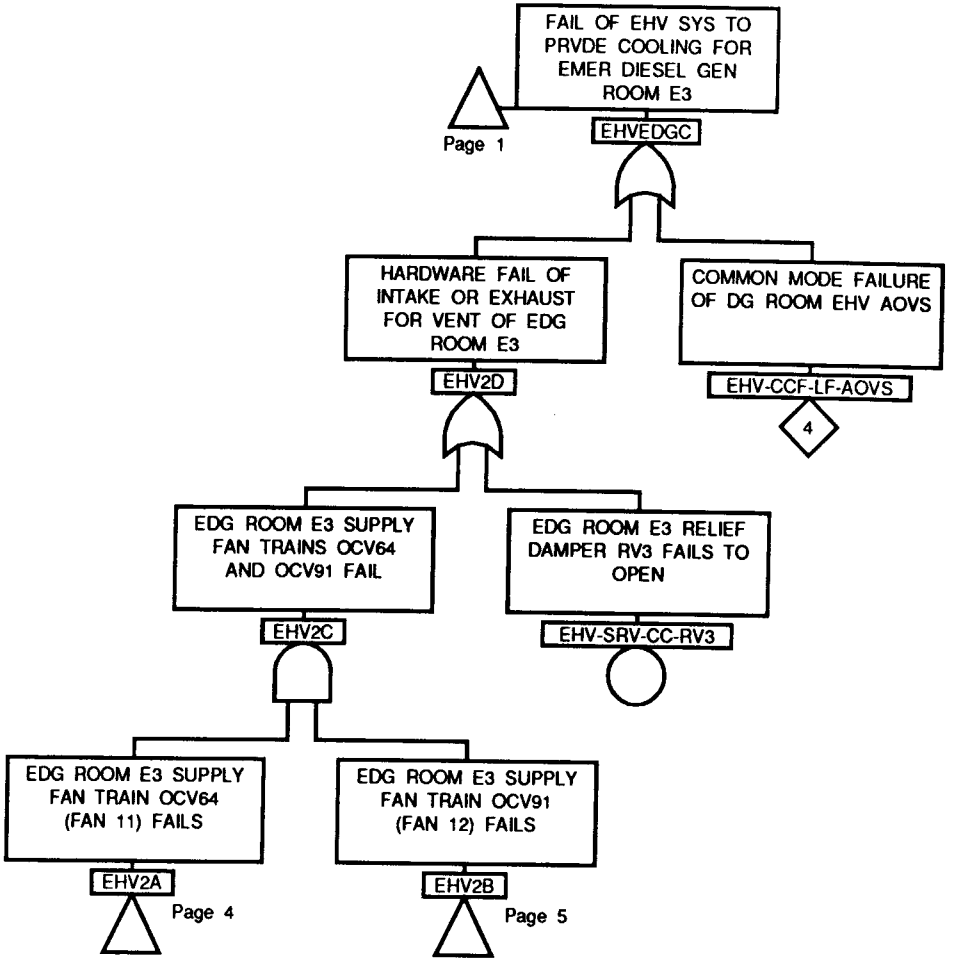
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 8	DATE 4/20/88



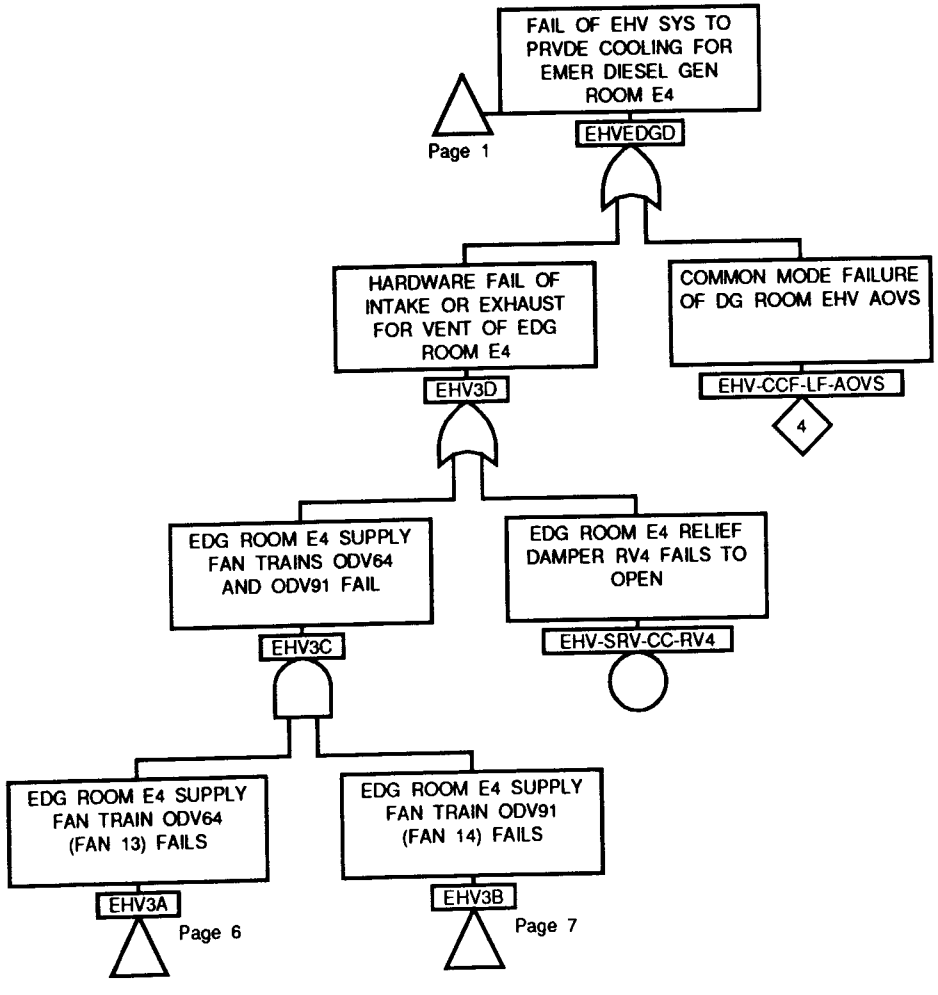
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 9	DATE 4/28/88



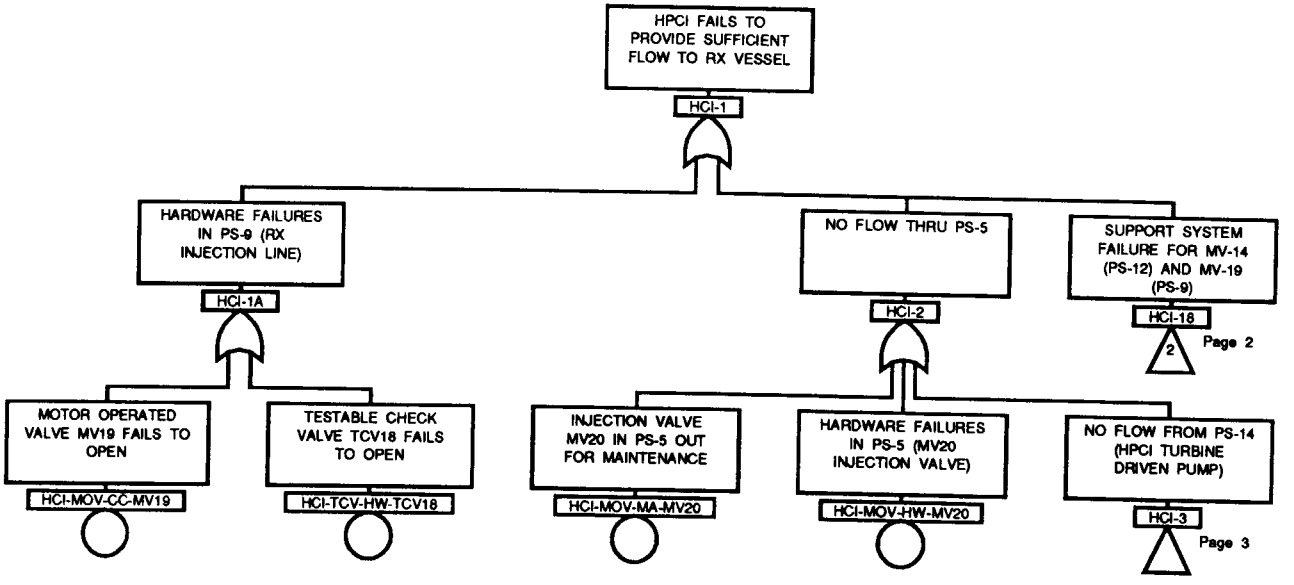
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 10	DATE 4/20/88



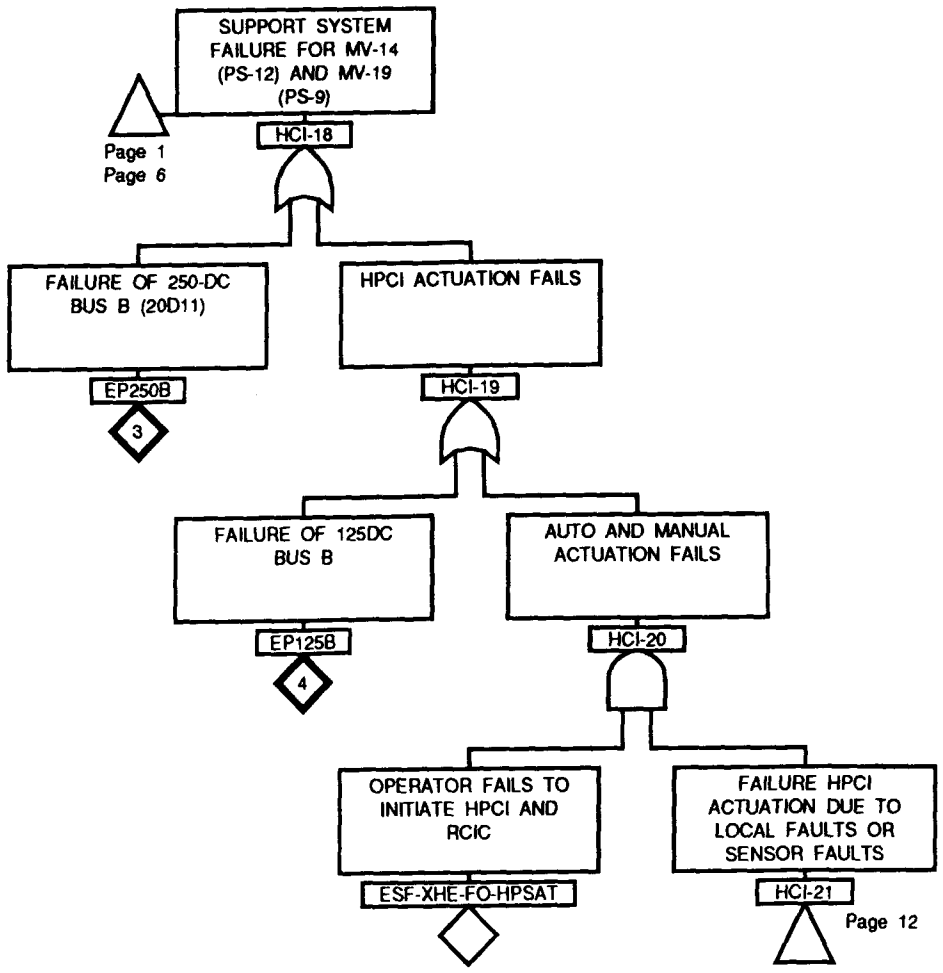
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 11	DATE 4/20/88



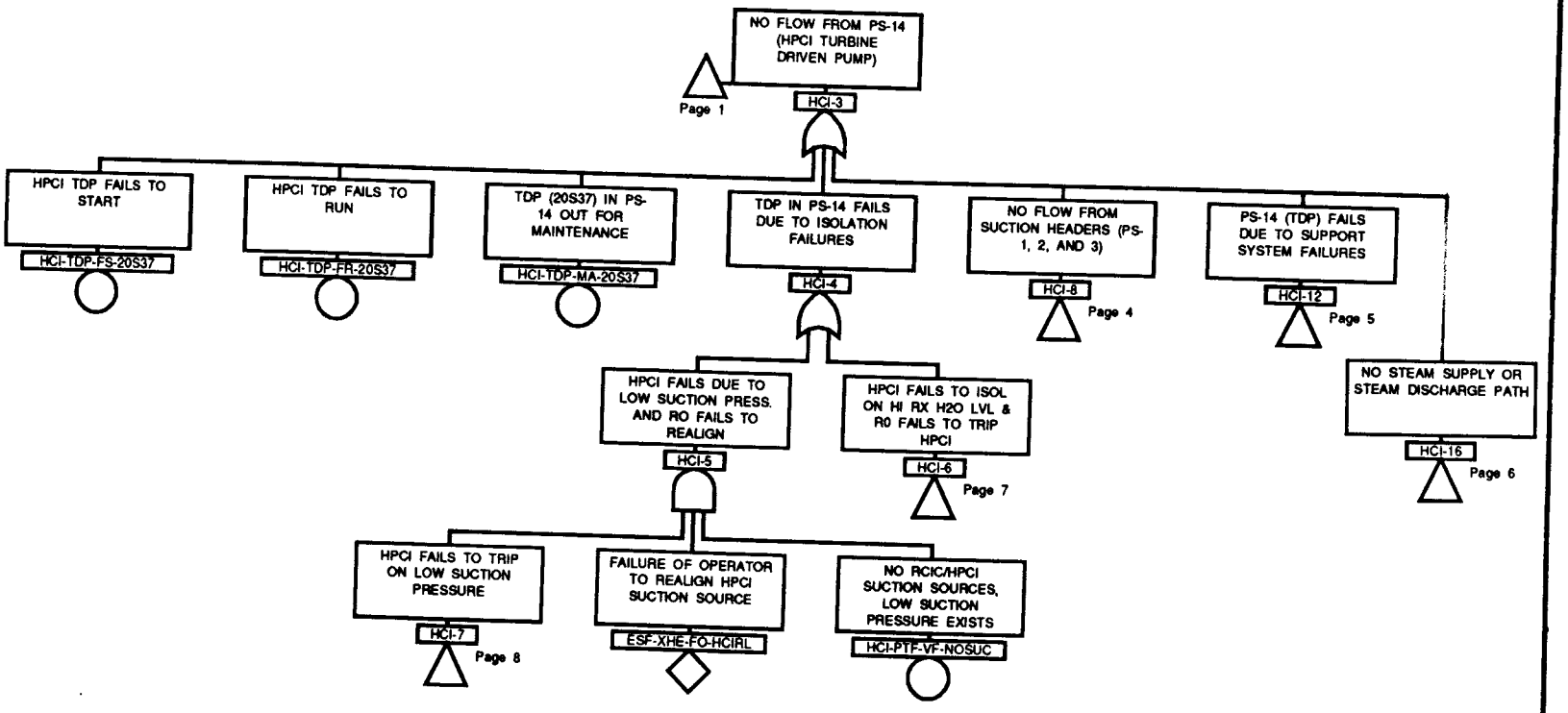
TITLE	
EMERGENCY VENTILATION	
DRAWING NUMBER Page 12	DATE 4/20/88



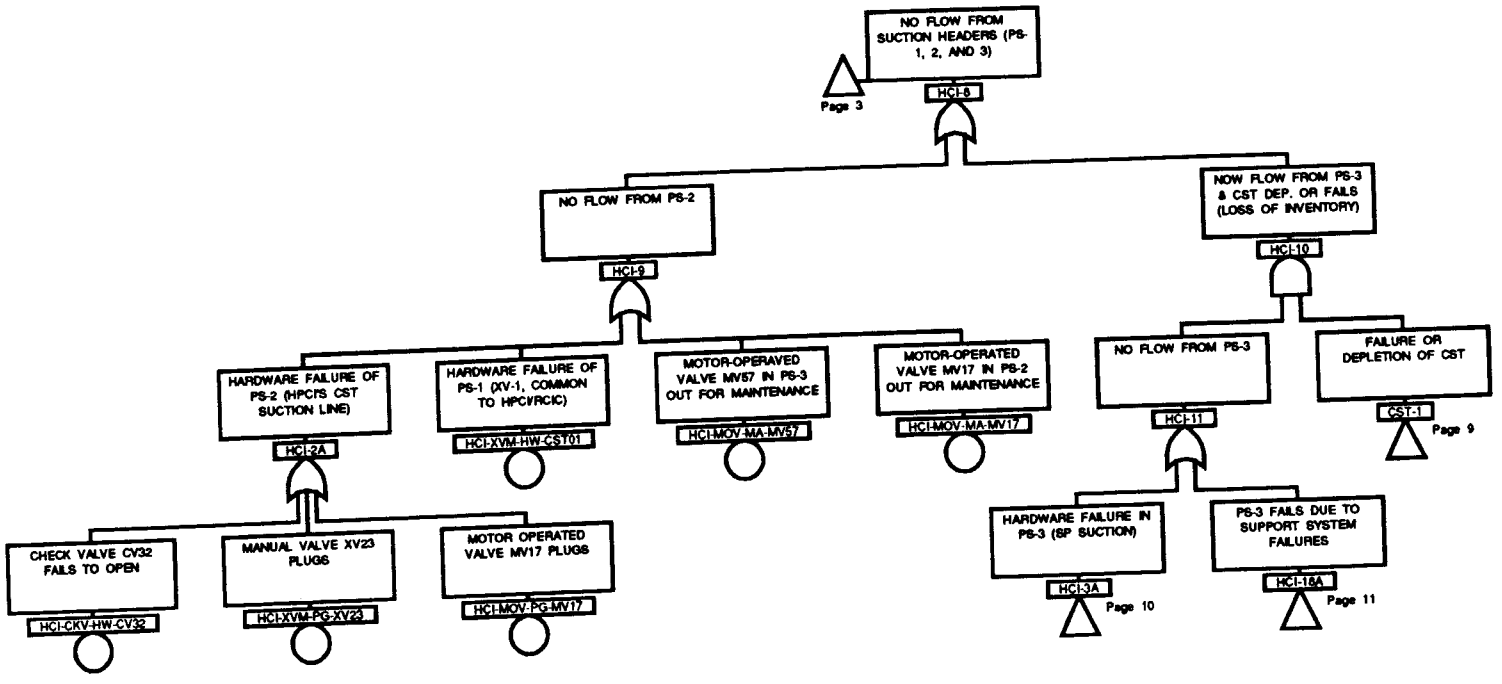
TITLE	
HIGH PRESSURE COOLANT INJECTION	
DRAWING NUMBER Page 1	DATE 4/28/88



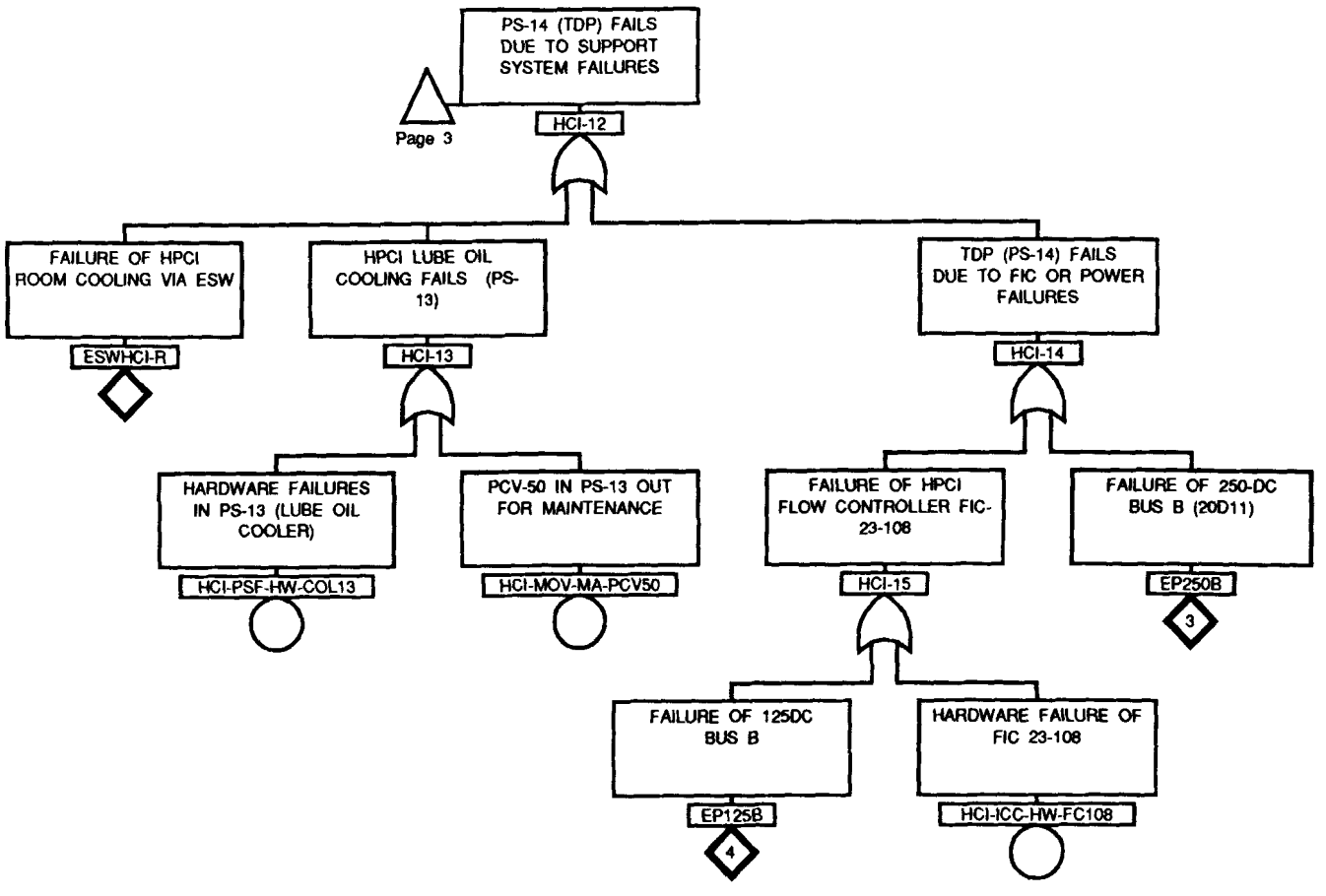
TITLE	
HIGH PRESSURE COOLANT INJECTION	
DRAWING NUMBER	DATE
Page 2	4/28/88



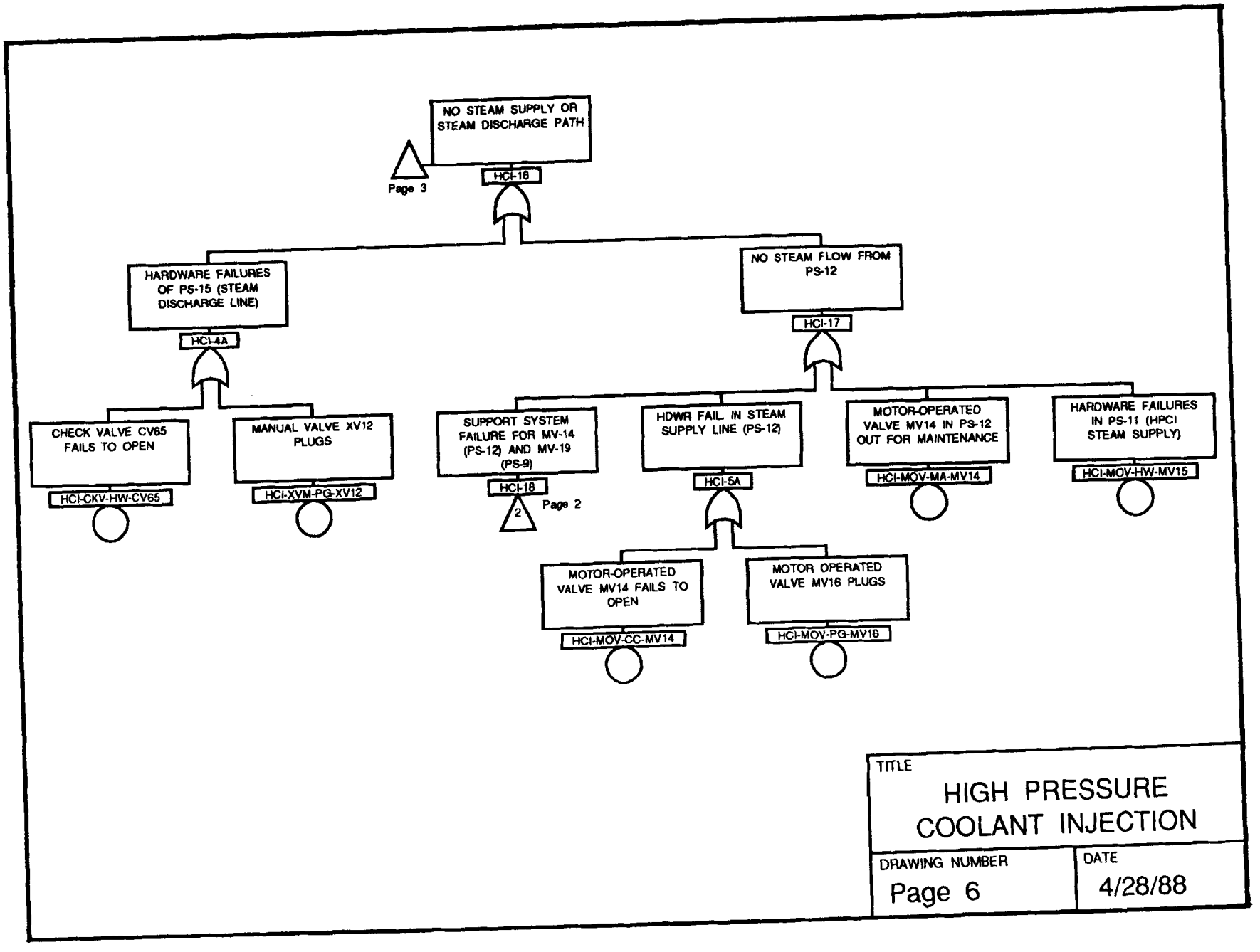
TITLE	
HIGH PRESSURE COOLANT INJECTION	
DRAWING NUMBER Page 3	DATE 4/28/88



TITLE	
HIGH PRESSURE COOLANT INJECTION	
DRAWING NUMBER Page 4	DATE 4/28/88



TITLE	
HIGH PRESSURE COOLANT INJECTION	
DRAWING NUMBER Page 5	DATE 4/28/88


NO STEAM SUPPLY OR STEAM DISCHARGE PATH
HCI-16
Page 3
HARDWARE FAILURES OF PS-15 (STEAM DISCHARGE LINE)
HCI-4A
NO STEAM FLOW FROM PS-12
HCI-17
CHECK VALVE CV65 FAILS TO OPEN
HCI-CKV-HW-CV65
MANUAL VALVE XV12 PLUGS
HCI-XVM-PG-XV12
SUPPORT SYSTEM FAILURE FOR MV-14 (PS-12) AND MV-19 (PS-9)
HCI-18
2
Page 2
HDWR FAIL IN STEAM SUPPLY LINE (PS-12)
HCI-5A
MOTOR-OPERATED VALVE MV14 IN PS-12 OUT FOR MAINTENANCE
HCI-MOV-MA-MV14
HARDWARE FAILURES IN PS-11 (HPCI STEAM SUPPLY)
HCI-MOV-HW-MV15
MOTOR-OPERATED VALVE MV14 FAILS TO OPEN
HCI-MOV-CC-MV14
MOTOR OPERATED VALVE MV16 PLUGS
HCI-MOV-PG-MV16
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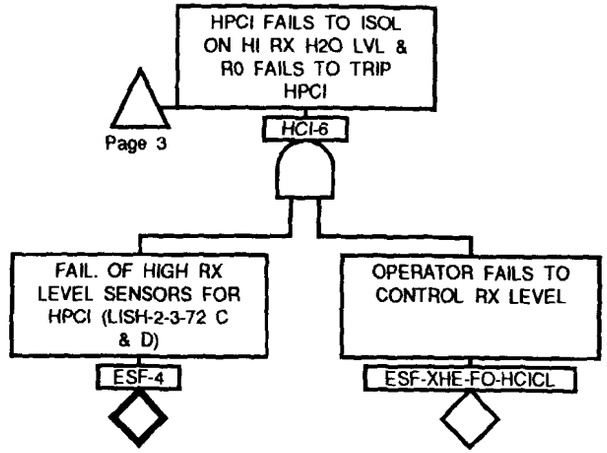

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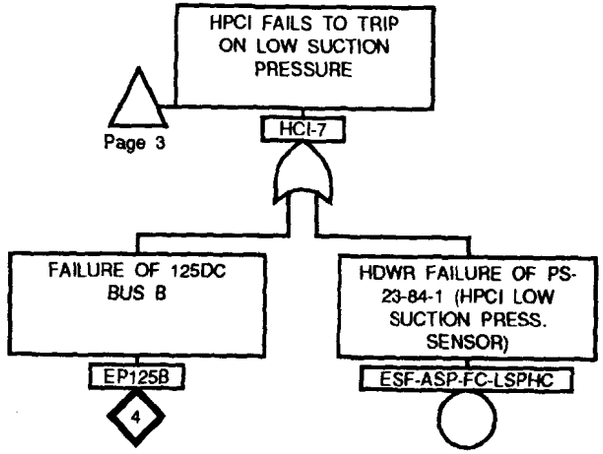

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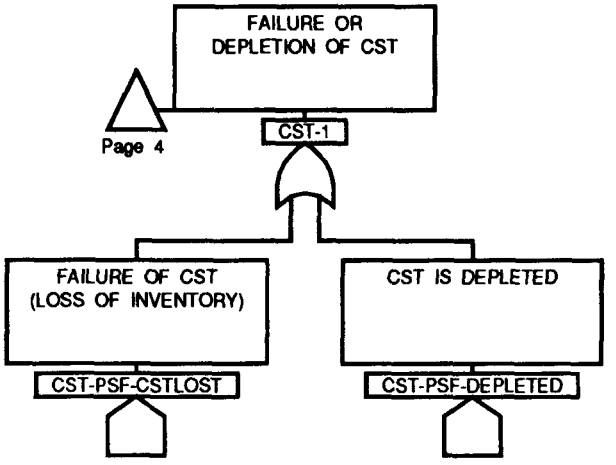

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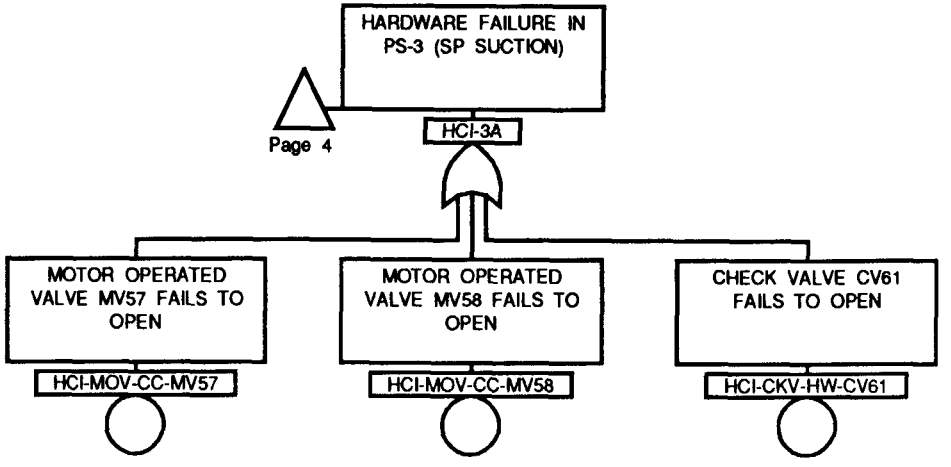

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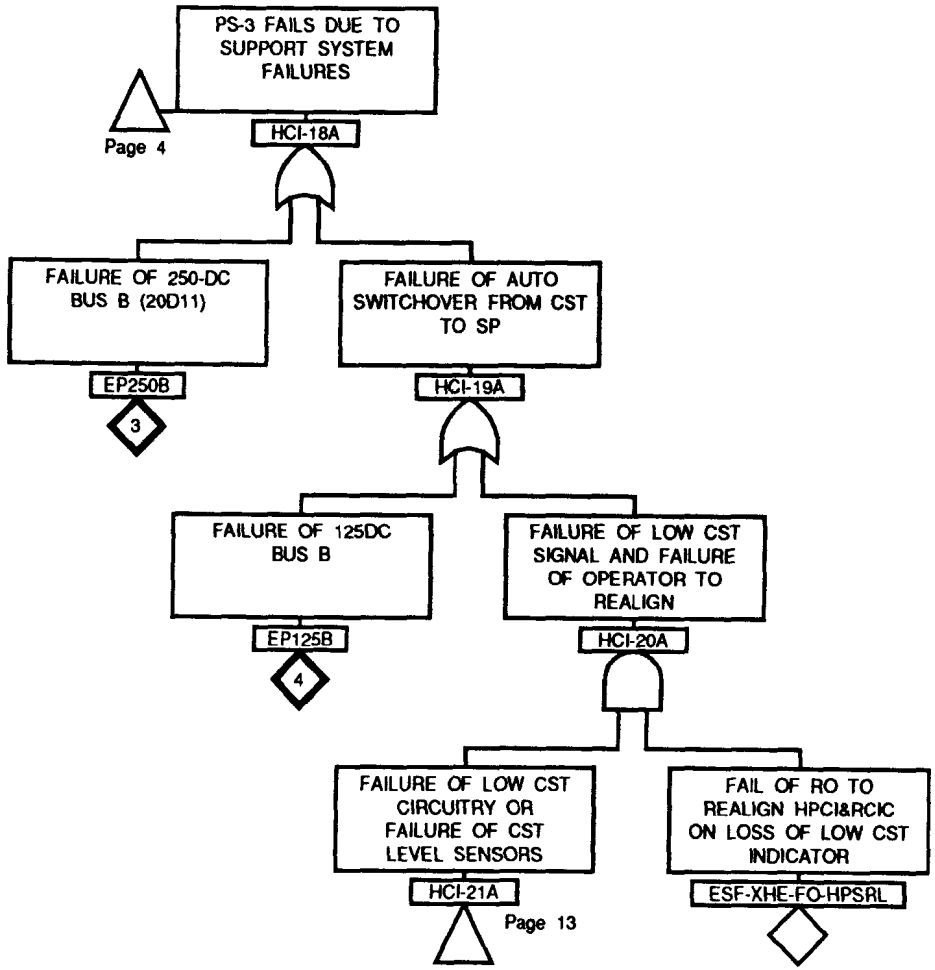

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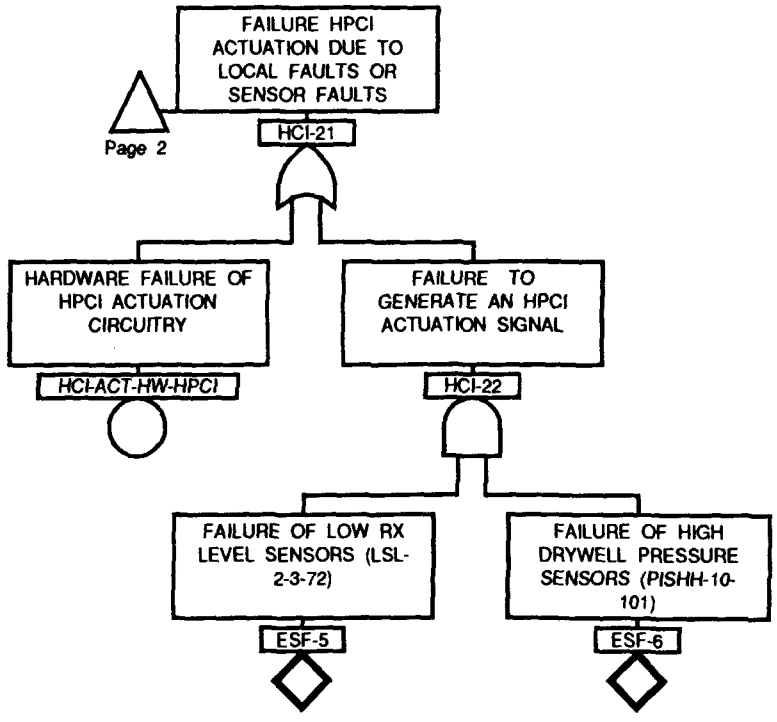

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HIGH PRESSURE COOLANT INJECTION	
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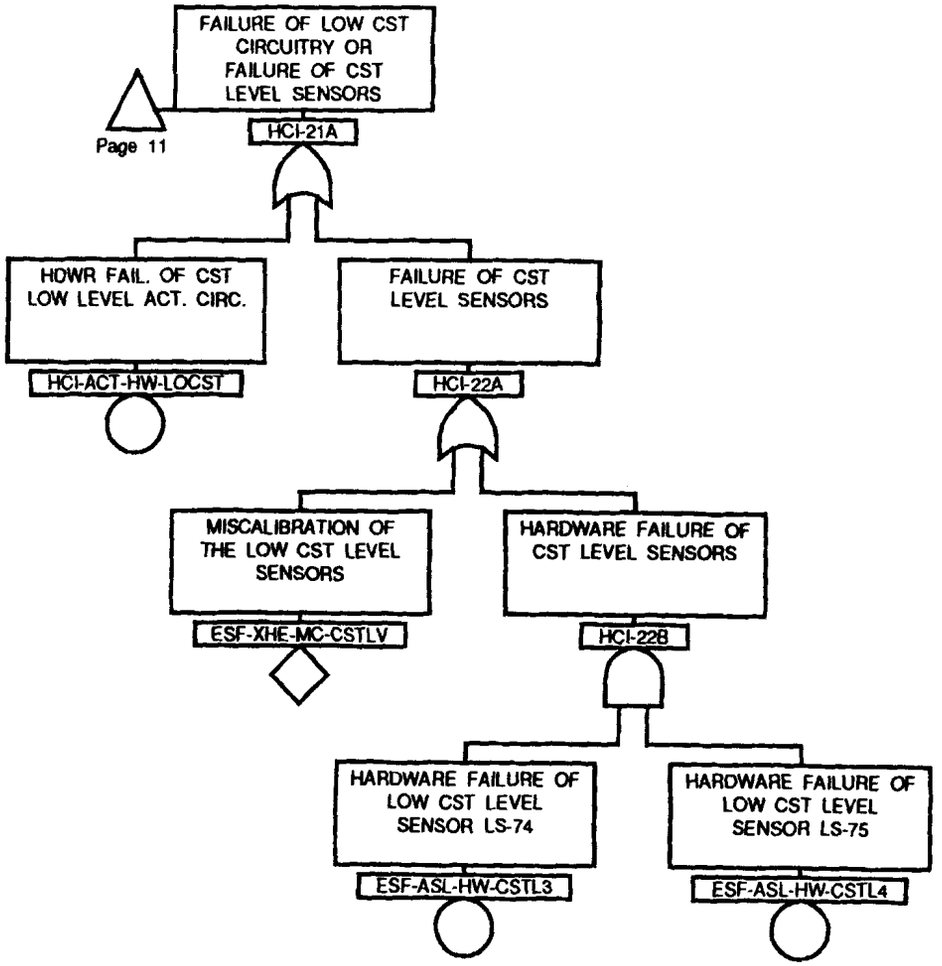

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HIGH PRESSURE COOLANT INJECTION	
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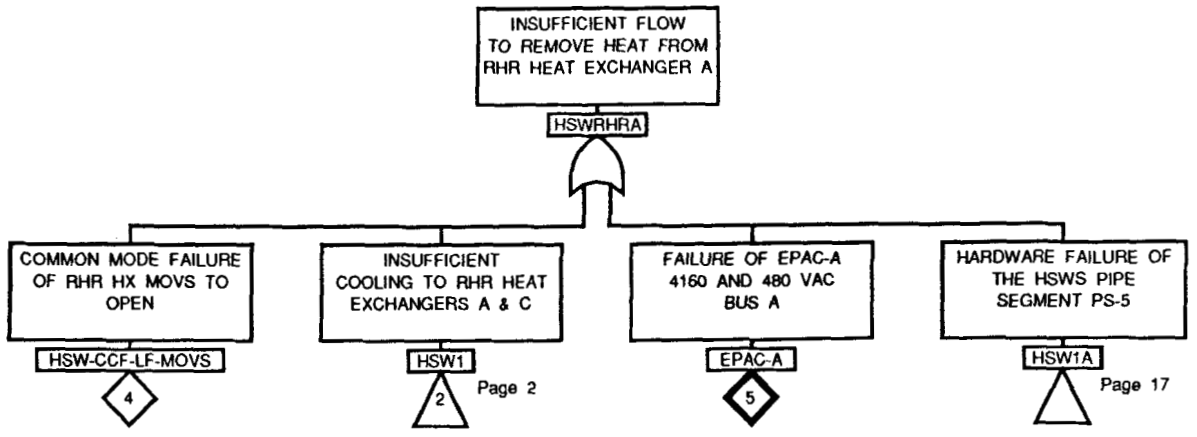

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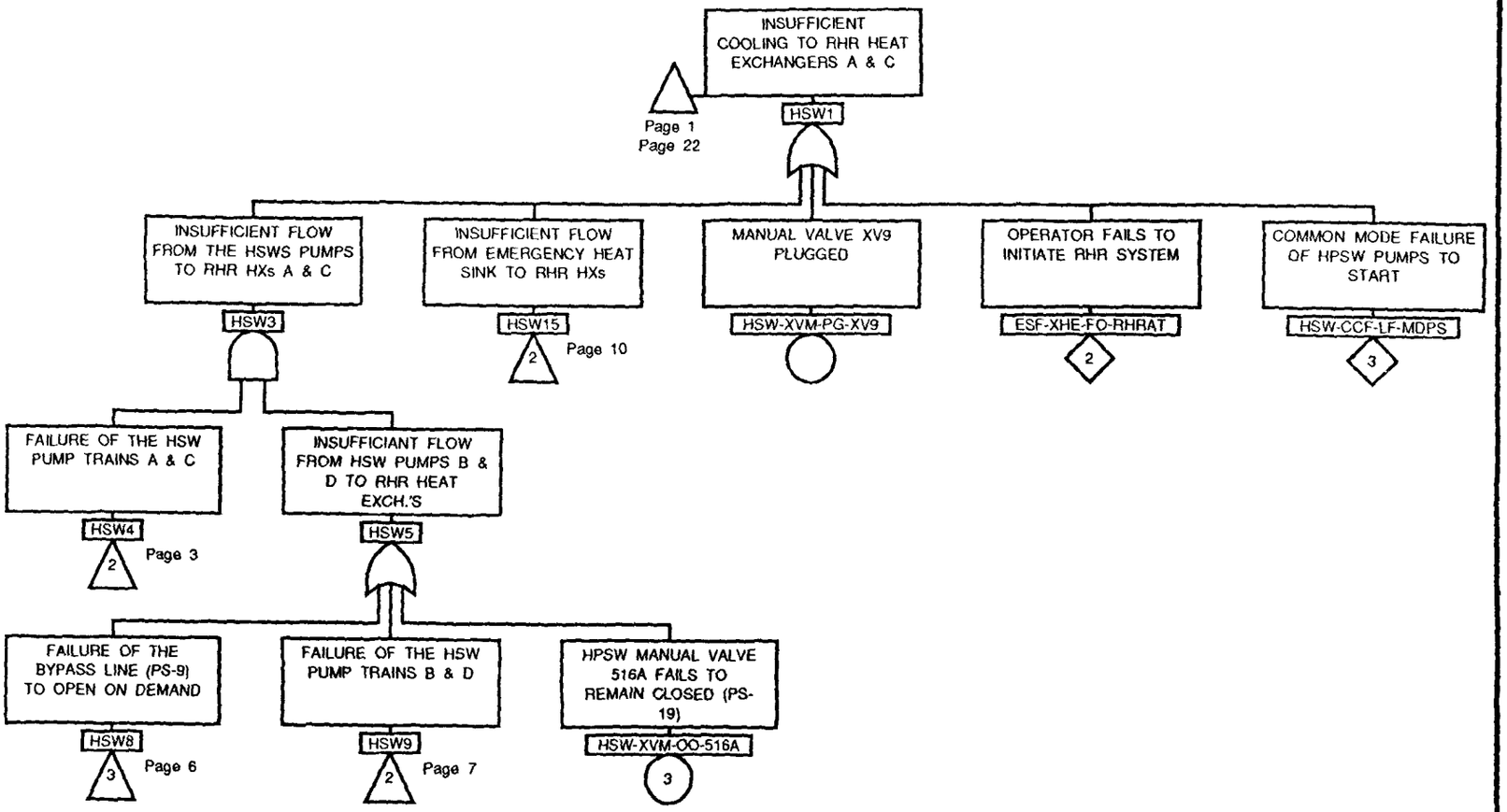

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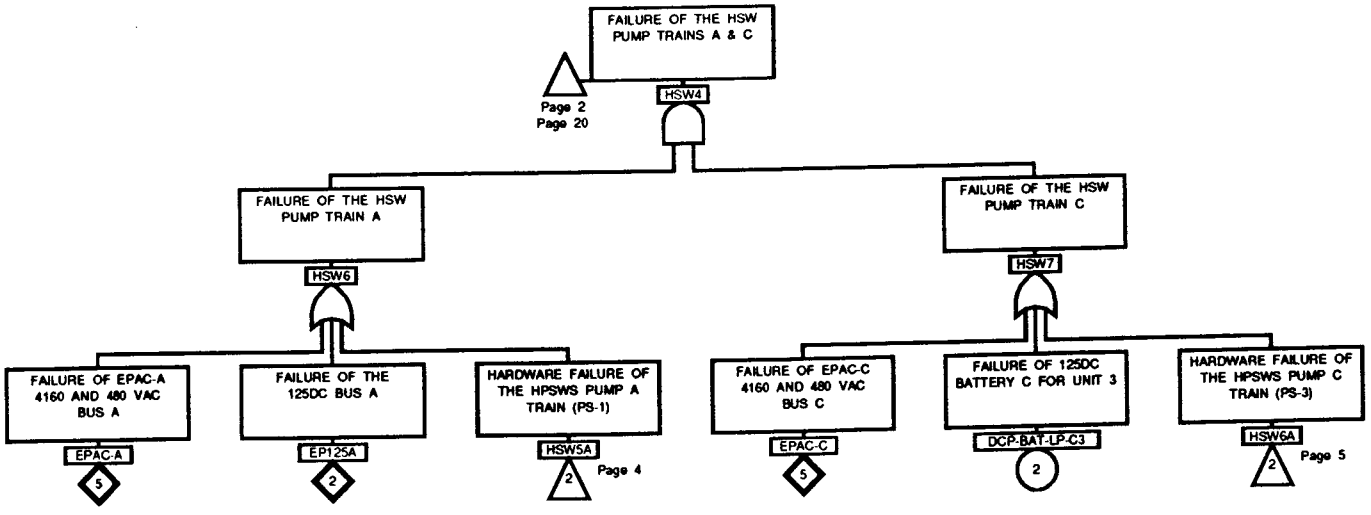

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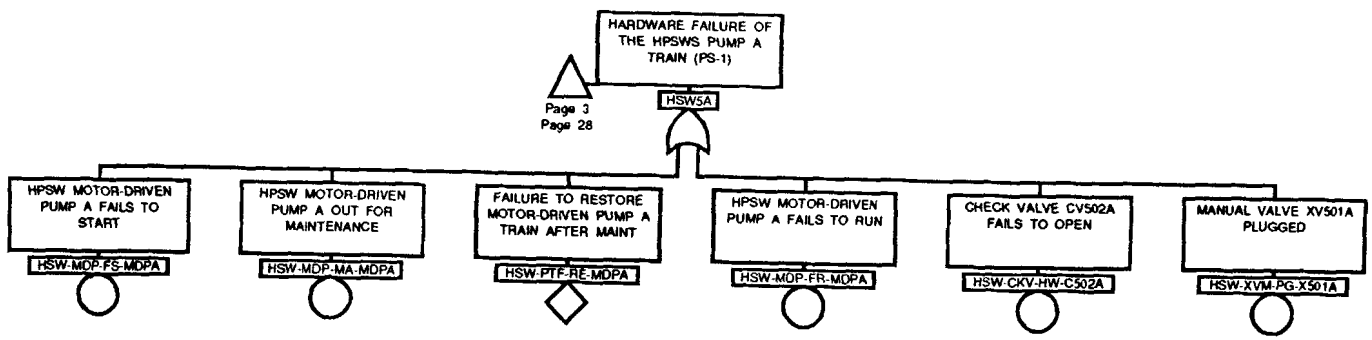

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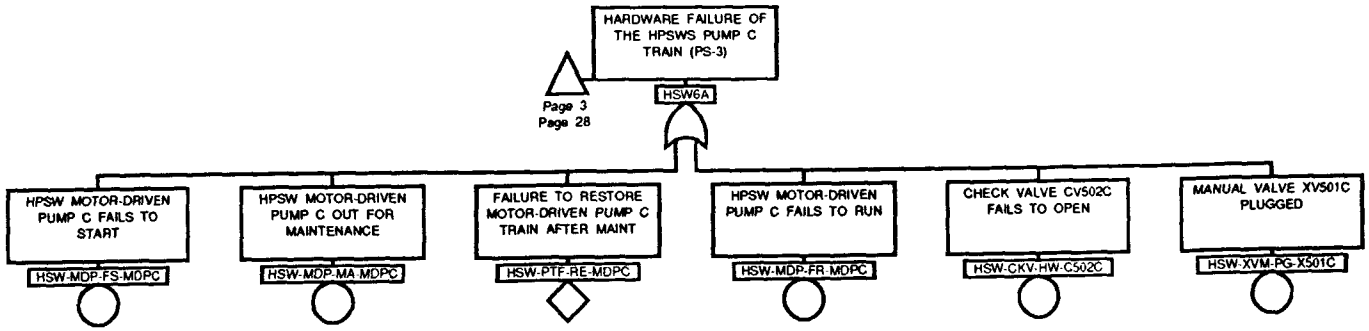

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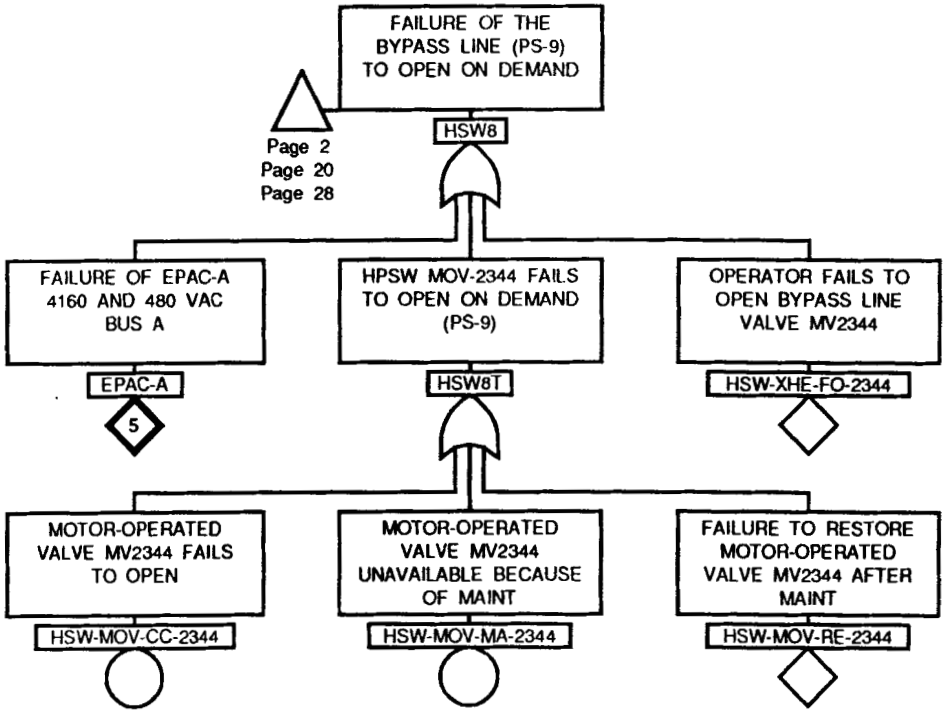

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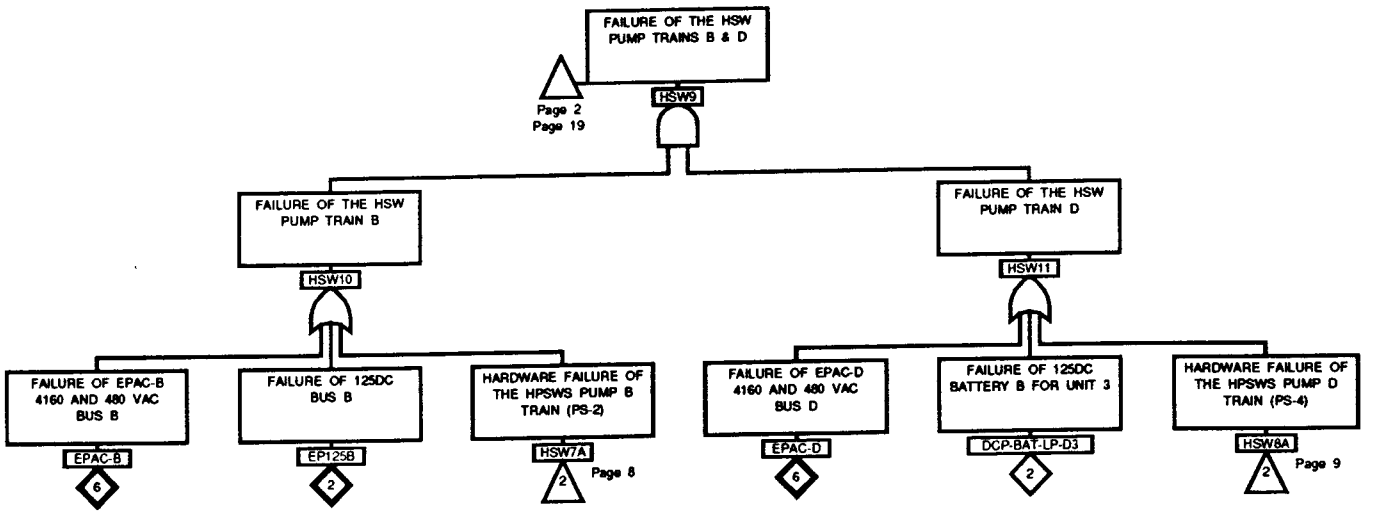

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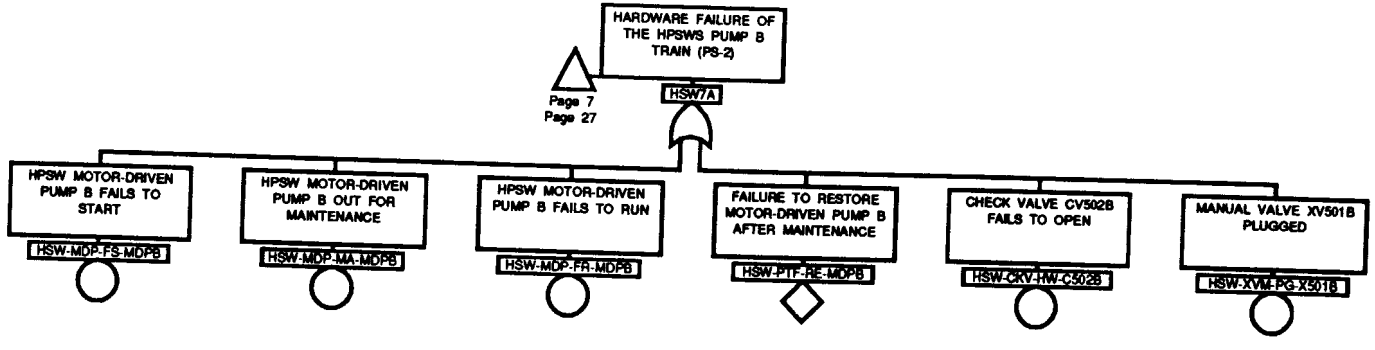
HIGH PRESSURE SERVICE WATER	
DRAWING NUMBER Page 7	DATE 4/19/88



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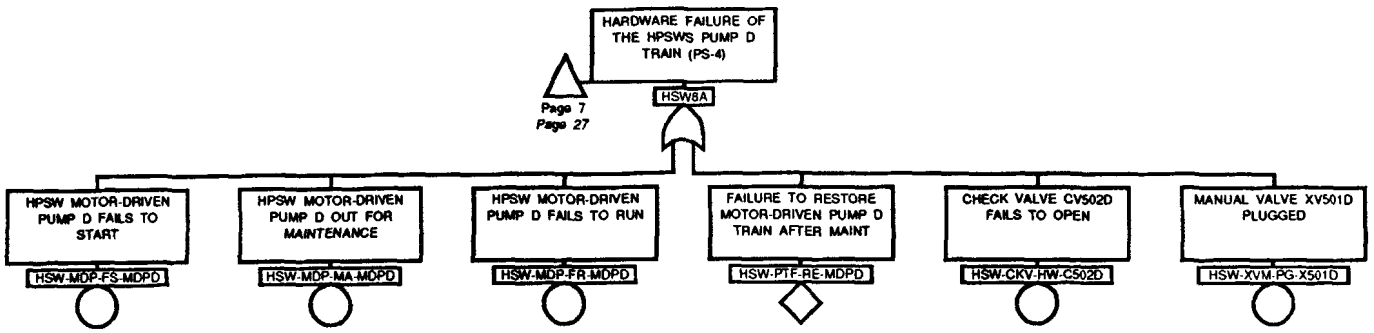

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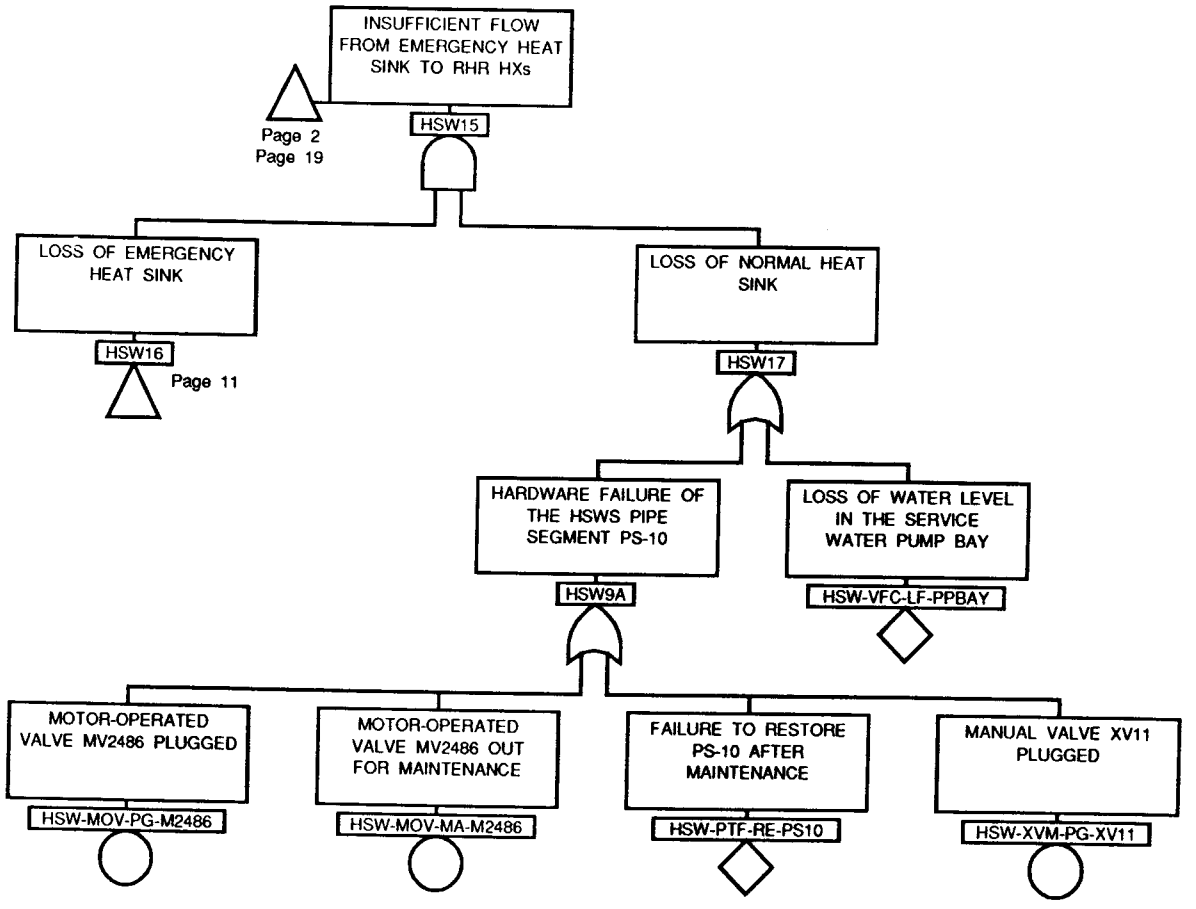
DRAWING NUMBER Page 9	DATE 4/19/88



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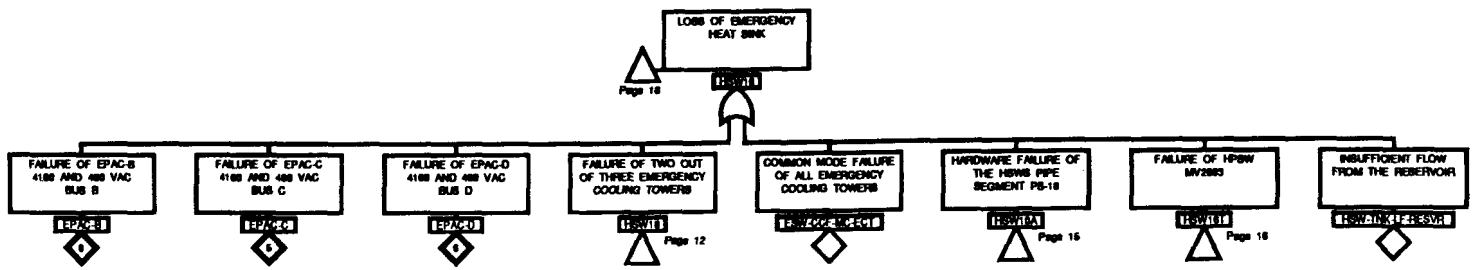

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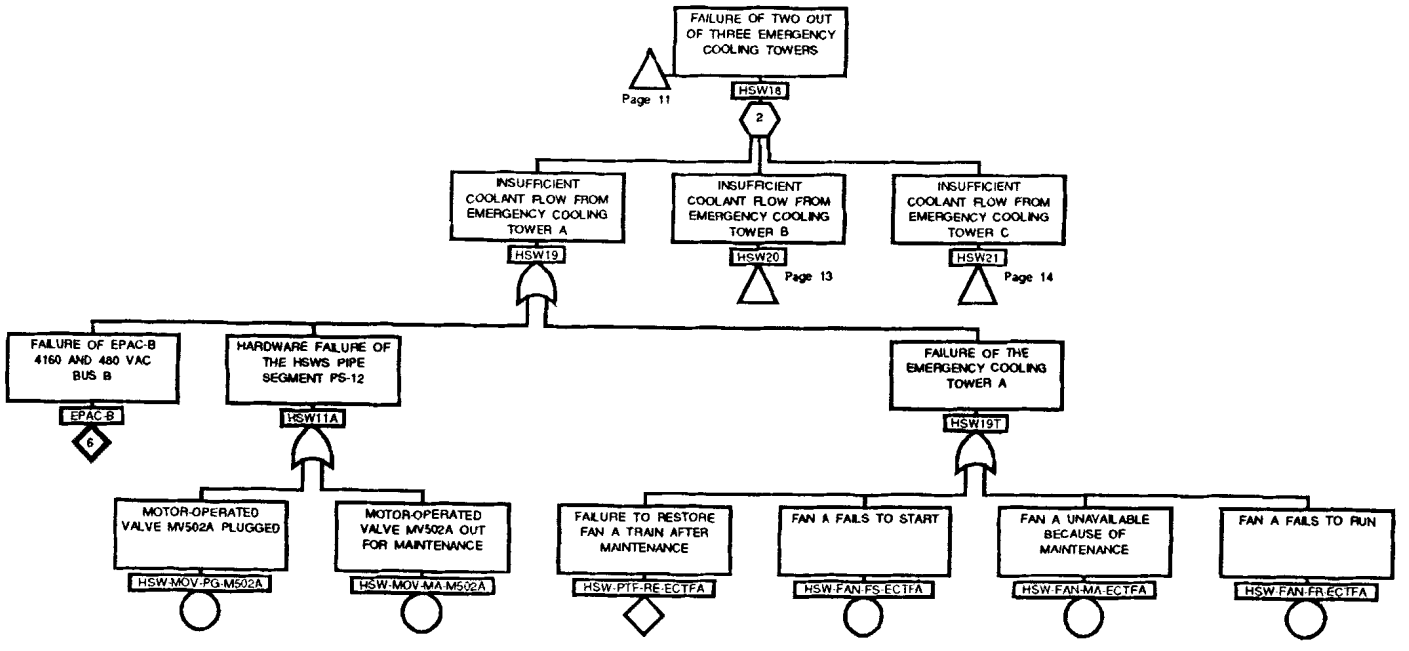
HIGH PRESSURE SERVICE WATER	
DRAWING NUMBER Page 11	DATE 5/06/88



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HIGH PRESSURE SERVICE WATER	
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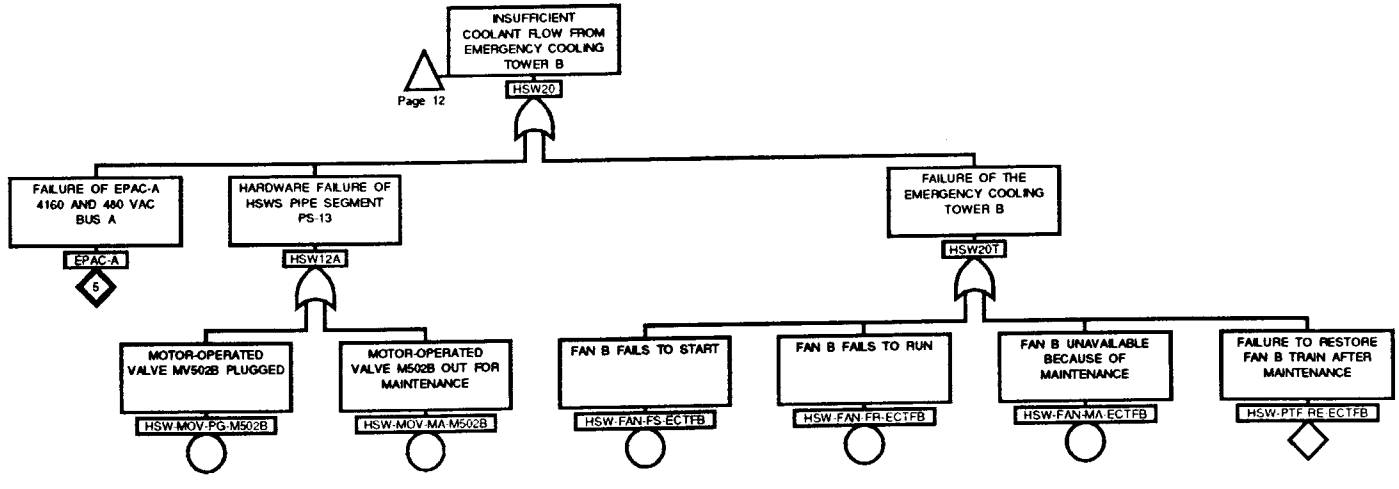

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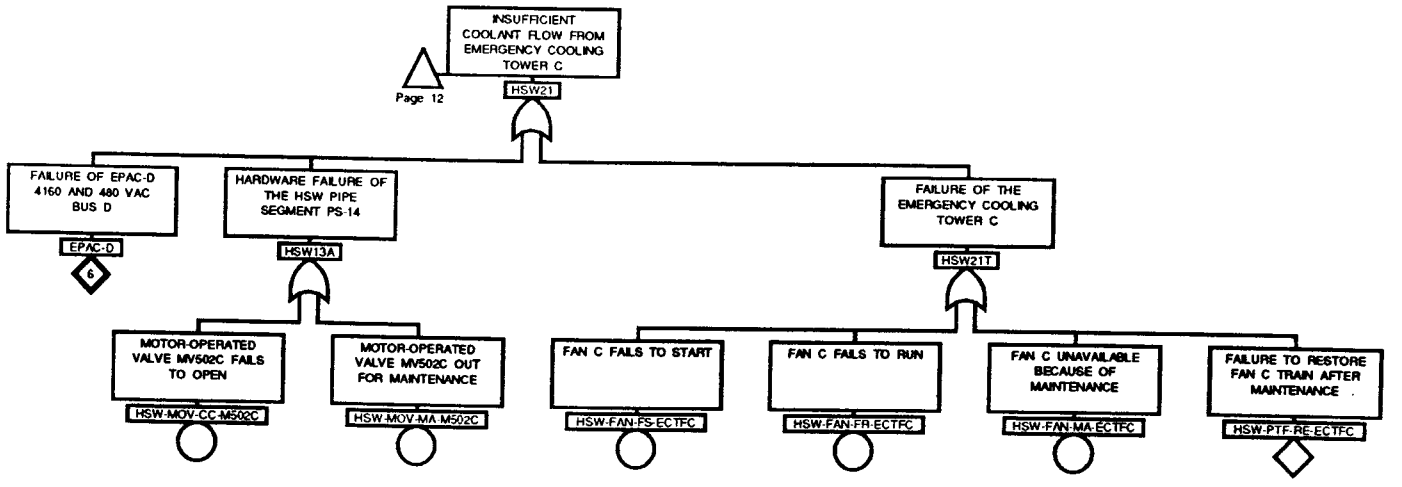
HIGH PRESSURE SERVICE WATER	
DRAWING NUMBER Page 13	DATE 4/19/88



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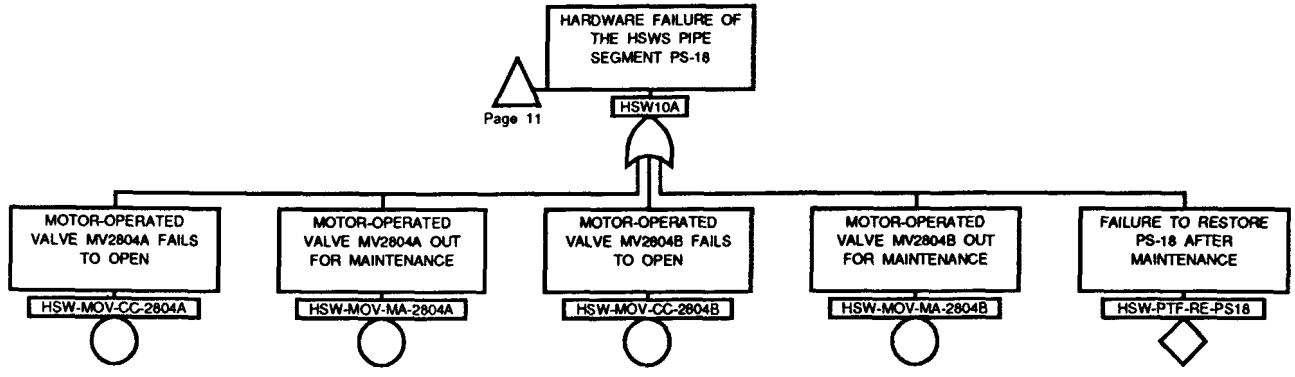

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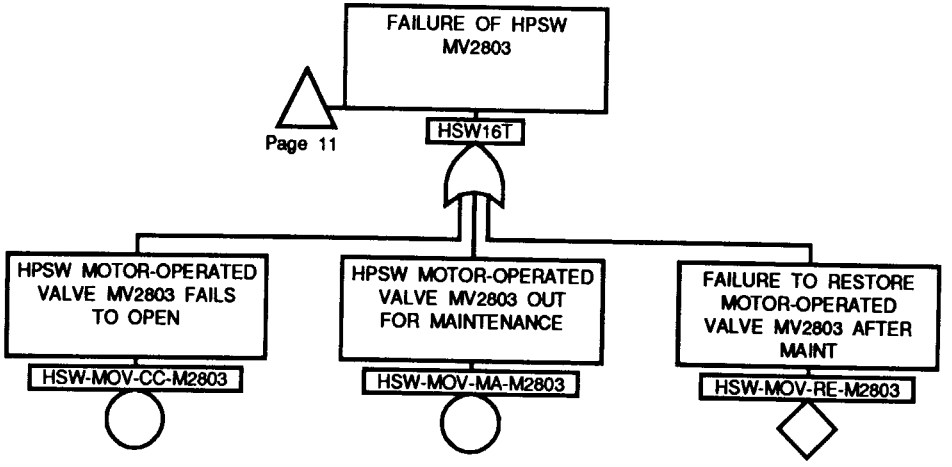

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HIGH PRESSURE SERVICE WATER	
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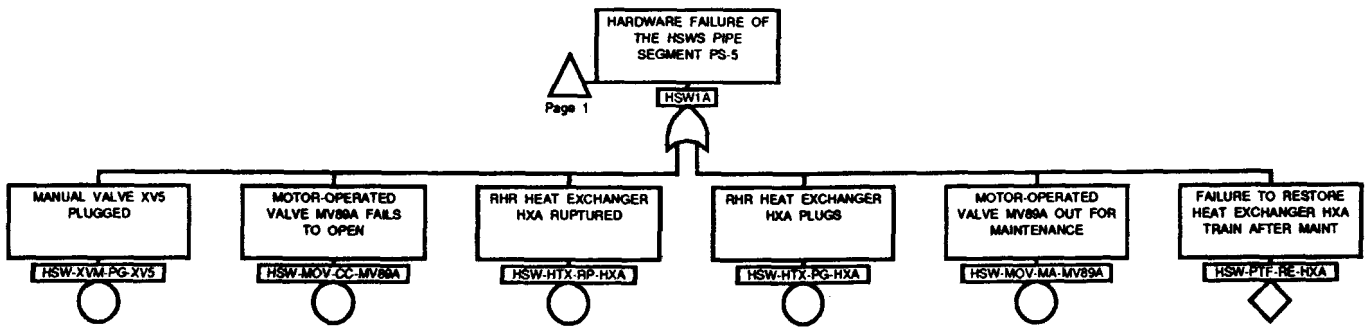

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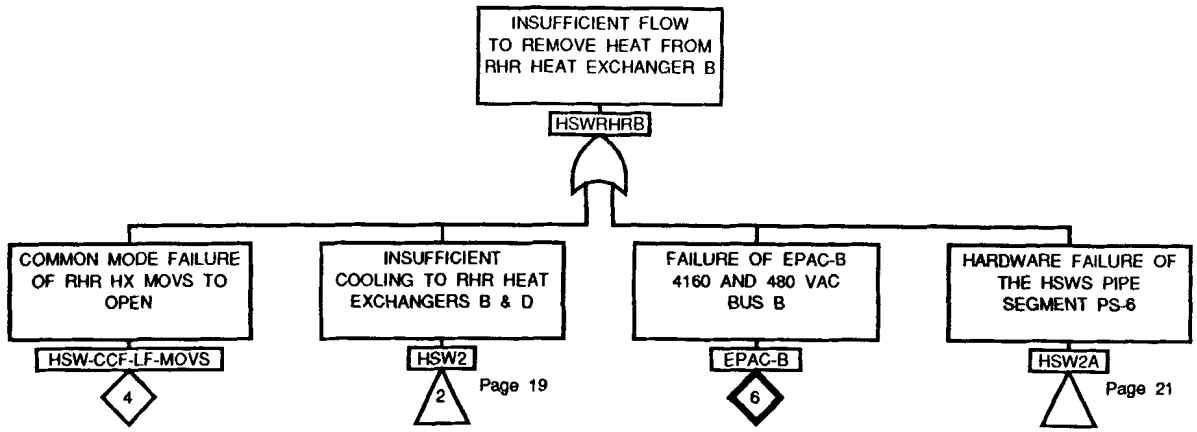
HIGH PRESSURE SERVICE WATER	
DRAWING NUMBER Page 17	DATE 4/19/88



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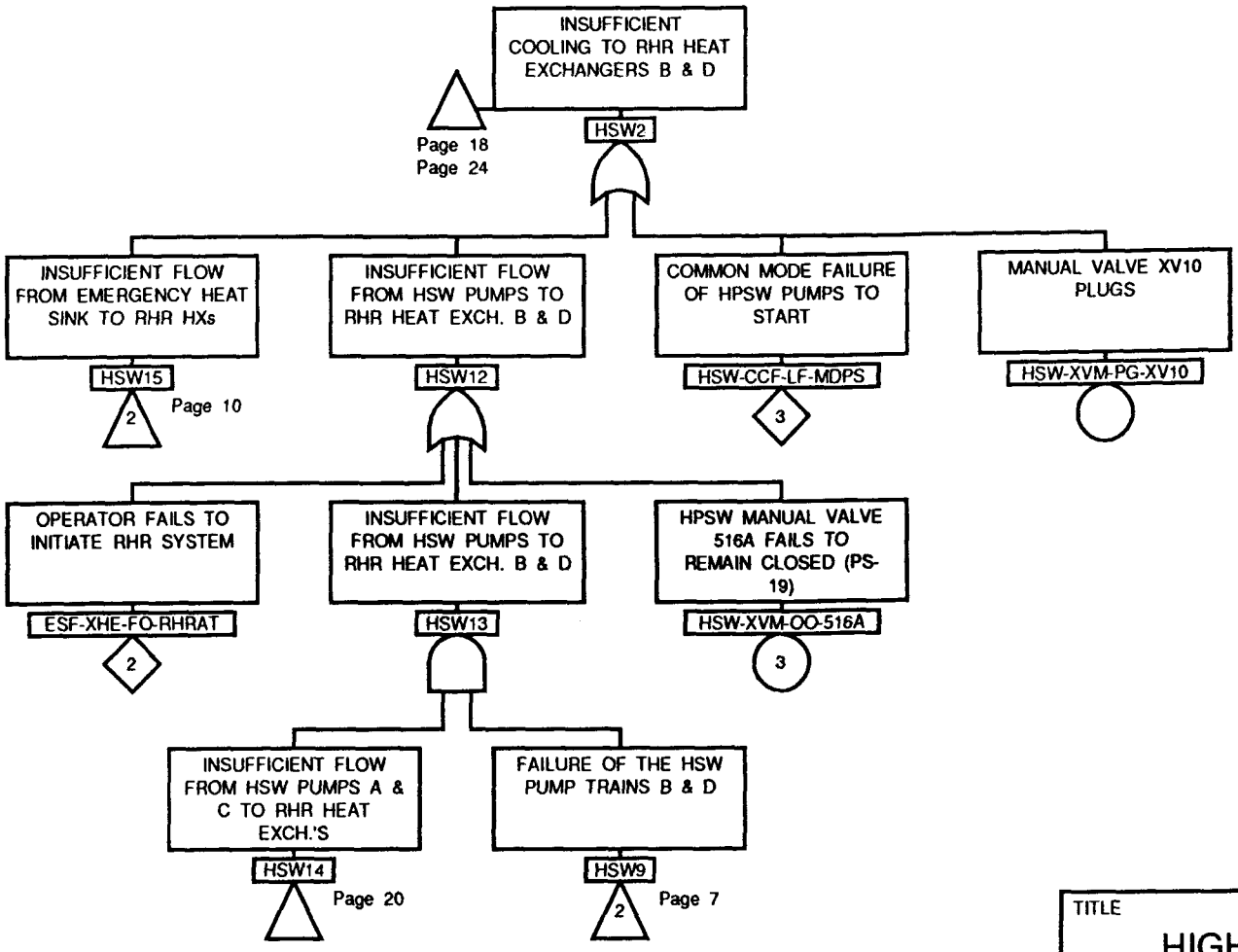

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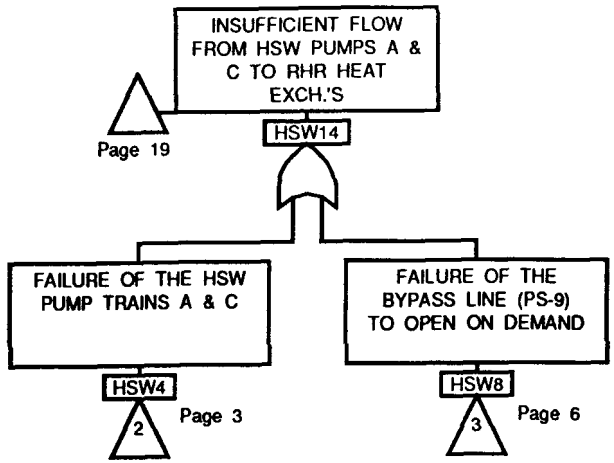

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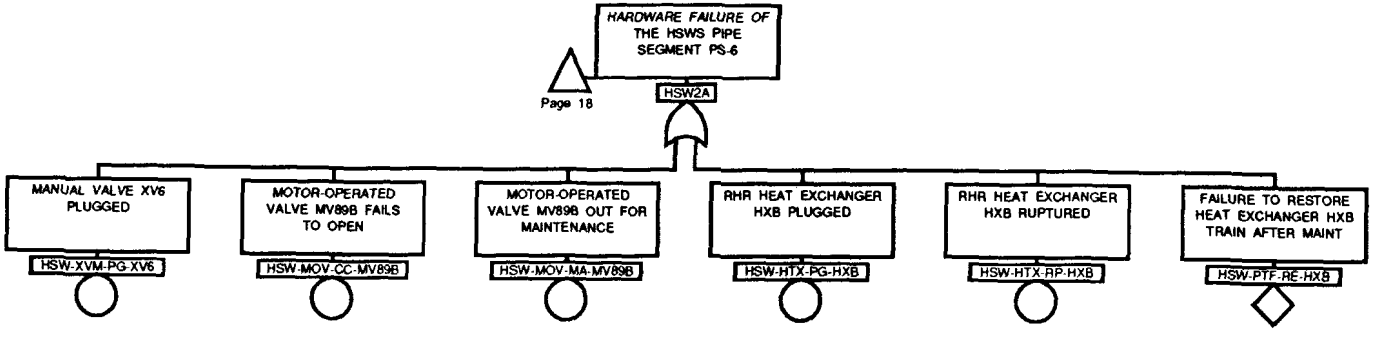

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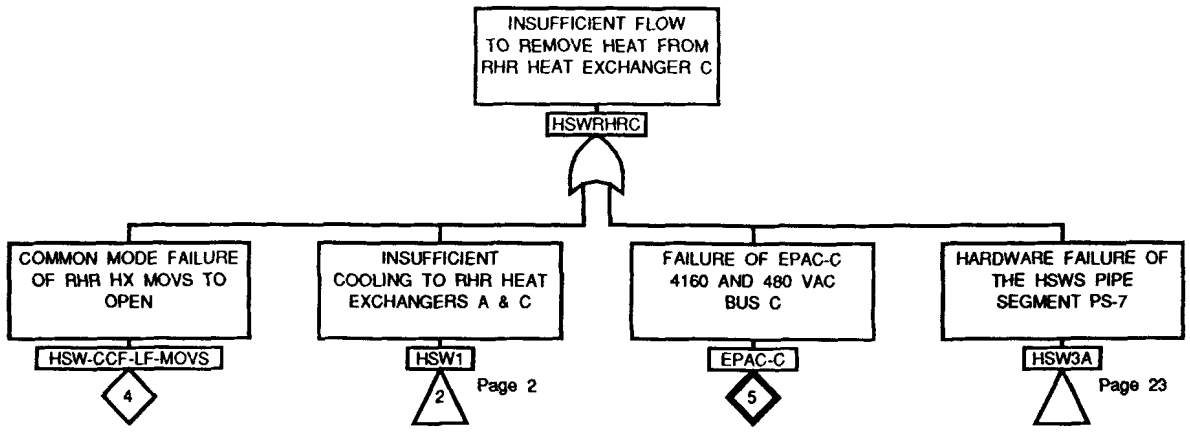

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HIGH PRESSURE SERVICE WATER	
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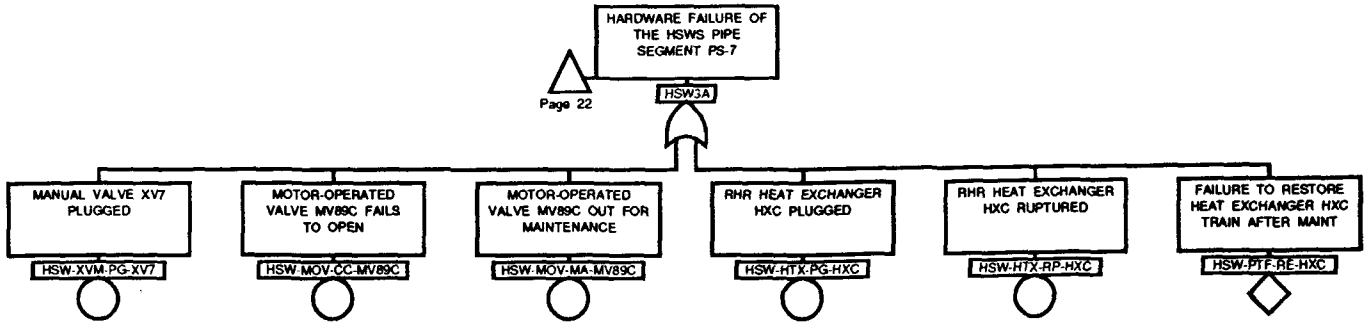

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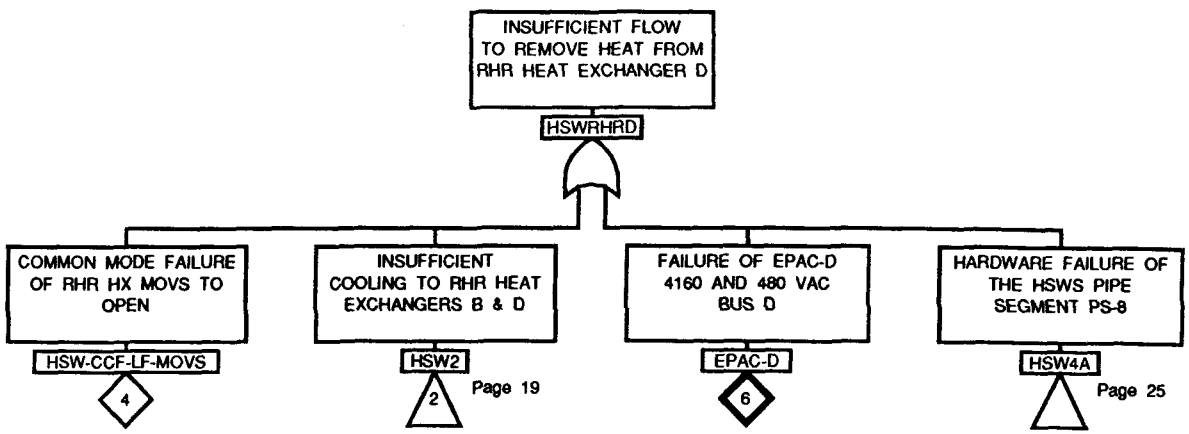

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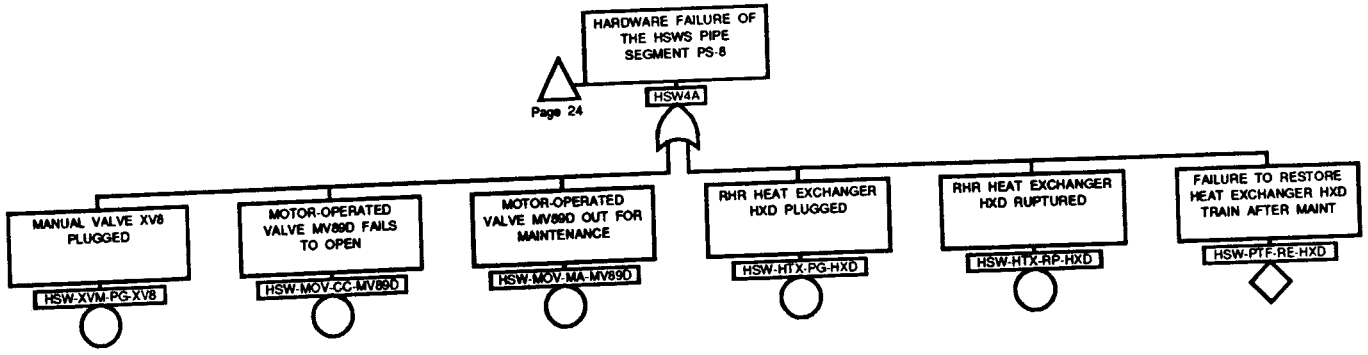

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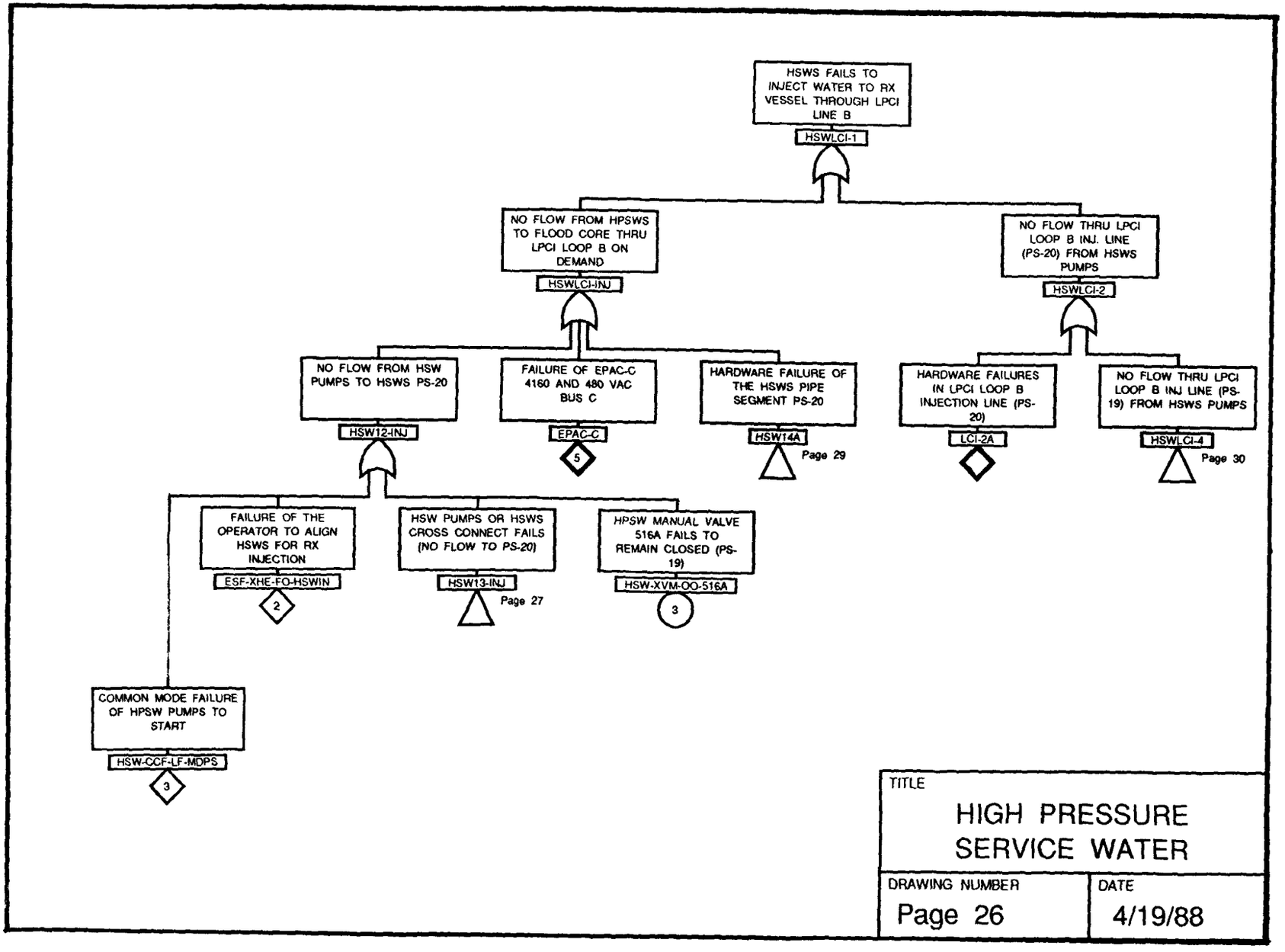
HSWS FAILS TO INJECT WATER TO RX VESSEL THROUGH LPCI LINE B
HSWLCI-1
NO FLOW FROM HPSWS TO FLOOD CORE THRU LPCI LOOP B ON DEMAND
HSWLCI-INJ
NO FLOW THRU LPCI LOOP B INJ. LINE (PS-20) FROM HSWS PUMPS
HSWLCI-2
NO FLOW FROM HSW PUMPS TO HSWS PS-20
HSW12-INJ
FAILURE OF EPAC-C 4160 AND 480 VAC BUS C
EPAC-C
5
HARDWARE FAILURE OF THE HSWS PIPE SEGMENT PS-20
HSW14A
Page 29
HARDWARE FAILURES IN LPCI LOOP B INJECTION LINE (PS-20)
LCI-2A
NO FLOW THRU LPCI LOOP B INJ LINE (PS-19) FROM HSWS PUMPS
HSWLCI-4
Page 30
FAILURE OF THE OPERATOR TO ALIGN HSWS FOR RX INJECTION
ESF-XHE-FO-HSWIN
2
HSW PUMPS OR HSWS CROSS CONNECT FAILS (NO FLOW TO PS-20)
HSW13-INJ
Page 27
HPSW MANUAL VALVE 516A FAILS TO REMAIN CLOSED (PS-19)
HSW-XVM-OO-516A
3
COMMON MODE FAILURE OF HPSW PUMPS TO START
HSW-CCF-LF-MDPS
3
TITLE
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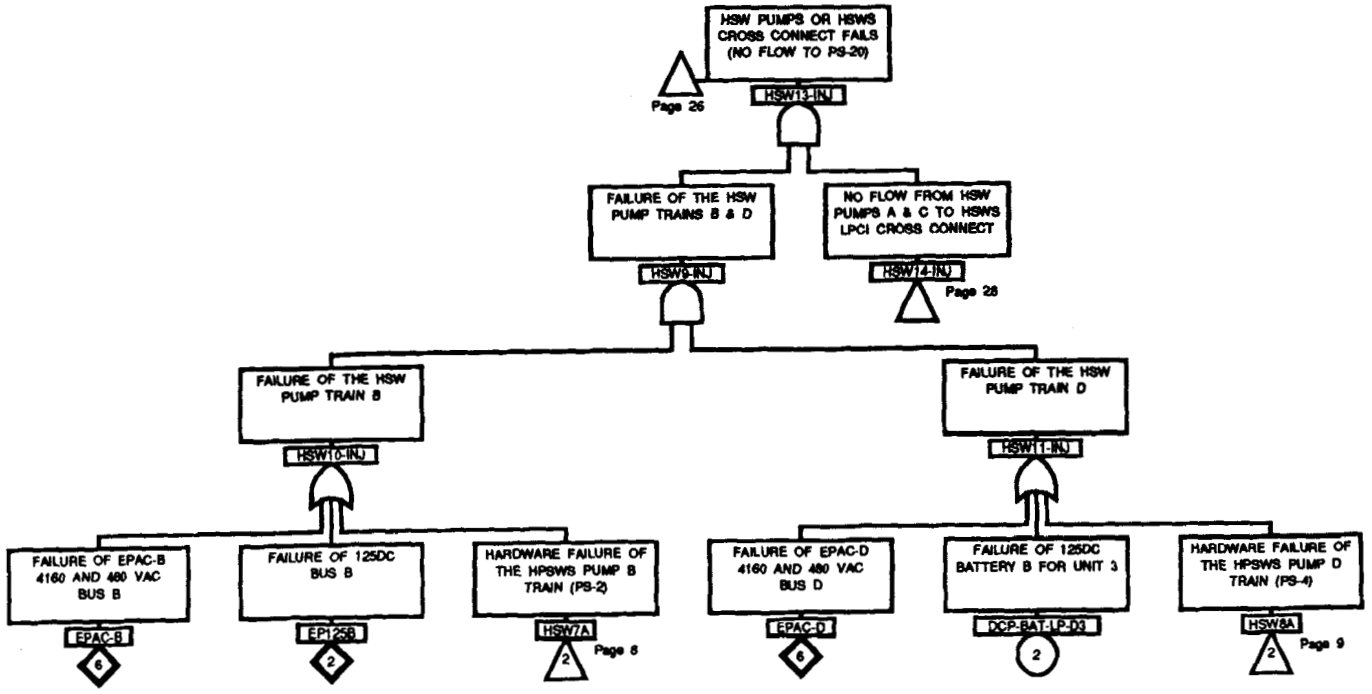

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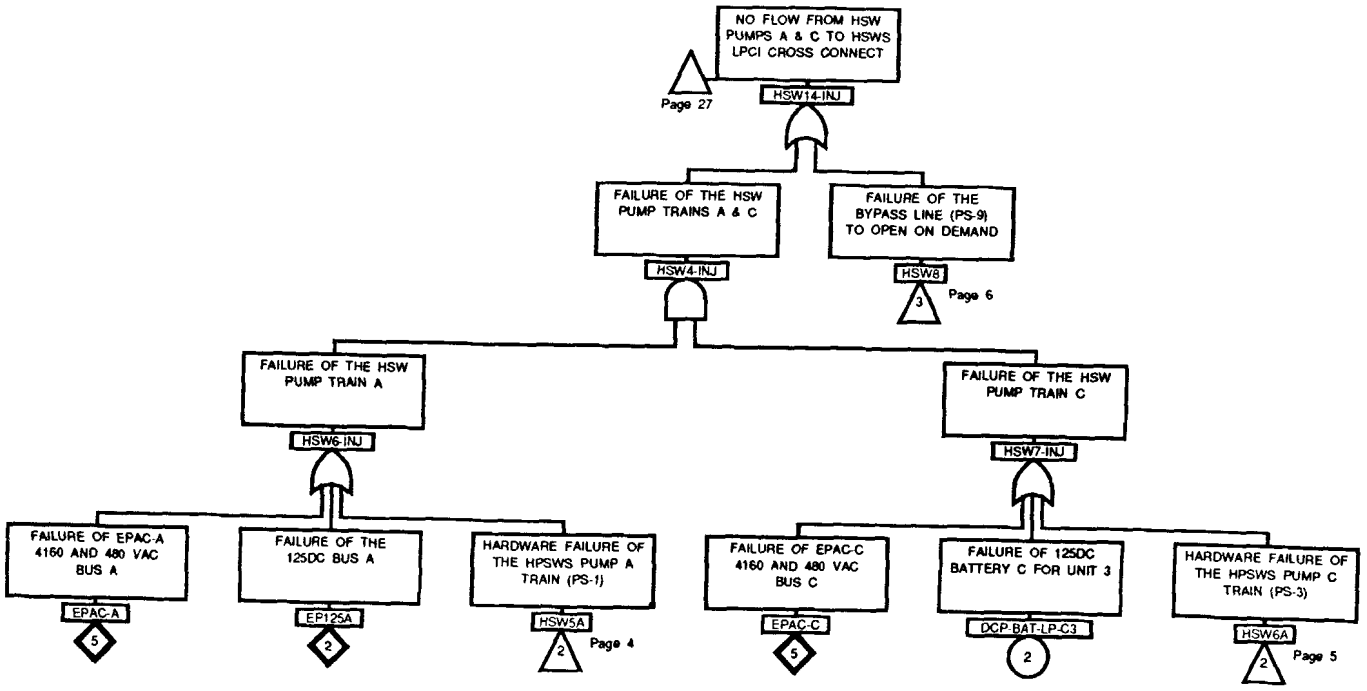

TITLE	
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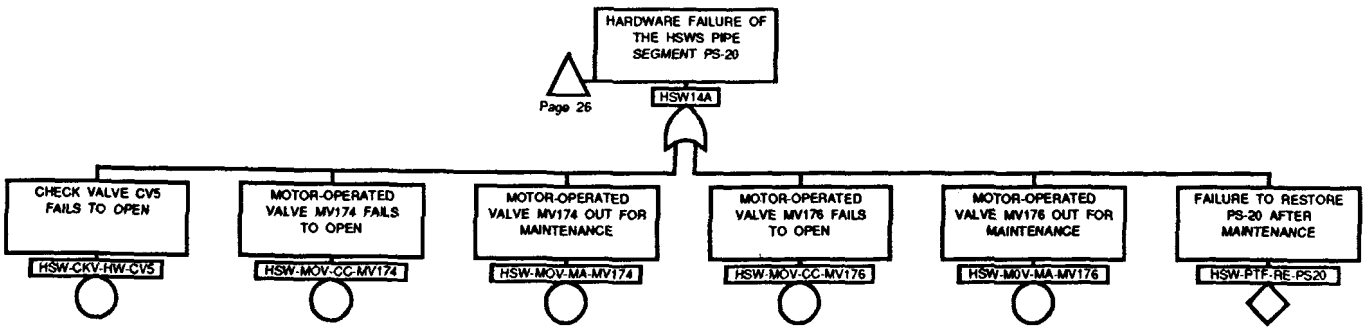
DRAWING NUMBER Page 28	DATE 4/19/88



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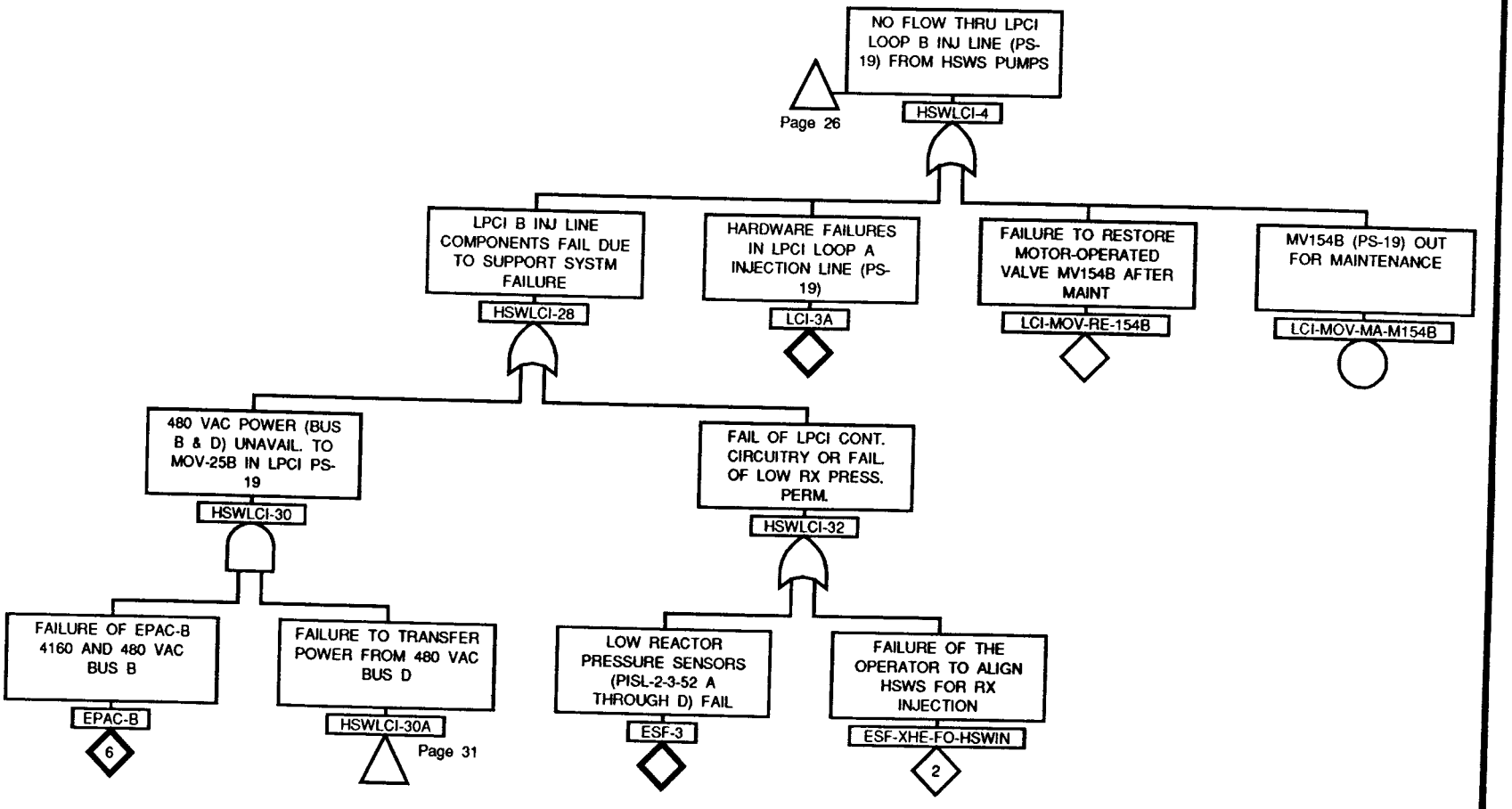
DRAWING NUMBER Page 29	DATE 4/19/88



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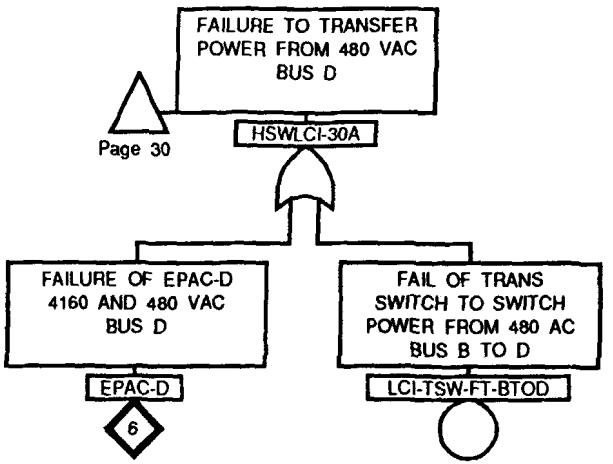

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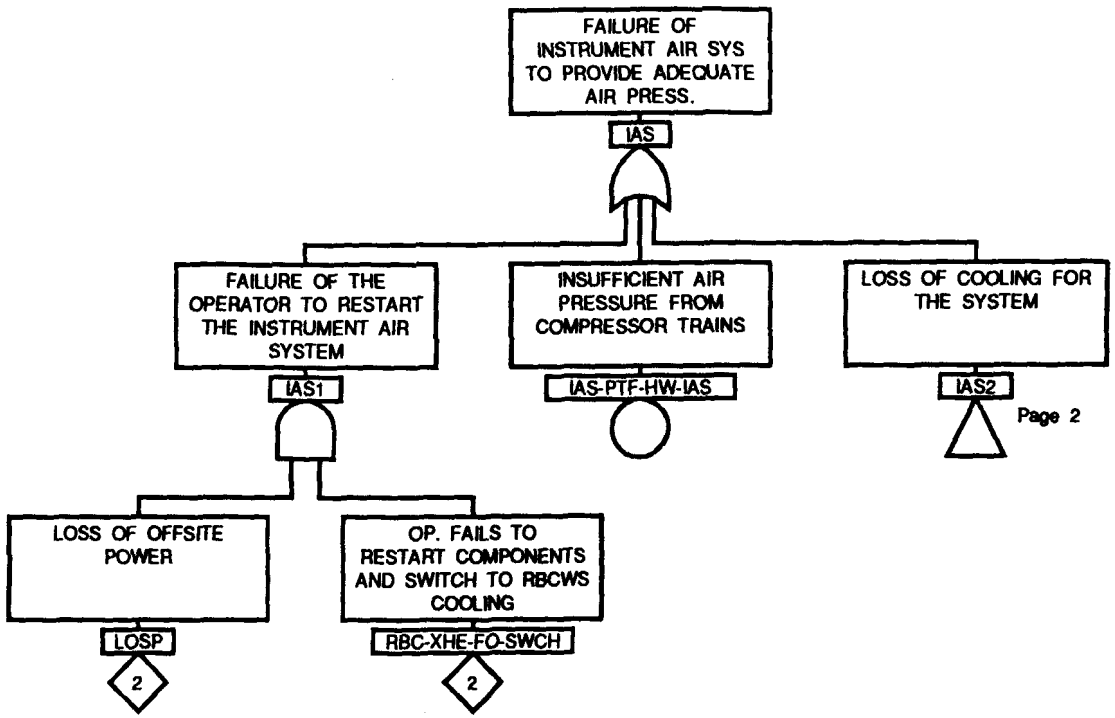

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INSTRUMENT AIR SYSTEM	
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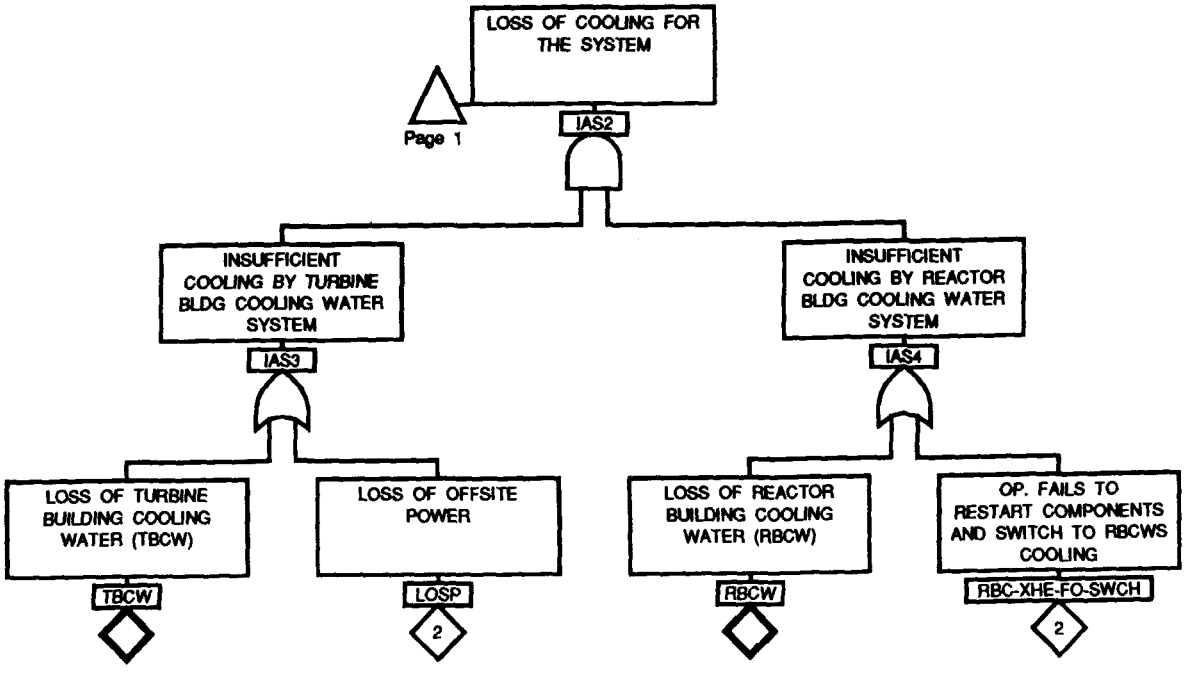
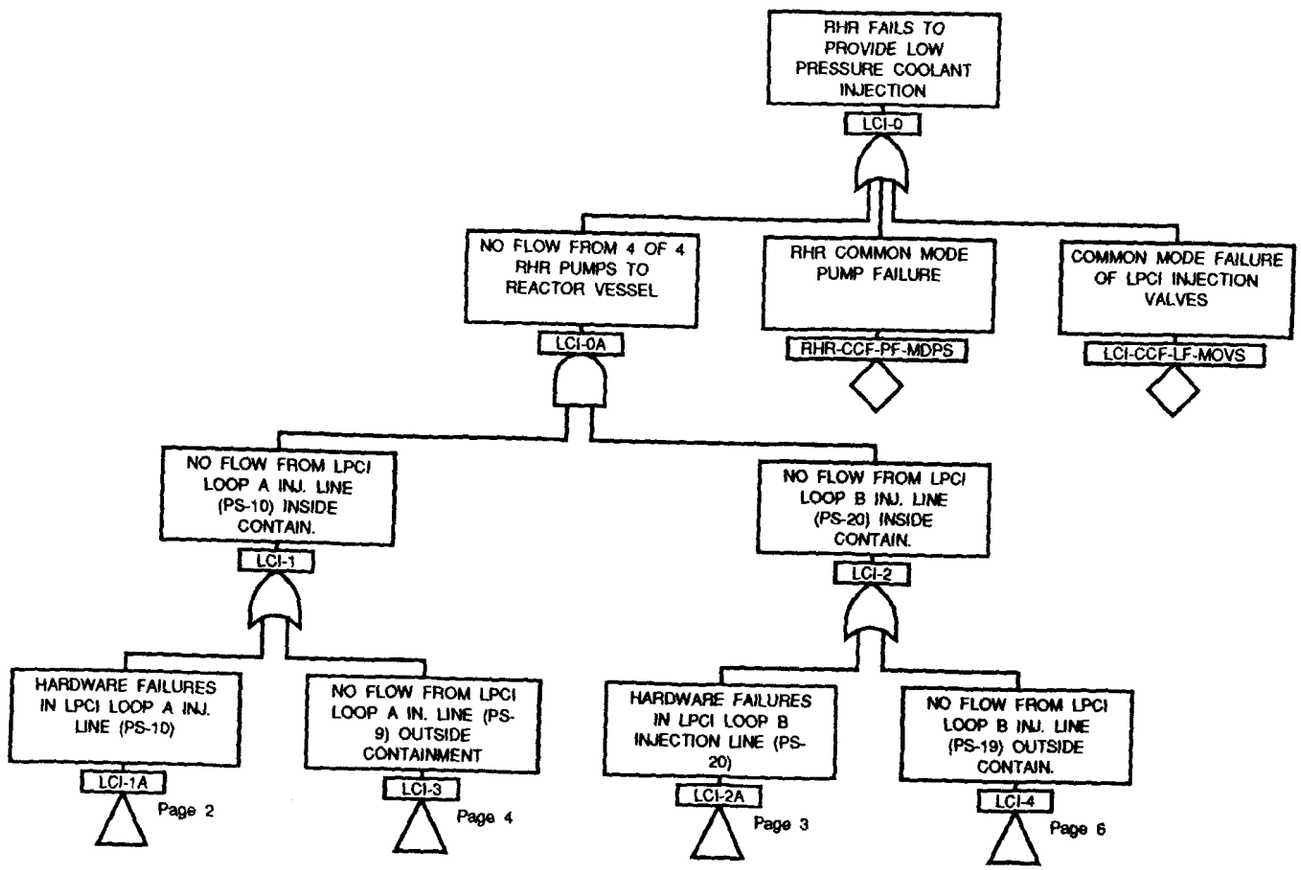


TITLE	
INSTRUMENT AIR SYSTEM	
DRAWING NUMBER Page 2	DATE 5/06/88



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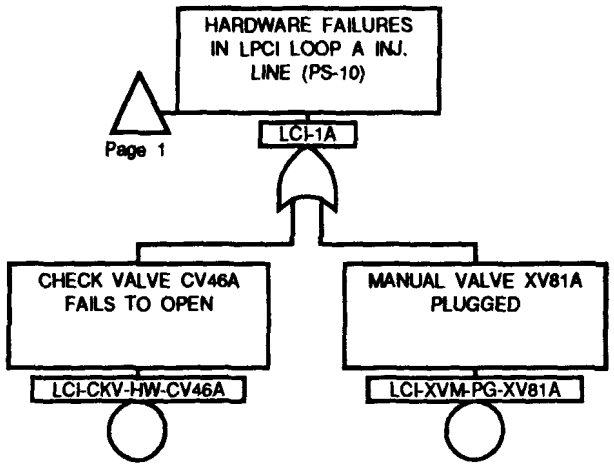
Page 1	4/28/88



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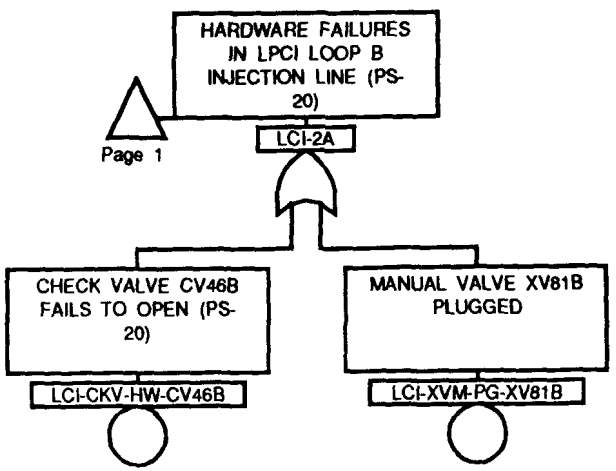

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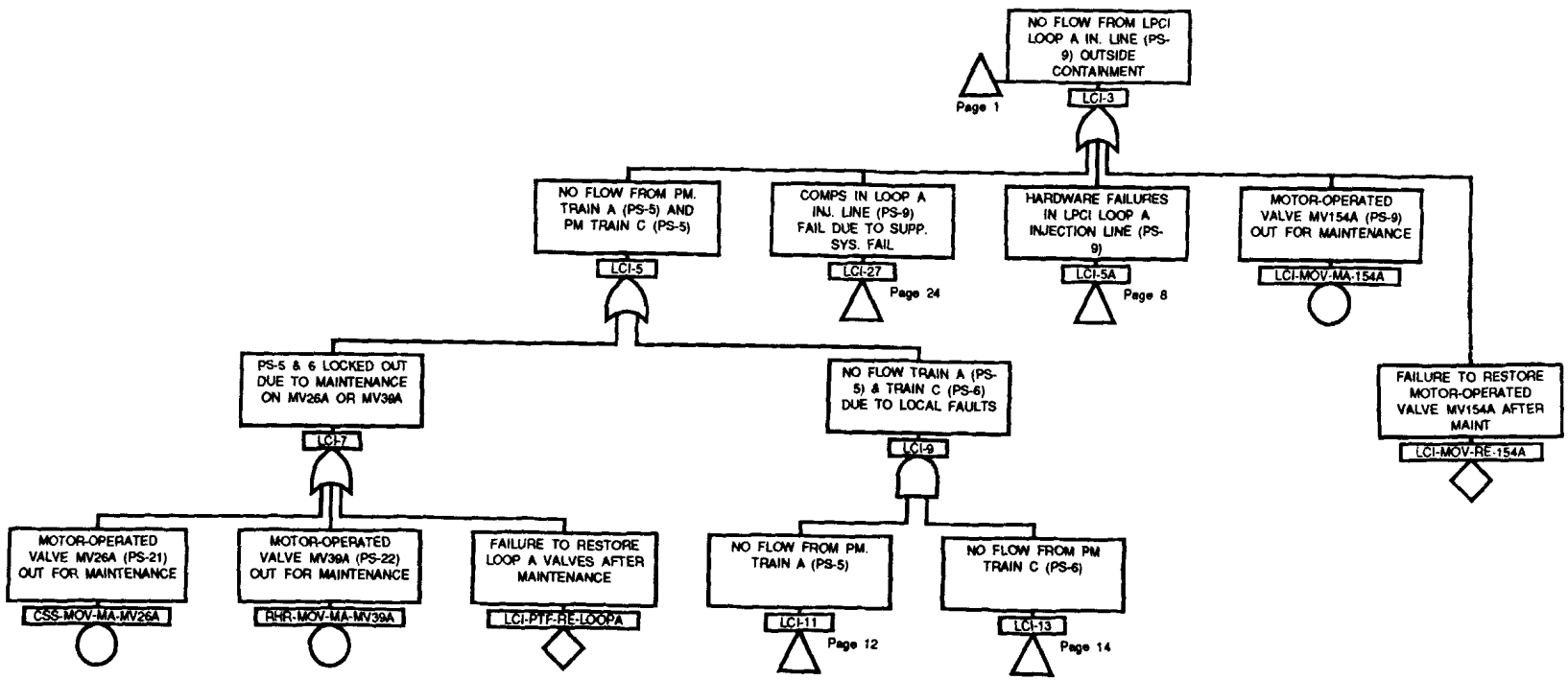

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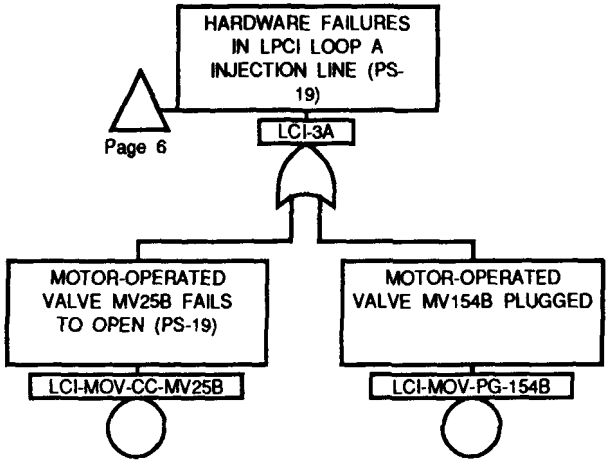

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LOW PRESSURE COOLANT INJECTION	
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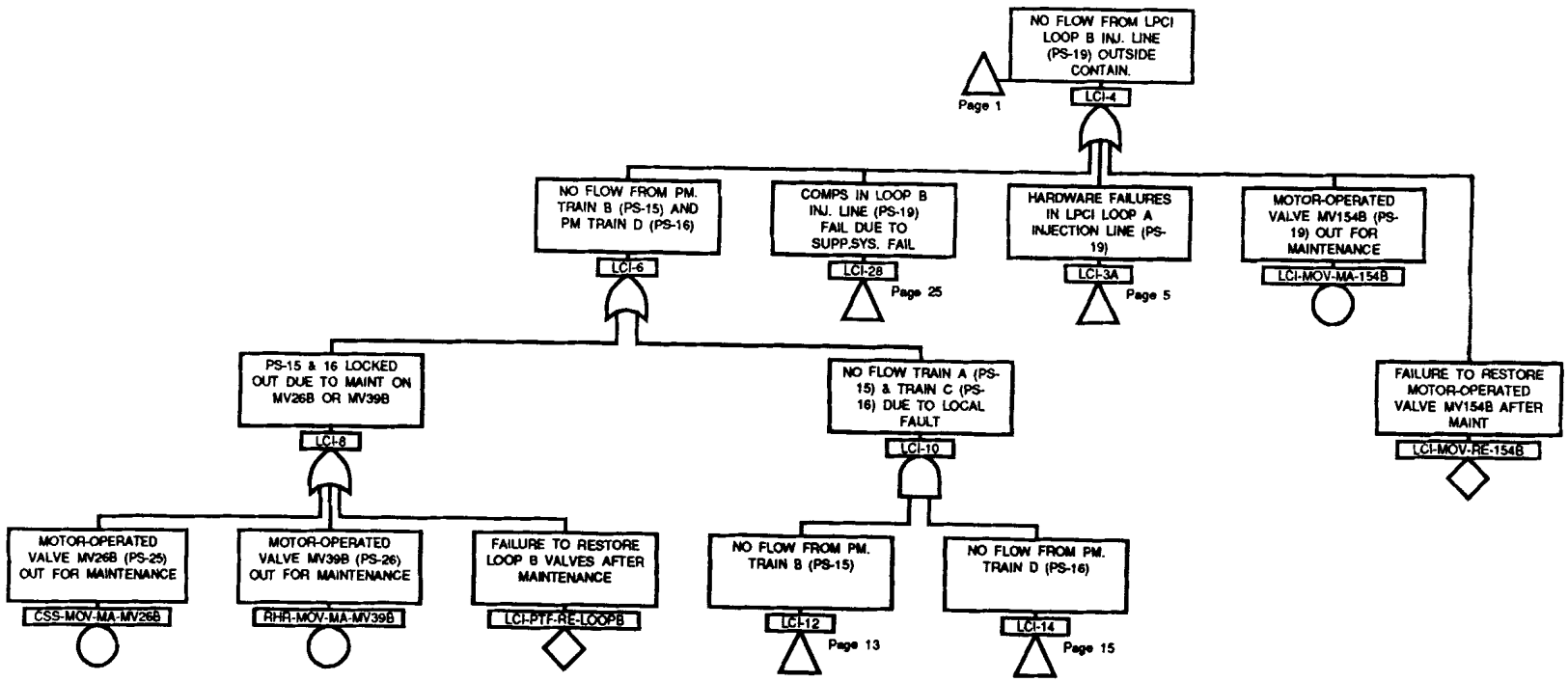

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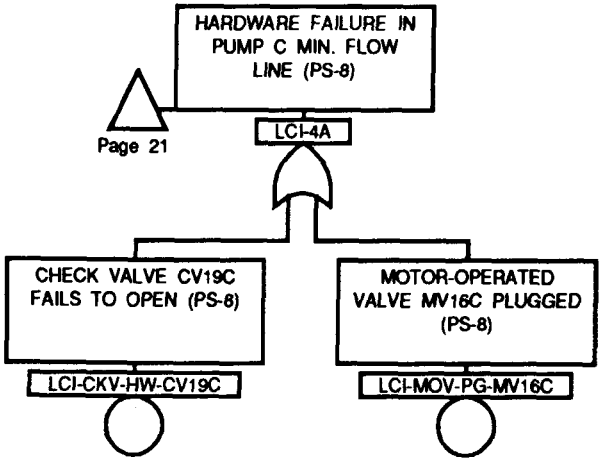

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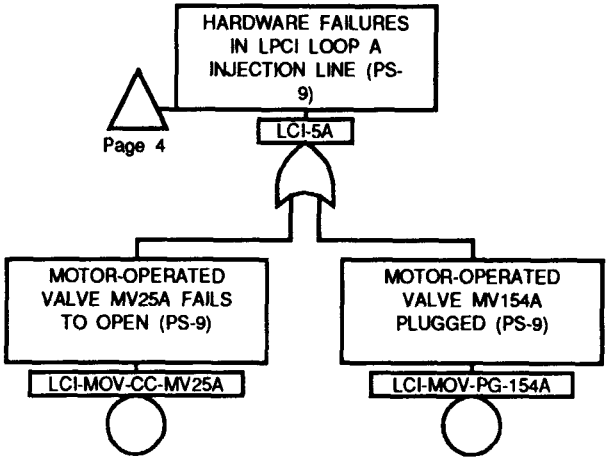

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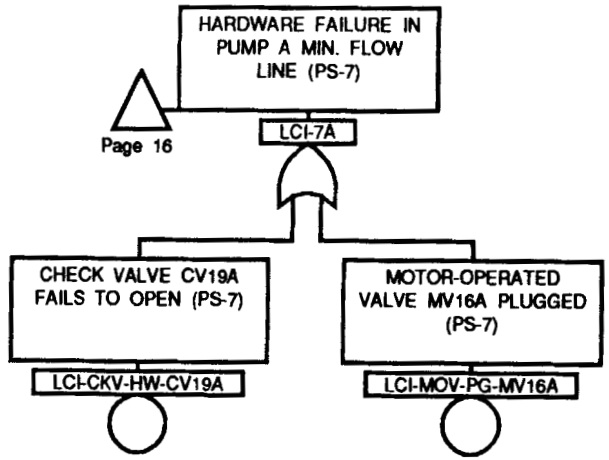

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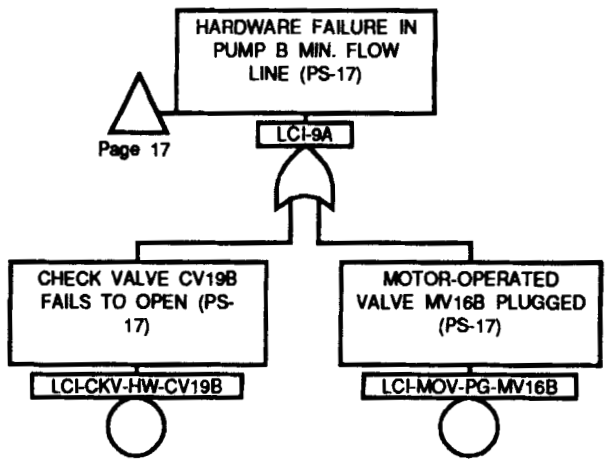

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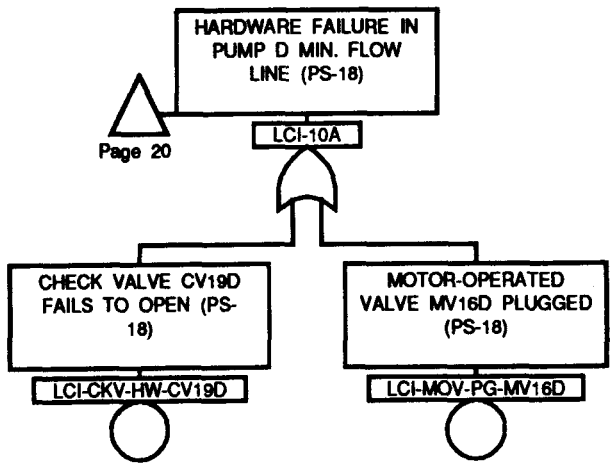

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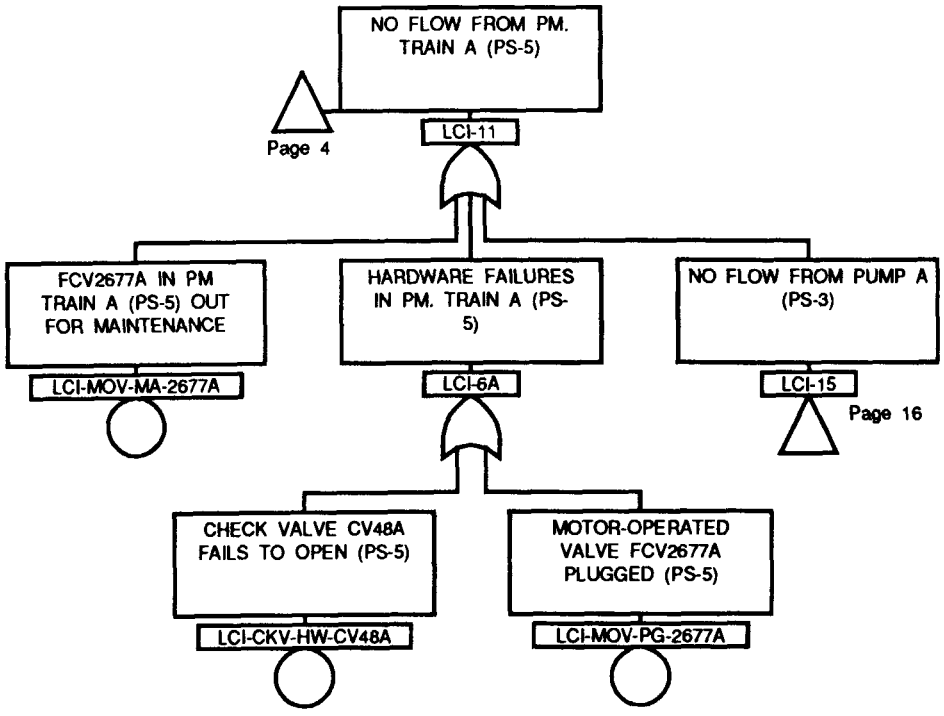

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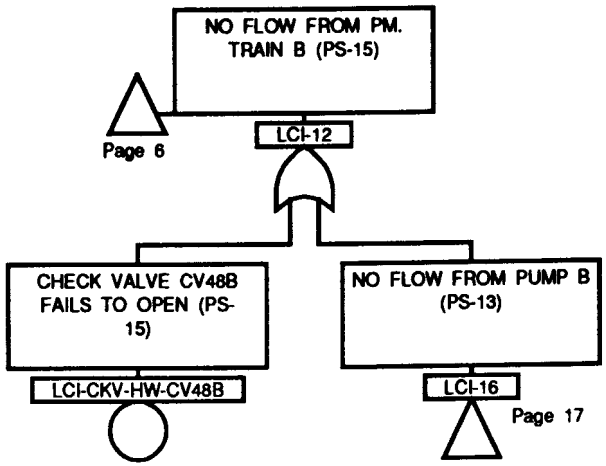

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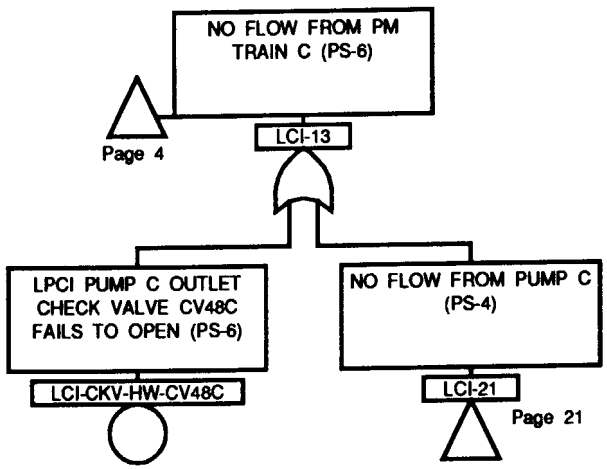

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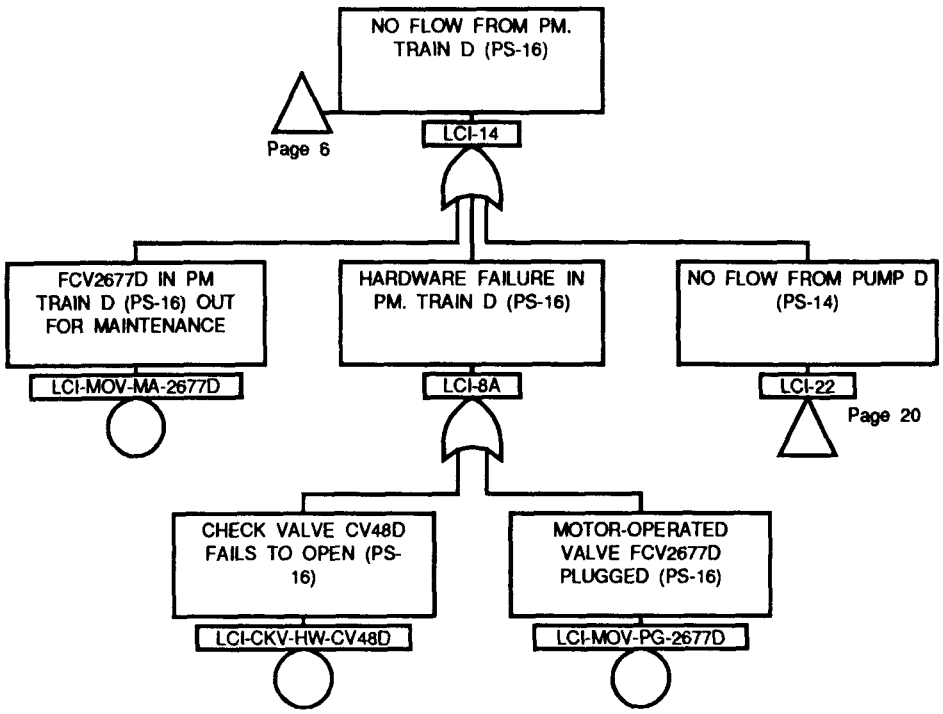

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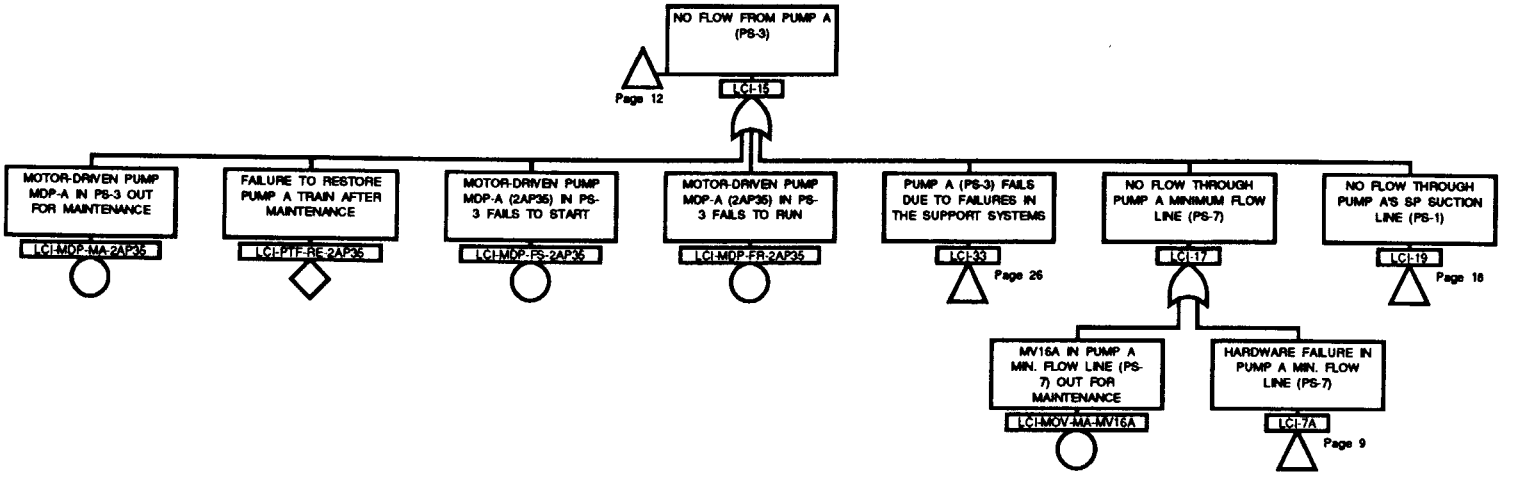

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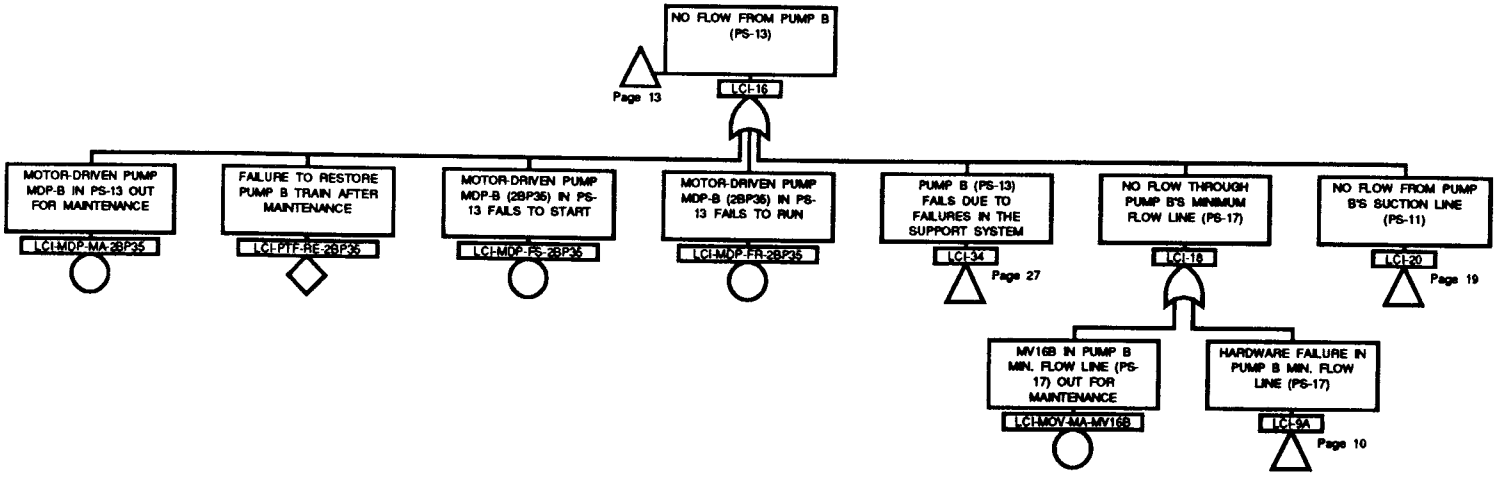

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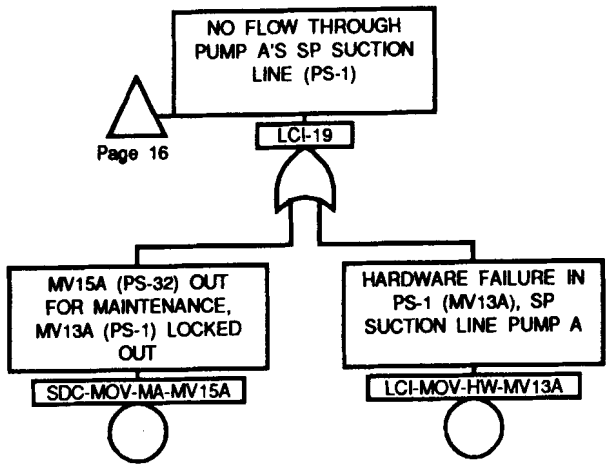

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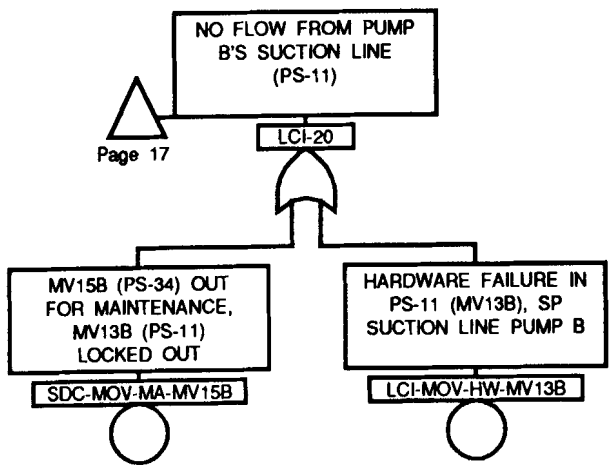

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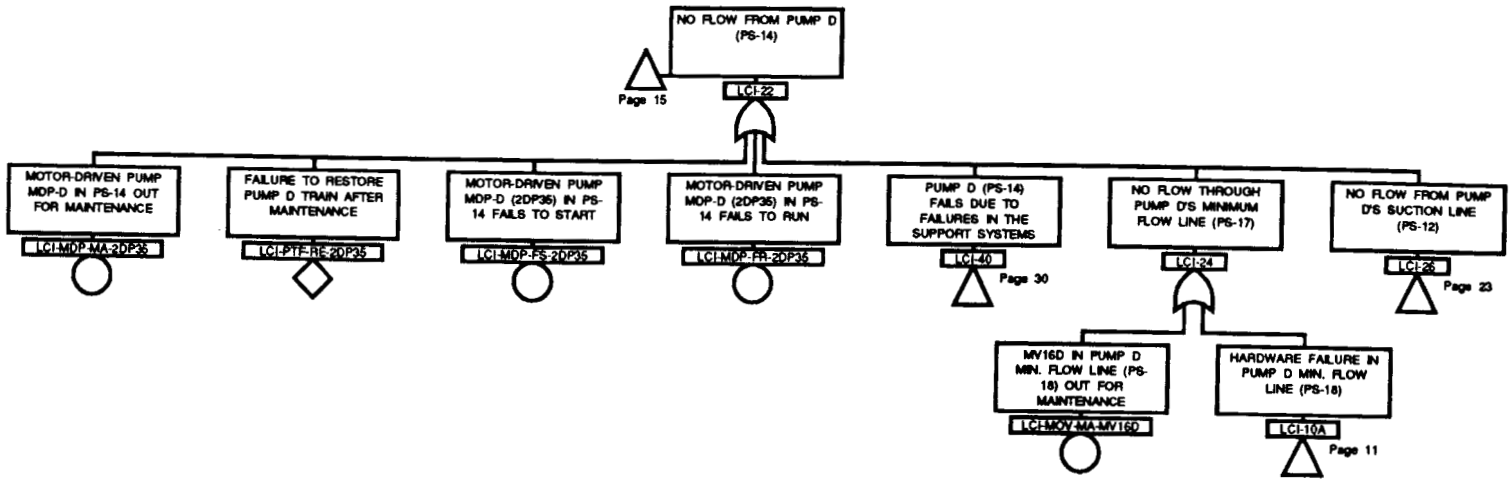

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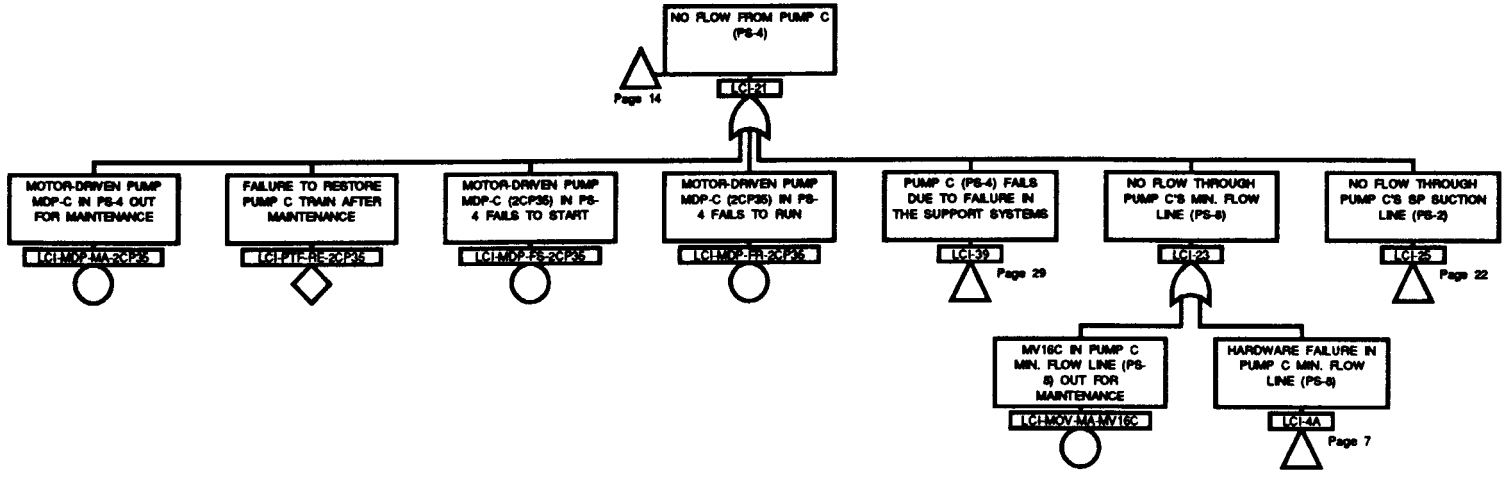

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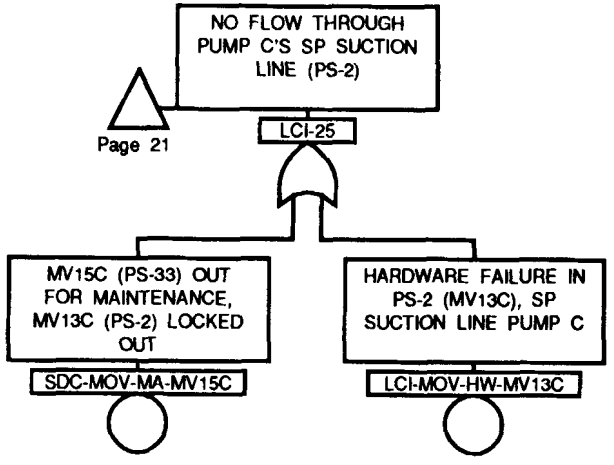

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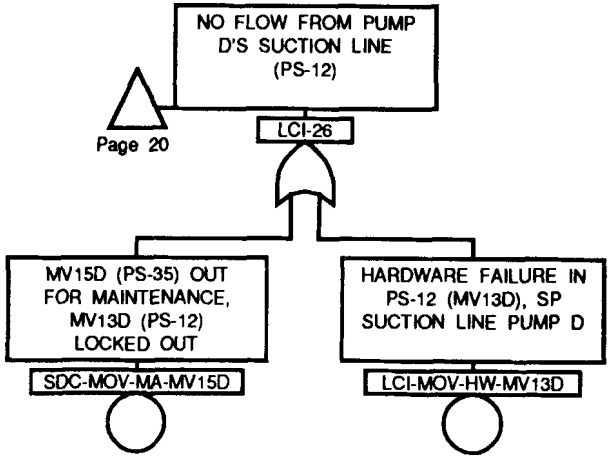

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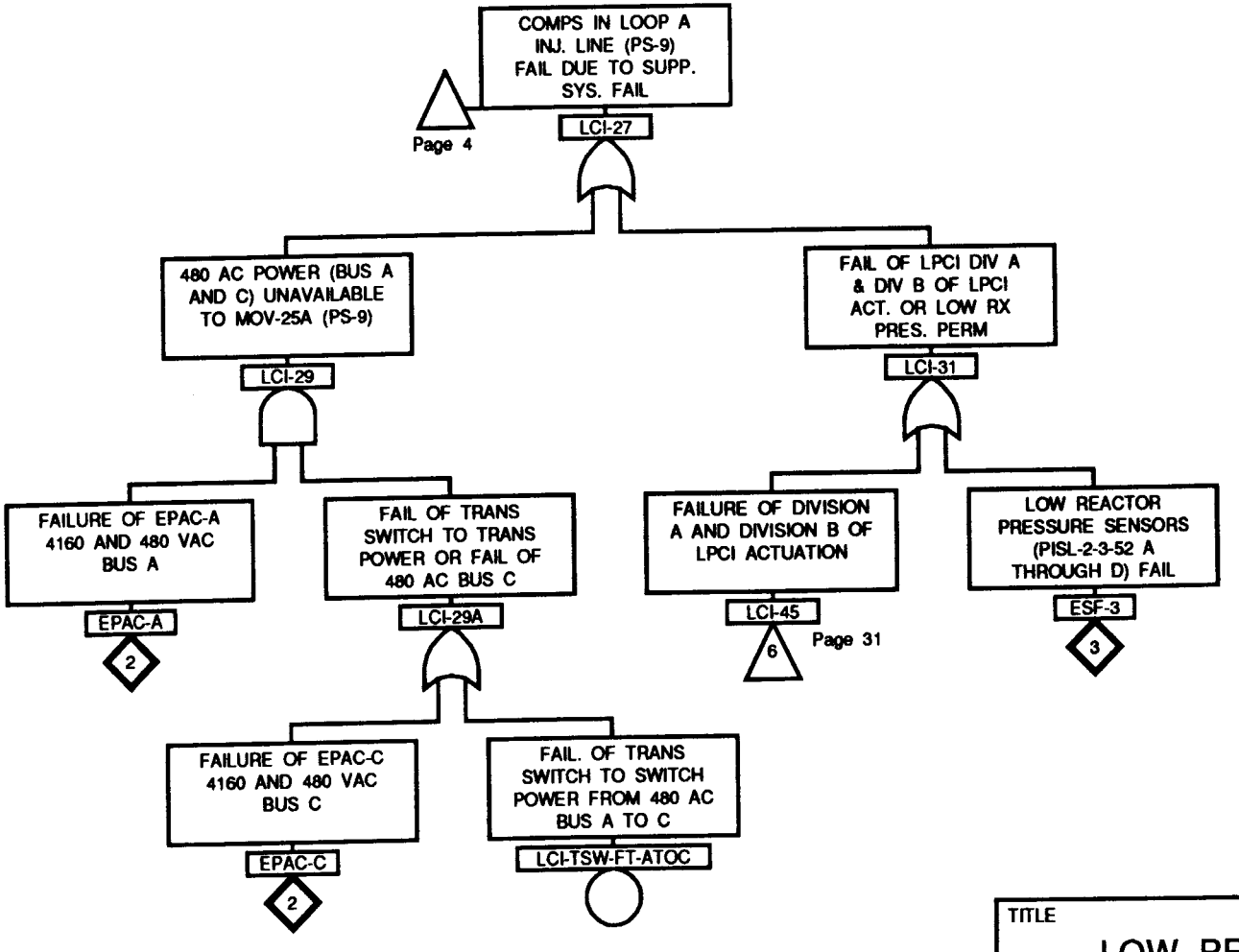

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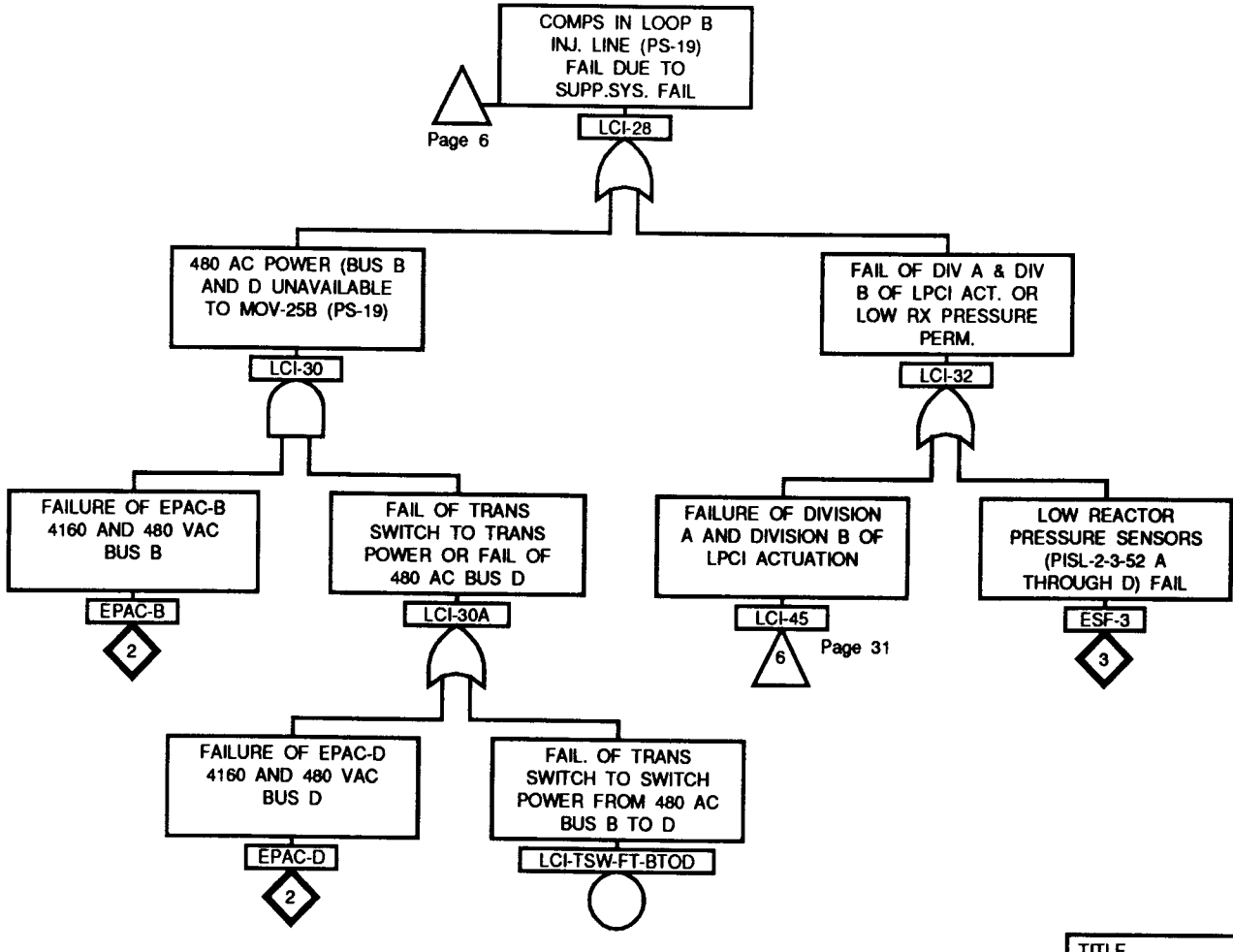

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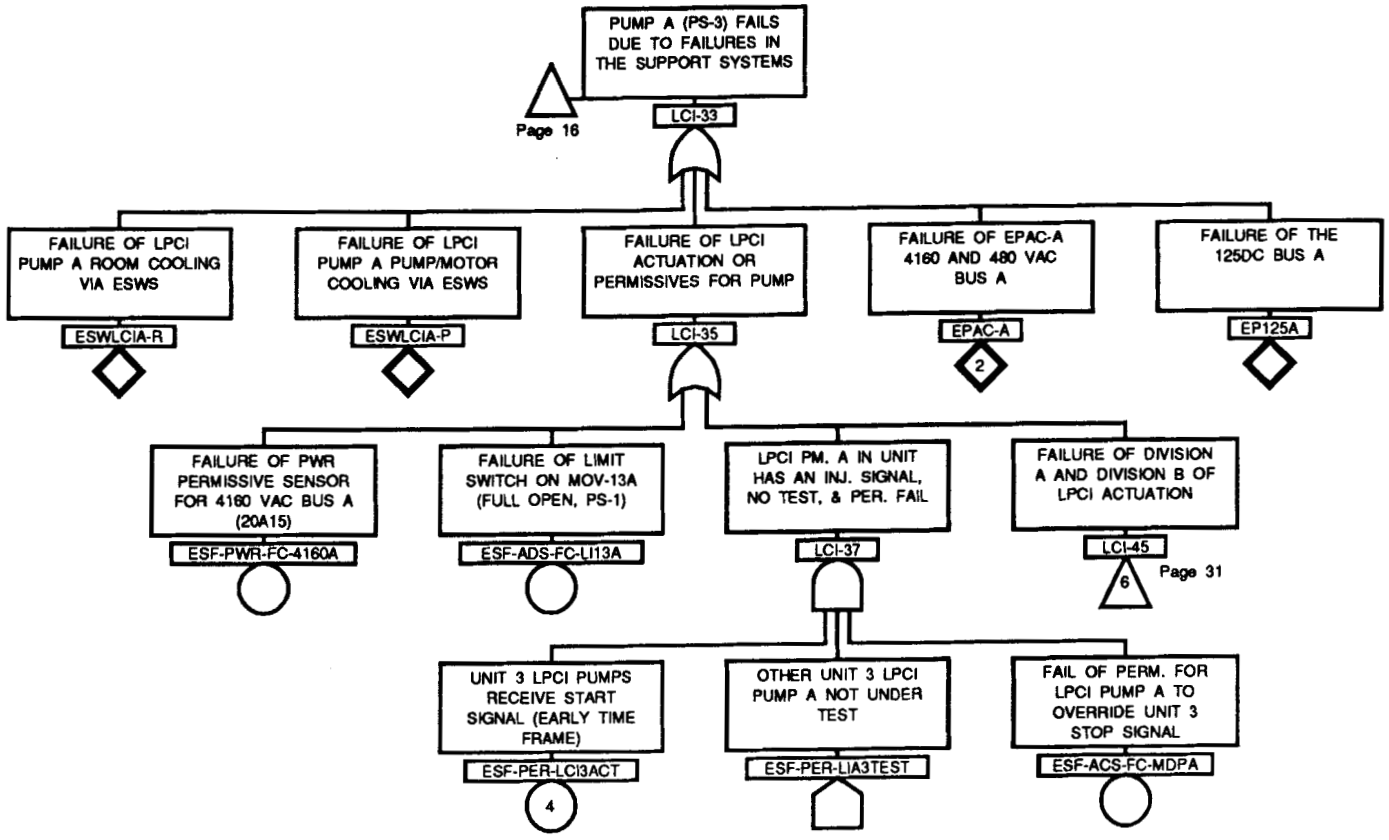

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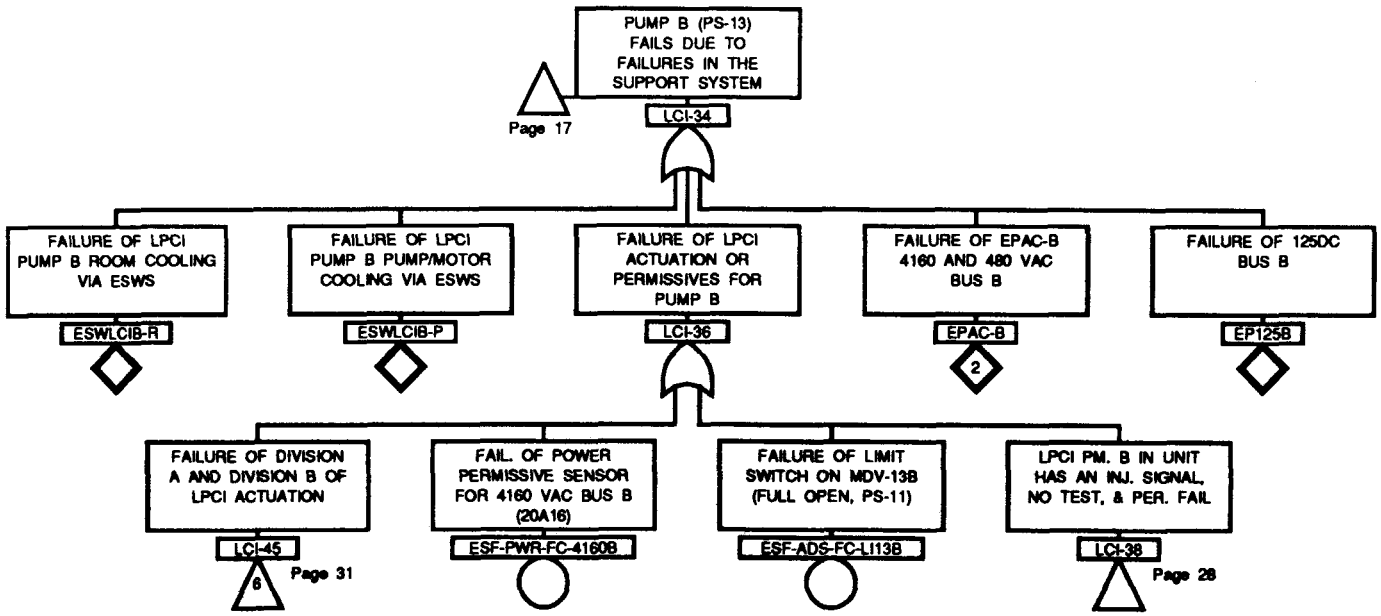

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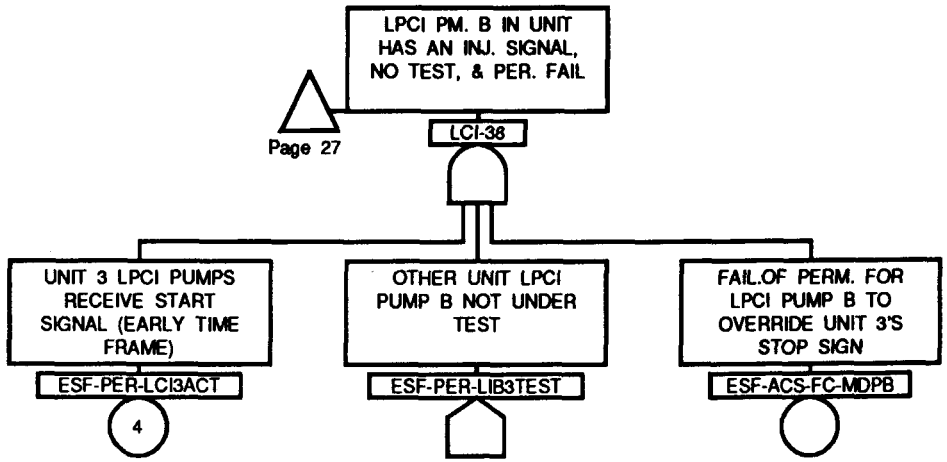

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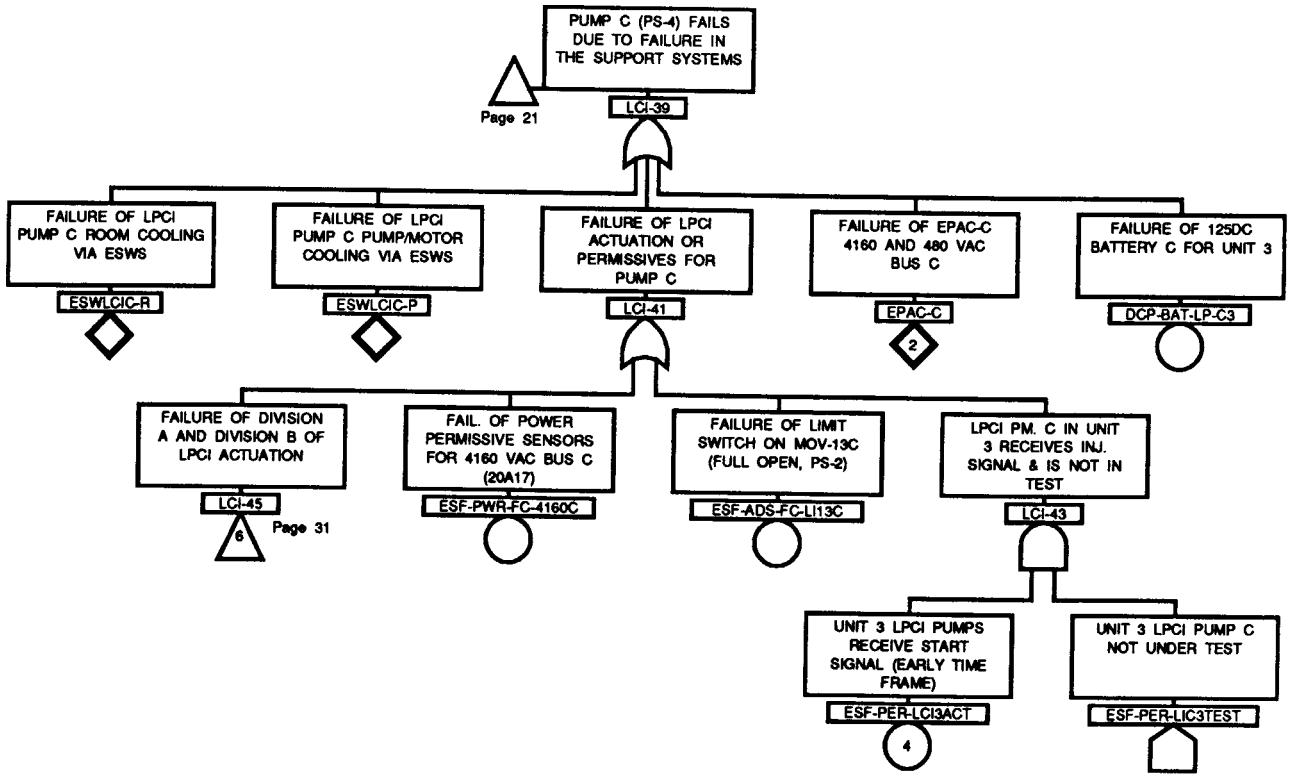

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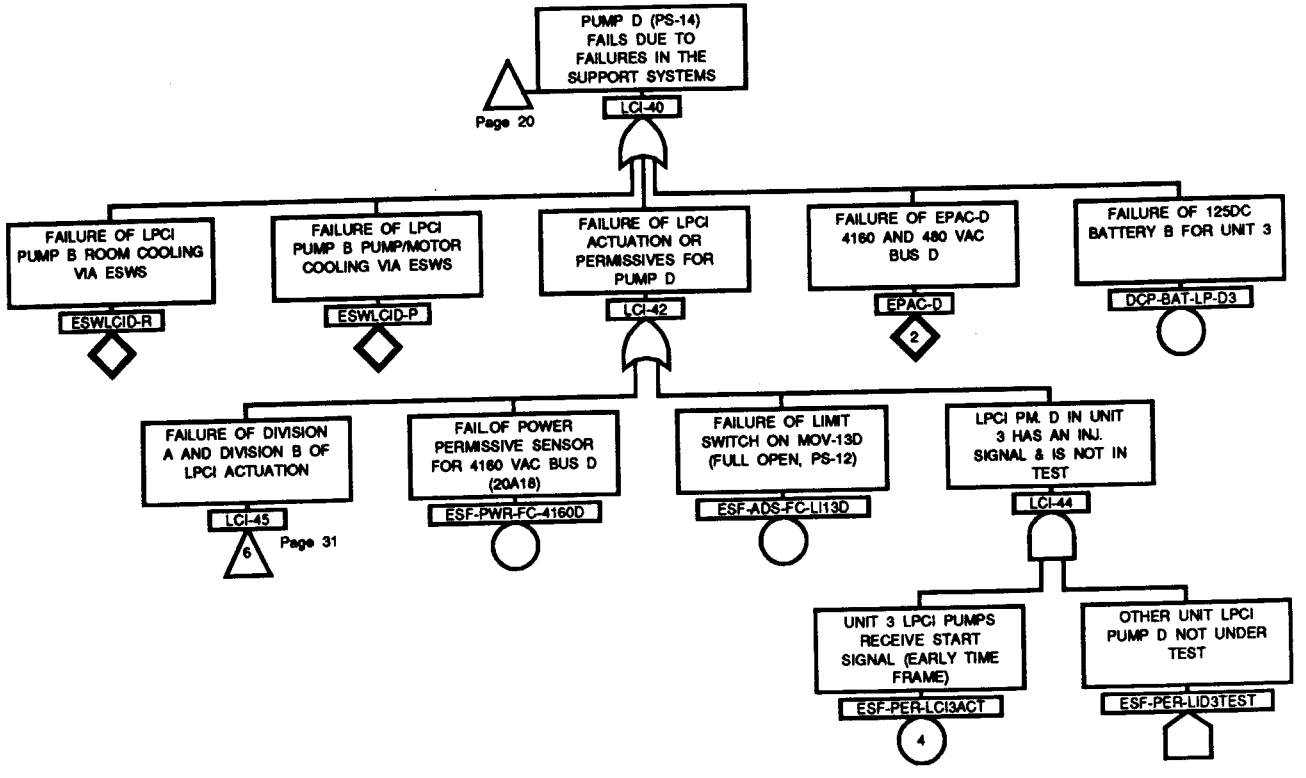

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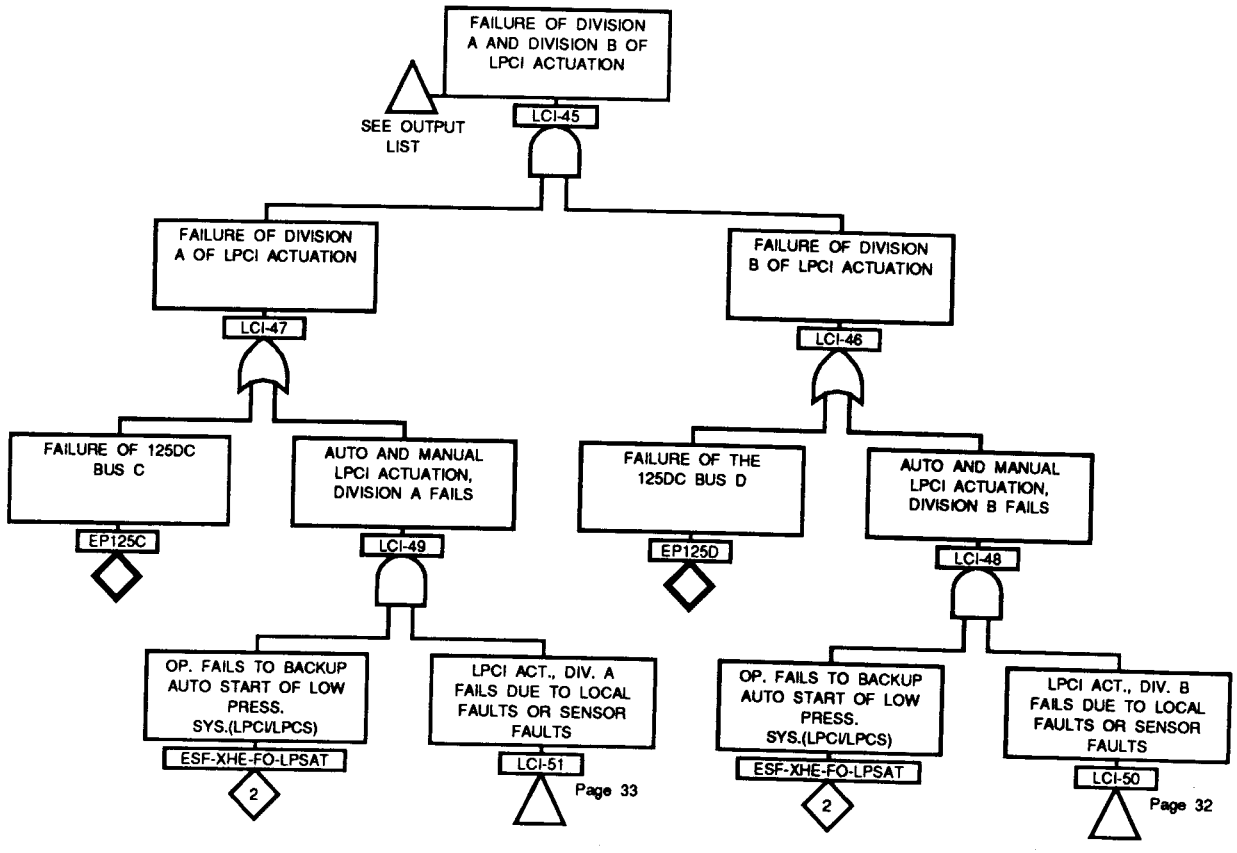

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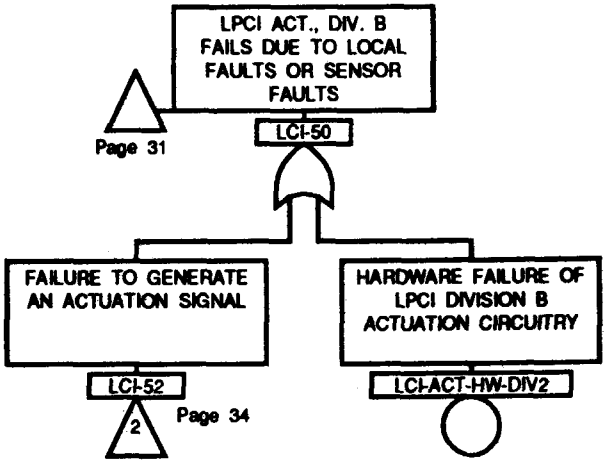

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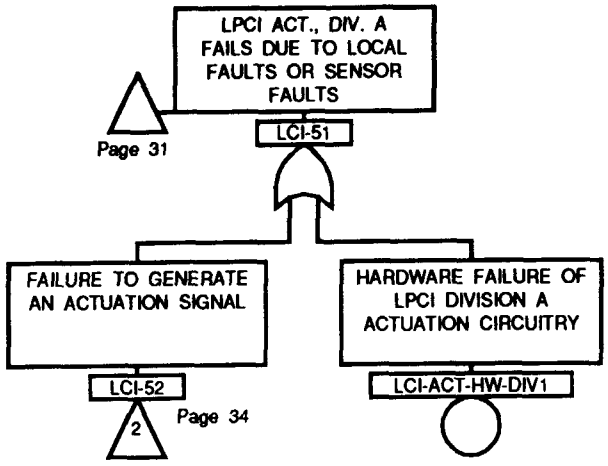

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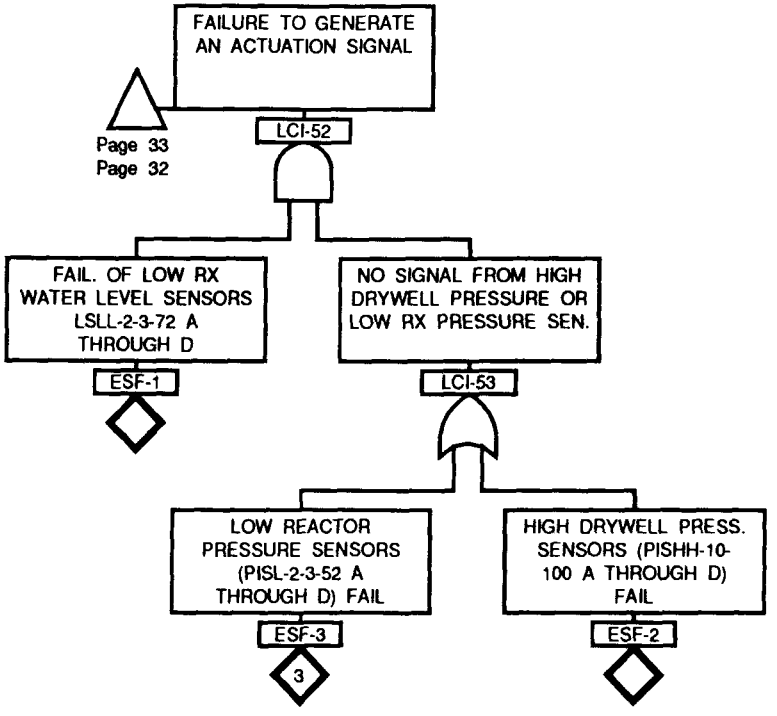

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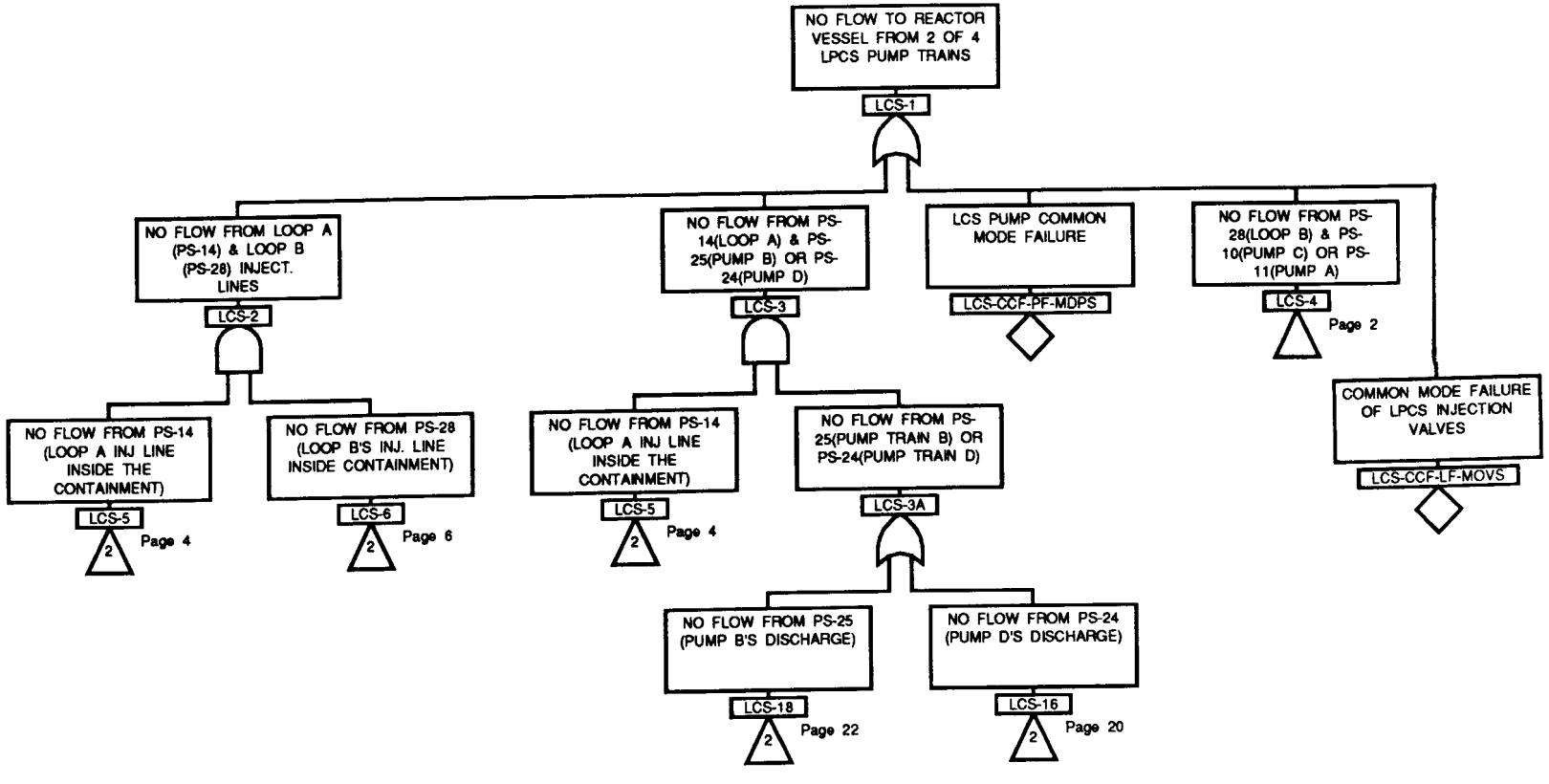

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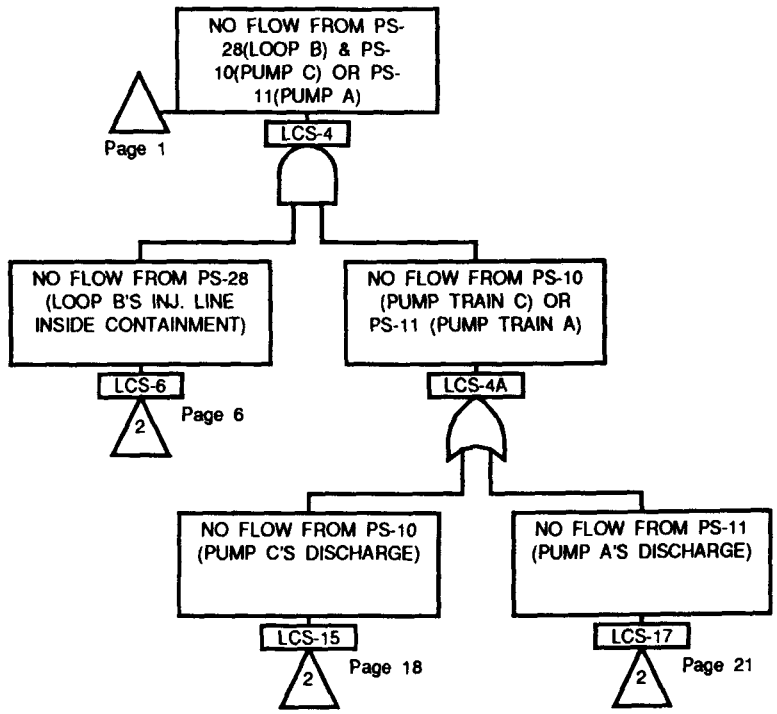

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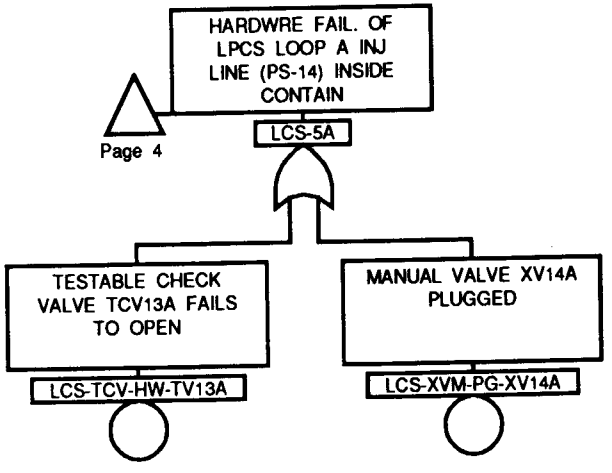

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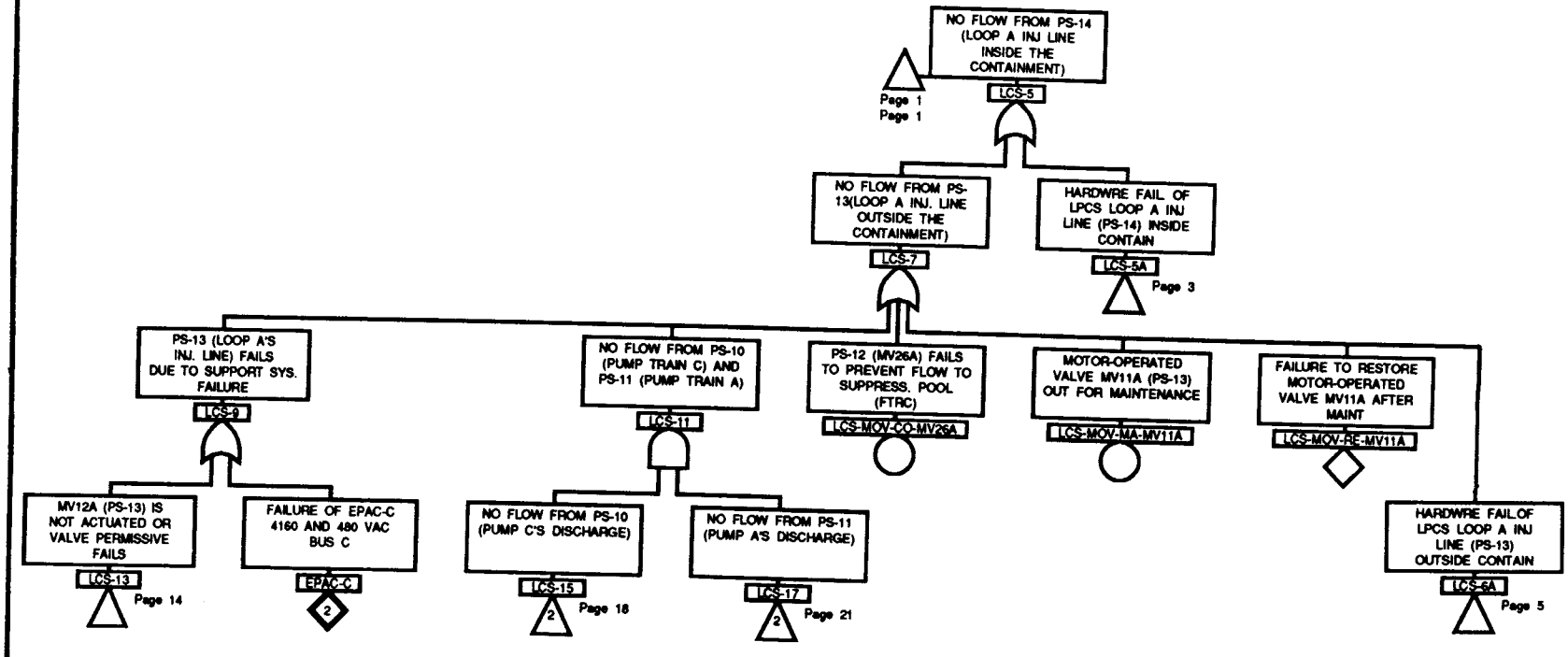

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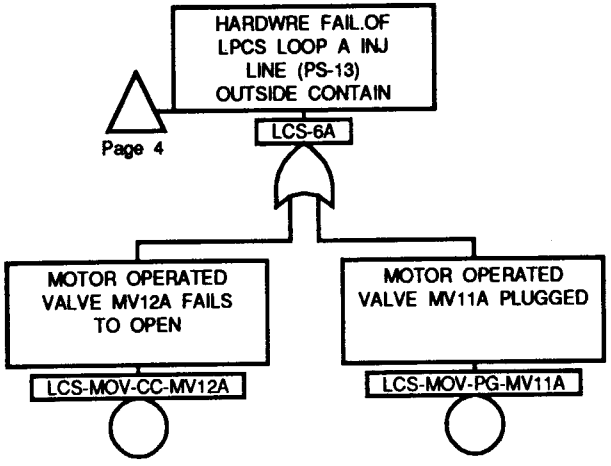

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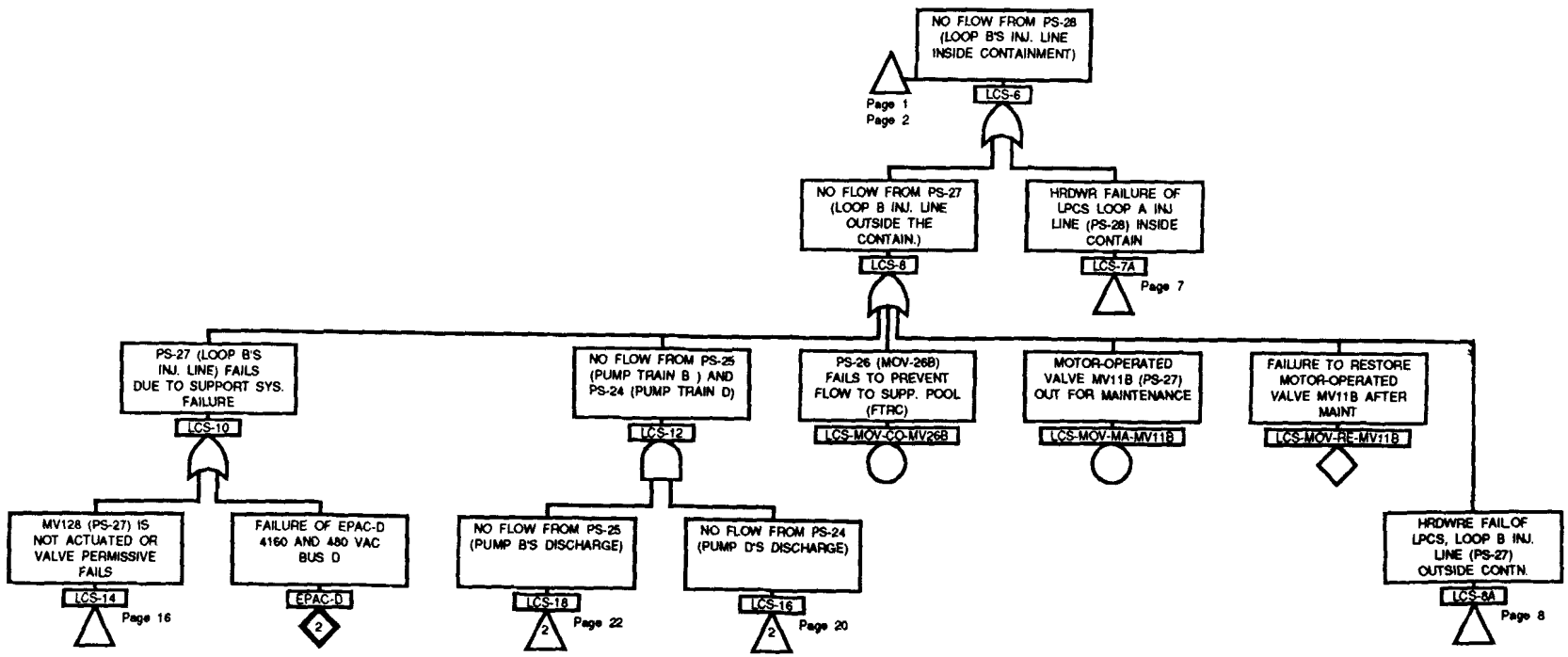

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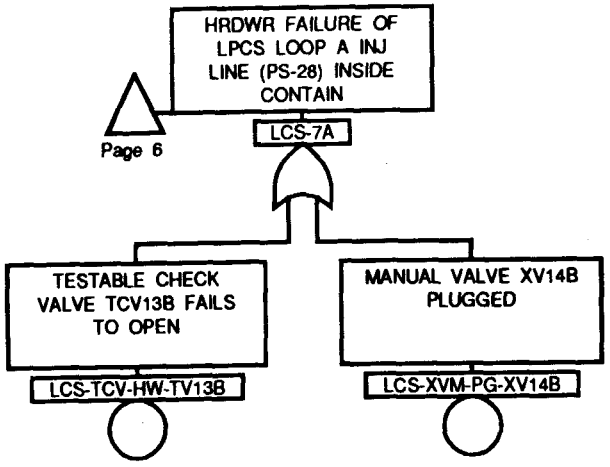

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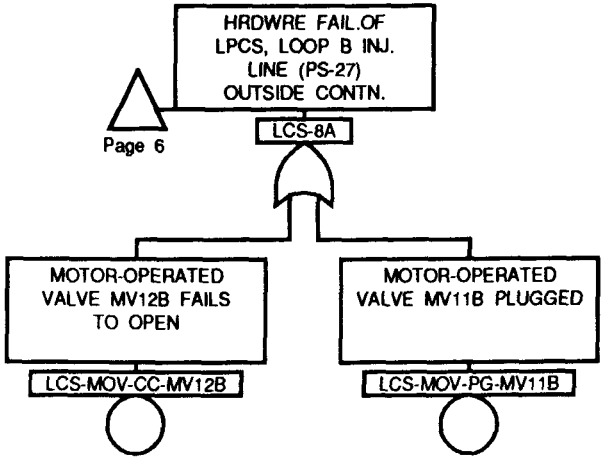

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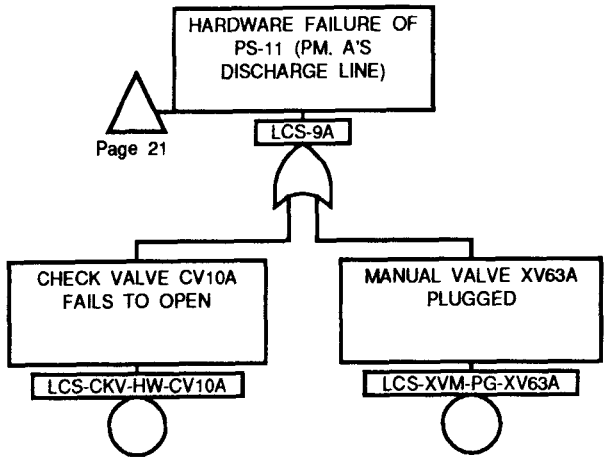

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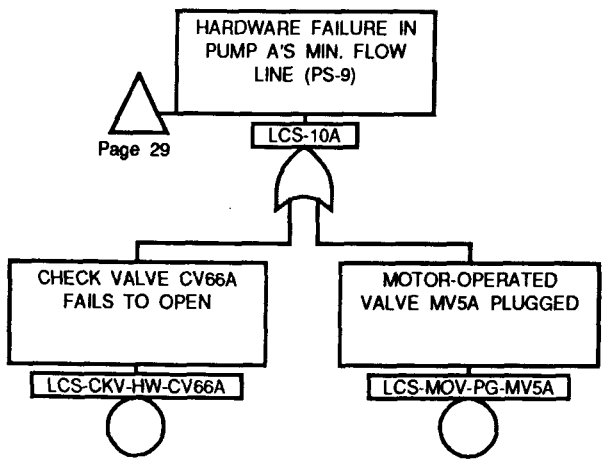

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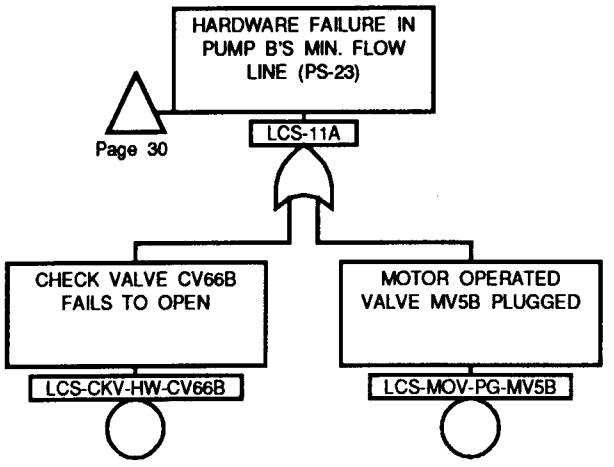

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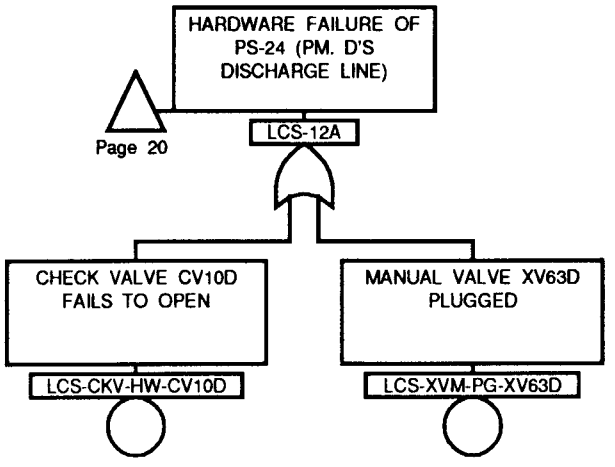

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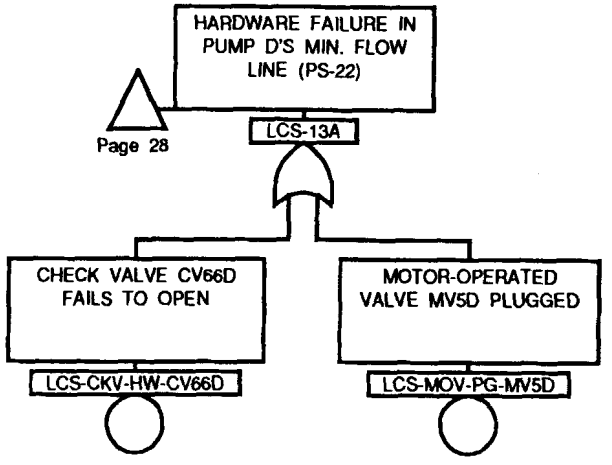

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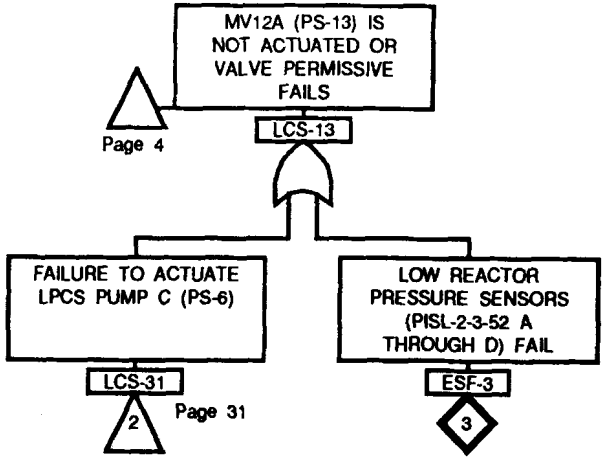

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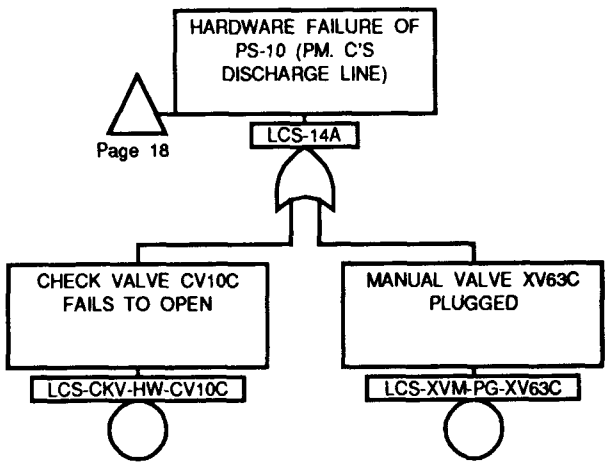

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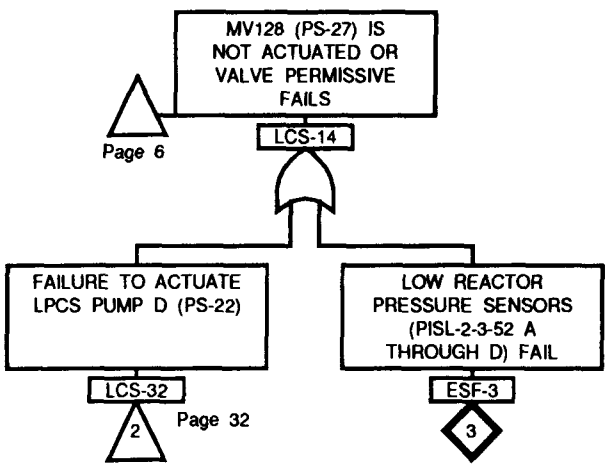

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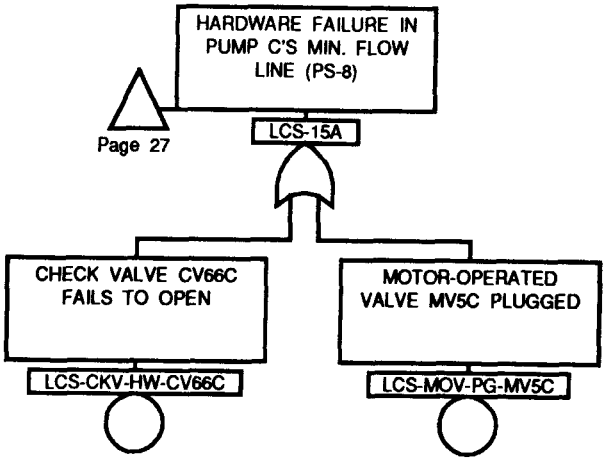

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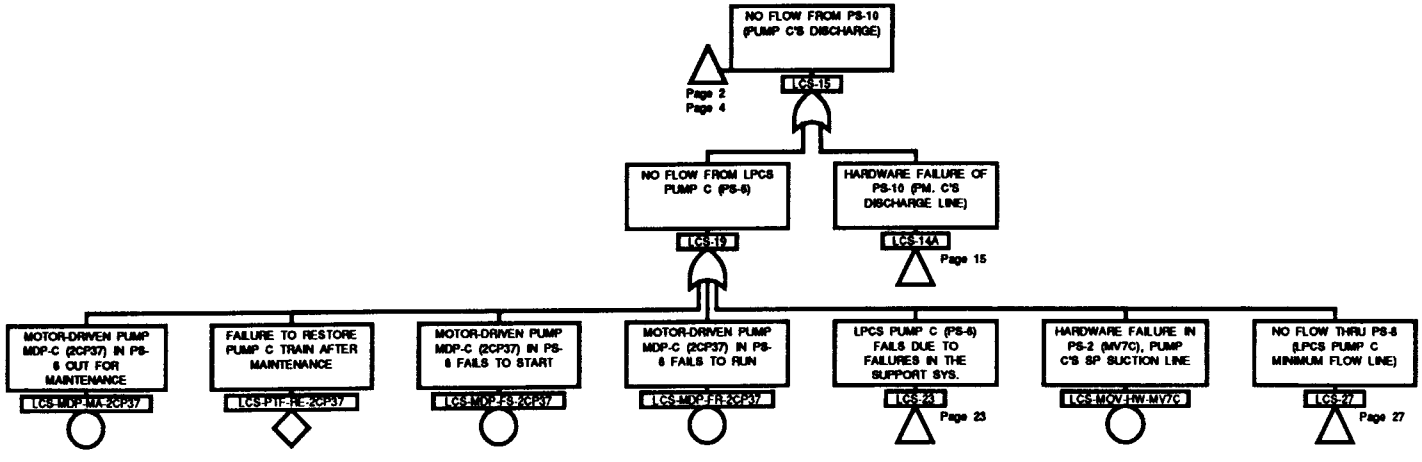

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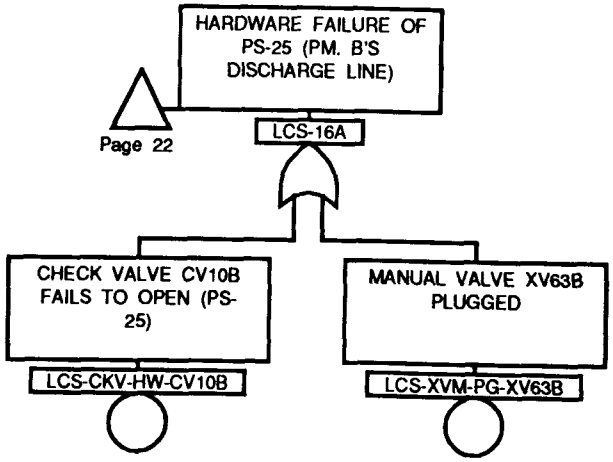

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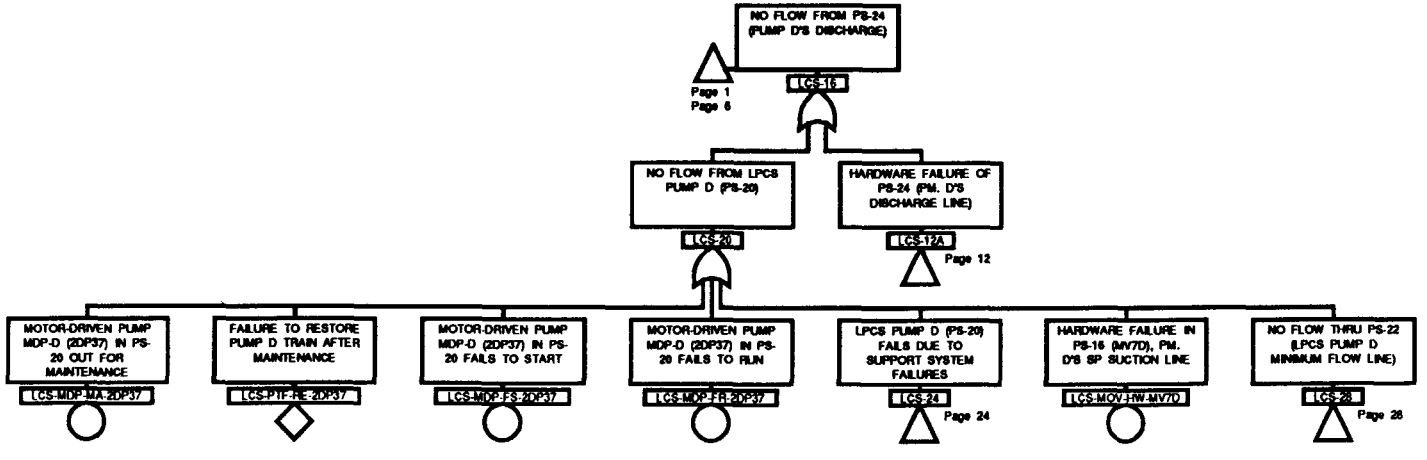

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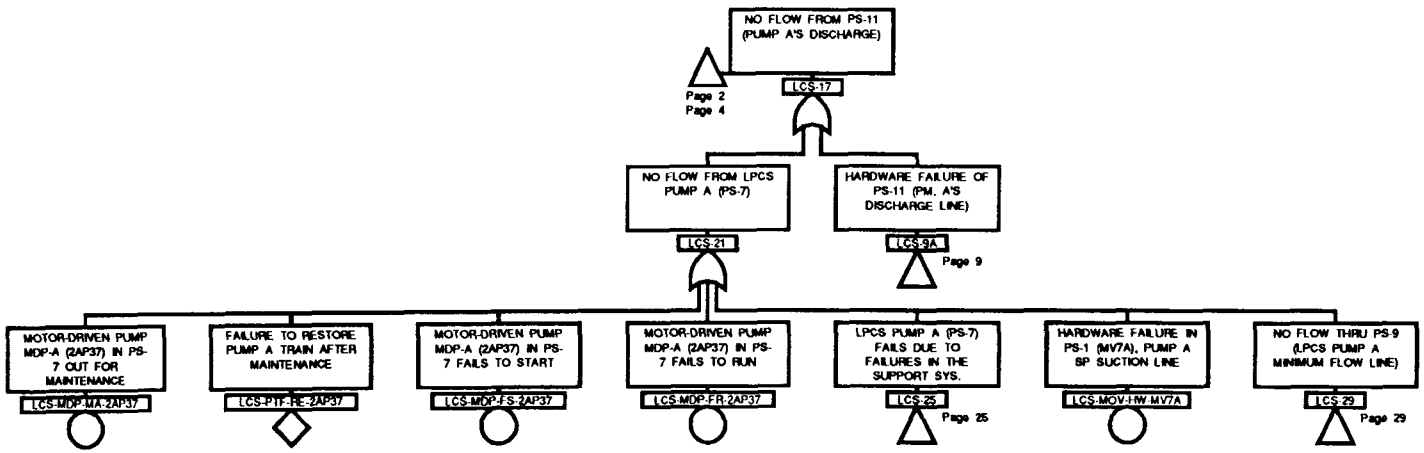

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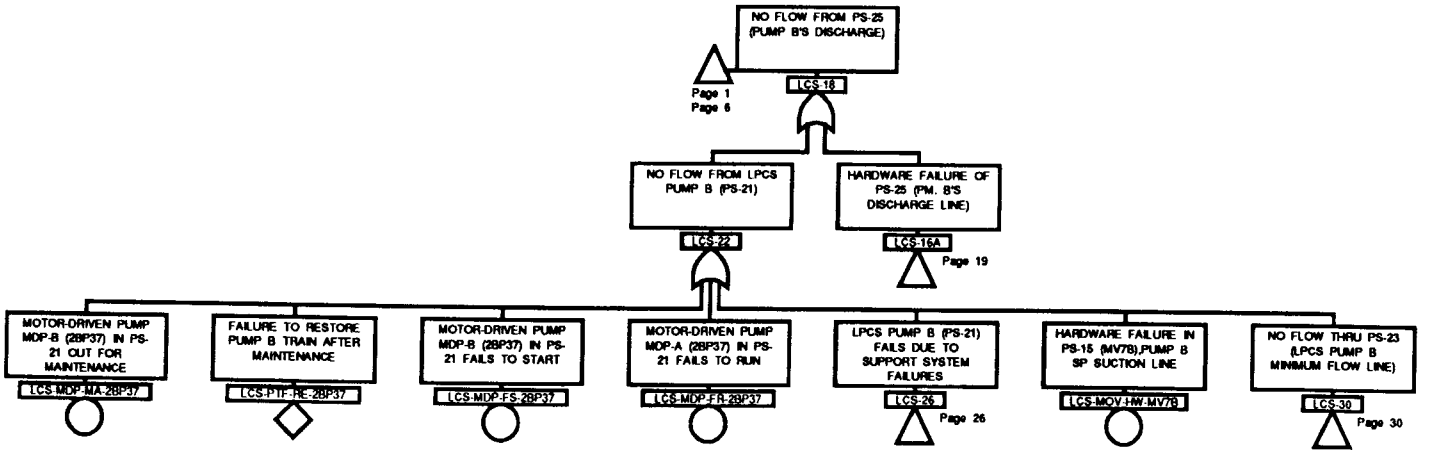

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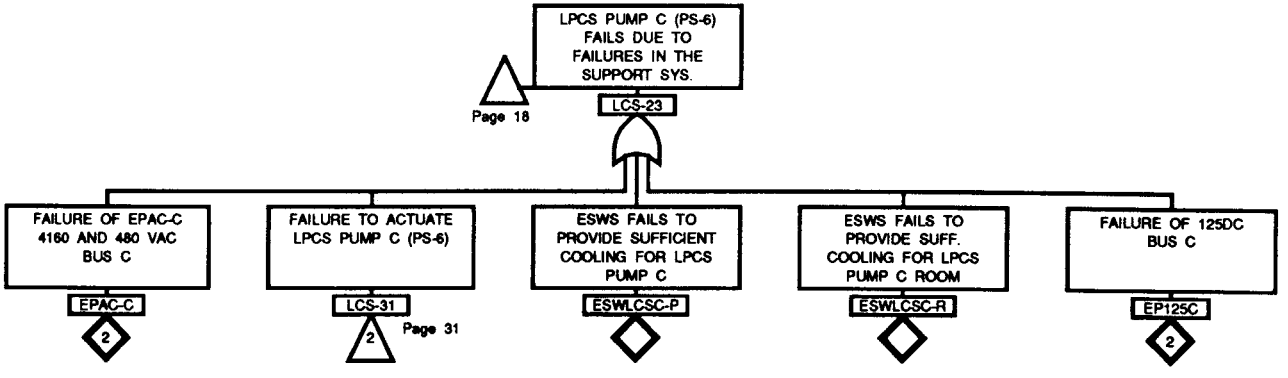
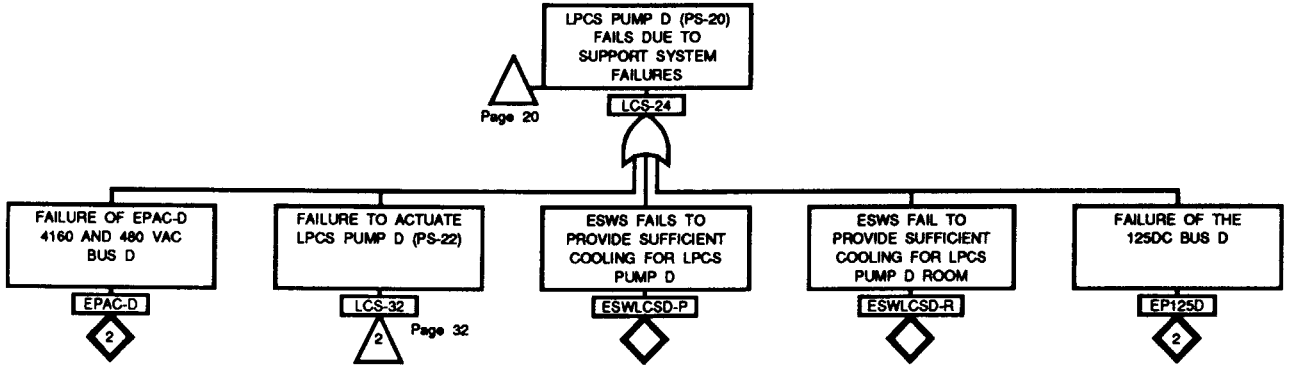
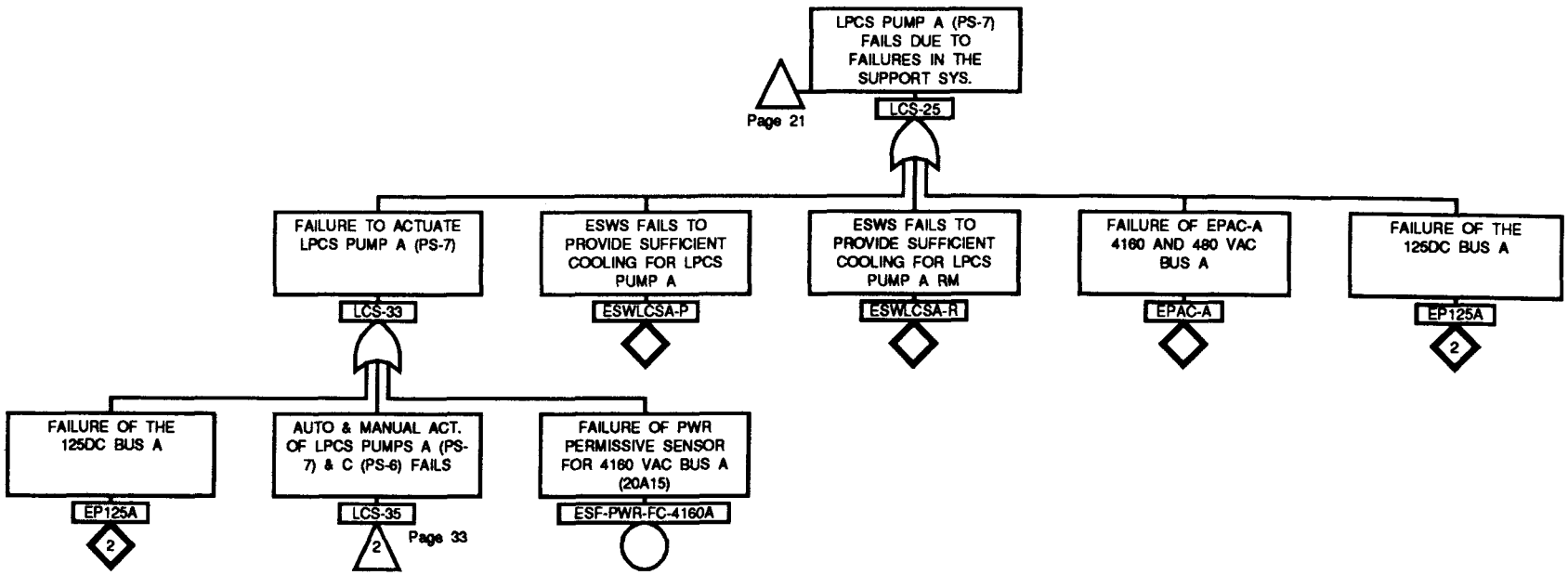
DRAWING NUMBER Page 22	DATE 4/29/88



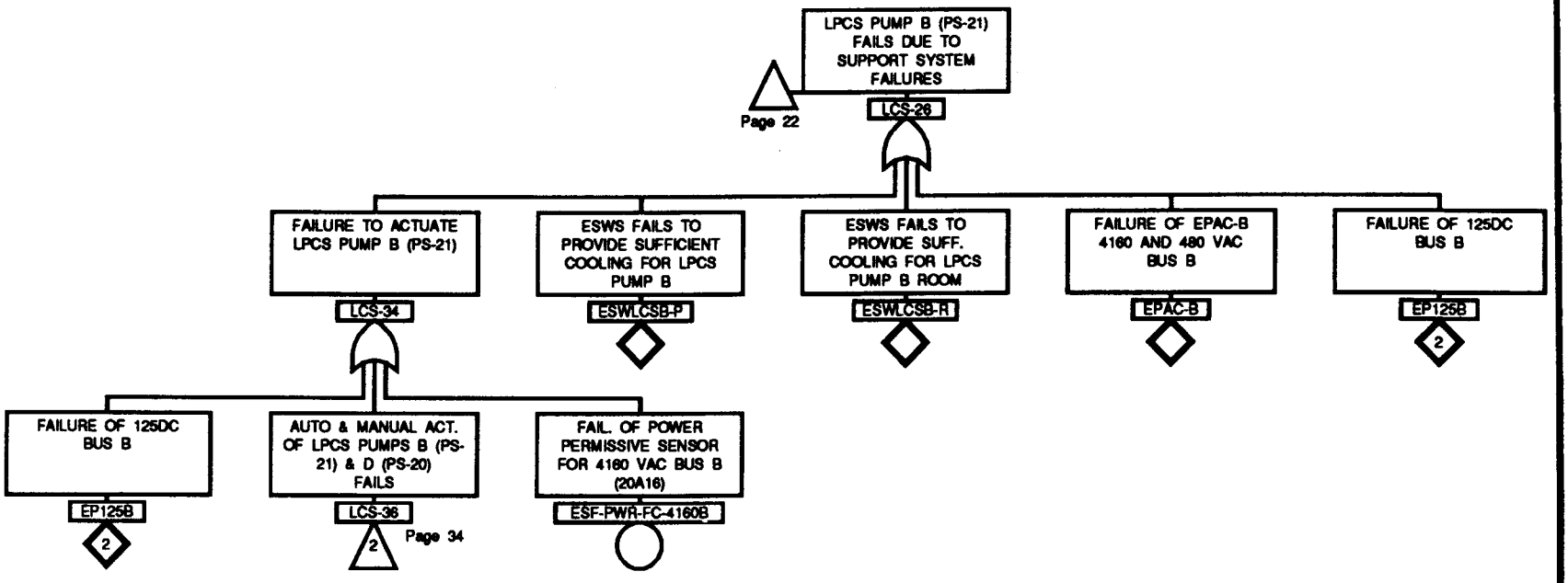
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 23	4/28/88



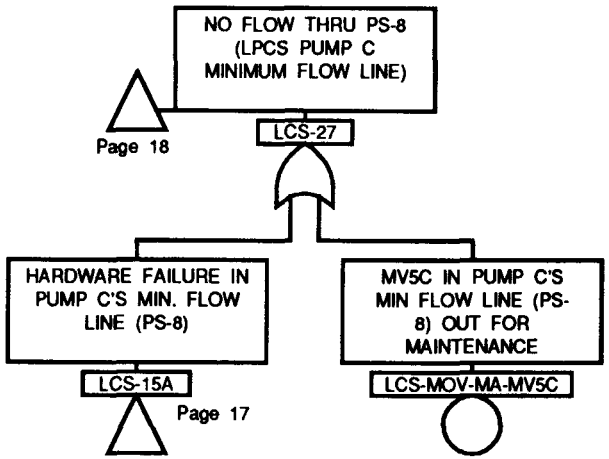
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 24	4/28/88



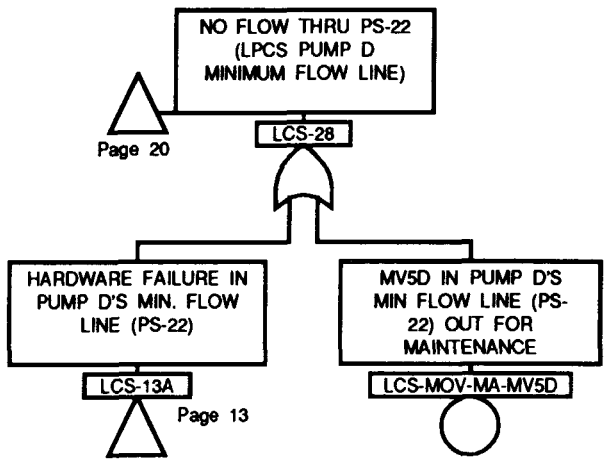
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 25	4/29/88



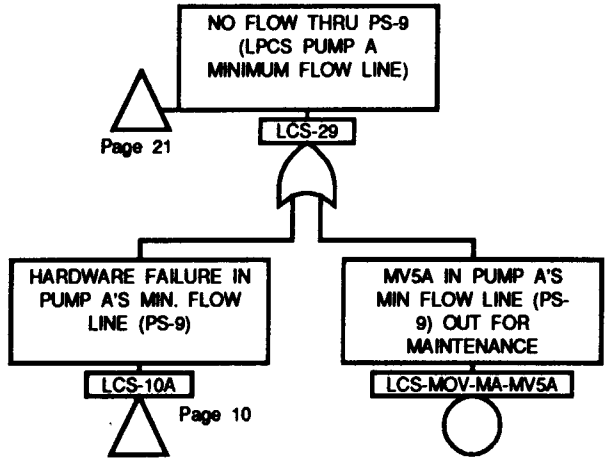
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 26	4/29/88



TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 27	4/28/88



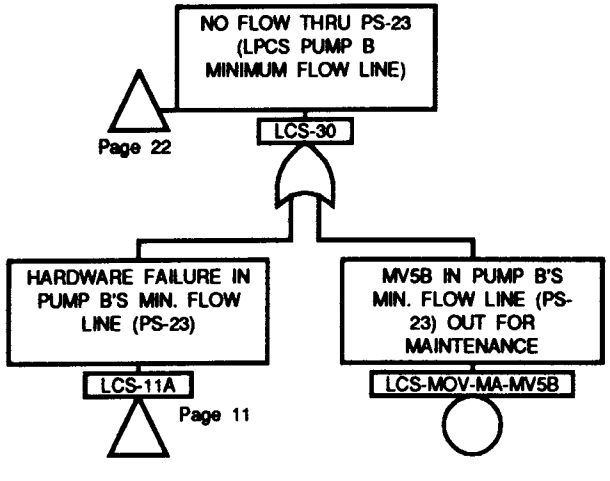
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 28	4/28/88



TITLE
LOW PRESSURE CORE SPRAY

DRAWING NUMBER
Page 29

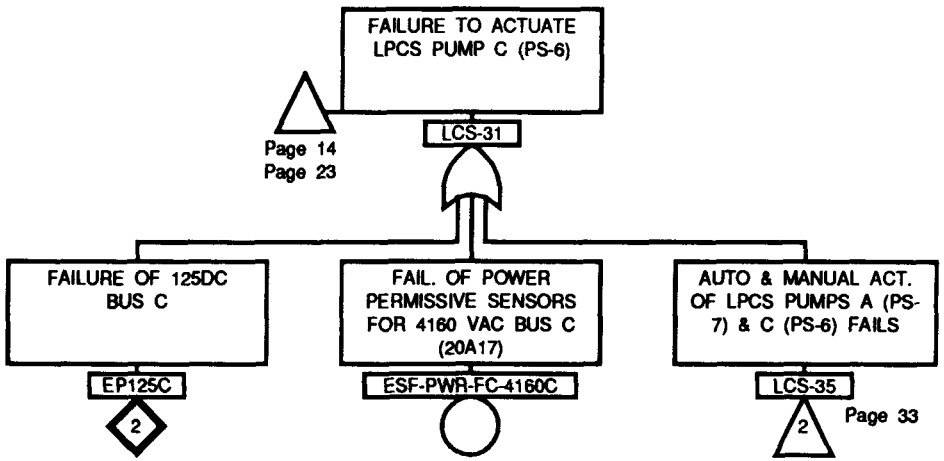
DATE
4/29/88



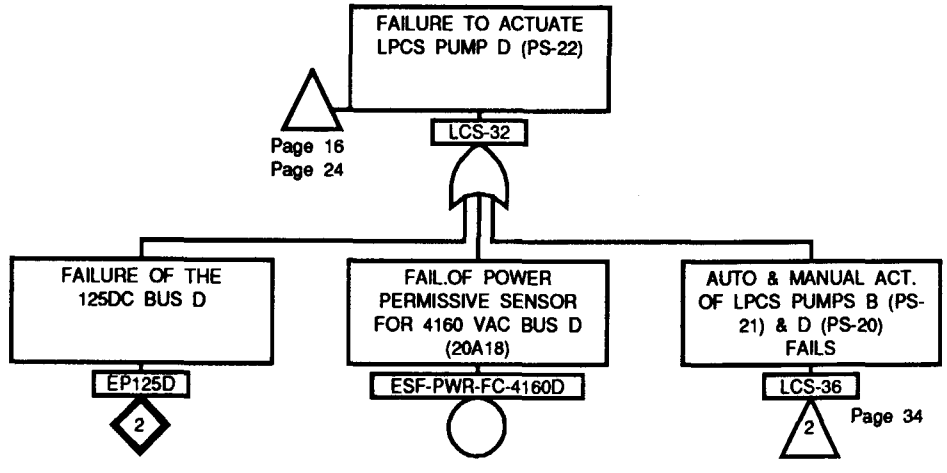
TITLE
LOW PRESSURE CORE SPRAY

DRAWING NUMBER
Page 30

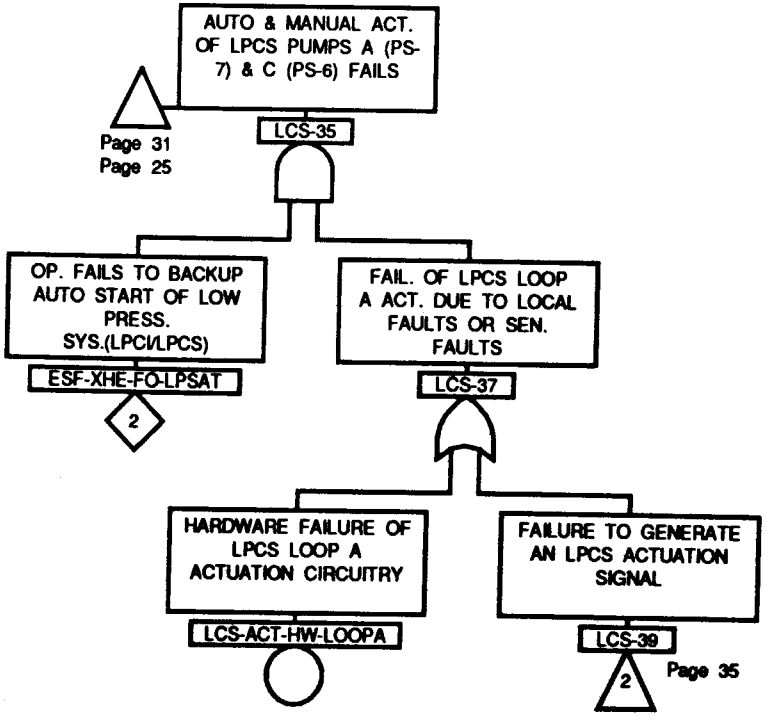
DATE
4/29/88



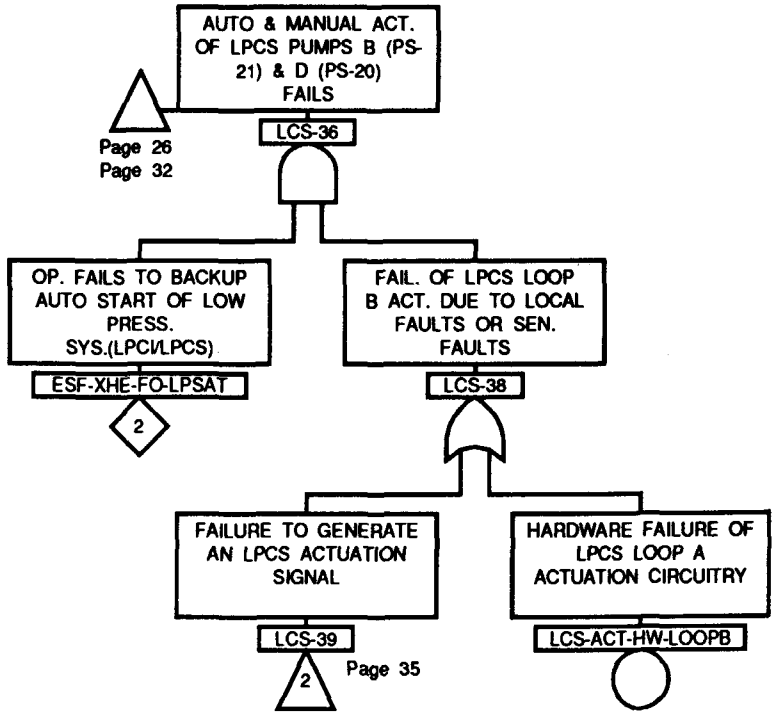
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 31	5/02/88



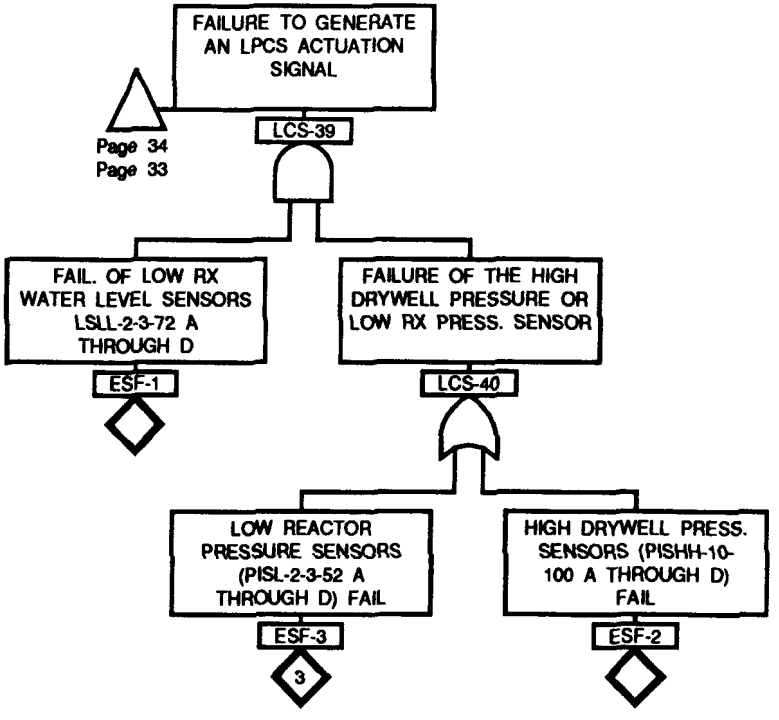
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 32	5/02/88



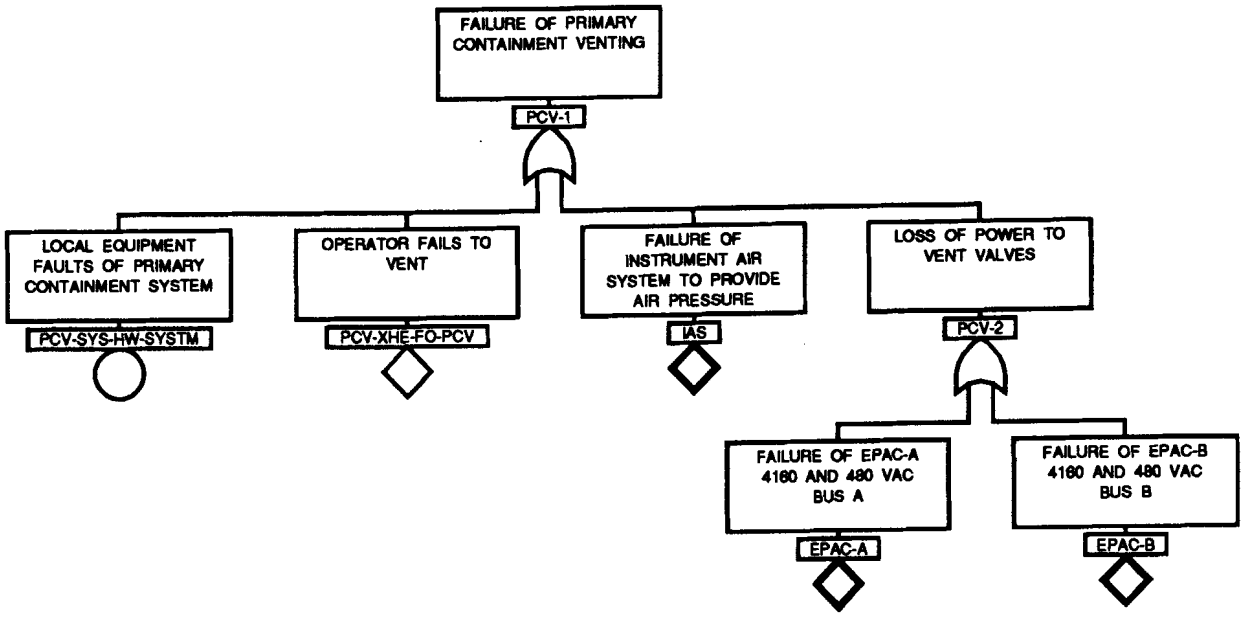
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 33	4/28/88



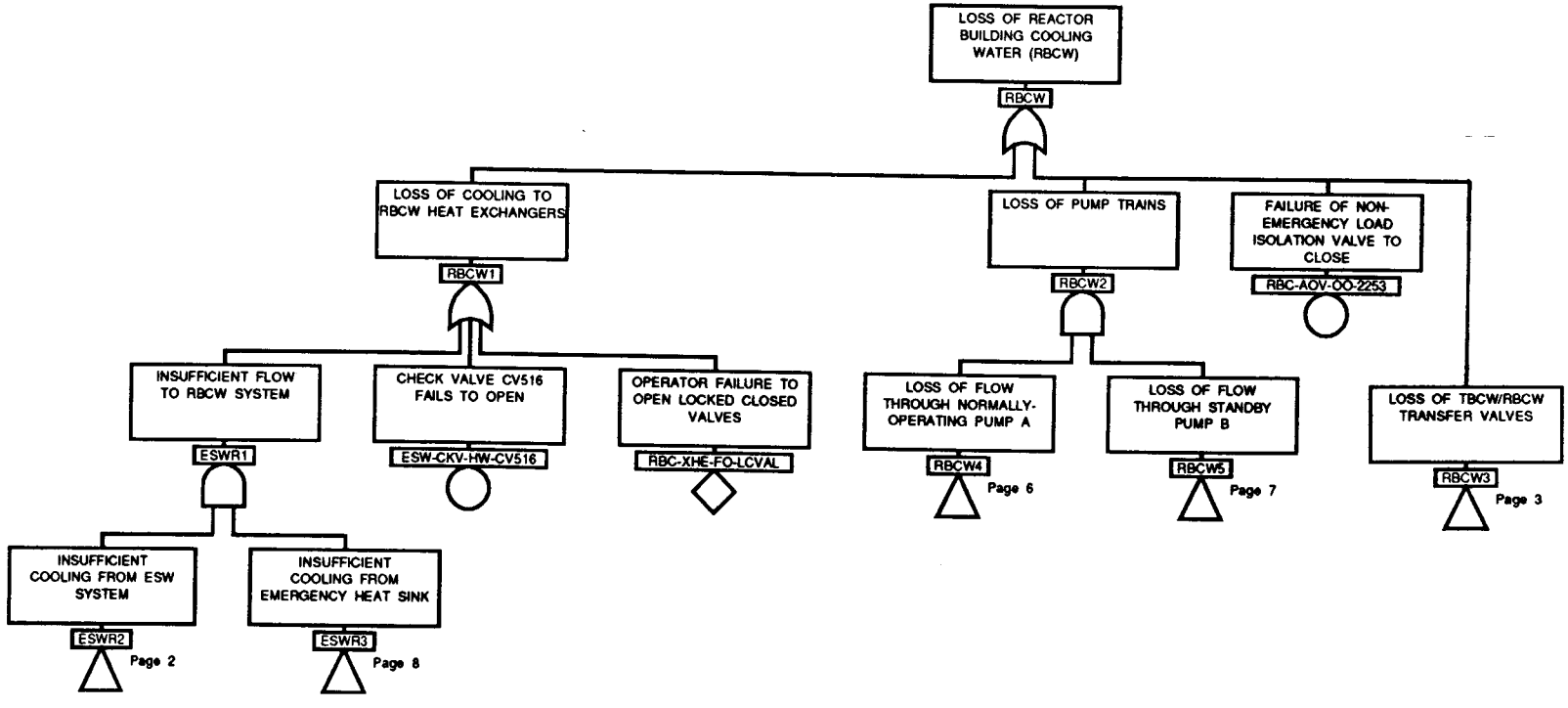
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER Page 34	DATE 4/28/88



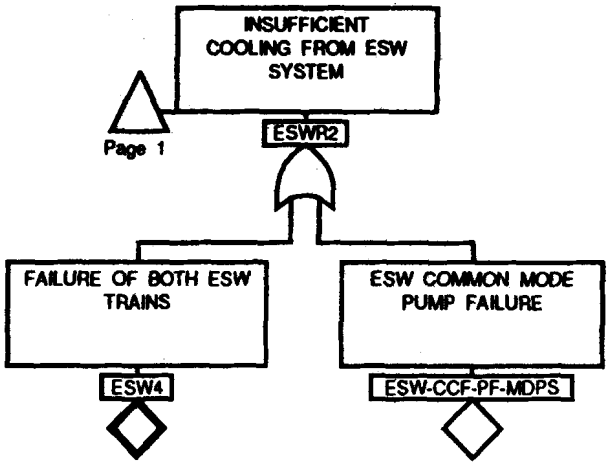
TITLE	
LOW PRESSURE CORE SPRAY	
DRAWING NUMBER	DATE
Page 35	4/29/88



TITLE	
PRIMARY CONTAINMENT VENTING	
DRAWING NUMBER Page 1	DATE 5/06/88



TITLE	
REACTOR BUILDING COOLING WATER	
DRAWING NUMBER Page 1	DATE 4/20/88



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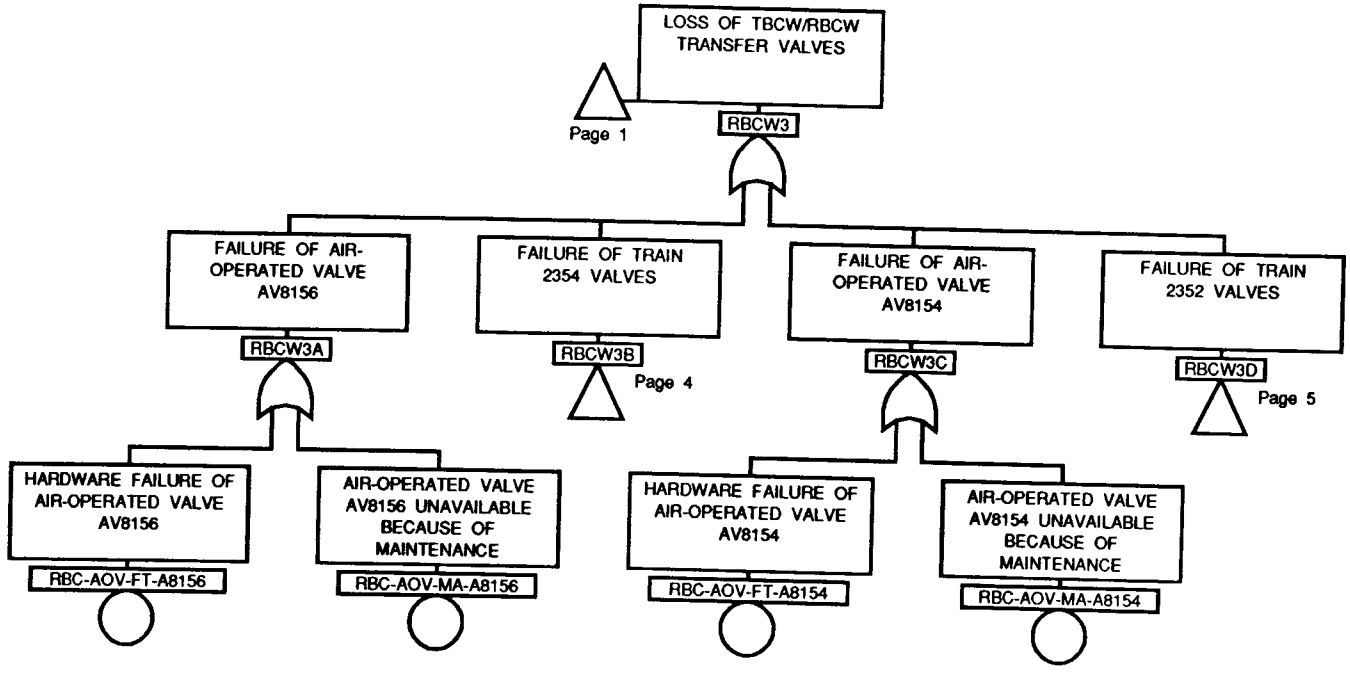
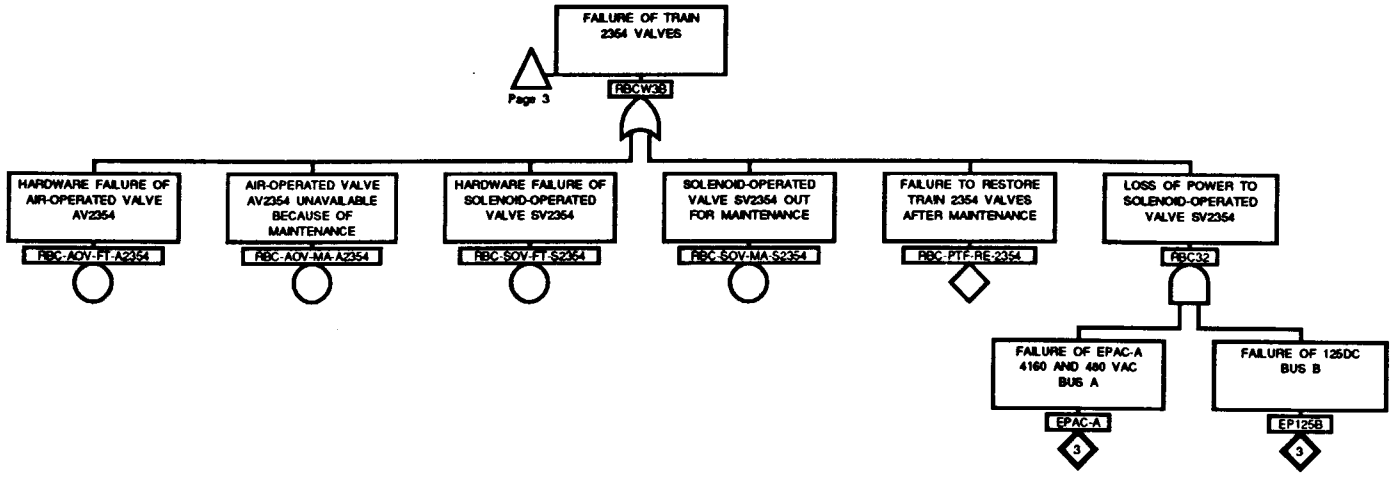
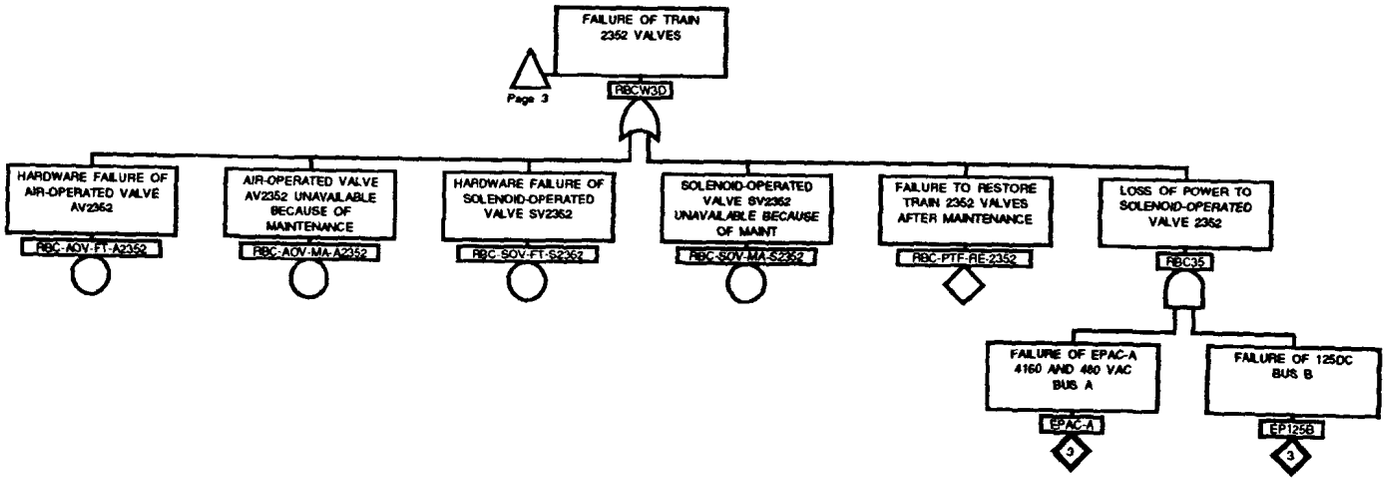
REACTOR BUILDING COOLING WATER	
DRAWING NUMBER	DATE
Page 2	4/20/88



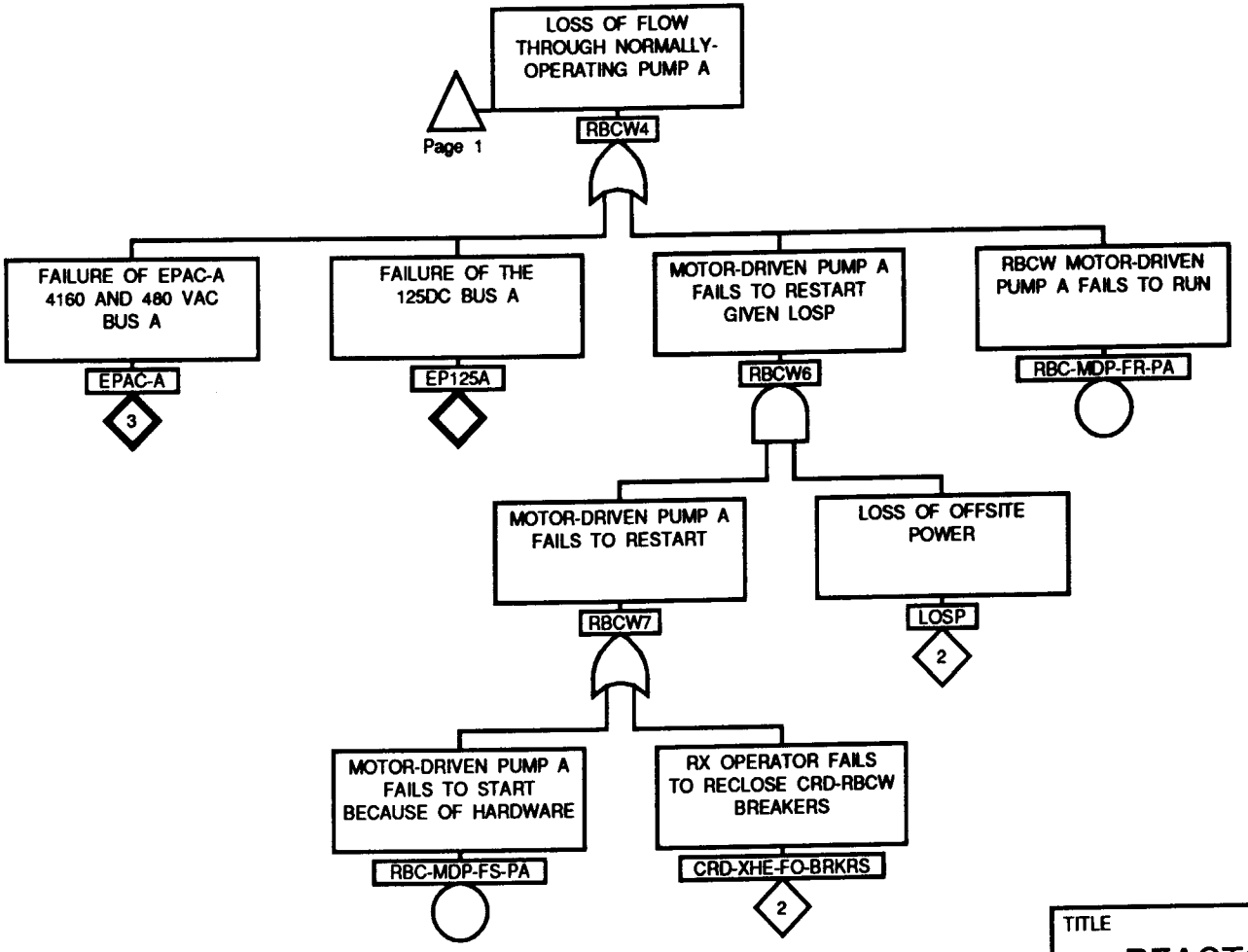
TITLE	
REACTOR BUILDING COOLING WATER	
DRAWING NUMBER Page 3	DATE 4/20/88



TITLE	
REACTOR BUILDING COOLING WATER	
DRAWING NUMBER Page 4	DATE 4/20/88



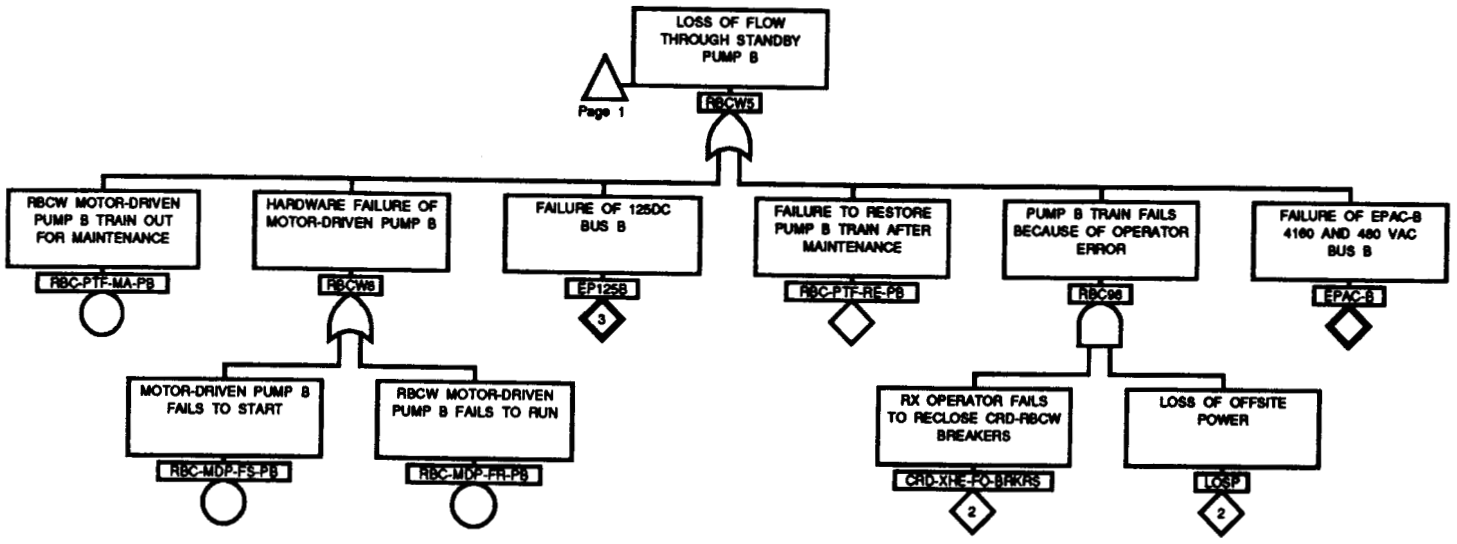
TITLE	
REACTOR BUILDING COOLING WATER	
DRAWING NUMBER Page 5	DATE 4/20/88



TITLE

REACTOR BUILDING COOLING WATER

DRAWING NUMBER	DATE
Page 6	5/06/88



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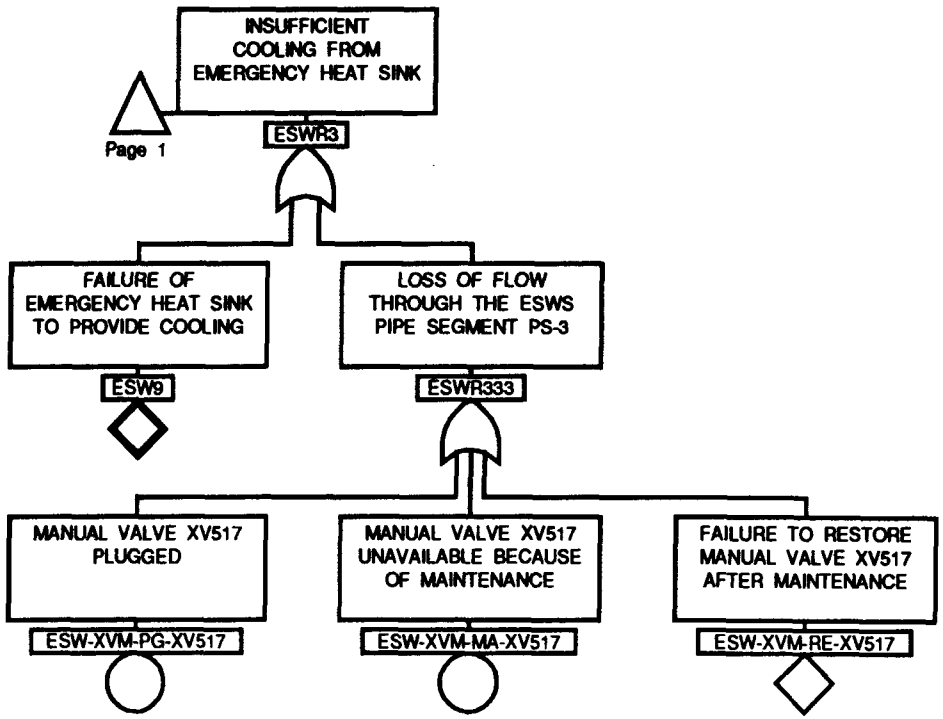
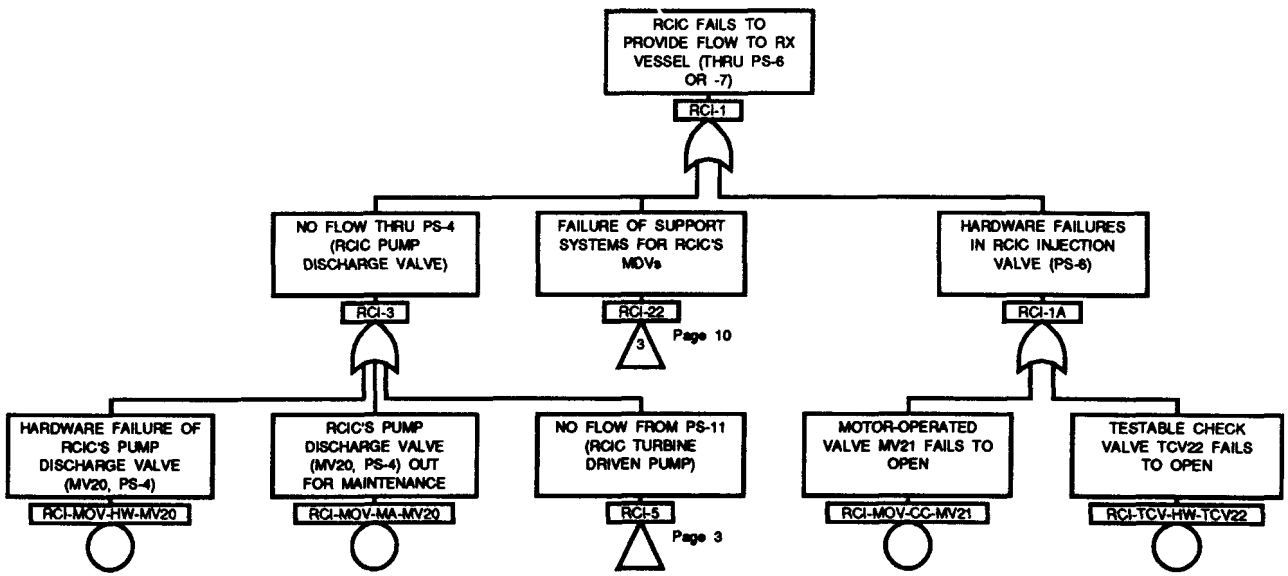
REACTOR BUILDING COOLING WATER

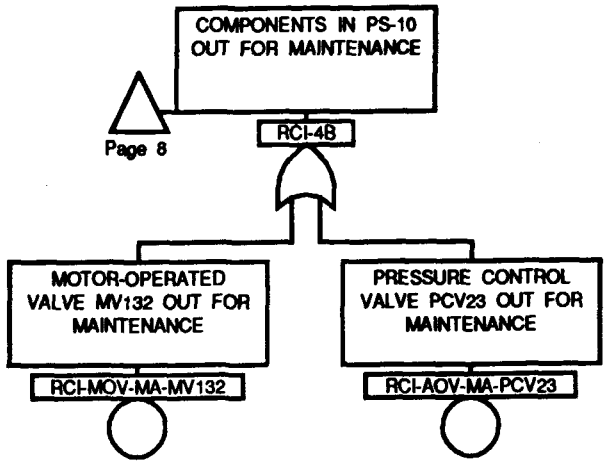
DRAWING NUMBER	DATE
Page 7	5/06/88



TITLE	
REACTOR BUILDING COOLING WATER	
DRAWING NUMBER Page 8	DATE 6/01/88



TITLE	
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER	DATE
Page 1	6/01/88



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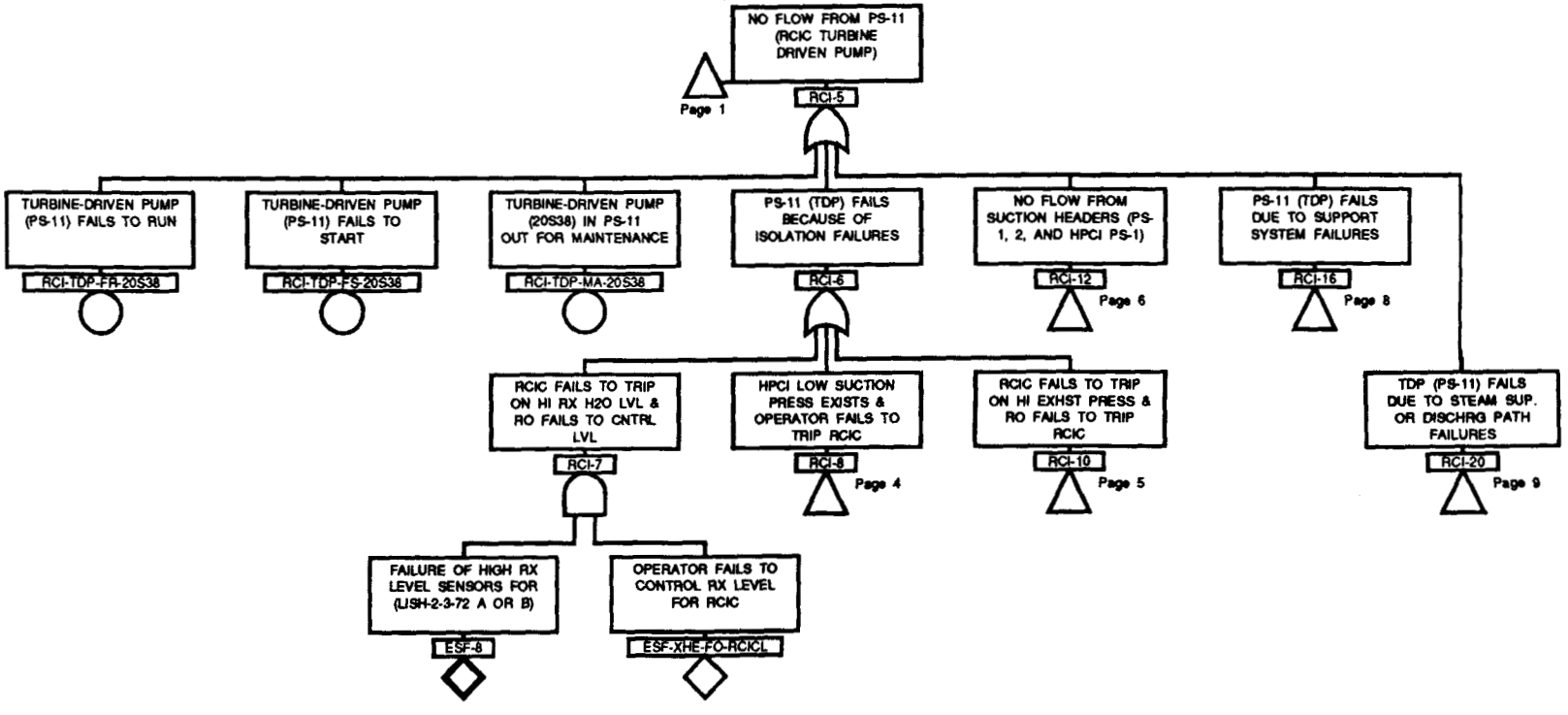
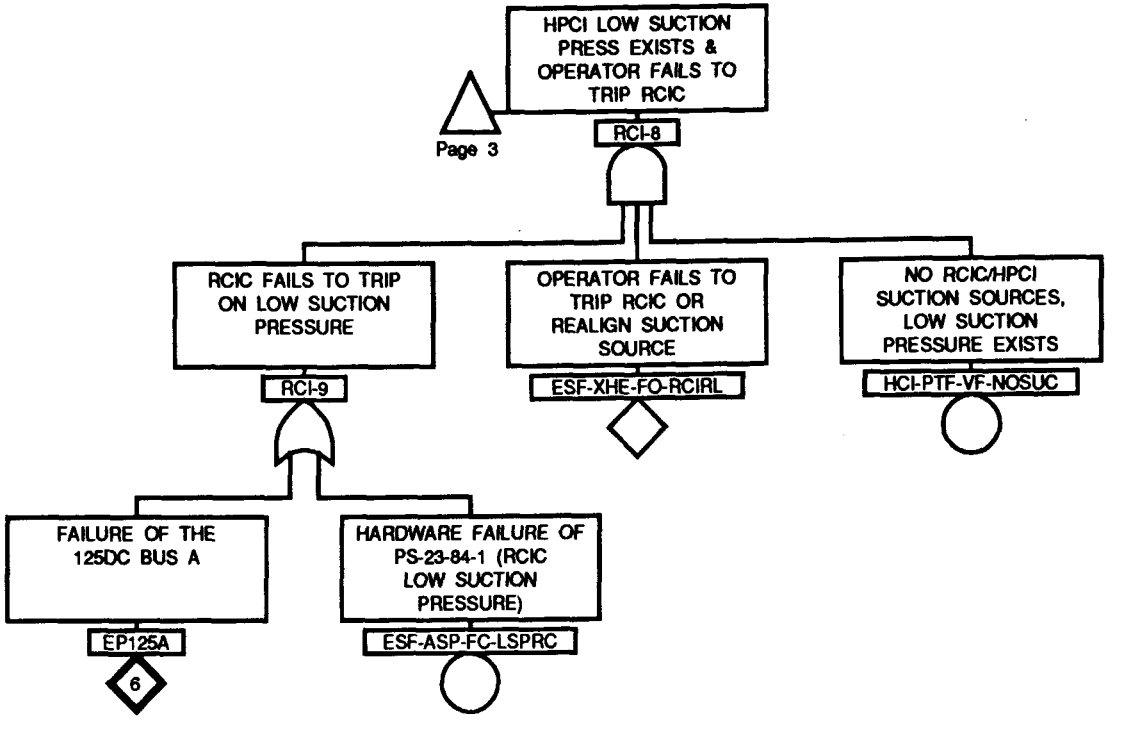
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER	DATE
Page 2	6/01/88



TITLE	
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER Page 3	DATE 6/01/88



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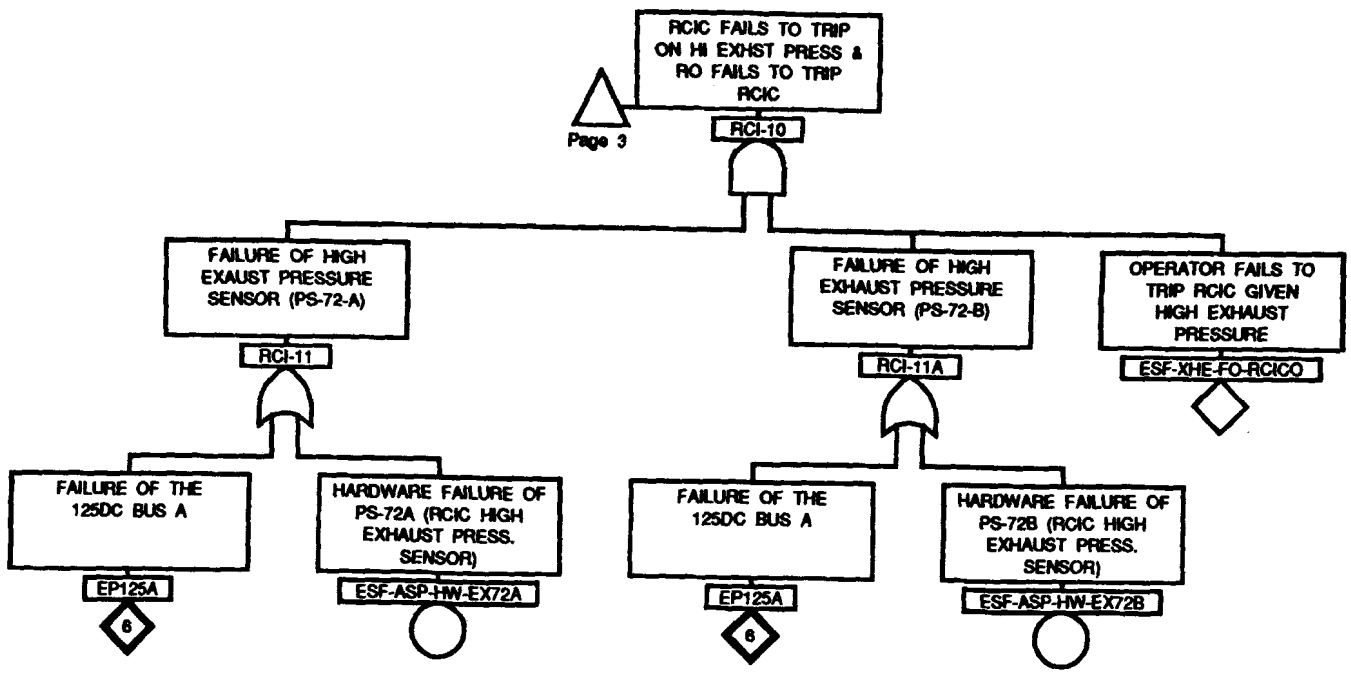
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER	DATE
Page 4	6/01/88



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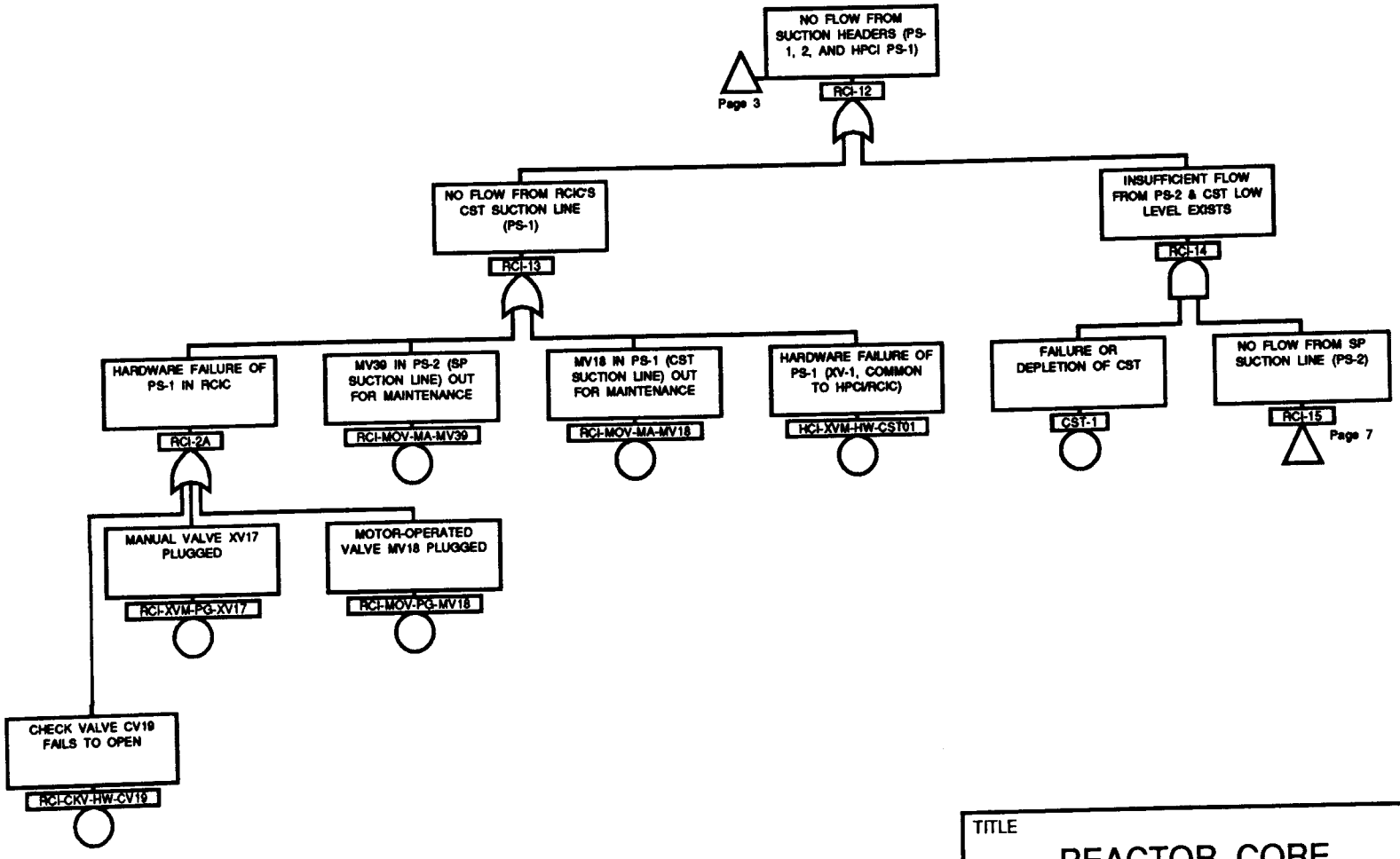
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER	DATE
Page 5	6/01/88



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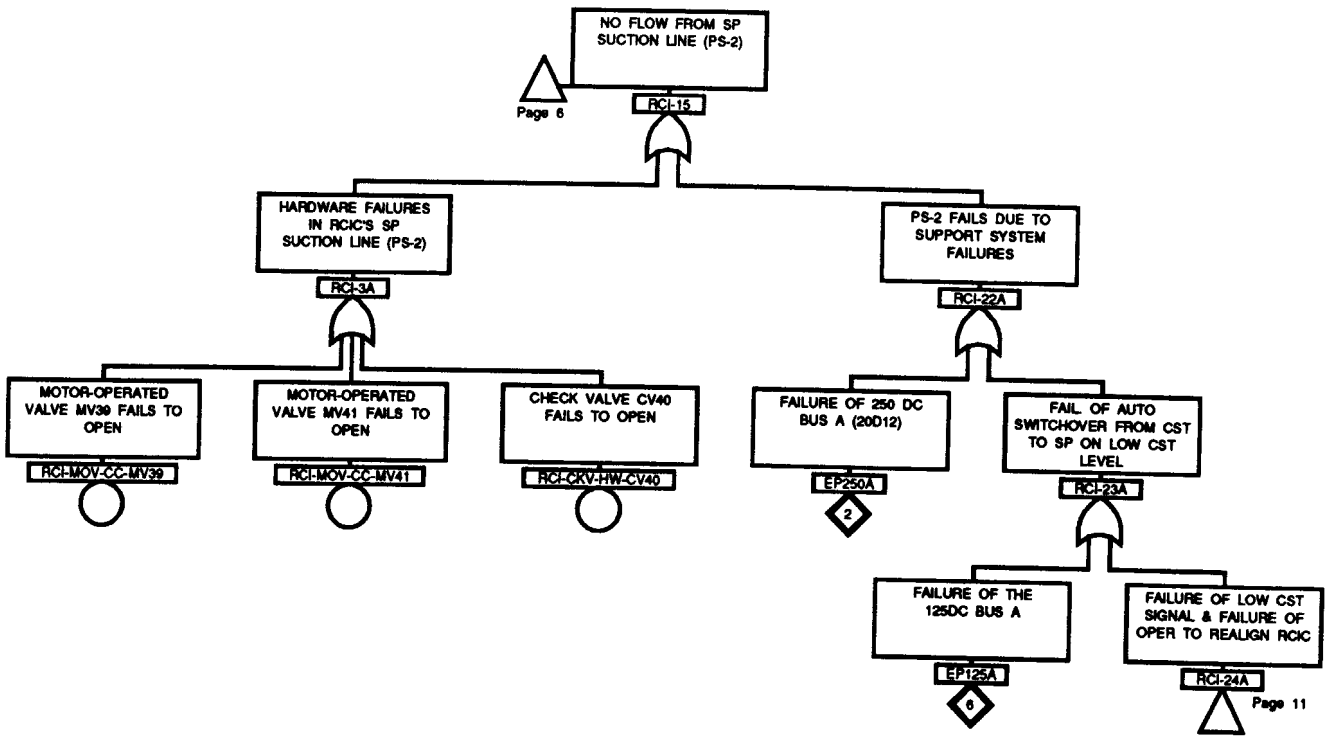
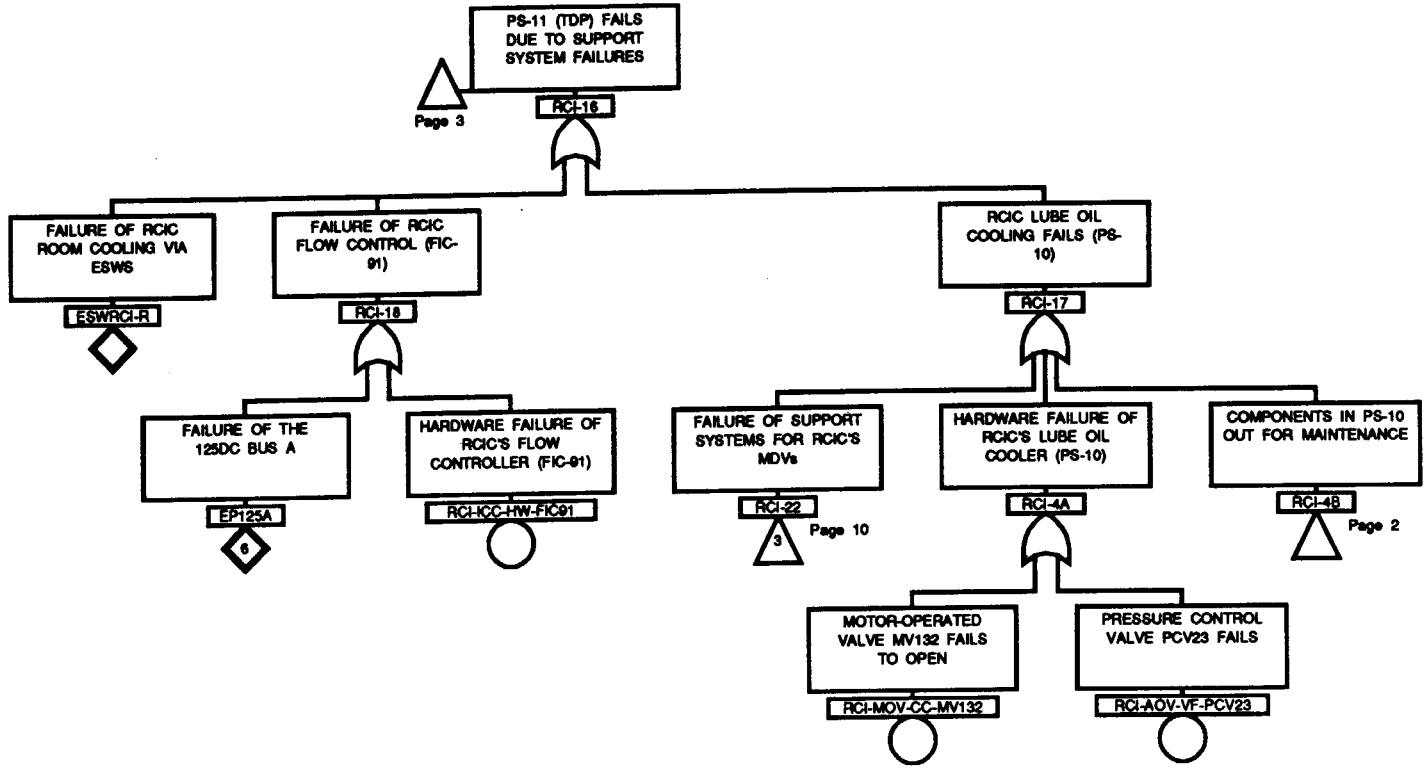
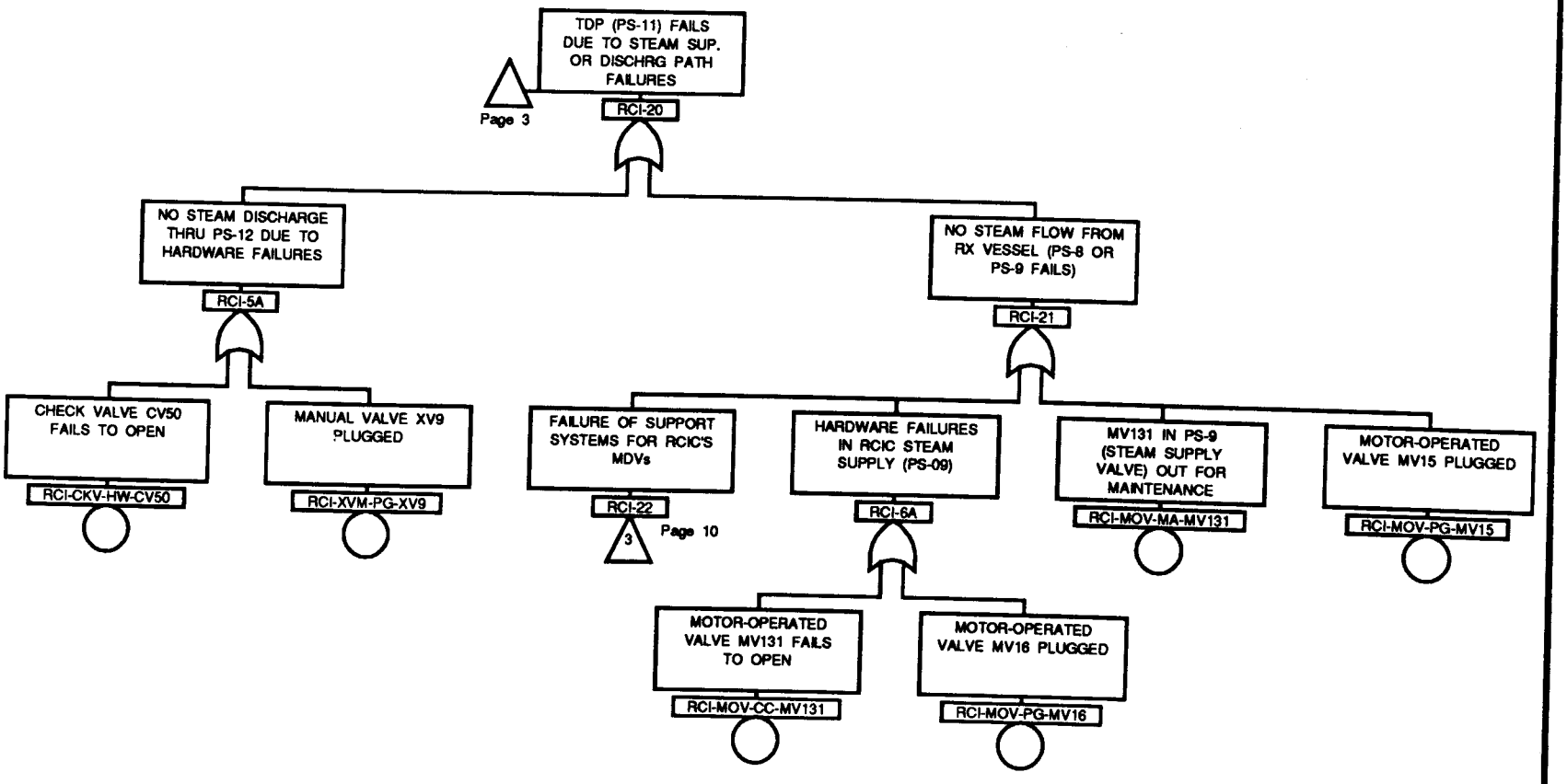
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER Page 6	DATE 6/01/88



TITLE	
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER Page 7	DATE 6/01/88



TITLE	
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER Page 8	DATE 6/01/88



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REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER	DATE
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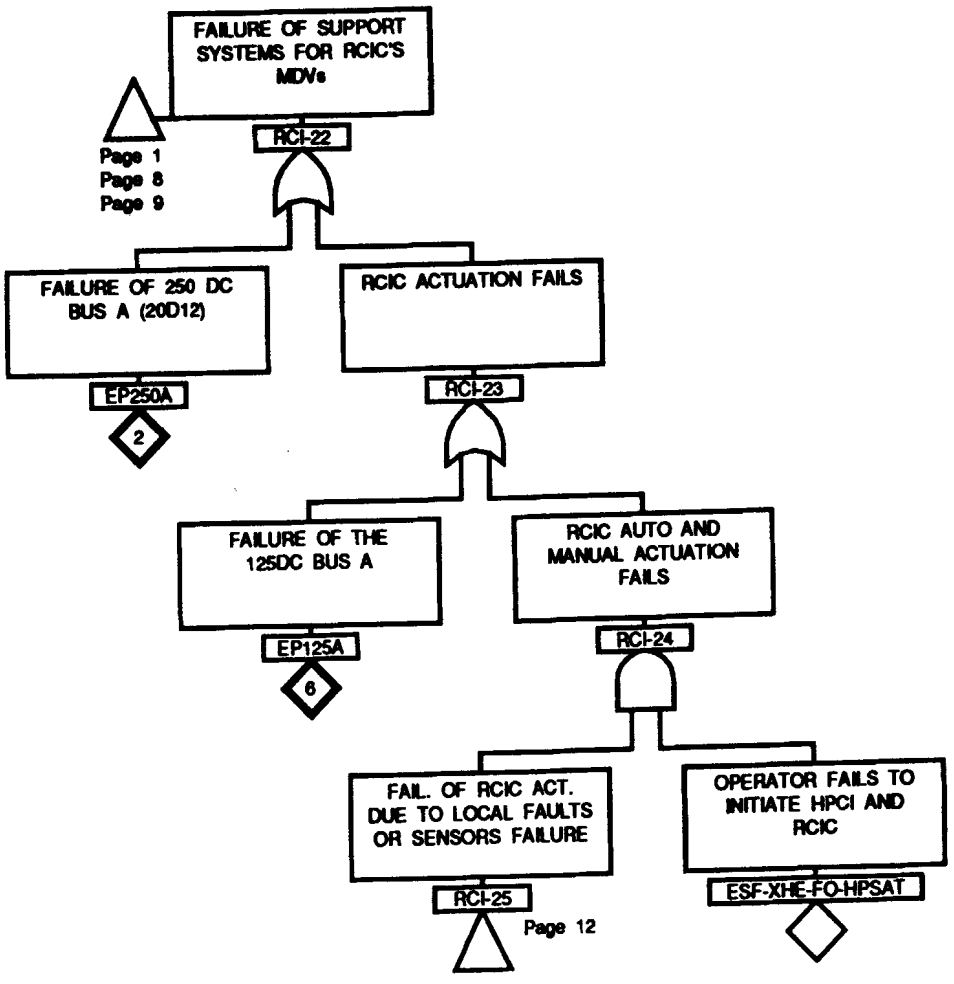

TITLE	
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER	DATE
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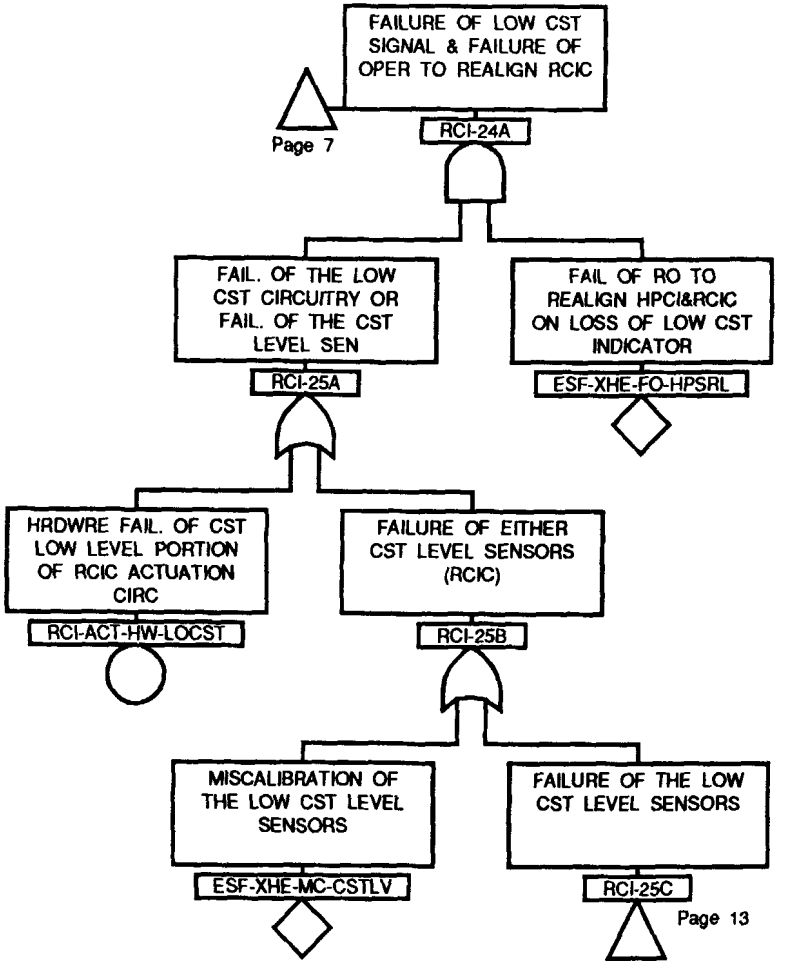
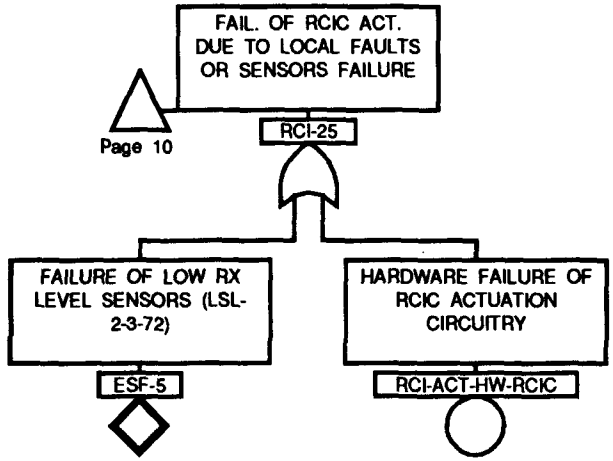


TITLE	
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER Page 11	DATE 6/01/88



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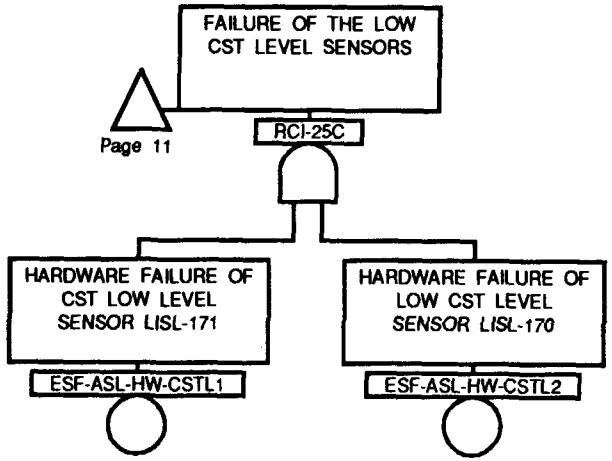
REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER	DATE
Page 12	6/01/88



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REACTOR CORE ISOLATION COOLING	
DRAWING NUMBER	DATE
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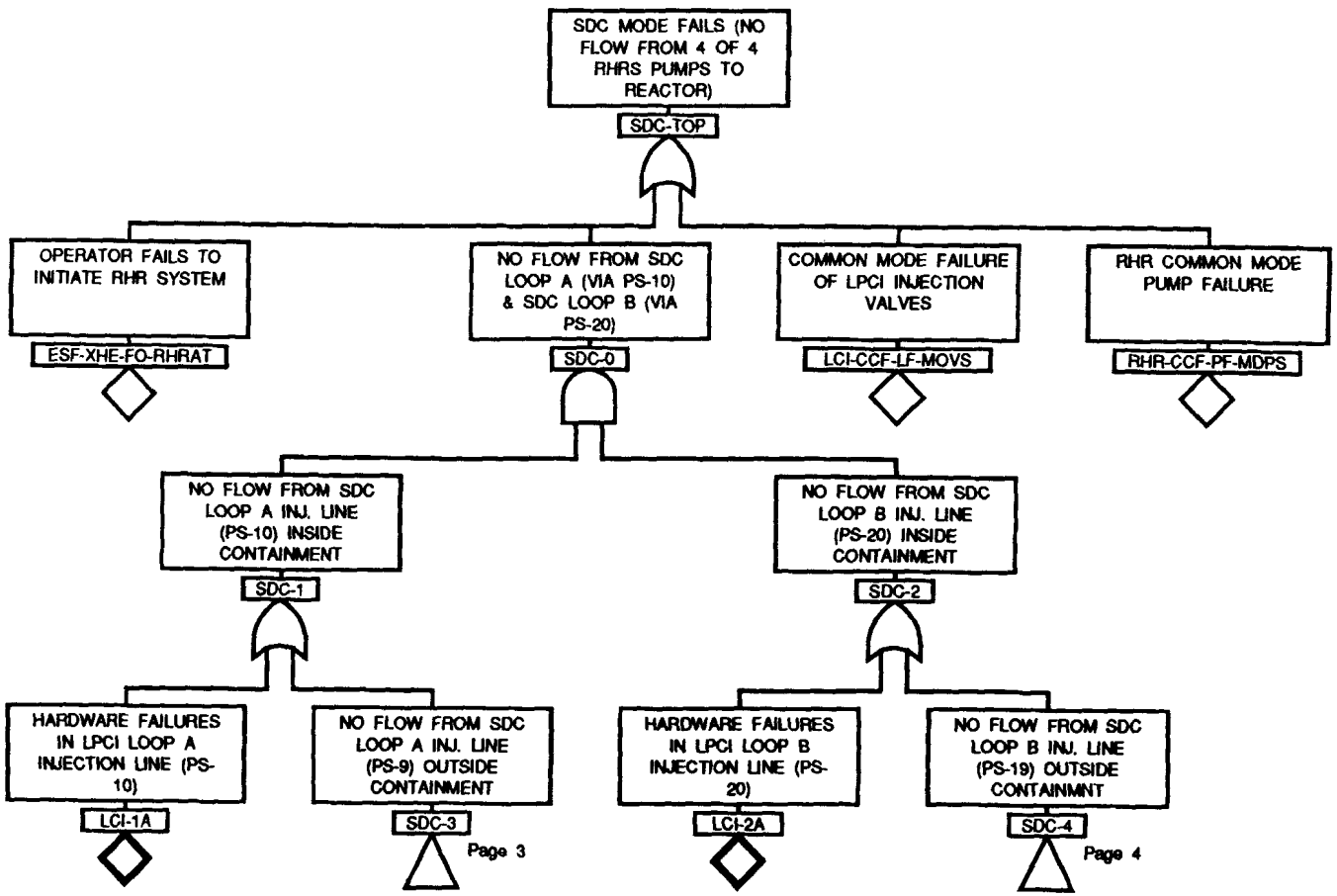
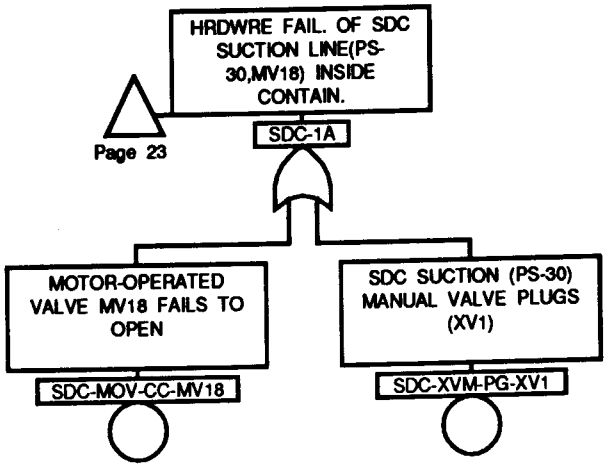
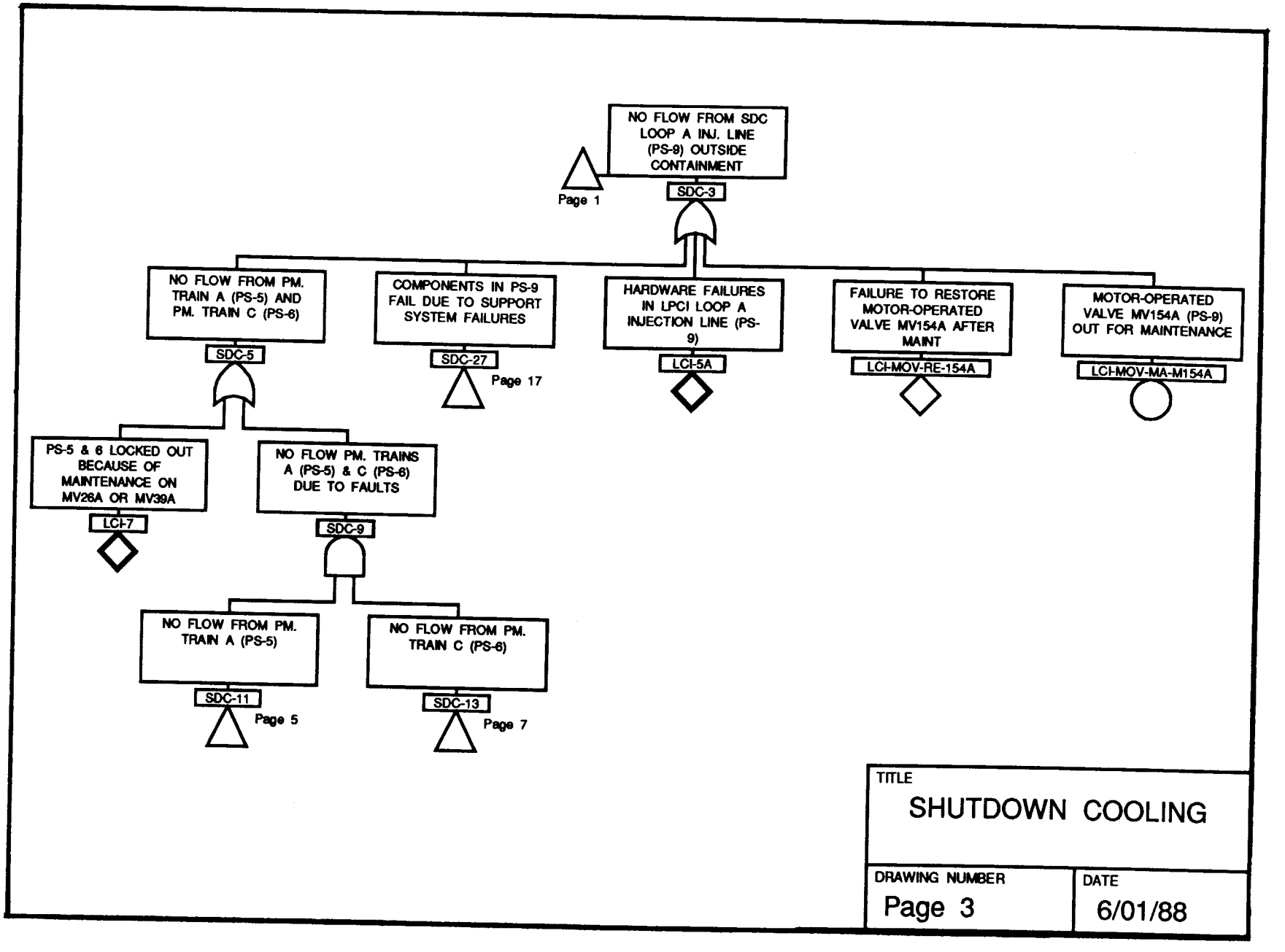


TITLE
SHUTDOWN COOLING

DRAWING NUMBER	DATE
Page 1	6/01/88



TITLE	
SHUTDOWN COOLING	
DRAWING NUMBER	DATE
Page 2	6/01/88


NO FLOW FROM SDC LOOP A INJ. LINE (PS-9) OUTSIDE CONTAINMENT
SDC-3
Page 1
NO FLOW FROM PM. TRAIN A (PS-5) AND PM. TRAIN C (PS-6)
SDC-5
COMPONENTS IN PS-9 FAIL DUE TO SUPPORT SYSTEM FAILURES
SDC-27
Page 17
HARDWARE FAILURES IN LPCI LOOP A INJECTION LINE (PS-9)
LCI-5A
FAILURE TO RESTORE MOTOR-OPERATED VALVE MV154A AFTER MAINT
LCI-MOV-RE-154A
MOTOR-OPERATED VALVE MV154A (PS-9) OUT FOR MAINTENANCE
LCI-MOV-MA-M154A
PS-5 & 6 LOCKED OUT BECAUSE OF MAINTENANCE ON MV26A OR MV39A
LCI-7
NO FLOW PM. TRAINS A (PS-5) & C (PS-6) DUE TO FAULTS
SDC-9
NO FLOW FROM PM. TRAIN A (PS-5)
SDC-11
Page 5
NO FLOW FROM PM. TRAIN C (PS-6)
SDC-13
Page 7
TITLE
SHUTDOWN COOLING
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Page 3
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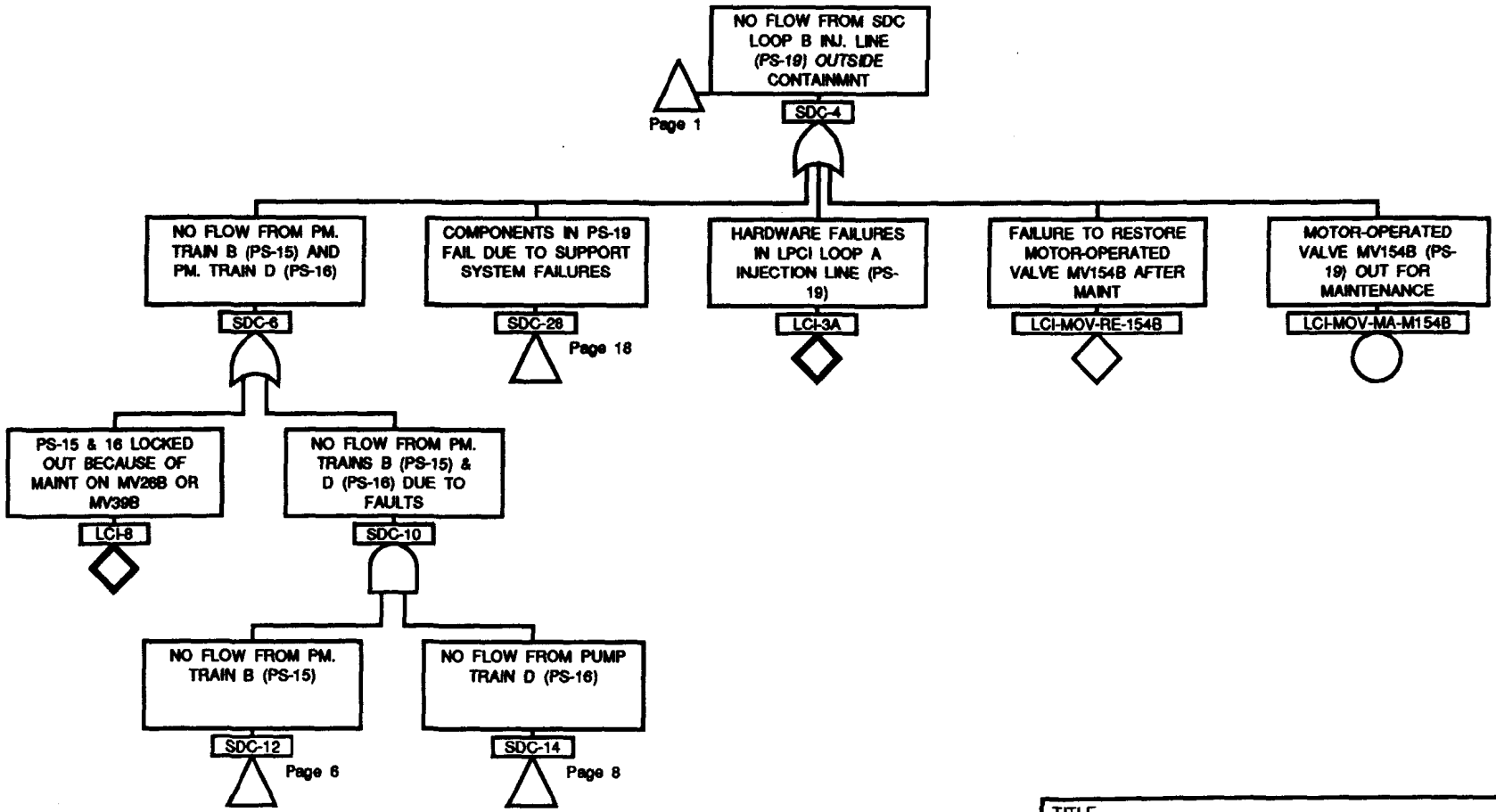
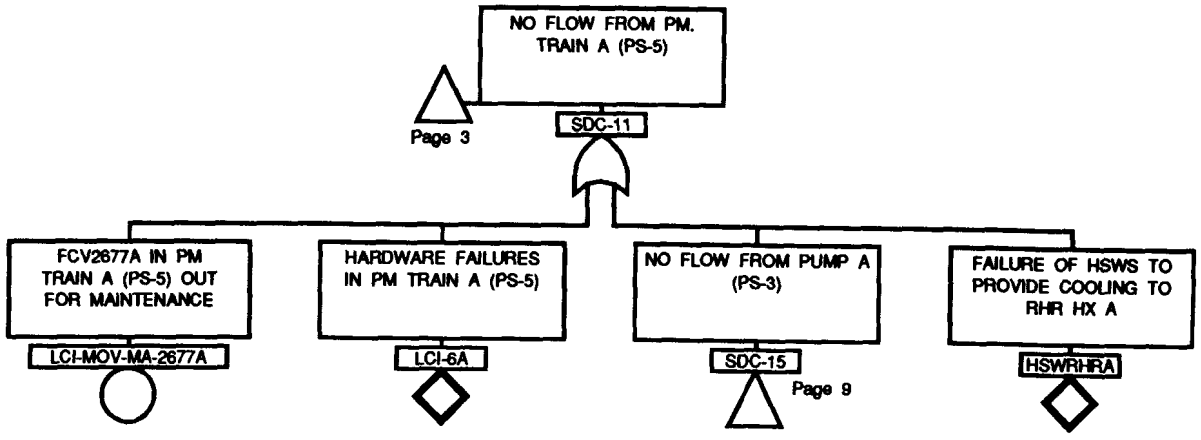
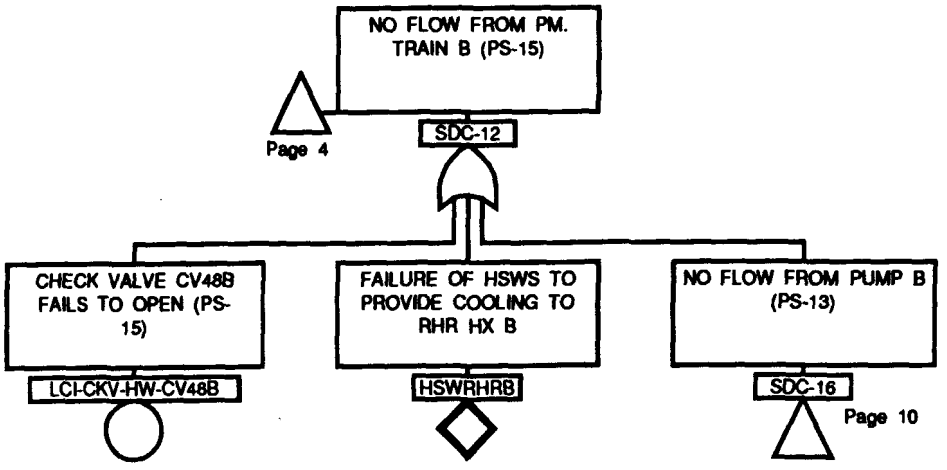


TITLE
SHUTDOWN COOLING

DRAWING NUMBER	DATE
Page 4	6/01/88



TITLE	
SHUTDOWN COOLING	
DRAWING NUMBER	DATE
Page 5	6/01/88



TITLE
SHUTDOWN COOLING

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DATE
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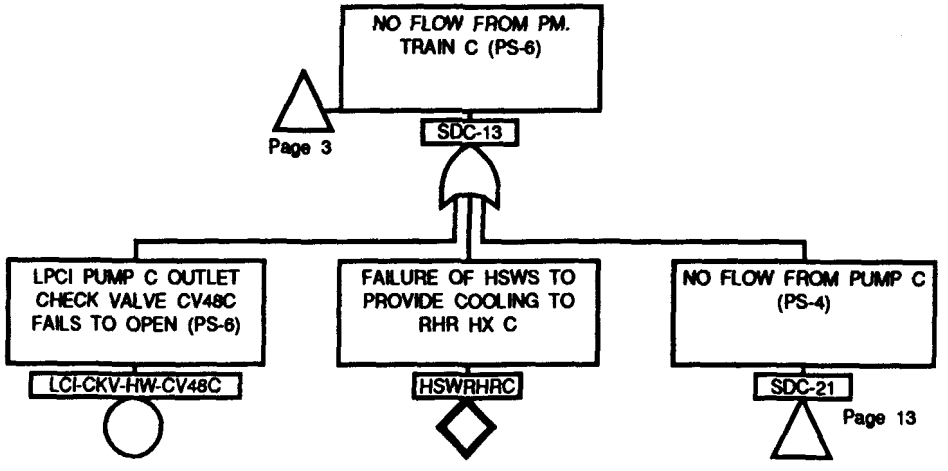

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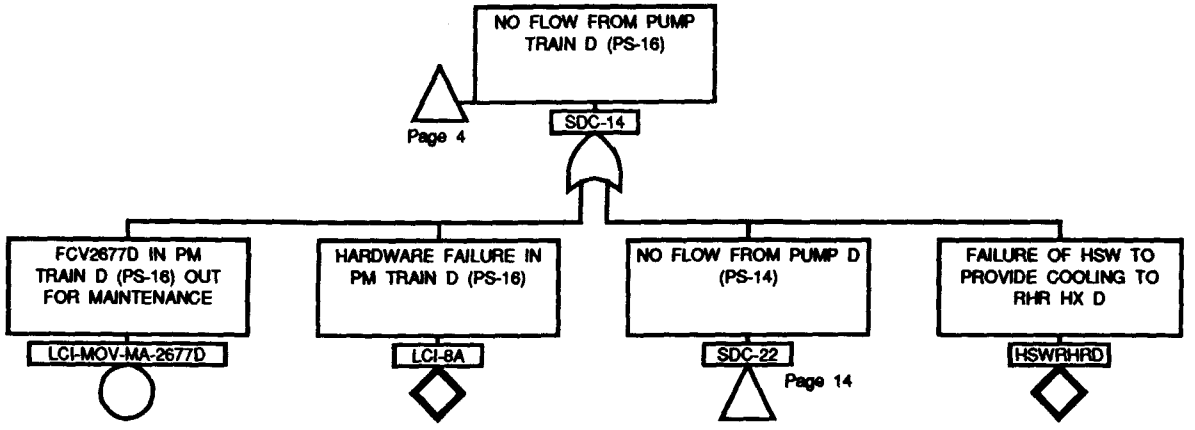
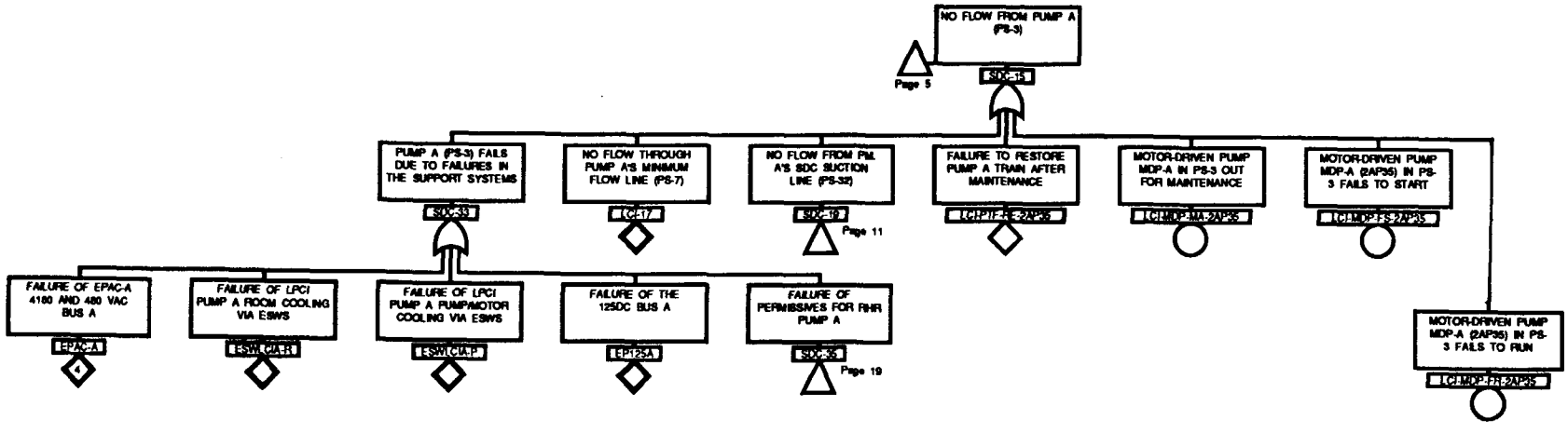
SHUTDOWN COOLING

DRAWING NUMBER
Page 7

DATE
6/01/88



TITLE	
SHUTDOWN COOLING	
DRAWING NUMBER	DATE
Page 8	6/01/88



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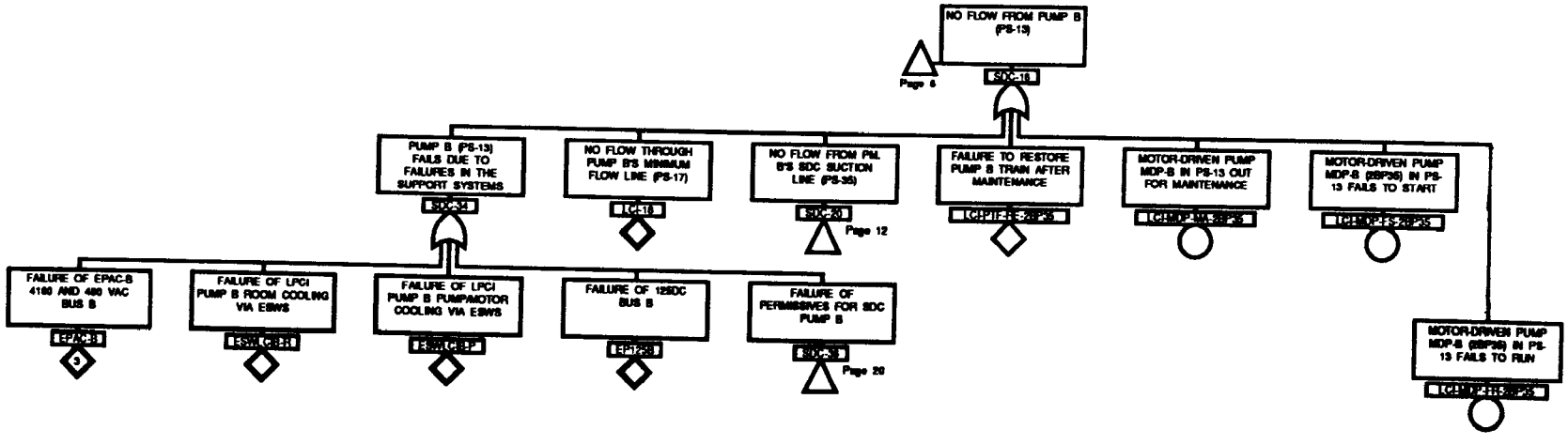
SHUTDOWN COOLING

DRAWING NUMBER	DATE
Page 9	6/01/88



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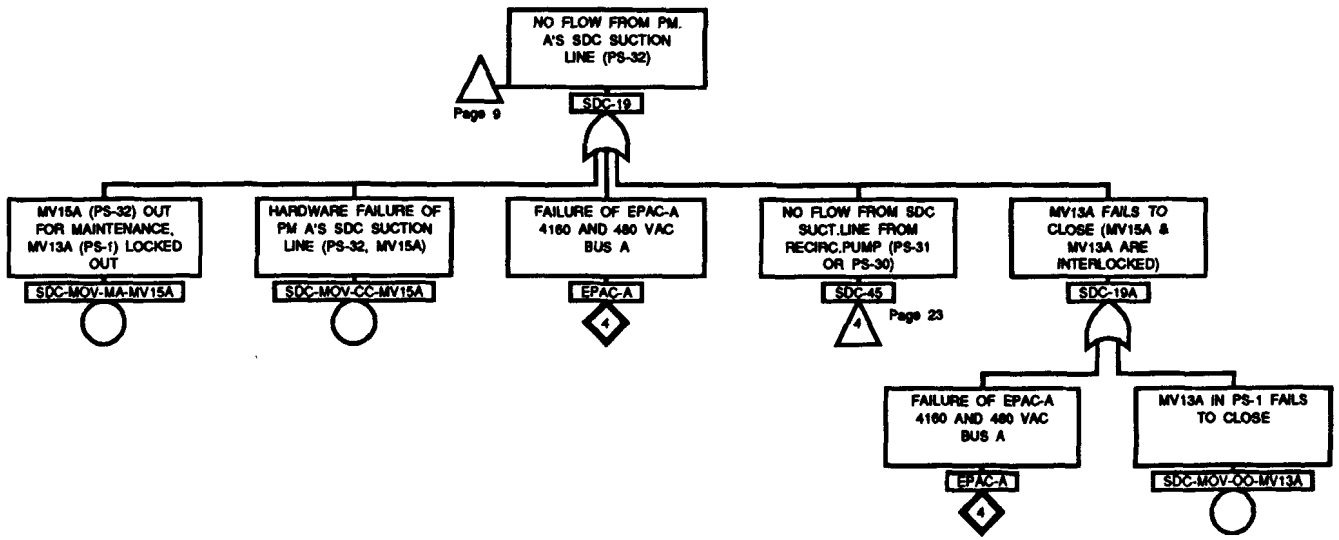
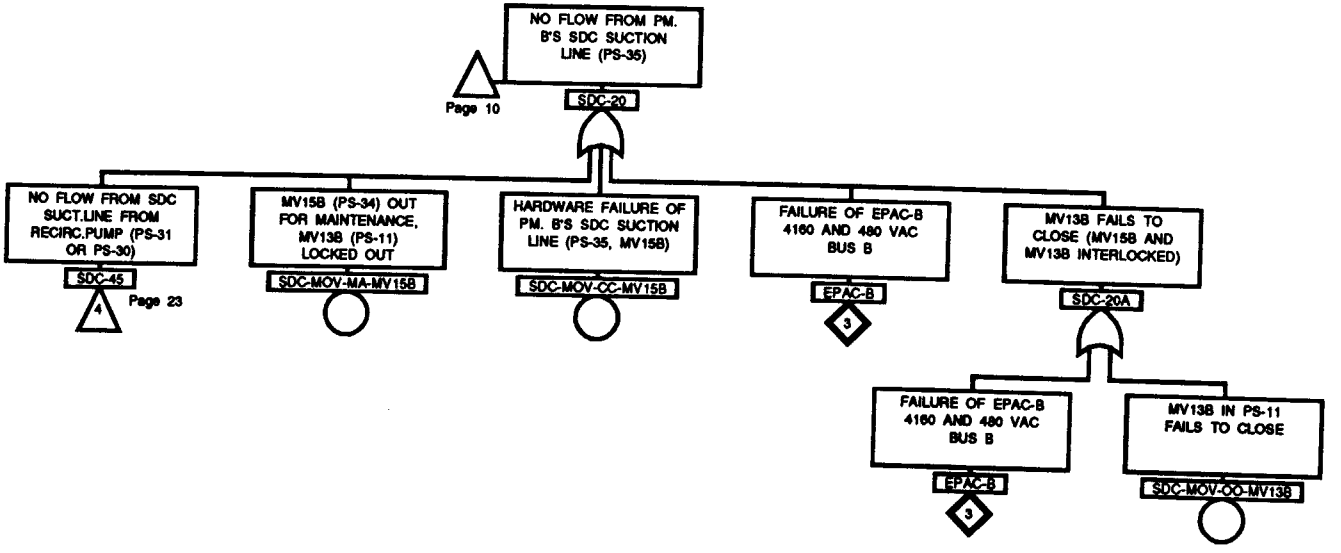
SHUTDOWN COOLING

DRAWING NUMBER	DATE
Page 10	6/01/88



TITLE
SHUTDOWN COOLING

DRAWING NUMBER	DATE
Page 11	6/01/88



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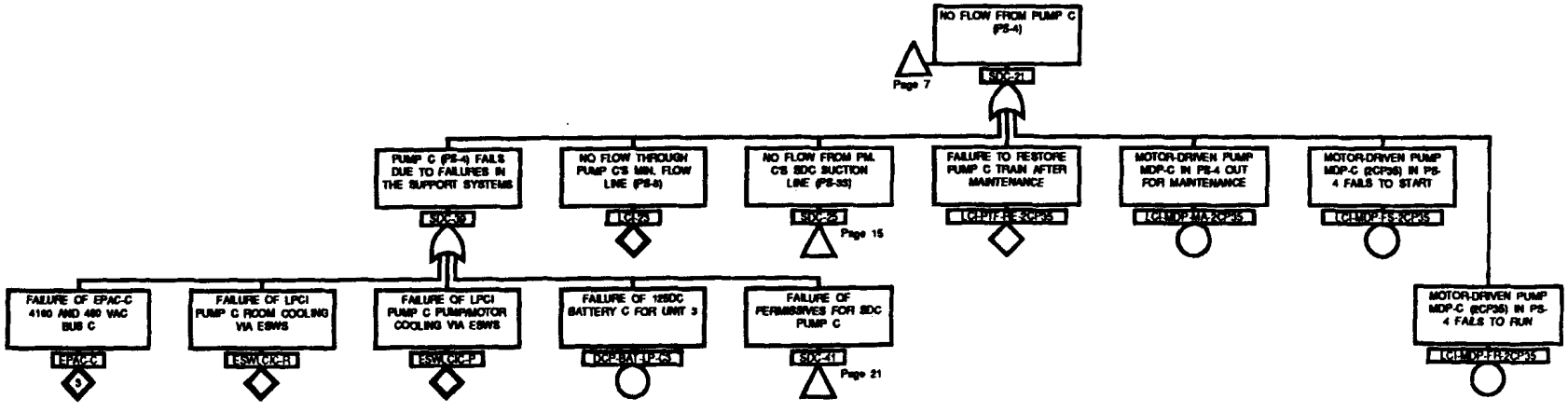
SHUTDOWN COOLING	
DRAWING NUMBER Page 12	DATE 6/01/88



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SHUTDOWN COOLING

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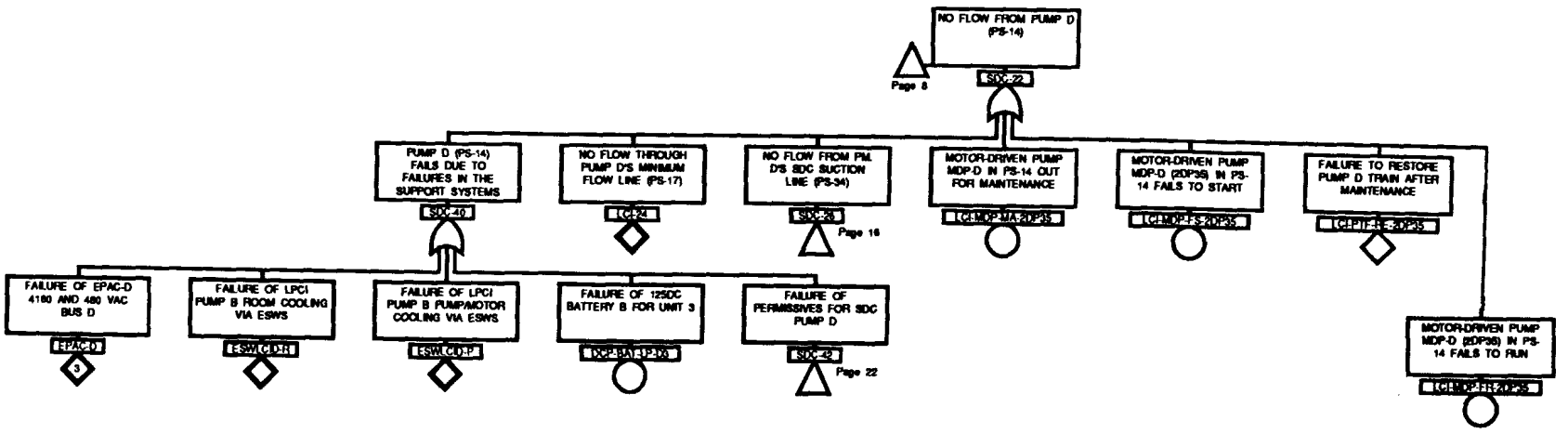

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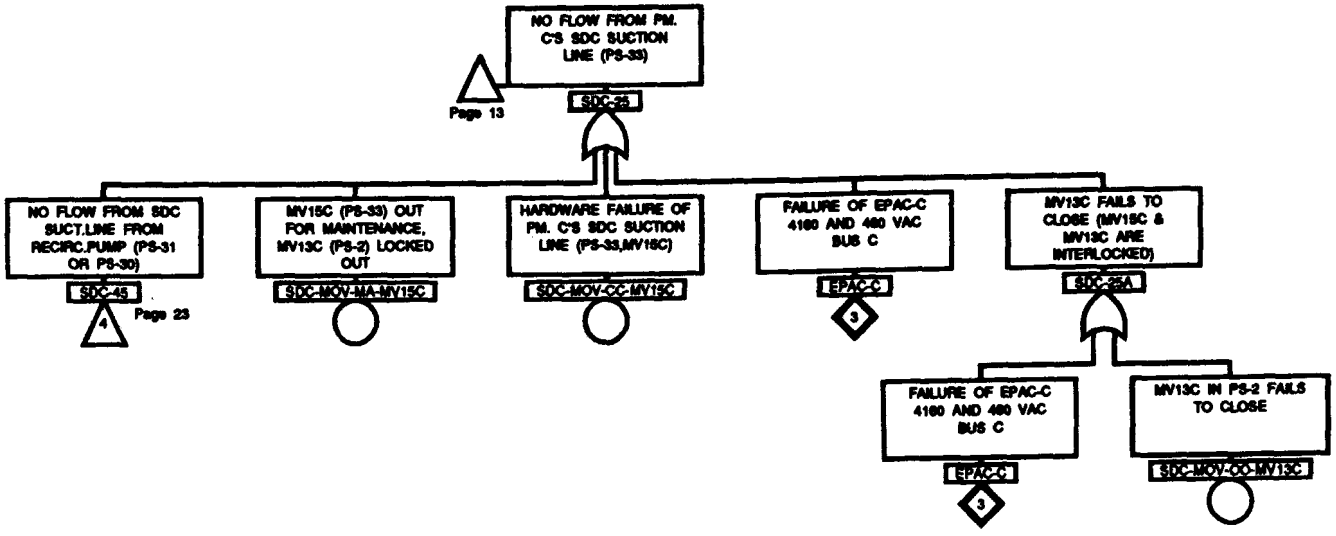

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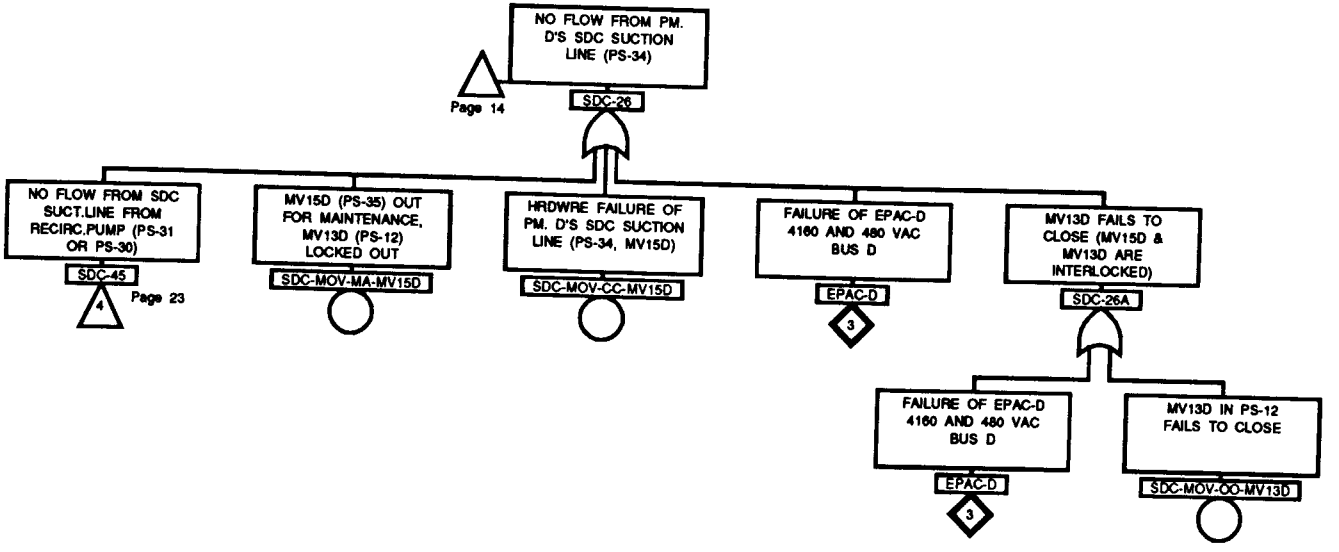

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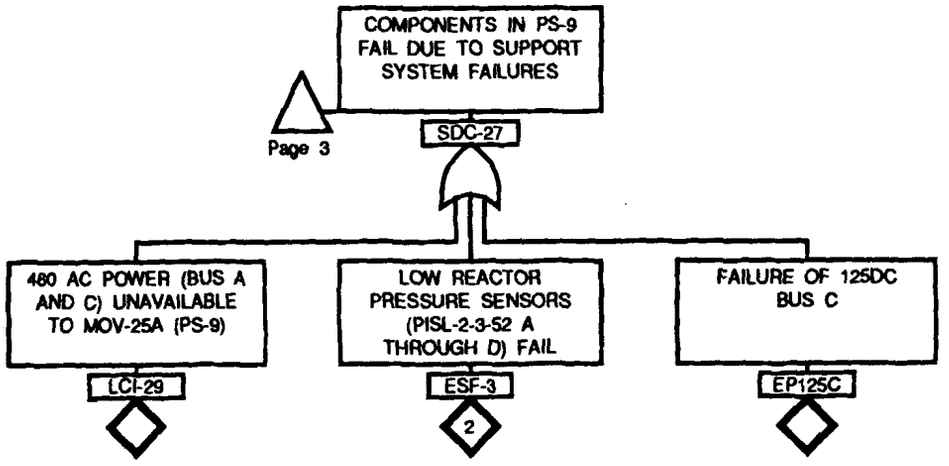

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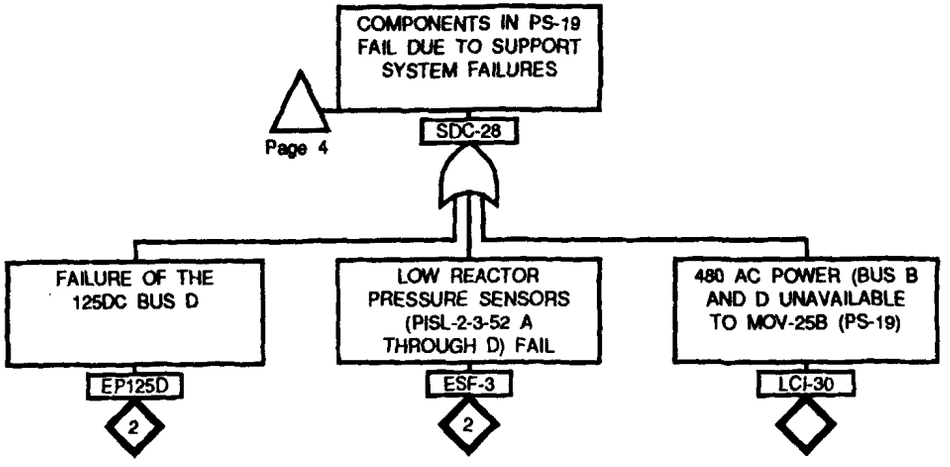

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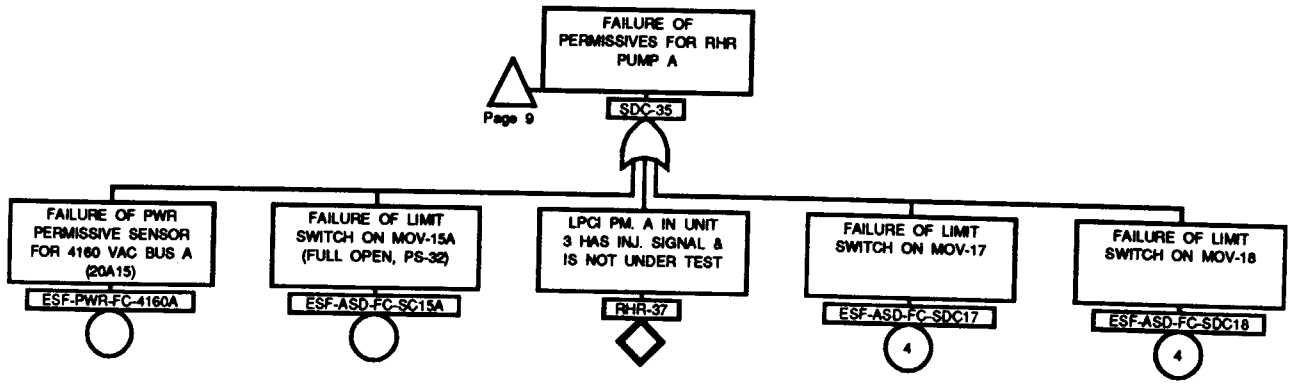

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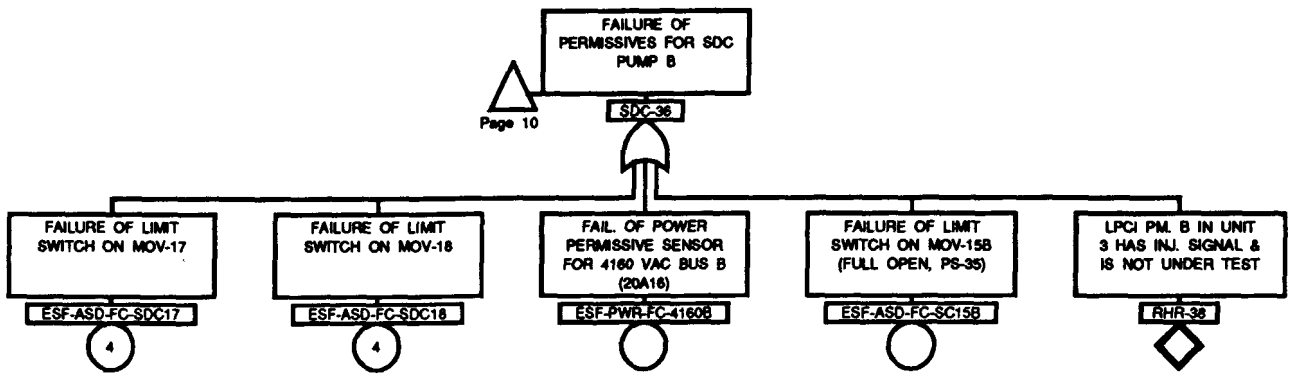

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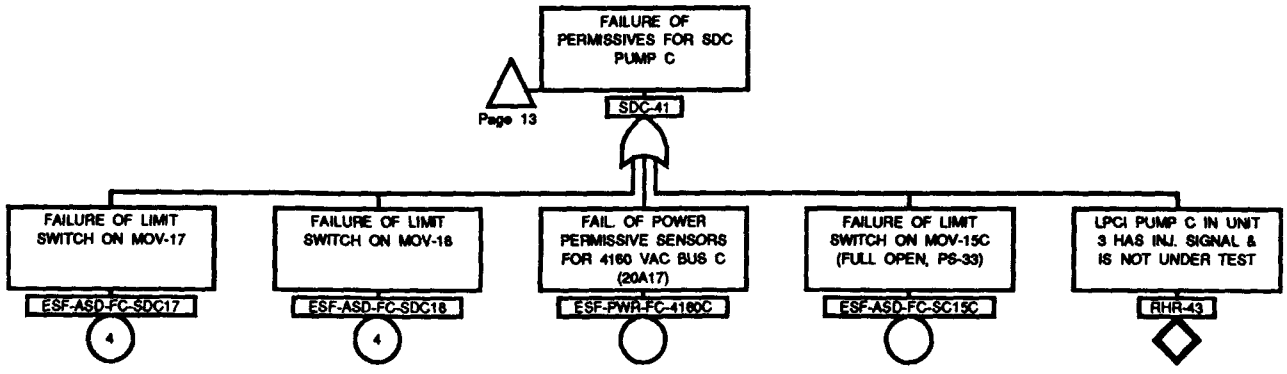

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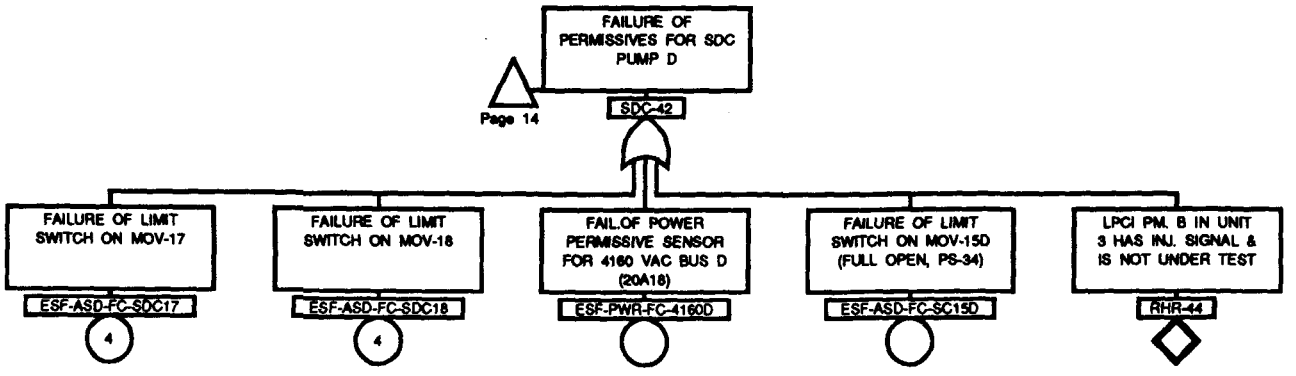

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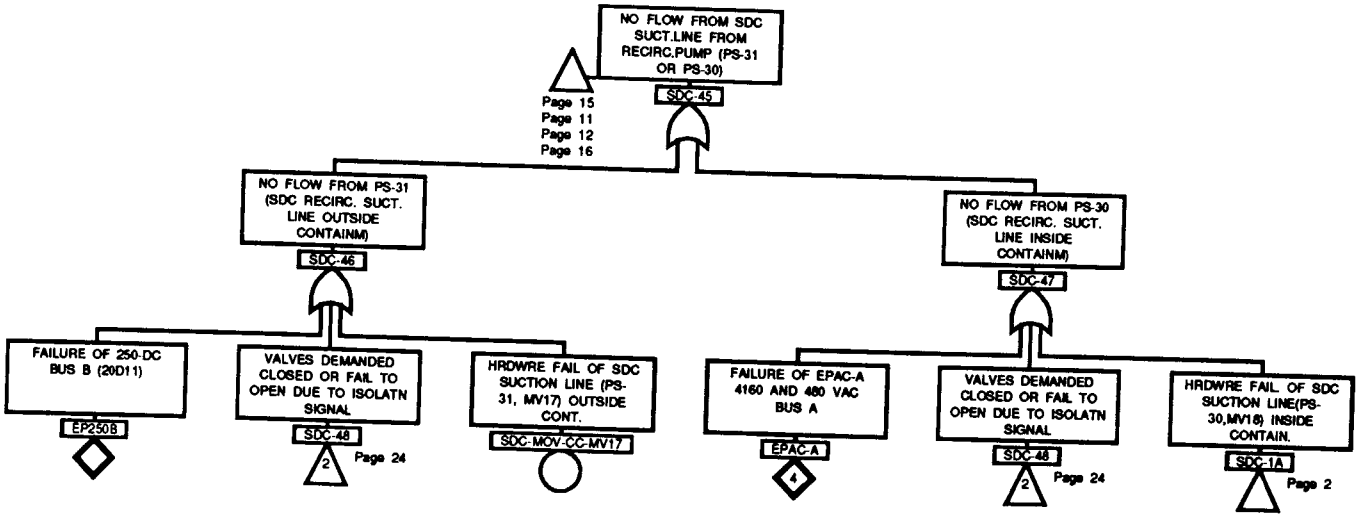

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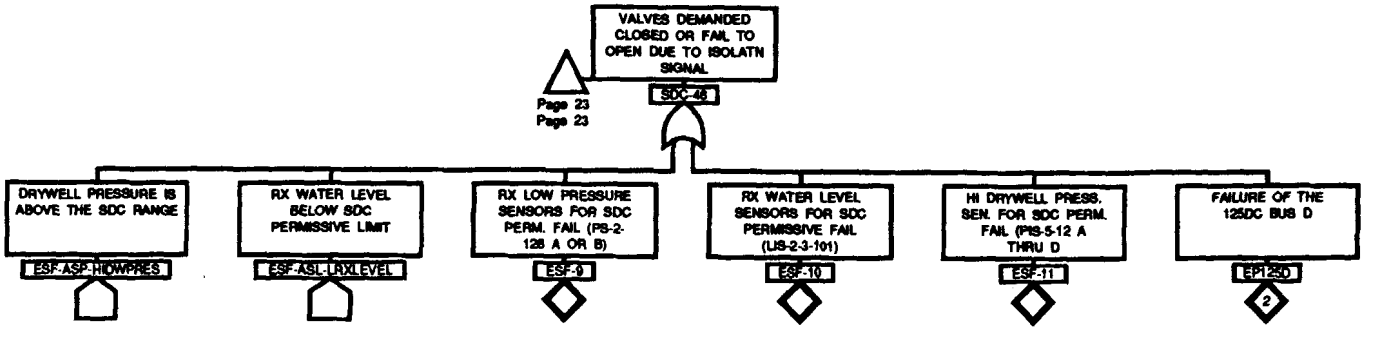

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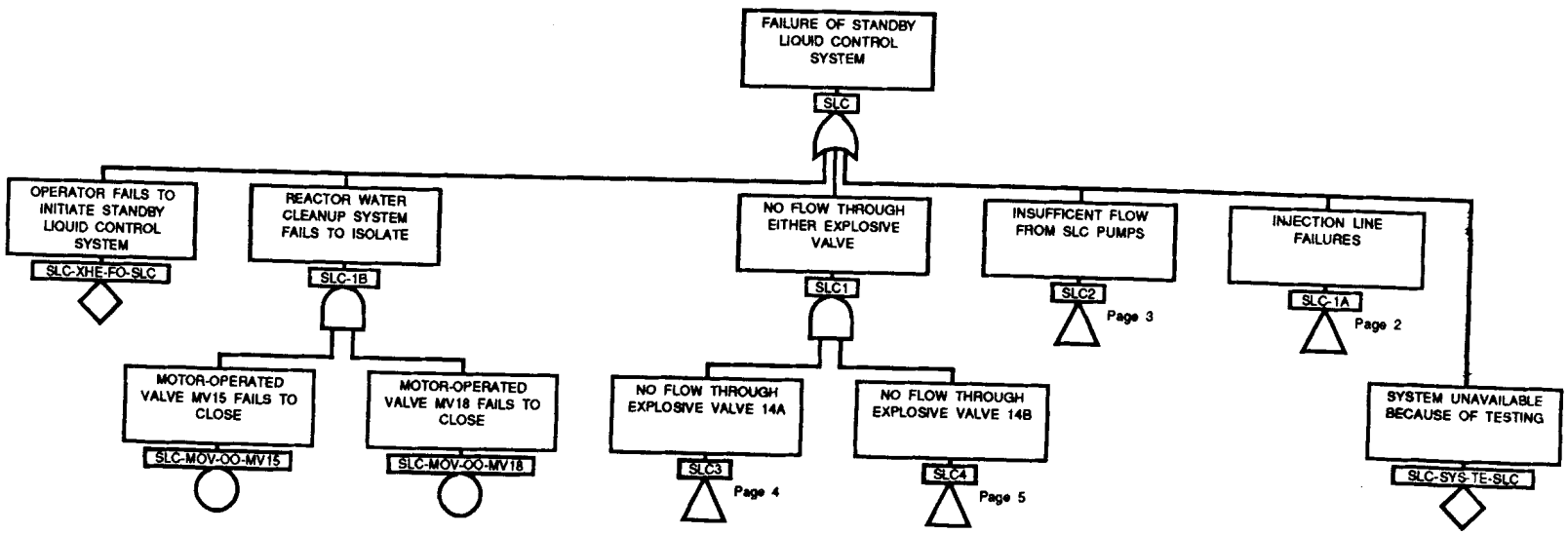

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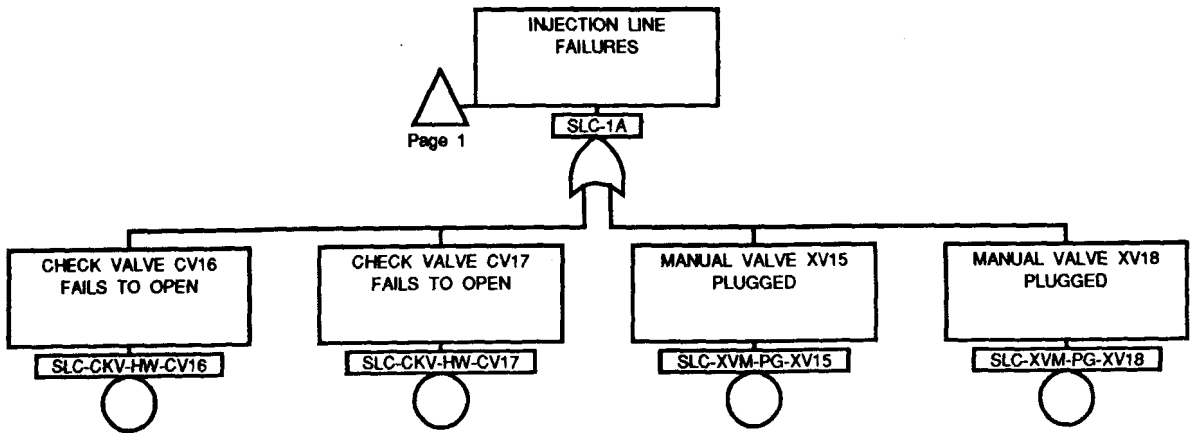

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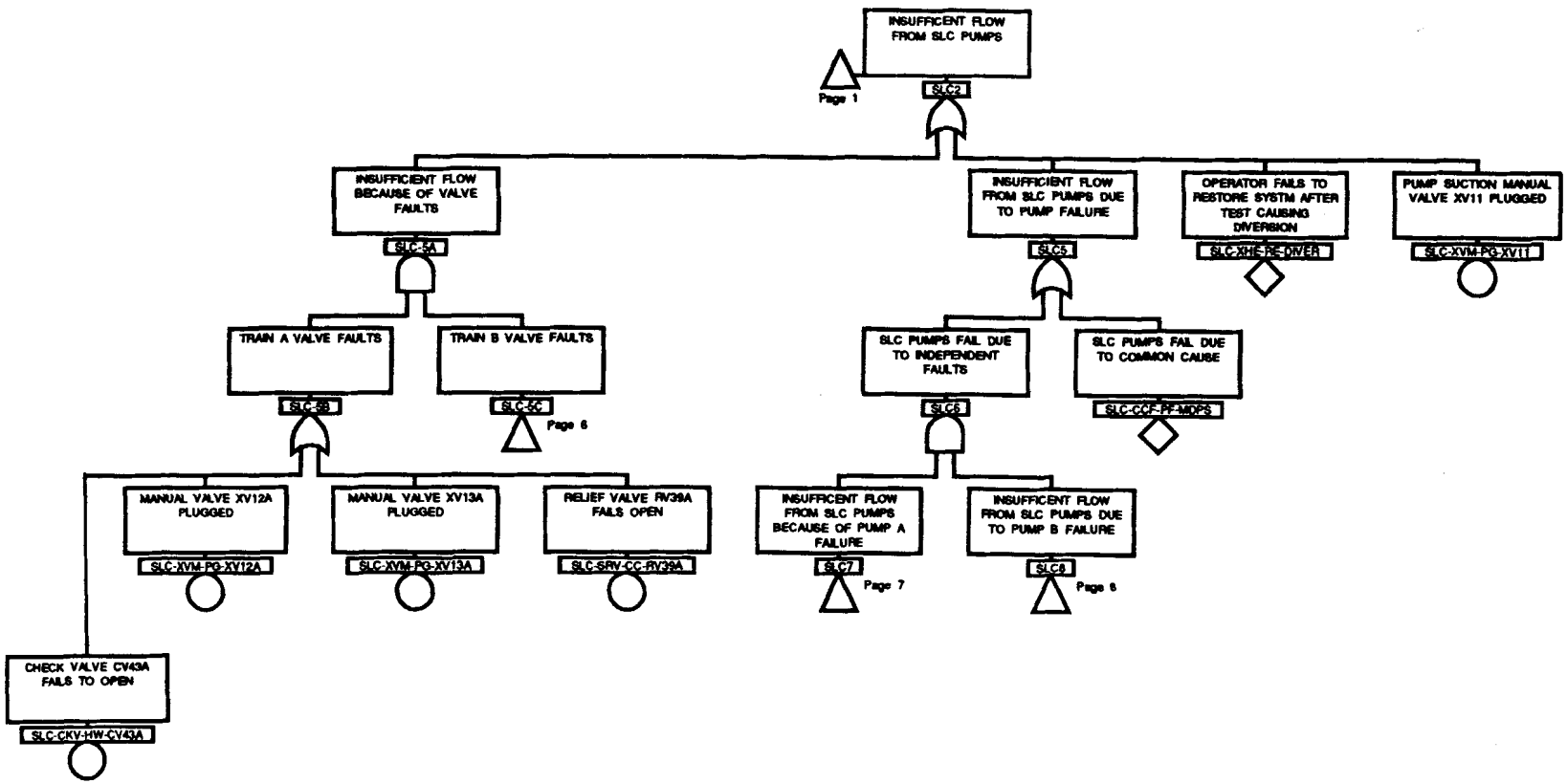

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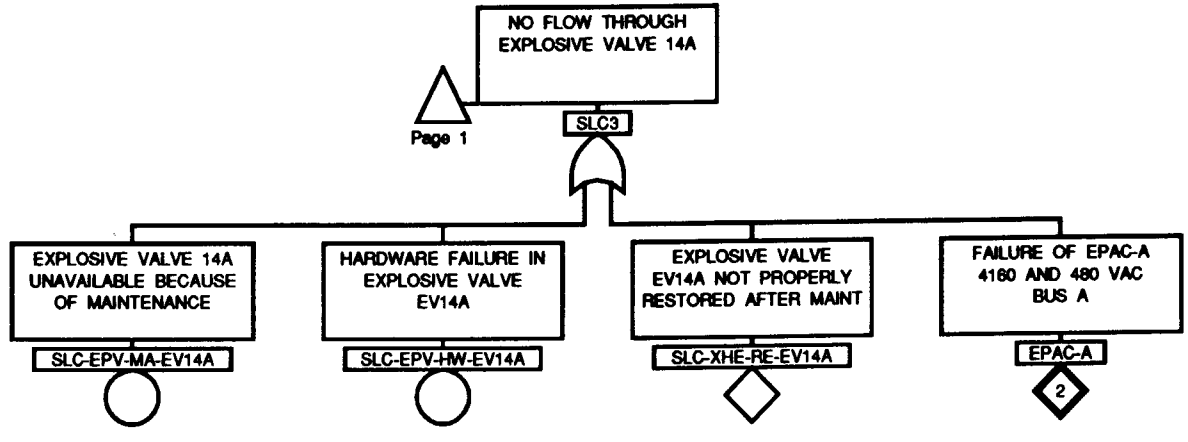

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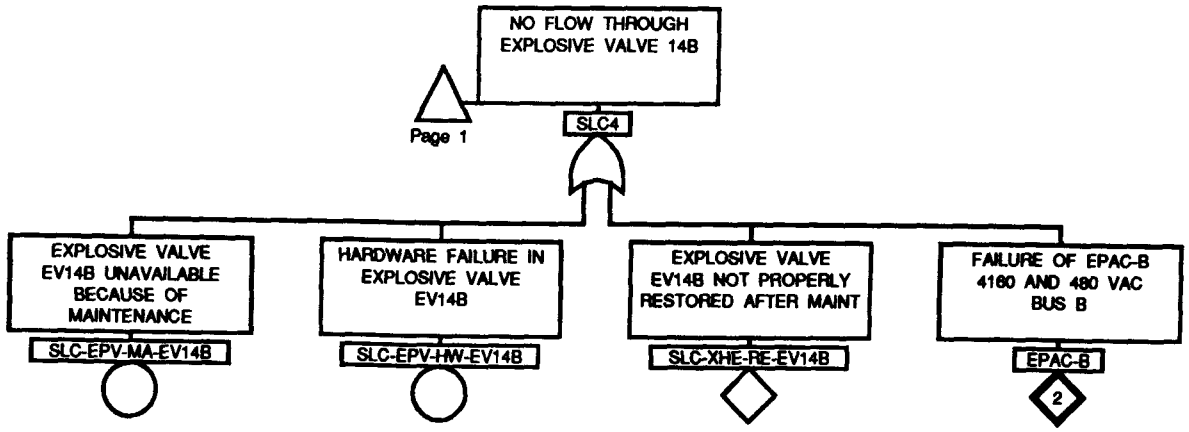

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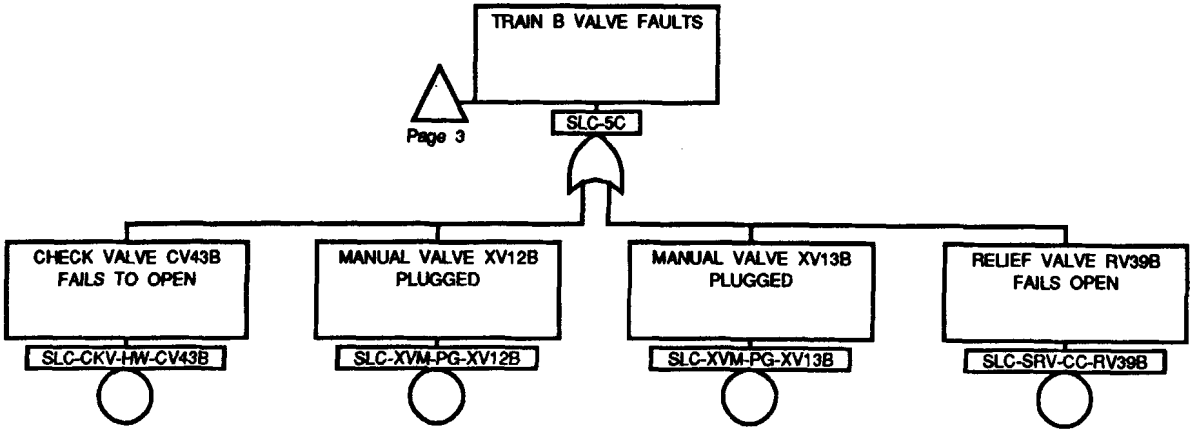

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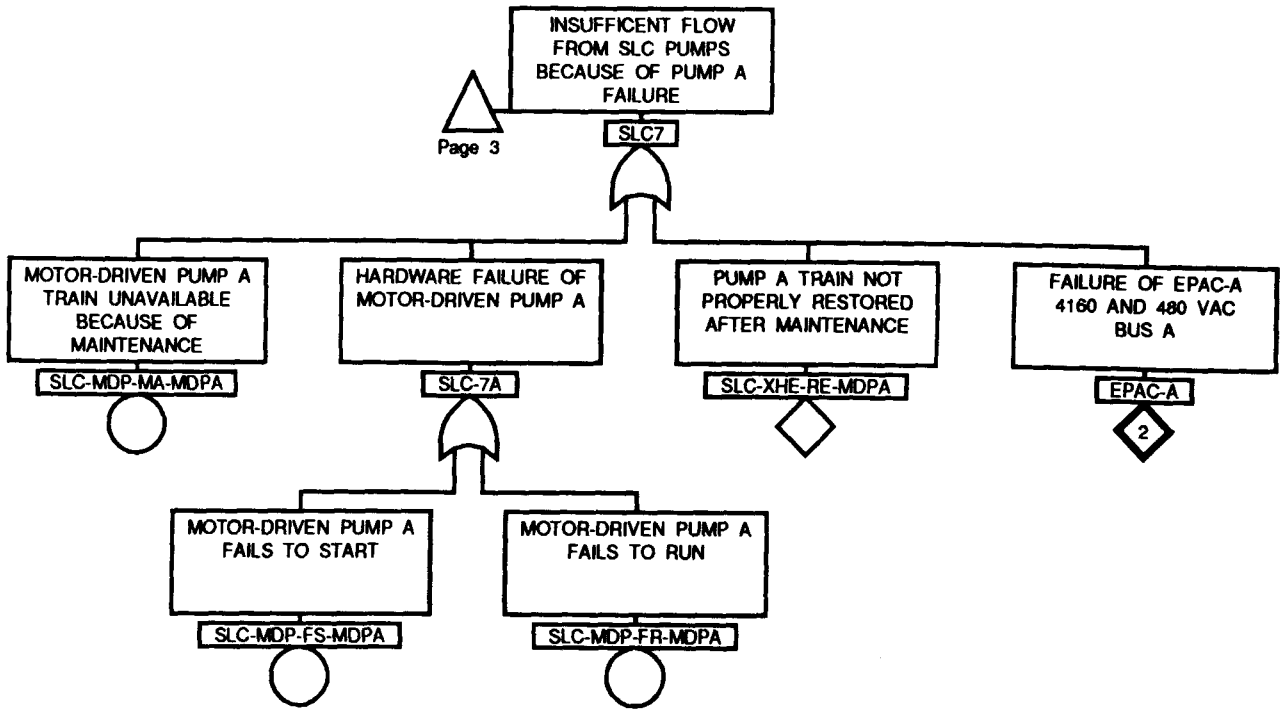

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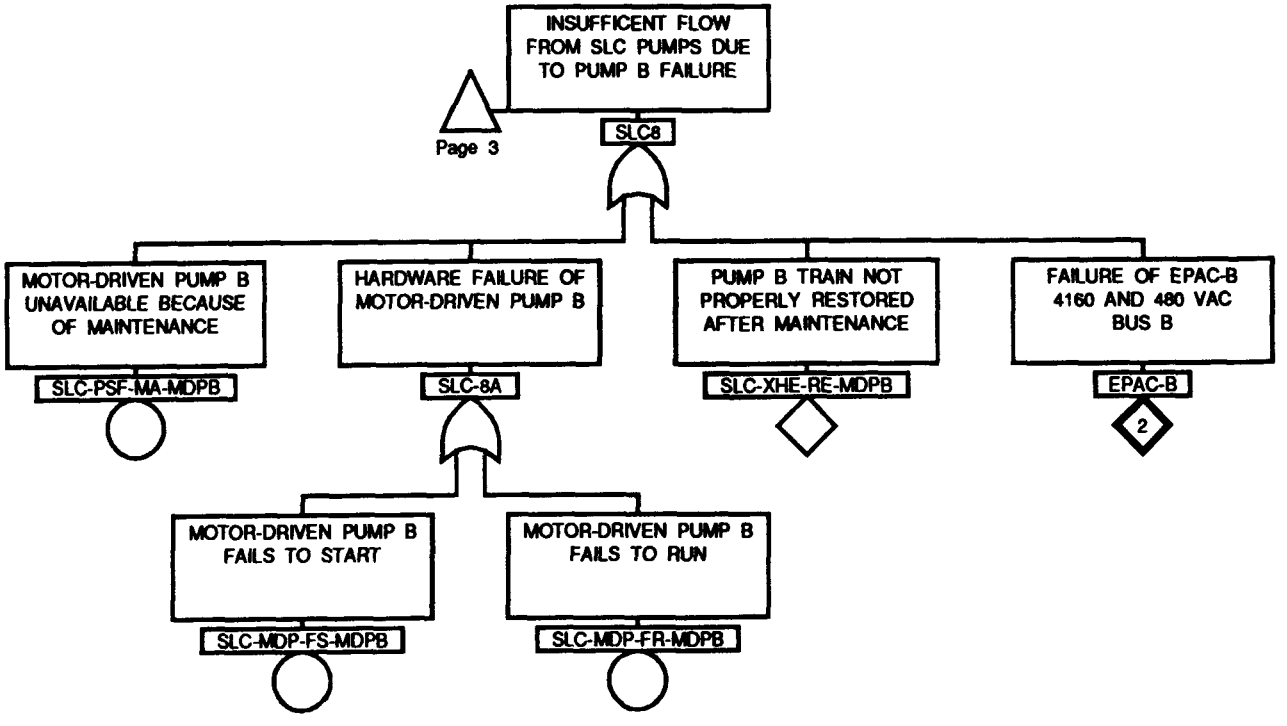

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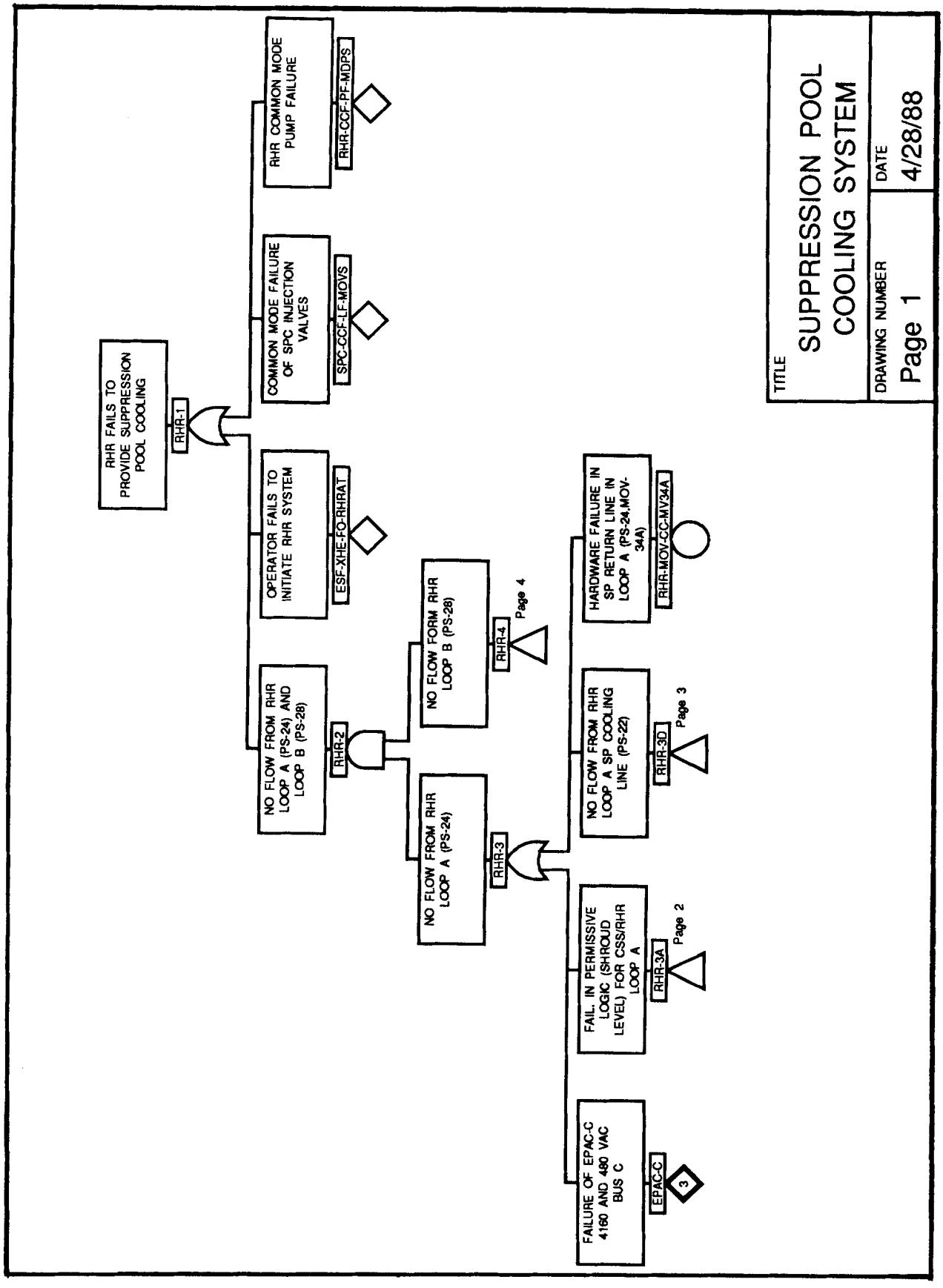
RHR FAILS TO PROVIDE SUPPRESSION POOL COOLING
RHR-1
RHR COMMON MODE PUMP FAILURE
RHR-CCF-PF-MDPS
COMMON MODE FAILURE OF SPC INJECTION VALVES
SPC-CCF-LF-MOVS
OPERATOR FAILS TO INITIATE RHR SYSTEM
ESF-XHE-FO-RHRAT
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EPAC-C
3
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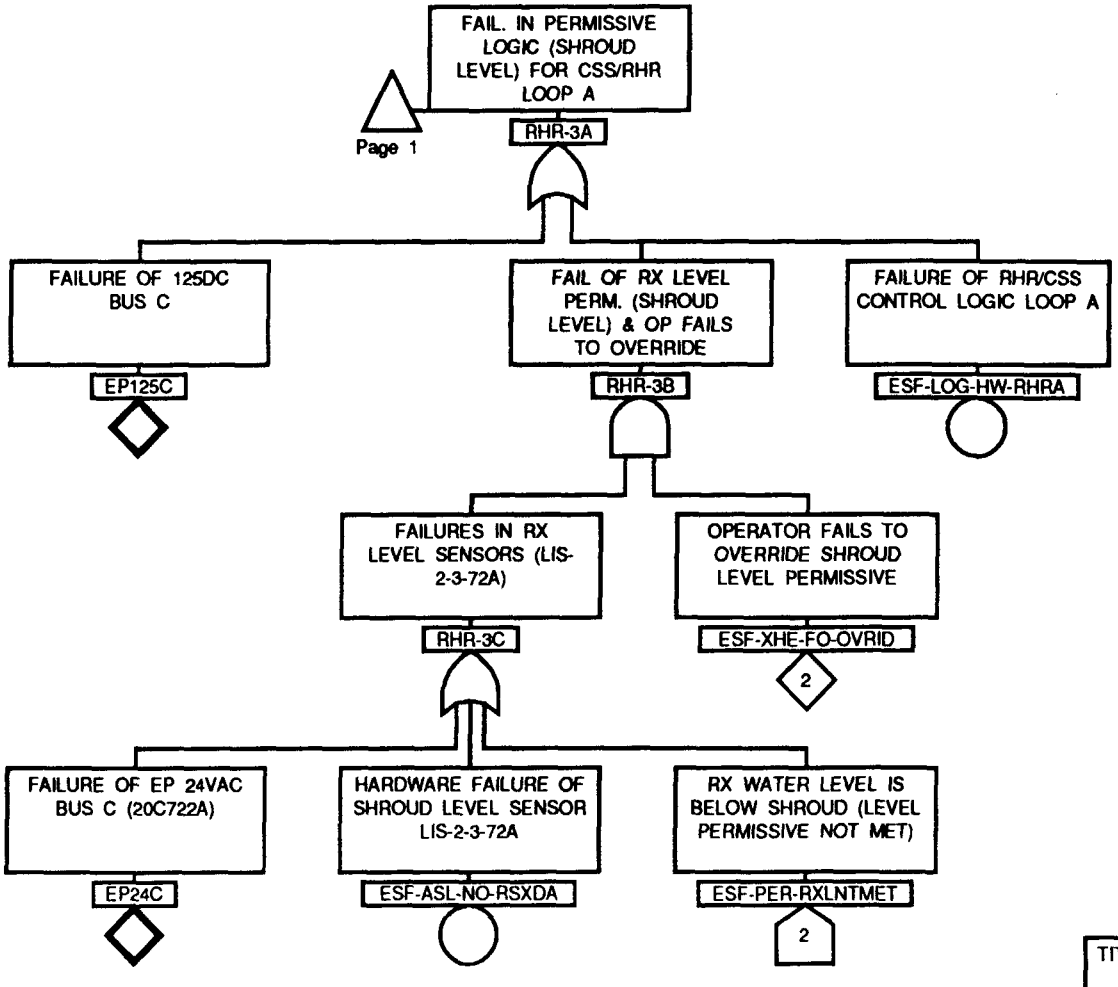

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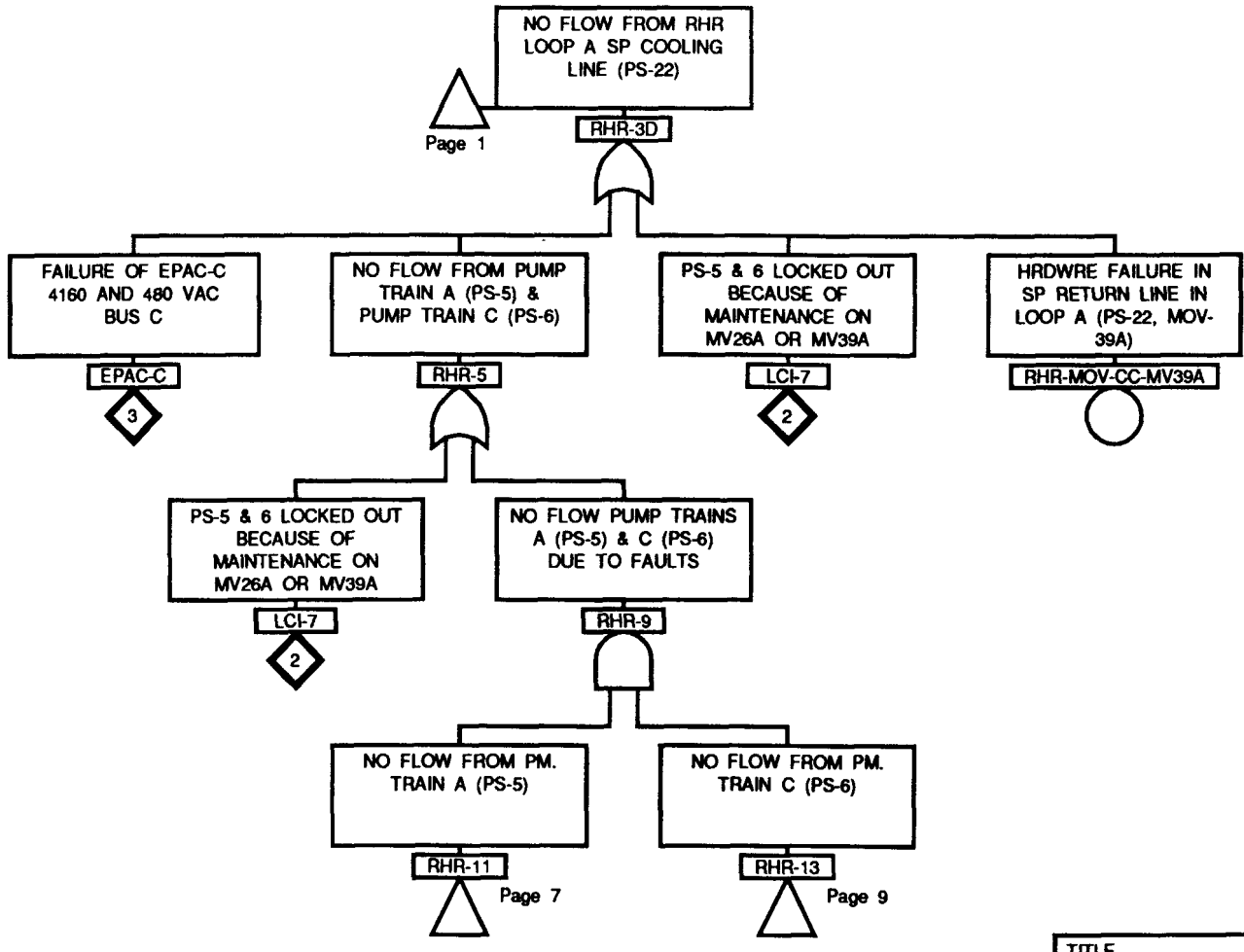

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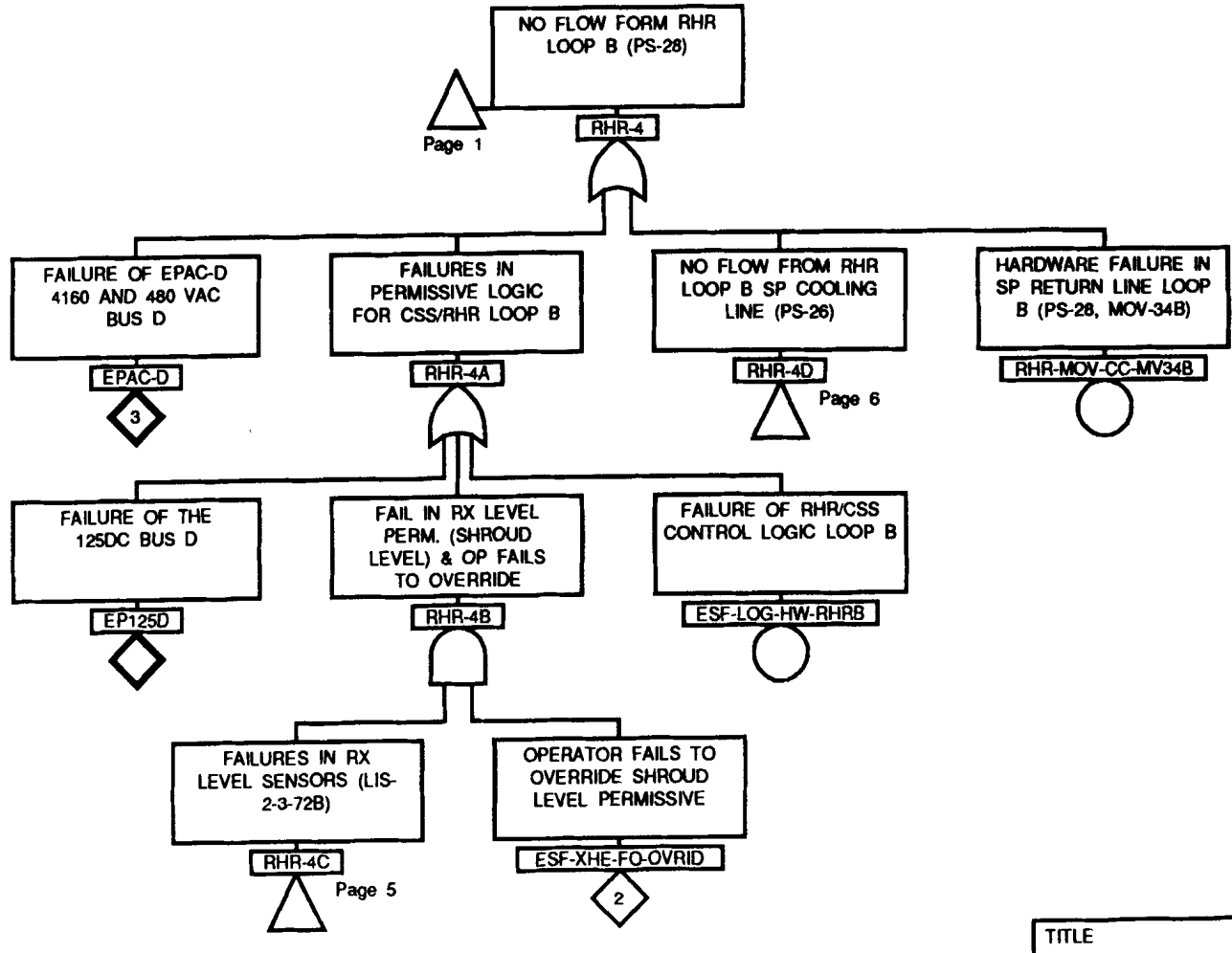

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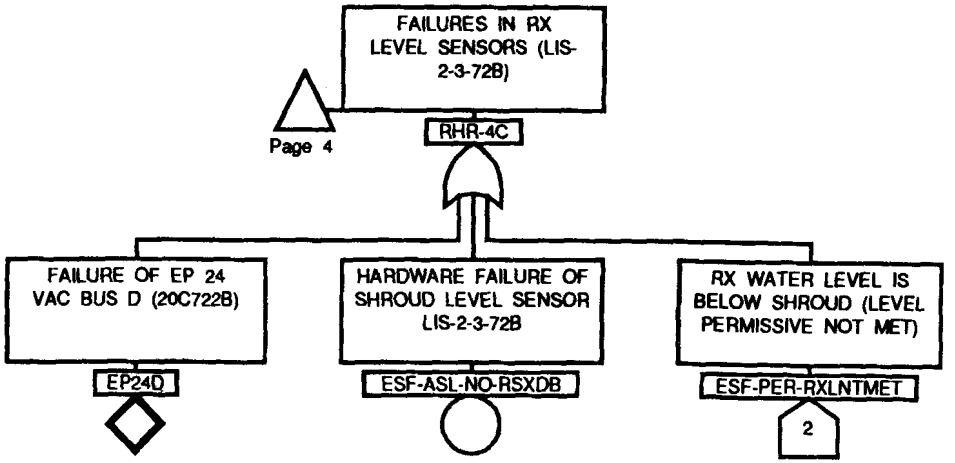

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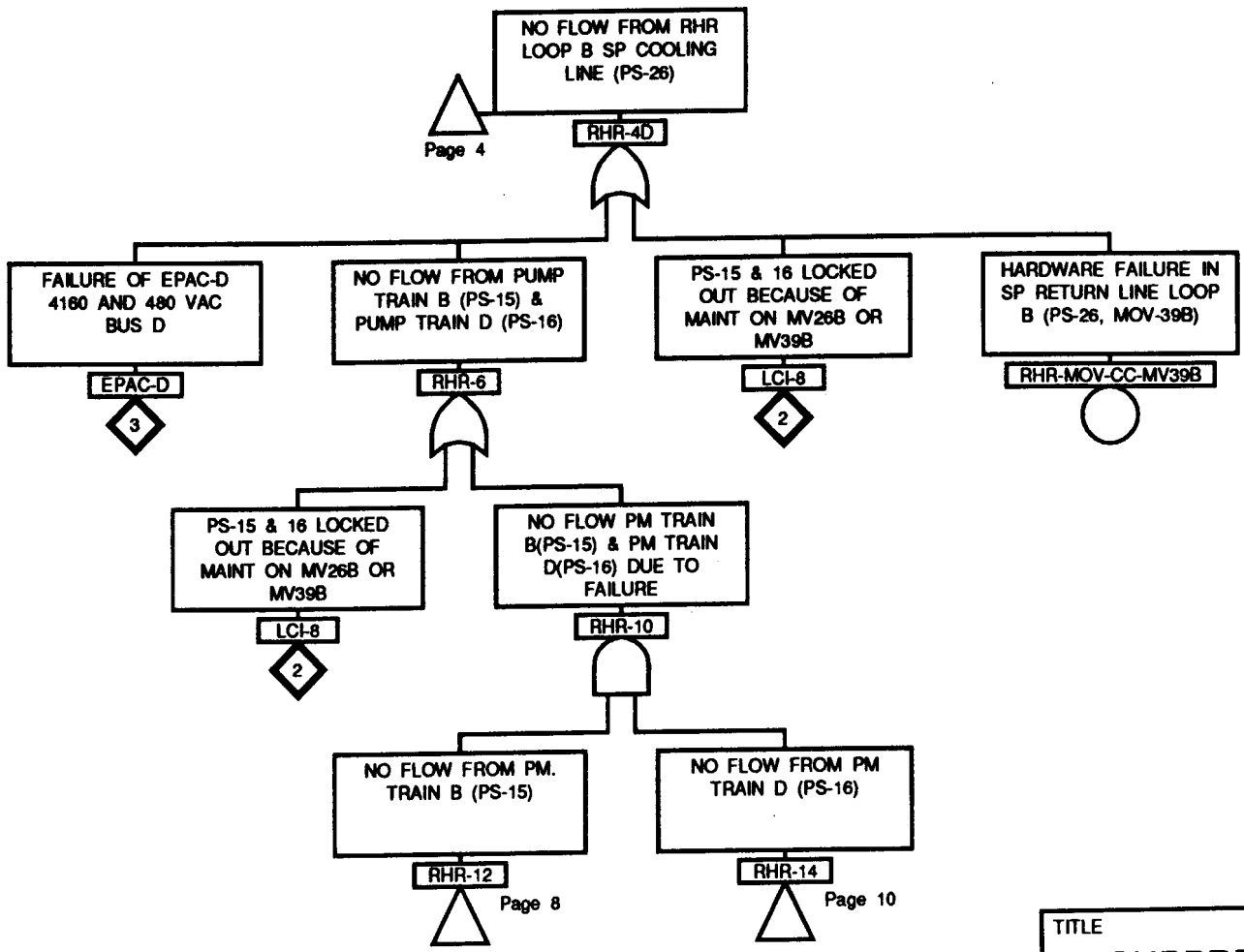

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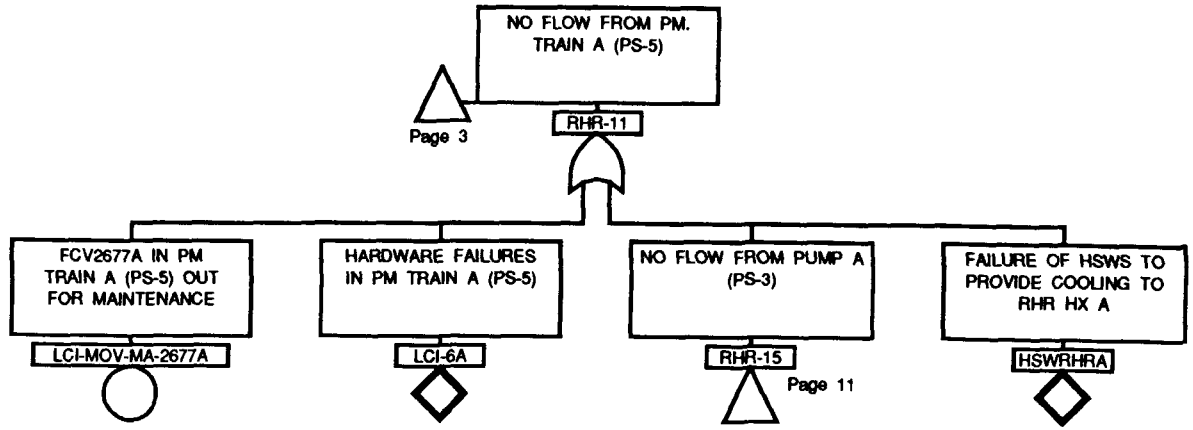

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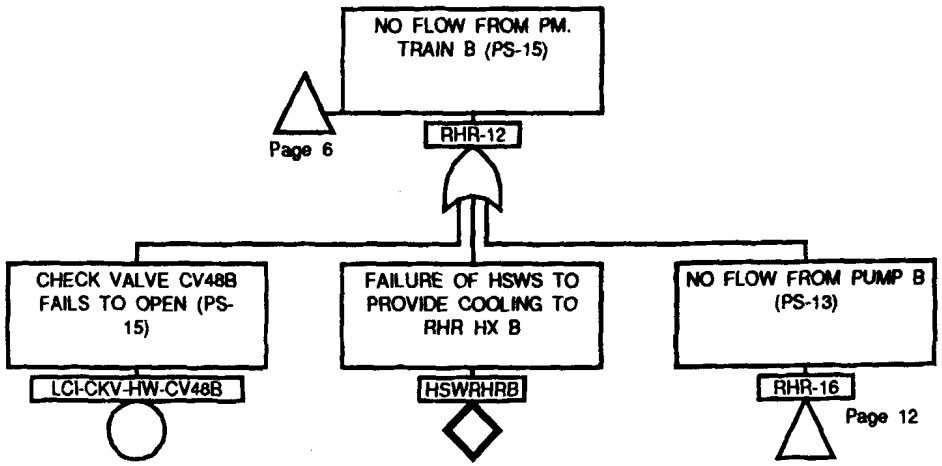

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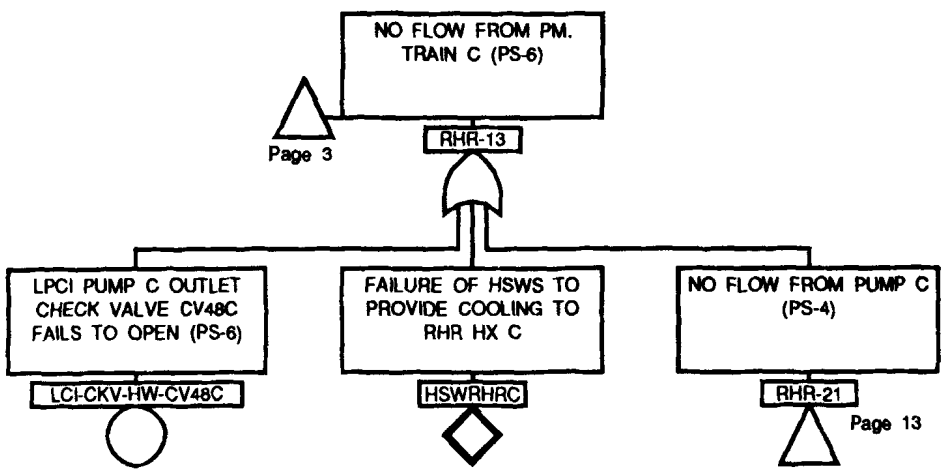

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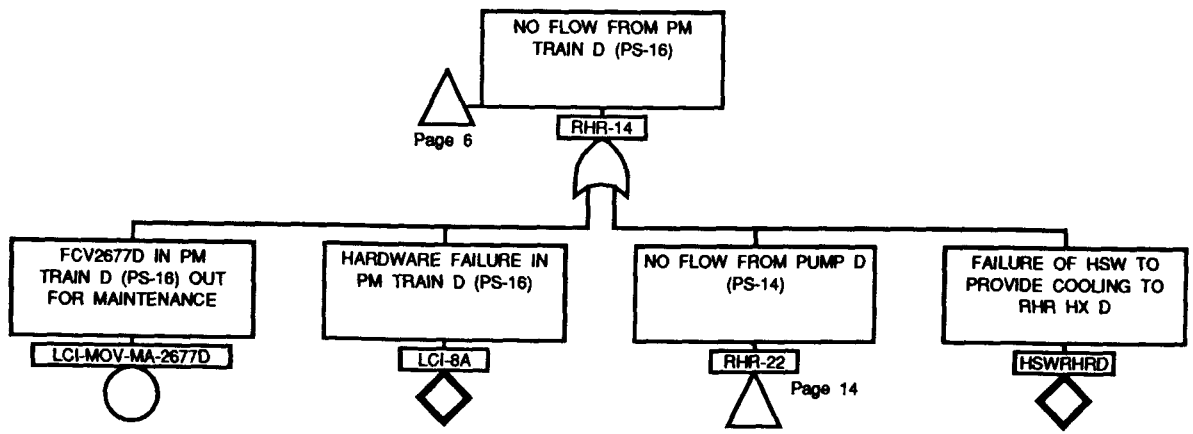

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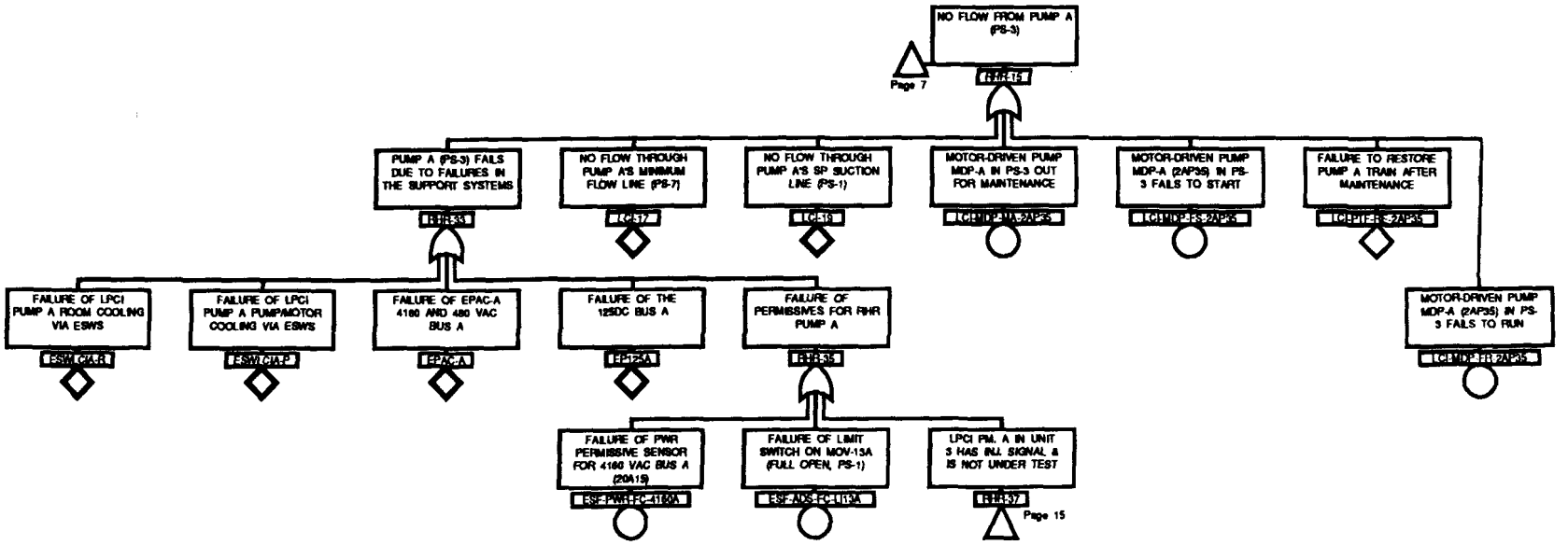

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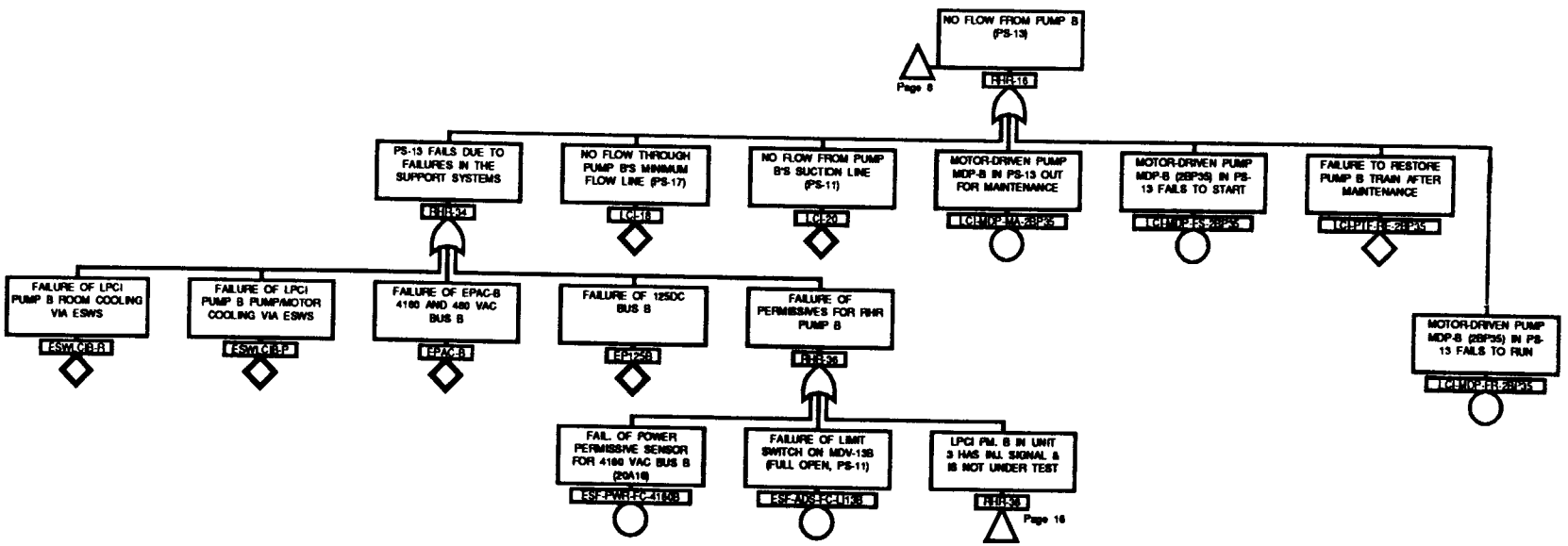

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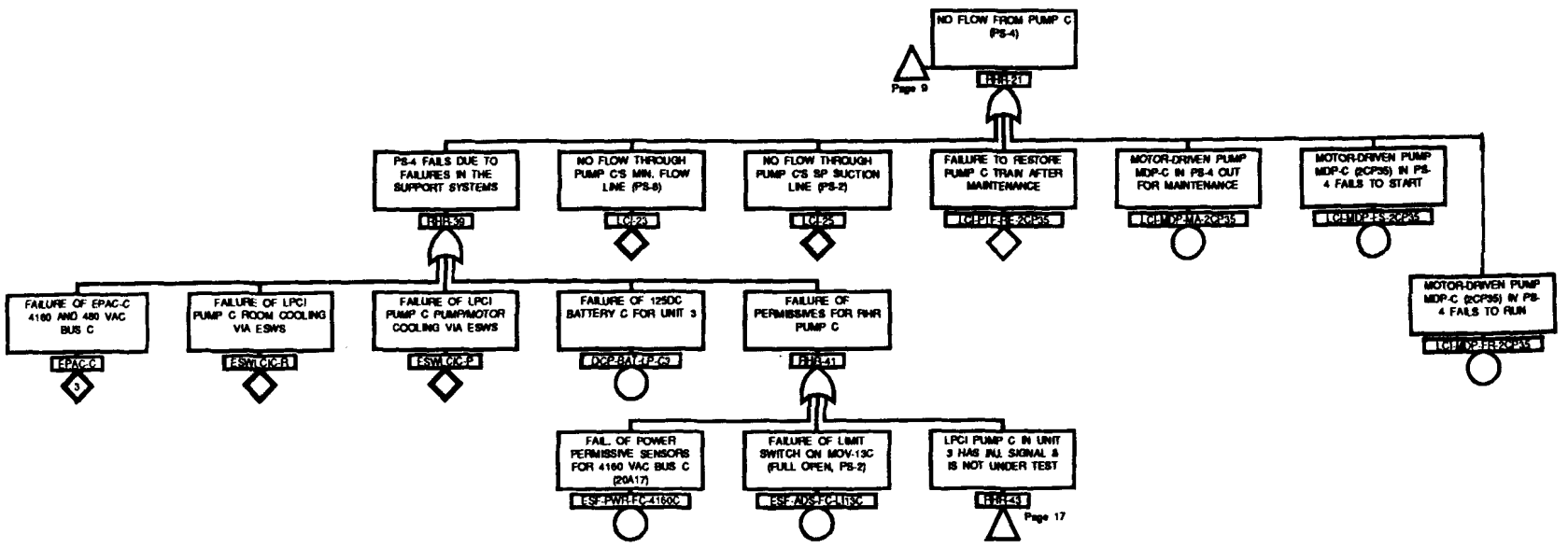

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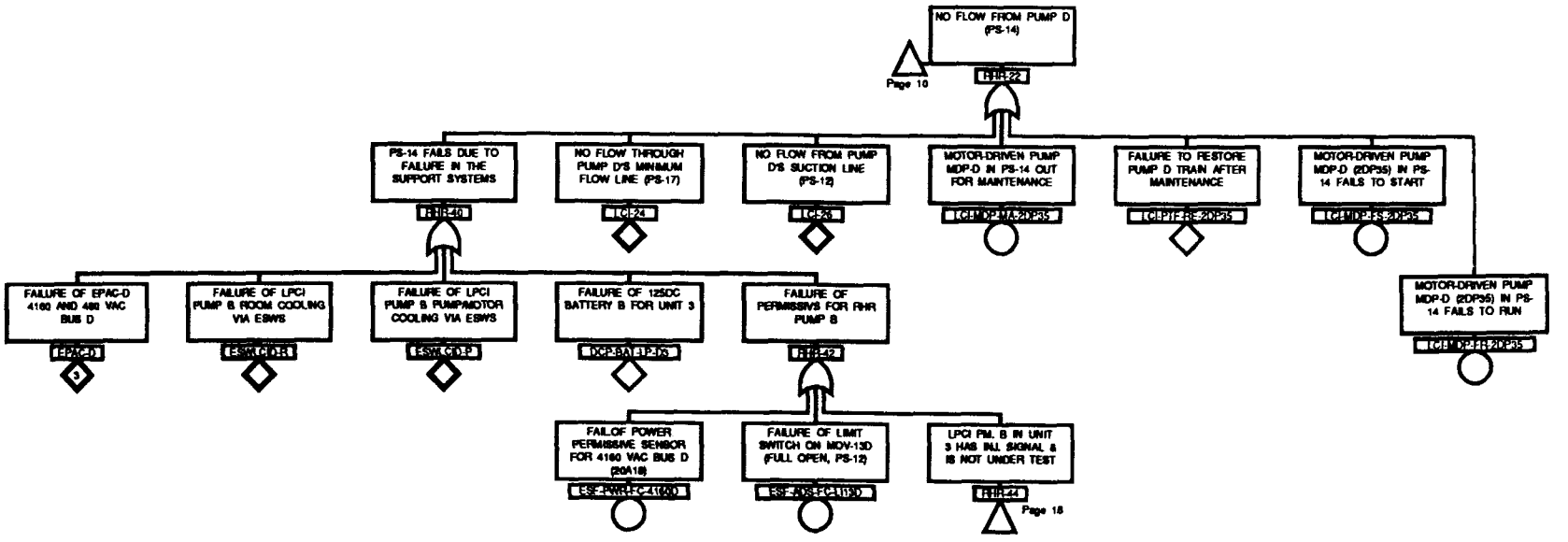

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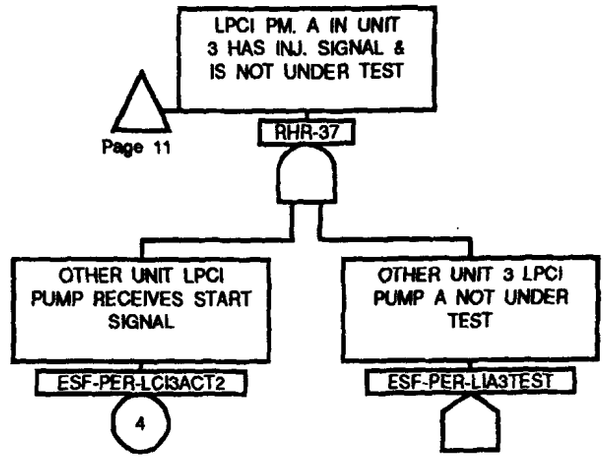

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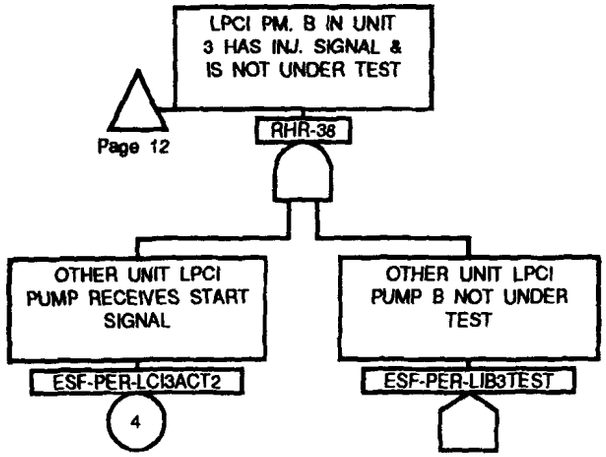

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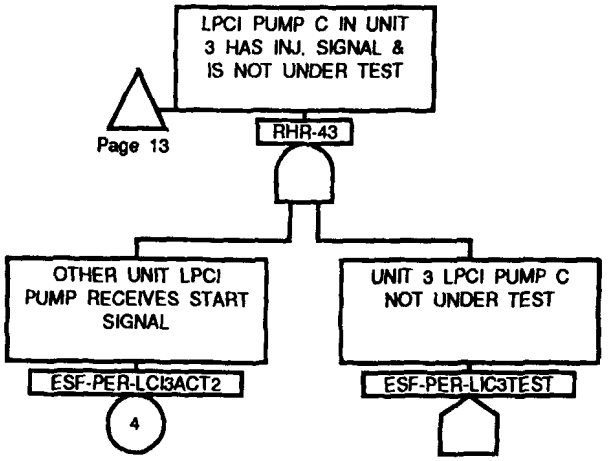

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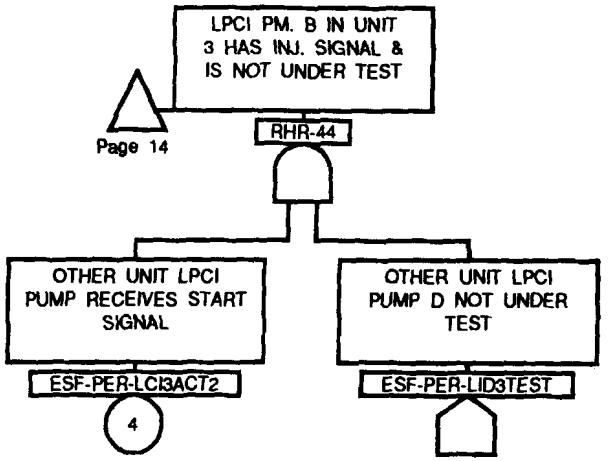

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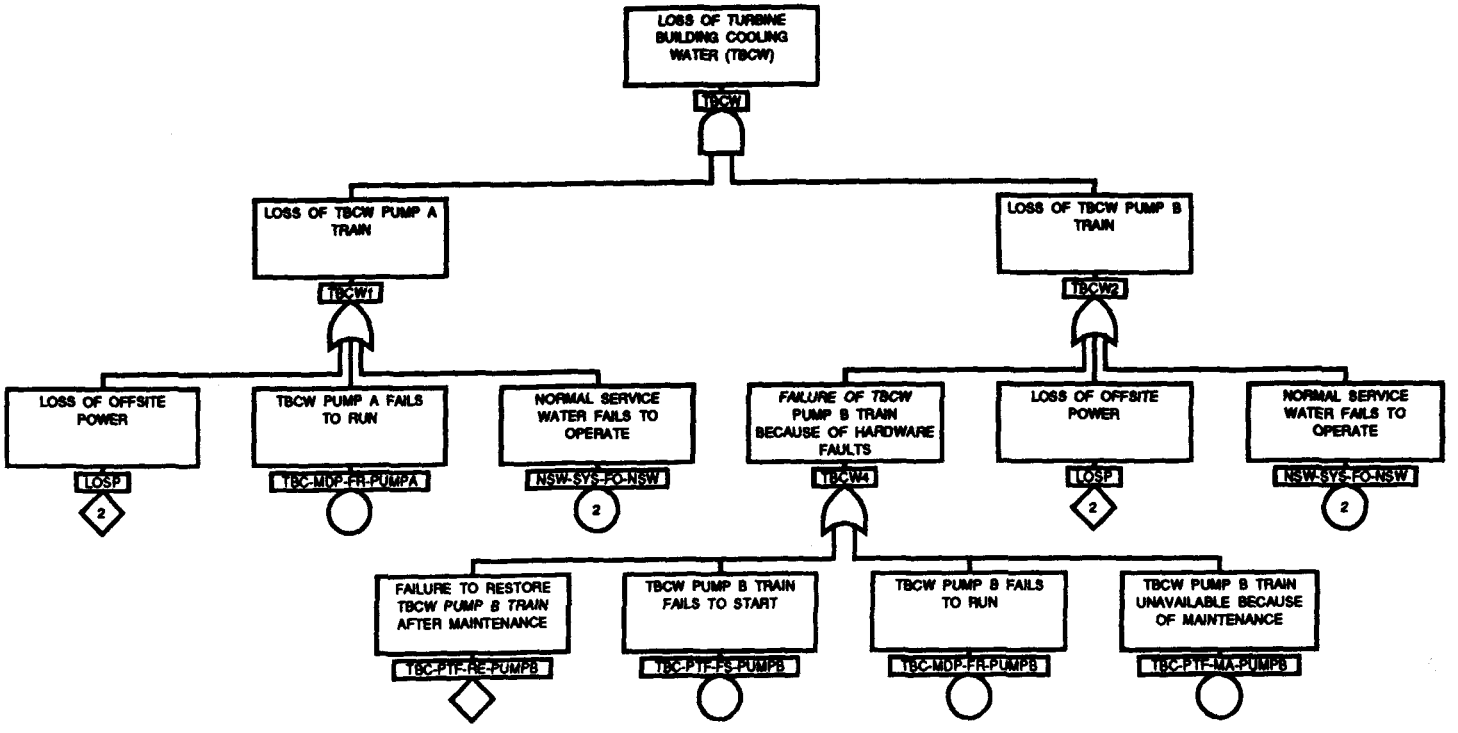

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APPENDIX C

HUMAN RELIABILITY ANALYSIS - DETAILED RESULTS

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C.1 Introduction to the Accident Tables

The analysis that was performed to calculate the values for the Human Reliability Analysis (HRA) is contained in this appendix. Two types of failures were studied for the HRA: pre-accident and post-accident. Section C.2 presents the pre-accident analysis; and, Section C.3 presents the post-accident analysis.

The development and use of these tables in the Peach Bottom analysis is described in the notes given in Section C.2 and C.3 for each pre-accident and post-accident table.

Pre-accident human actions were considered for all systems at Peach Bottom that are not normally operating. Of these, twelve systems required development of a pre-accident HRA table. These systems were: Actuation and Control, Automatic and Manual Depressurization, Control Rod Drive, Electric Power, Emergency Service Water, Emergency Ventilation, High Pressure Service Water, Low Pressure Coolant Injection, Low Pressure Core Spray, Reactor Building Cooling Water, Standby Liquid Control, and Turbine Building Cooling Water.

Three post-accident tables were developed: loss of injection sequences, W sequences and the special case of ESW-XHE-FO-EHS.

The pre-accident tables are listed alphanumerically by system. Within each system, the events are arranged alphanumerically.

C.2 Analysis of the Pre-Accident Human Actions

Pre-accident actions are those operator actions performed before the accident begins. The methodology used to evaluate pre-accident human actions is described in detail in Volume 1 of the NUREG/CR documents (Methodology Guidelines) [3]. However, in summary, the evaluation was performed in three major steps:

(1) Identification of all the activities associated with performing the task (e.g., restoring valve after test) and identification of any dependence effects between the activities.

(2) Identification of any potential for noticing and, thereby, correcting mistakes in failing to perform the activities.

(3) Evaluation of the human error probabilities using (1) and (2) above.

Each system has potential for pre-accident faults. These three steps for evaluating the faults are used in three tables for each system. That is, the first table presents the activities and dependence effects for pre-accident faults associated with each system; the second table presents the determination of any potential recovery for each pre-accident fault for each system; and the third table presents the post-maintenance or post-calibration Human Error Probabilities (HEPs).

The actual probabilities are calculated using the methodology developed in the "Accident Sequence Evaluation Program Human Reliability Analysis Procedure" [1].

The notes that describe each column in the tables are given below.

Notes to Table "Dependence Effects of Test and Maintenance Accidents":

(1) List system under investigation.

(2) For the applicable system, describe the task that the operator is performing (e.g., repair pump).

(3) For each task, describe the various activities that the operator must perform to complete the task and restore the system to its correct configuration.

(4) For each task, list the number of components the operator manipulates in performing the activities. If only one component is involved, there is no dependence to be evaluated and this table is not applicable.

(5) Note whether the system is a series or a parallel system. A system (or the activities) is considered a series system if failure of the operator to properly perform the activities on any one component prevents future success of the system. A parallel system would be one where the operator must fail the activities on all the components to prevent the system from performing its function.

(6) For each activity, identify the relative time between components in performing the activities; that is, the various activities on the different components occur or do not occur close in time. Close in time is defined as within two minutes.

(7) For each activity, identify the relative location of the components; that is, for the different components within the same "close time" reference, note whether the components are within the same visual frame of reference. Components are in the same "visual frame of reference" if the components are in view without the operator having to move (turn) his head (or within four feet of each other).

(8) For each activity and for the different components not within the same "visual" reference, note whether the operator is required to write down some information for each of the components.

(9) If the operator is not required to write anything for those components not within the same "visual" reference, note whether these components are then in the same general area.

The same general area can be defined as "four feet apart." If the answer is no, the analyst has done something wrong. In general, actions that take place within two minutes of each other should be at least in the same general area.

(10) The dependence of the error of omission (EOM) and error of commission (ECOM) parts of the BHEP is determined.

Series System --

ZD is assessed for both EOM and ECOM.

Parallel System --

(a) ZD is assessed for the ECOM.

(b) ZD is assessed for the EOM if activities do not occur within two minutes.

(c) ZD is assessed for the EOM if activities occur within two minutes but components are not in same visual frame of reference and the operator is required to record information on each component.

(d) CD is assessed for the EOM if activities occur within two minutes and components are in the same visual frame of reference.

(e) HD is assessed for the EOM if activities occur within two minutes but components are not in the same visual frame of reference and the operator is not required to record information on each component.

Notes to Table "Identification of Recovery Factors":

(1) List system under investigation.

(2) For the applicable system, describe the task that the operator is performing (e.g., repair pump).

(3) For each task, describe the various activities that the operator must perform to complete the task and restore the system to its correct configuration.

(4) For each component, note whether there is a "compelling signal." This is a signal alarmed in the control room indicating incorrect instrumentation adjustments or component restorations before normal power operation can be resumed.

(5) For each component, note whether a post-maintenance or post-calibration test will identify any incorrect restorations or adjustments.

(6) For each component, note whether a written checkoff list is used during the check by a second person verifying the status after the maintenance or calibration task, <u>or</u> if the checkoff list is used by the original operator at a different time and place from the original task.

(7) For each component, note whether there is a per shift or daily check on status using a written checkoff list.

(8) Based on Table 5-3 from Reference 1, select the appropriate case based on the above items. The value in Table 5-3 includes the BHEP (EOM and ECOM) of 0.03, it should not be included here.

(9) The associated error factor for the Case identified in Column #8 is noted here.

<u>Notes to Table "Post-Maintenance or Post-Calibration HEPs"</u>:

(1) List system under investigation.

(2) For the applicable system, describe the task that the operator is performing (e.g., repair pump).

(3) For each task, describe the various activities that the operator must perform to complete the task and restore the system to its correct configuration.

(4) The number of components that the operator is restoring.

(5) The Basic Human Error Probability (BHEP), i.e., ECOM plus EOM is listed here. If the analyst feels there should be any changes to the BHEP because of inadequate procedures, etc., it should be accounted for here in this number and explained in the comment column.

$$\begin{aligned} BHEP &= ECOM + EOM \\ &= 0.01 + 0.02 \\ &= 0.03 \end{aligned}$$

If you are determining, for example (as shown here), the failure of the operator to repair or restore a pump (or a room cooler) properly after the test or maintenance activity and that requires him to restore two valves where, in the first case, failure to restore either valve will fail the system, but only failure to restore both valves in the second case will fail the system, you do not necessarily calculate an HEP for each activity or for each

component. The equations in Column #7 take into account the number of components. What this means is that, in your fault trees, you would not have a failure to restore the pump (or room cooler) and failure to restore the valves. You have already taken this failure into account in the evaluation of the pump. Therefore, if you have this event for both the pump and the valves, it should be the same event.

(6) The appropriate recovery factors (from Table 2) are listed here.

(7) The BHEP is adjusted according to the dependence identified for the ECOM and EOM parts where:

EOM = 0.02
ECOM = 0.01
n = number of components
RF = recovery factor from Column 5

(8) The Nominal Human Error Probability (NHEP) is equal to the adjusted ECOM and EOM from Column #7 (the resulting mean value is shown in the comments column).

(9) The associated error factor of the NHEP is listed here.

TABLE C-1

ACTUATION AND CONTROL DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM ECM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
ESF	(2) Miscalibration of low CST level sensors (3) Operator must correctly calibrate CST sensors [ESF-XHE-MC-CSTLV]				> 2 min	NA	Yes	NA	ZD - ZD	HPCI - 2 sensors - both must fail RCIC - 2 sensors - both must fail To fail HPCI/RCIC - parallel - 4 components must be miscalibrated
ESF	(2) Miscalibration of high drywell pressure sensors (3) Operator must correctly calibrate sensors [ESF-XHE-MC-HDPRS]			Parallel	> 2 min	NA	Yes	NA	ZD - ZD	High drywell pressure types (need high drywell pressure to work) PISH-10-100: A & B or C & D fails HPCI PISH-10-101: A & B or C & D fails LPCS, LPCI or CSS
ESF	(2) Miscalibration of reactor pressure sensors (3) Operator must correctly calibrate sensors [ESF-XHE-MC-PRES]			Parallel	> 2 min	NA	Yes	NA	ZD - ZD	Low reactor pressure types (need low pressure to work) PIS-5-12: A & B or C & D fails SDC PS-2-3-128: C or D fails SDC PISL-2-3-52: A & B or C & D fails LPCS, LPCI or SDC

TABLE C-1

ACTUATION AND CONTROL DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES (CONCLUDED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM ECM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
ESF	(2) Miscalibration of reactor level sensors			Parallel	> 2 min	NA	Yes	NA	ZD - ZD	Reactor level types (must have low/high level to work)
	(3) Operator must correctly calibrate sensors									(Low) LIS-2-3-101: A & B or C & D fails SDC
[ESF-XHE-MC-VSLVL]										(High) LISH-2-3-72: C or D fails HPCI
										(High) LISH-2-3-72: A or B fails RCIC
										(Low) LSL-2-3-72: A & B or C & D fails HPCI/RCIC
										(Low) LSLL-2-3-72: A & B or C & D fails LPCS/ LPCI/ADS

TABLE C-2

ACTUATION AND CONTROL IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
ESF	[See Table 1]	[See Table 1]	Probably not	Yes	Yes	No	.03 x .01	10	
[ESF-XHE-MC-CSTLV]							.03 is the Basic Value		
ESF	[See Table 1]	[See Table 1]	Probably not	Yes	Yes	No	.03 x .01	10	
[ESF-XHE-MC-HDPRS]							.03 is the Basic Value		
ESF	[See Table 1]	[See Table 1]	Probably not	Yes	Yes	No	.03 x .01	10	
[ESF-XHE-MC-PRES]							.03 is the Basic Value		
ESF	[See Table 1]	[See Table 1]	Probably not	Yes	Yes	No	.03 x .01	10	
[ESF-XHE-MC-VSLVL]							.03 is the Basic Value		

TABLE C-3

ACTUATION AND CONTROL POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES EOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL EOM ZD (EOM*RF)^n	PARALLEL EOM CD (EOM*RF)	PARALLEL EOM HD (EOM*RF)(.5)$^{n-1}$	NHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
ESF (ESF-XHE-MC-CSTLV)	[See Table 1]	[See Table 1]		0.03	.01		.01 x (.01)^4 Negligible	See Note (a)		(.02 x .01) (.5)$^{4-1}$ x 1 way = 2.5E-5		10	Mean = 6.65E-5
ESF (ESF-XHE-MC-HDPRS)	[See Table 1]	[See Table 1]		0.03	.01		.01 x (.01)^4 Negligible	See Note (a)		(.02 x .01) (.5)$^{4-1}$ x 4 ways = 1.0E-4		10	Mean = 2.66E-4 See Note (b)
ESF (ESF-XHE-MC-PRES)	[See Table 1]	[See Table 1]		0.03	.01		.01 x (.01)^2 = 1E-6	See Note (a)		(.02 x .01)(.5)$^{2-1}$ x 2 ways = 2.0E-4		10	Mean = 5.32E-4 See Note (c)
ESF (ESF-XHE-MC-VSLVL)	[See Table 1]	[See Table 1]		0.03	.01		.01 x (.01)^6 Negligible	See Note (a)		(.02 x .01)(.5)$^{6-1}$ x 6 ways = 5.0E-5		10	Mean = 1.33E-4 See Note (d)

(a) Definitions of ZD, CD, HD do not fit well for calibration of equipment. Therefore, a judgment was made that: ZD (all independent) is unlikely, CD (complete dependence) is unlikely since different levels and large amounts of time are used, HD (high level of dependence) is most likely.

(b) Must fail a minimum of four sensors to fail HPCI, LPCS, LPCI or CSS. There are four ways to do this.

(c) Must fail a minimum of two sensors to fail all functions. There are two ways to do this. Sensor 2-3-52 fails LPCS, LPCI, SDC.

(d) Must fail a minimum of six sensors to fail SDC, HPCI/RCIC, LPCS/LPCI/ADS. There are eight ways to do this (ignoring LISHs).

TABLE C-4

AUTOMATIC AND MANUAL DEPRESSURIZATION DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE RCOM ECM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
ADS	(2) Inadvertent inhibit of ADS logic		Assume 1 component	Series	-1 component -				ZD	
	(3) Switch into inhibit position									
[ADS-LOG-HW-INHIB]										

TABLE C-5

AUTOMATIC AND MANUAL DEPRESSURIZATION IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
ADS [ADS-LOG-HW-INHIB]	[See Table 1]	[See Table 1]	Yes	Yes			At least case V; Upper Bound = 1.0E-5		

TABLE C-6

AUTOMATIC AND MANUAL DEPRESSURIZATION POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^{n}	PARALLEL ECOM ZD (ECOM*RF)^{n}	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM HD (ECOM*RF)(.5)$^{n-1}$	HHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
ADS	[See Table 1]	[See Table 1]	1	Upper Bound = 1.0E-5		1 x (1.0E-5)					1.0E-5		Treated as a constant because table provides only an Upper Bound value
[ADS-LOG-HW-INHIB]													

TABLE C-7

CONTROL ROD DRIVE DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
CRD	(2) Failure to restore pump B after maintenance		MDPB and XV36B or AV19B if worked on	Assume series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore pump B circuit breaker									
[CRD-XHE-RE-PB]										

TABLE C-8

CONTROL ROD DRIVE IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
CRD [CRD-XHE-RE-PB]	[See Table 1]	[See Table 1]	None	Yes	Yes	No	.03 x .01	10	

TABLE C-9

CONTROL ROD DRIVE POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM MD (ECOM*RF)(.5)$^{n-1}$	WHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
CRD	(See Table 1)	(See Table 1)	1-3 (1 is the more usual)	.03	.01	3E-4 to 9E-4					4E-4 (Typical of range)	20	Mean = 2.1E-3
(CRD-XHE-RE-PB)													

TABLE C-10

ELECTRIC POWER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM ECM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
ACP	(2) Failure to restore EDG after test or maintenance		1	Assume series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore automatic sequencing									
[ACP-DGN-RE-EDGA] [ACP-DGN-RE-EDGB] [ACP-DGN-RE-EDGC] [ACP-DGN-RE-EDGD]										

TABLE C-11

ELECTRIC POWER IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
ACP	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	
[ACP-DGN-RE-EDGA] [ACP-DGN-RE-EDGB] [ACP-DGN-RE-EDGC] [ACP-DGN-RE-EDGD]									

TABLE C-12

ELECTRIC POWER POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM HD (ECOM*RF)(.5)$^{n-1}$	NHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
ACP	[See Table 1]	[See Table 1]	1	.03	.01	.0003					3E-4	10	Mean = 7.98E-4
[ACP-DGN-RE-EDGA] [ACP-DGN-RE-EDGB] [ACP-DGN-RE-EDGC] [ACP-DGN-RE-EDGD]													

TABLE C-13

EMERGENCY SERVICE WATER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
ESW	(2) Miscalibration of ECW-cooling tower vibration detectors (3) Calibration of detectors on all cooling towers [ESW-CCF-MC-ECT]		Vibration detectors	Parallel	> 2 min	NA	Yes	NA	ZD - ZD	
ESW	(2) Failure to restore MOV2972 after maintenance (3) Restore MOV2972 to open position [ESW-MOV-RE-2972]		MOV2972 (1 component)						NA	
ESW	(2) Failure to restore DG cooling components after maintenance (3) Restore manual valves and AOVs to original position [ESW-PTF-RE-DGA] [ESW-PTF-RE-DGB] [ESW-PTF-RE-DGC] [ESW-PTF-RE-DGD]		XV69, XV70, XV71, AV21 (if worked on) for DGA (DGB, DGC, DGD are similar)	Series	> 2 min	NA	Yes	NA	ZD	

TABLE C-13

EMERGENCY SERVICE WATER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES (CONTINUED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
ESW	(2) Failure to restore ECW pump train after maintenance		ECW, MOV0841, CV506 (if worked on)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore MOV, pump breaker									
[ESW-PTF-RE-ECW]										
ESW	(2) Failure to restore ECCS Room Cooling		XV13, XV14, AV1 (if worked on) for HX1 (HX2 through HX26 similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore manual valves and AOV (if worked on)									
[ESW-PTF-RE-HX1]	[ESW-PTF-RE-HX22]									
[ESW-PTF-RE-HX2]	[ESW-PTF-RE-HX24]									
[ESW-PTF-RE-HX3]	[ESW-PTF-RE-HX25]									
[ESW-PTF-RE-HX4]	[ESW-PTF-RE-HX27]									
[ESW-PTF-RE-HX6]	[ESW-PTF-RE-HX26]									
[ESW-PTF-RE-HX7]										
[ESW-PTF-RE-HX9]										
[ESW-PTF-RE-HX10]										
[ESW-PTF-RE-HX12]										
[ESW-PTF-RE-HX13]										
[ESW-PTF-RE-HX15]										
[ESW-PTF-RE-HX16]										
[ESW-PTF-RE-HX18]										
[ESW-PTF-RE-HX19]										
[ESW-PTF-RE-HX21]										

TABLE C-13

EMERGENCY SERVICE WATER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES (CONCLUDED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
ESW	(2) Failure to restore ESW pump trains after maintenance		MDPA, XV507A, CV515A (if worked on) (MDPB train similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore manual valves and pump breakers									
[ESW-PTF-RE-MDPA] [ESW-PTF-RE-MDPB]										
ESW	(2) Failure to restore manual valves after maintenance		XVA, XVB and XV21, XV22 (if worked on) (XVCD through XVKL similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore manual valves in ECCS pump/room ESW loads									
[ESW-XVM-RE-XVAB] [ESW-XVM-RE-XVCD] [ESW-XVM-RE-XVEF] [ESW-XVM-RE-XVGH] [ESW-XVM-RE-XVIJ] [ESW-XVM-RE-XVKL]	[ESW-XVM-RE-XVMN] [ESW-XVM-RE-XVOP] [ESW-XVM-RE-XVOR] [ESW-XVM-RE-XVST]									

TABLE C-14

EMERGENCY SERVICE WATER IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
ESW [ESW-CCF-MC-ECT]	[See Table 1]	[See Table 1]	No	No	Yes	No	.03 x .01 .03 is the Basic Value	10	
ESW [ESW-MOV-RE-2972]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 = 1.0 .03 is the Basic Value	10	
ESW [ESW-PTF-RE-DGA] [ESW-PTF-RE-DGB] [ESW-PTF-RE-DGC] [ESW-PTF-RE-DGD]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 .03 is the Basic Value	10	
ESW [ESW-PTF-RE-ECW]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 = .01 x 1.0 .03 is the Basic Value	10	

TABLE C-14

EMERGENCY SERVICE WATER IDENTIFICATION OF RECOVERY FACTORS (CONTINUED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
ESW	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 .03 is the Basic Value	10	
[ESW-PTF-RE-HX1] [ESW-PTF-RE-HX2] [ESW-PTF-RE-HX3] [ESW-PTF-RE-HX4] [ESW-PTF-RE-HX6] [ESW-PTF-RE-HX7] [ESW-PTF-RE-HX9] [ESW-PTF-RE-HX10] [ESW-PTF-RE-HX12] [ESW-PTF-RE-HX13]	[ESW-PTF-RE-HX15] [ESW-PTF-RE-HX16] [ESW-PTF-RE-HX18] [ESW-PTF-RE-HX19] [ESW-PTF-RE-HX21] [ESW-PTF-RE-HX22] [ESW-PTF-RE-HX24] [ESW-PTF-RE-HX25] [ESW-PTF-RE-HX27] [ESW-PTF-RE-HX28]								
ESW	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 .03 is the Basic Value	10	
[ESW-PTF-RE-MDPA] [ESW-PTF-RE-MDPB]									

TABLE C-14

EMERGENCY SERVICE WATER IDENTIFICATION OF RECOVERY FACTORS (CONCLUDED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
ESW	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 .03 is the Basic Value	10	
	[ESW-XVM-RE-XVAB] [ESW-XVM-RE-XVCD] [ESW-XVM-RE-XVEF]X [ESW-XVM-RE-XVGH] [ESW-XVM-RE-XVIJ] [ESW-XVM-RE-XVKL]	[ESW-XVM-RE-XVMN] [ESW-XVM-RE-XVOP] [ESW-XVM-RE-XVQR] [ESW-XVM-RE-XVST]							

TABLE C-15

EMERGENCY SERVICE WATER POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM HD (ECOM*RF)(.5)$^{n-1}$	HHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
ESW [ESW-CCF-MC-ECT]	[See Table 1]	[See Table 1]	3	.03	.1		$(.01 \times .1)^3 + (.02 \times .1)^3$ = 9E-9					10	Mean = 2.30E-8
ESW [ESW-MOV-RE-2972]	[See Table 1]	[See Table 1]	1	.03	.01						3E-4	10	Mean = 7.98E-4
ESW [ESW-PTF-RE-DGA] [ESW-PTF-RE-DGB] [ESW-PTF-RE-DGC] [ESW-PTF-RE-DGD]	[See Table 1]	[See Table 1]	3 or 4	.03	.01	9E-4 to 1.2E-3					1.0E-3 See Note (a)	12	Mean = 3.13E-3
ESW [ESW-PTF-RE-ECW]	[See Table 1]	[See Table 1]	2 or 3 (2 more usual)	.03	.01	6E-4 to 9E-4					7.0E-4 See Note (a)	12	Mean = 2.19E-3

TABLE C-15

EMERGENCY SERVICE WATER POST-MAINTENANCE OR POST-CALIBRATION HEPs (CONCLUDED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES EOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL EOM ZD (EOM*RF)^n	PARALLEL EOM CD (EOM*RF)	PARALLEL EOM HD (EOM*RF)(.5)$^{n-1}$	WHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
ESW	(See Table 1)	(See Table 1)	2 or 3 (usually 2)	.03	.01	6E-4 to 9E-4					7E-4 See Note (a)	12	Mean = 2.19E-3
(ESW-PTF-RE-HX1)		(ESW-PTF-RE-HX15)											
(ESW-PTF-RE-HX2)		(ESW-PTF-RE-HX16)											
(ESW-PTF-RE-HX3)		(ESW-PTF-RE-HX18)											
(ESW-PTF-RE-HX4)		(ESW-PTF-RE-HX19)											
(ESW-PTF-RE-HX6)		(ESW-PTF-RE-HX21)											
(ESW-PTF-RE-HX7)		(ESW-PTF-RE-HX22)											
(ESW-PTF-RE-HX9)		(ESW-PTF-RE-HX24)											
(ESW-PTF-RE-HX10)		(ESW-PTF-RE-HX25)											
(ESW-PTF-RE-HX12)		(ESW-PTF-RE-HX27)											
(ESW-PTF-RE-HX13)		(ESW-PTF-RE-HX28)											
(ESW-PTF-RE-HX14)													
ESW	(See Table 1)	(See Table 1)	2 or 3 (2 more usual)	.03	.01	6E-4 to 9E-4					7.0E-4 See Note (a)	12	Mean = 2.19E-3
(ESW-PTF-RE-MDPA)													
(ESW-PTF-RE-MDPB)													
ESW	(See Table 1)	(See Table 1)	2-4 (usually 2)	.03	.01	6E-4 to 1.2E-3					9E-4 See Note (a)	14	Mean = 3.26E-3
(ESW-XVM-RE-XVAB)		(ESW-XVM-RE-XVMN)											
(ESW-XVM-RE-XVCD)		(ESW-XVM-RE-XVOP)											
(ESW-XVM-RE-XVEF)		(ESW-XVM-RE-XVQR)											
(ESW-XVM-RE-XVGH)		(ESW-XVM-RE-XVST)											
(ESW-XVM-RE-XVIJ)													
(ESW-XVM-RE-XVKL)													

Note (a) Typical of each range of possible values.

TABLE C-16

EMERGENCY VENTILATION DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
EHV	(2) Failure to restore system after maintenance		AV25, AV26, Fan 7 for OAV64 (OBV64, OCV64, ODV64 similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore AOV's and fan to original positions									
[EHV-PTF-RE-OAV64] [EHV-PTF-RE-OBV64] [EHV-PTF-RE-OCV64] [EHV-PTF-RE-ODV64]										
EHV	(2) Failure to restore system after maintenance		AV27, Fan 8 for OAV91 (OBV91, OCV91, ODV91 similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore AOV and fan to original positions									
[EHV-PTF-RE-OAV91] [EHV-PTF-RE-OBV91] [EHV-PTF-RE-OCV91] [EHV-PTF-RE-ODV91]										

TABLE C-17

EMERGENCY VENTILATION IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
EHV [EHV-PTF-RE-OAV64] [EHV-PTF-RE-OBV64] [EHV-PTF-RE-OCV64] [EHV-PTF-RE-ODV64]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 .03 is the Basic Value	10	
EHV [EHV-PTF-RE-OAV91] [EHV-PTF-RE-OBV91] [EHV-PTF-RE-OCV91] [EHV-PTF-RE-ODV91]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 0.3 is the Basic Value	10	

TABLE C-18

EMERGENCY VENTILATION POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM HD (ECOM*RF)(.5)$^{n-1}$	WHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
EHV	[See Table 1]	[See Table 1]	3	.03	.01	9.0E-4					9E-4	10	Mean = 2.39E-3
[EHV-PTF-RE-OAV64] [EHV-PTF-RE-OBV64] [EHV-PTF-RE-OCV64] [EHV-PTF-RE-ODV64]													
EHV	[See Table 1]	[See Table 1]	2	.03	.01	6.0E-4					6E-4	10	Mean = 1.60E-3
[EHV-PTF-RE-OAV91] [EHV-PTF-RE-OBV91] [EHV-PTF-RE-OCV91] [EHV-PTF-RE-ODV91]													

TABLE C-19

HIGH PRESSURE SERVICE WATER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
HSW	(2) Failure to restore valve after maintenance		MV2344 for 2344, MV2803 FOR 2803	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore valve to original position									
[HSW-MOV-RE-2344] [HSW-MOV-RE-2803]										
HSW	(2) Failure to restore fan train after maintenance		MV2804B, MV2803, MV502A, Fan A for ECTFA (ECTFB, ECTFC similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore MOVs and fan to original positions									
[HSW-PTF-RE-ECTFA] [HSW-PTF-RE-ECTFB] [HSW-PTF-RE-ECTFC]										
HSW	(2) Failure to restore heat exchanger train after maintenance		XV5, MV89A, XV9, HXA for HXA (HXB, HXC, HXD similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore manual valve, MOV and HX to original positions									
[HSW-PTF-RE-HXA] [HSW-PTF-RE-HXB] [HSW-PTF-RE-HXC] [HSW-PTF-RE-HXD]										

TABLE C-19

HIGH PRESSURE SERVICE WATER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES (CONTINUED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
HSW	(2) Failure to restore system after maintenance (3) Restore manual valve, check valve or pump to original operating position [HSW-PTF-RE-MDPA] [HSW-PTF-RE-MDPB] [HSW-PTF-RE-MDPC] [HSW-PTF-RE-MDPD]		XV501A, CV502A MDPA FOR MDPA (MDPB, MDPC, MDPD similar)	Series	> 2 min	NA	Yes	NA	ZD	
HSW	(2) Failure to restore valves after maintenance (3) Restore valves to original position [HSW-PTF-RE-PS10]		MV2486, XV11	Series	> 2 min	NA	Yes	NA	ZD	
HSW	(2) Failure to restore valves after maintenance (3) Restore valves to original position [HSW-PTF-RE-PS18]		MV2803, MV2804A, MV2804B	Series	> 2 min	NA	Yes	NA	ZD	

TABLE C-19

HIGH PRESSURE SERVICE WATER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES (CONCLUDED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM / EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
HSW	(2) Failure to restore MOVs and check valve		MV176, MV174, CV5	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore valves to original position									
[HSW-PTF-RE-PS20]										

TABLE C-20

HIGH PRESSURE SERVICE WATER IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
HSW [HSW-MOV-RE-2344] [HSW-MOV-RE-2803]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 .03 is the Basic Value	10	
HSW [HSW-PTF-RE-ECTFA] [HSW-PTF-RE-ECTFB] [HSW-PTF-RE-ECTFC]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 [redacted] .01 x 1.0	10	
HSW [HSW-PTF-RE-HXA] [HSW-PTF-RE-HXB] [HSW-PTF-RE-HXC] [HSW-PTF-RE-HXD]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 [redacted] .01 [redacted] 1.0	10	
HSW [ESW-PTF-RE-MDPA] [ESW-PTF-RE-MDPB] [ESW-PTF-RE-MDPC] [ESW-PTF-RE-MDPD]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 [redacted] .01 x 1.0 .03 is the Basic Value	10	

TABLE C-20

HIGH PRESSURE SERVICE WATER IDENTIFICATION OF RECOVERY FACTORS (CONCLUDED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	RF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
HSW [HSW-PTF-RE-PS10]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 .03 is the Basic Value	10	
HSW [HSW-PTF-RE-PS18]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0 .03 is the Basic Value	10	
HSW [HSW-PTF-RE-PS20]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01 x 1.0	10	

TABLE C-21

HIGH PRESSURE SERVICE WATER POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/^RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM RD (ECOM*RF)(.5)^(n-1)	NHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
HSW (HSW-MOV-RE-2344) (HSW-MOV-RE-2803)	(See Table 1)	(See Table 1)	1	.03	.01	3.0E-4					3E-4	10	Mean = 7.98E-4
HSW (HSW-PTF-RE-ECTFA) (HSW-PTF-RE-ECTFB) (HSW-PTF-RE-ECTFC)	(See Table 1)	(See Table 1)	4	.03	.01	1.2E-3					1.2E-3	10	Mean = 3.19E-3
HSW (HSW-PTF-RE-HXA) (HSW-PTF-RE-HXB) (HSW-PTF-RE-HXC) (HSW-PTF-RE-HXD)	(See Table 1)	(See Table 1)	4	.03	.01	1.2E-3					1.2E-3	10	Mean = 3.19E-3
HSW (HSW-PTF-RE-MDPA) (HSW-PTF-RE-MDPB) (HSW-PTF-RE-MDPC) (HSW-PTF-RE-MDPD)	(See Table 1)	(See Table 1)	2 or 3	.03	.01	9E-4 to 6E-4					7E-4 (Typical of range)	12	Mean = 2.19E-3
HSW (HSW-PTF-RE-PS10)	(See Table 1)	(See Table 1)	2	.03	.01	5.0E-4					6E-4	10	Mean = 1.6E-3

TABLE C-21

HIGH PRESSURE SERVICE WATER POST-MAINTENANCE OR POST-CALIBRATION HEPs (CONCLUDED)

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES EOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL EOM ZD (EOM*RF)^n	PARALLEL EOM CD (EOM*RF)	PARALLEL EOM HD (EOM*RF)(.5)$^{n-1}$	HHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
HSW (HSW-PTF-RE-PS18)	(See Table 1)	(See Table 1)	3	.03	.01	9.0E-4					9E-4	10	Mean = 2.39E-3
HSW (HSW-PTF-RE-PS20)	(See Table 1)	(See Table 1)	3	.03	.01	9.0E-4					9E-4	10	Mean = 2.39E-3

TABLE C-22

LOW PRESSURE COOLANT INJECTION DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
LCI	(2) Failure to restore MOVs and manual valves after maintenance		MV154A, MV25A, XV28A, XV28C for M154A (M154B similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore valves to original position									
[LCI-MOV-RE-M154A] [LCI-MOV-RE-M154B]										
LCI	(2) Failure to restore pump train after maintenance		MV13A, MDPA, FCV3677A, XV28A, MV16A, CV48A (2BP35, 2CP35, 2DP35 similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore valves and breaker to original position									
[LCI-PTF-RE-2AP35] [LCI-PTF-RE-2BP35] [LCI-PTF-RE-2CP35] [LCI-PTF-RE-2DP35]										
LCI	(2) Failure to restore loop valves after maintenance		MV34A, MV39A, XV28A, XV28C for Loop A (Loop B similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore valves to original position									
[LCI-PTF-RE-LOOPA] [LCI-PTF-RE-LOOPB]										

TABLE C-23

LOW PRESSURE COOLANT INJECTION IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
LCI [LCI-MOV-RE-M154A] [LCI-MOV-RE-M154B]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	
LCI [LCI-PTF-RE-2AP35] [LCI-PTF-RE-2BP35] [LCI-PTF-RE-2CP35] [LCI-PTF-RE-2DP35]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	
LCI [LCI-PTF-RE-LOOPA] [LCI-PTF-RE-LOOPB]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	

TABLE C-24

LOW PRESSURE COOLANT INJECTION POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM MD (ECOM*RF)(.5)$^{n-1}$	WHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
LCI	[See Table 1]	[See Table 1]	4	.03	.01	.0012					1.2E-3	10	Mean = 3.19E-3
[LCI-MOV-RE-M154A] [LCI-MOV-RE-M154B]													
LCI	[See Table 1]	[See Table 1]	4-6	.03	.01	.0012 to .0018					1.5E-3 (Typical of range)	12	Mean = 4.70E-3
[LCI-PTF-RE-2AP35] [LCI-PTF-RE-2BP35] [LCI-PTF-RE-2CP35] [LCI-PTF-RE-2DP35]													
LCI	[See Table 1]	[See Table 1]	4	.03	.01	.0012					1.2E-3	10	Mean = 3.19E-3
[LCI-PTF-RE-LOOPA] [LCI-PTF-RE-LOOPB]													

TABLE C-25

LOW PRESSURE CORE SPRAY DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
LCS	(2) Failure to restore MOV11 after maintenance		MV11A, MV12A, XV63A, XV63C, MV26A for MV11A (MV11B similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore valve to original position									
[LCS-MOV-RE-MV11A] [LCS-MOV-RE-MV11B]										
LCS	(2) Failure to restore pump train after maintenance		MV7A, MDPA, MV5A, CV10A, XV63A for 2AP37 (2BP37, 2CP37, 2DP37 similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore valves and breaker to original position									
[LCS-MOV-RE-2AP37] [LCS-MOV-RE-2BP37] [LCS-MOV-RE-2CP37] [LCS-MOV-RE-2DP37]										

TABLE C-26

LOW PRESSURE CORE SPRAY IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	RF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
LCS [LCS-MOV-RE-MV11A] [LCS-MOV-RE-MV11B]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	
LCS [LCS-PTF-RE-2AP37] [LCS-PTF-RE-2BP37] [LCS-PTF-RE-2CP37] [LCS-PTF-RE-2DP37]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	

TABLE C-27

LOW PRESSURE CORE SPRAY POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES EOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL EOM ZD (EOM*RF)^n	PARALLEL EOM CD (EOM*RF)	PARALLEL EOM HD (EOM*RF)(.5)$^{n-1}$	NHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
LCS	[See Table 1]	[See Table 1]	5	.03	.01	.0015					1.5E-3	10	Mean = 3.99E-3
[LCS-MOV-RE-MV11A] [LCS-MOV-RE-MV11B]													
LCS	[See Table 1]	[See Table 1]	4-6	.03	.01	.0012 to .0018					1.5E-3 (Typical of range)	12	Mean = 4.70E-3
[LCS-PTF-RE-2AP37] [LCS-PTF-RE-2BP37] [LCS-PTF-RE-2CP37] [LCS-PTF-RE-2DP37]													

TABLE C-28

REACTOR BUILDING COOLING WATER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
RBC	(2) Failure to restore pump B train after maintenance (3) Restore valves and breaker to original position [RBC-PTF-RE-PB]		SUCV, PB, CKV, DISV	Series	> 2 min	NA	Yes	NA	ZD	
RBC	(2) Failure to restore train of valves after maintenance (3) Restore valves to original position [RBC-PTF-RE-2352] [RBC-PTF-RE-2354]		AV8154, AV2352, SV2352 for 2352 (AV8156, AV2354, SV2354, for 2354)	Series	> 2 min	NA	Yes	NA	ZD	

TABLE C-29

REACTOR BUILDING COOLING WATER IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
RBC [RBC-PTF-RE-PB]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	
RBC [RBC-PTF-RE-2352] [RBC-PTF-RE-2354]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	

TABLE C-30

REACTOR BUILDING COOLING WATER POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM HD (ECOM*RF)(.5)$^{n-1}$	NHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
RBC	[See Table 1]	[See Table 1]	4	.03	.01	.0012					1.2E-3	10	Mean = 3.10E-3
[RBC-PTF-RE-PB]													
RBC	[See Table 1]	[See Table 1]	3	.03	.01	.0009					9.0E-4	10	Mean = 2.39E-3
[RBC-PTF-RE-2352] [RBC-PTF-RE-2354]													

TABLE C-31

STANDBY LIQUID CONTROL DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
SLC	(2) Failure to restore system after test		XV27, XV26, XV11, XV41	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore manual valves to original position									
[SLC-XHE-RE-DIVER]										
SLC	(2) Explosive valve not properly restored after maintenance		EV14A (EV14B similar)	Assume series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore to operable state									
[SLC-XHE-RE-EV14A] [SLC-XHE-RE-EV14B]										
SLC	(2) MDP A train not properly restored after maintenance		XV12A, XV13A, MDPA, CV43A (if worked on) (PB similar)	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore manual valves to original position and replace pump circuit breaker									
[SLC-XHE-RE-PA] [SLC-XHE-RE-PB]										

TABLE C-32

STANDBY LIQUID CONTROL IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
SLC [SLC-XHE-RE-DIVER]	[See Table 1]	[See Table 1]	No	No	Yes	No	.03 x .1	10	
SLC [SLC-XHE-RE-EV14A] [SLC-XHE-RE-EV14B]	[See Table 1]	[See Table 1]	No	No	Yes	No	.03 x .1	10	
SLC [SLC-XHE-RE-PA] [SLC-XHE-RE-PB]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	

TABLE C-33

STANDBY LIQUID CONTROL POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM ZD (ECOM*RF)^n	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM HD (ECOM*RF)(.5)$^{n-1}$	NHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
SLC [SLC-XHE-RE-DIVER]	[See Table 1]	[See Table 1]	4	.03	.1	.012					1.2E-2	10	Mean = 3.19E-2
SLC [SLC-XHE-RE-EV14A] [SLC-XHE-RE-EV14B]	[See Table 1]	[See Table 1]	1	.03	.1	.003					3.0E-3	10	Mean = 7.98E-3
SLC [SLC-XHE-RE-PA] [SLC-XHE-RE-PB]	[See Table 1]	[See Table 1]	3 or 4 (usually 3)	.03	.01	9E-4 to 1.2E-3					1.0E-3 (Typical of range)	12	Mean = 3.13E-3

TABLE C-34

TURBINE BUILDING COOLING WATER DEPENDENCE EFFECTS OF TEST AND MAINTENANCE ACTIVITIES

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	MULTIPLE COMPONENTS (4)	SERIES/ PARALLEL (5)	TIME REFERENCE (6)	LOCATION REFERENCE (7)	WRITTEN REQUIREMENTS (8)	GENERAL LOCATION (9)	DEPENDENCE ECOM EOM (10)	COMMENTS/ SOURCE OF INFORMATION (11)
TBC	(2) Failure to restore pump B after maintenance		SUCV, PB, DISV, CKV	Series	> 2 min	NA	Yes	NA	ZD	
	(3) Restore valves and breaker to original position									
[TBC-PTF-RE-PUMPB]										

TABLE C-35

TURBINE BUILDING COOLING WATER IDENTIFICATION OF RECOVERY FACTORS

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMPELLING SIGNALS (4)	POST-MAIN/ CALIB. TEST (5)	WRITTEN VERIFICATION (6)	WRITTEN DAILY/SHIFTLY (7)	TOTAL RF CREDIT (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (11)
TBC [TBC-PTF-RE-PUMPS]	[See Table 1]	[See Table 1]	No	Yes	Yes	No	.03 x .01	10	

TABLE C-36

TURBINE BUILDING COOLING WATER POST-MAINTENANCE OR POST-CALIBRATION HEPs

SYSTEMS (1)	TASK (2)	ACTIVITIES (3)	COMP (n) (4)	BHEP (5)	RF (6)	SERIES ECOM/ECOM ZD n(BHEP/*RF)	PARALLEL ECOM ZD (ECOM*RF)^{n}	PARALLEL ECOM ZD (ECOM*RF)^{n}	PARALLEL ECOM CD (ECOM*RF)	PARALLEL ECOM HD (ECOM*RF)(.5)$^{n-1}$	NHEP (8)	EF (9)	COMMENTS/ SOURCE OF INFORMATION (10)
						<----------(7)---------->							
TBC	[See Table 1]	[See Table 1]	4	.03	.01	.0012					1.2E-3	10	Mean = 3.19E-3
[TBC-PTF-RE-PUMPB]													

C.3 Analysis of Post-Accident Human Actions

Post-accident actions are those operator actions performed after the accident has started. The methodology used to evaluate post-accident human actions is described in detail in Volume 1 of the NUREG/CR documents (Methodology Guidelines) [3]. However, in summary, the evaluation was performed in eight major steps:

(1) Identification of the sequence and subsequent accident conditions.

(2) Based on the cut set (and sequence), the timing of the events (i.e., occurrences, failures, alarms, indications, etc.) was established.

(3) Based on the cut set (and sequence), the symptoms and therefore the possible recovery actions (and required activities) were identified.

(4) The time available to the operator to diagnose and perform the action (and activities) was established.

(5) The probability of the operator failing to properly diagnose the accident was determined. This considered such things as operator training, simulator exercises, etc.

(6) The type of recovery action (whether 'dynamic' or 'step-by-step') was determined considering such things as the plant using symptom-oriented procedures, operator training, etc.

(7) The stress level of the operator was determined considering such things as time available, difficulty of the action, training, etc.

(8) The probability of the operator failing to perform the recovery action was evaluated.

In evaluating the accident sequences for potential recovery credit, the process was documented in a series of eleven tables as follows:

(1) The first table identifies the accident sequence with a detailed description of the accident scenario.

(2) The second table establishes the timing of the accident: timing of the events, annunciators, alarms, etc.

(3) Based on Table 1, this third table identifies the symptoms and any potential recovery actions and those activities associated with action.

(4) The time available for the operator to perform the recovery action is determined and documented in Table 4.

(5) The time it takes the operator to perform the action is determined and documented in Table 5.

(6) The amount of time the operator has to diagnose is determined and documented in Table 6.

(7) The probability of the operator failing to diagnose is evaluated and documented in two tables (more than one abnormal event, Table 7, and one abnormal event, Table 8).

(8) Table 9 identifies the 'type' of action the operator is performing.

(9) The 'stress' level of operators, considering the accident sequence, is determined and documented in Table 10.

(10) Considering the information from the previous tables, the probability of the operator failing to recover from the faults of the accident sequence is evaluated and documented in Table 11.

The actual probabilities are calculated using the methodology developed in the "Accident Sequence Evaluation Program Human Reliability Analysis Procedure" [1].

The following three cases are analyzed using the series of eleven tables for Post-Accident Human Actions:

Loss of Injection Sequences (Tables C-37 through C-47)
W Sequences (Tables C-48 through C-58)
ESW-XHE-FO-EHS (Tables C-59 through C-69)

The notes that describe each column in the tables are given below.

<u>Table 1 Notes</u> [Refers to Tables C-37, C-48 and C-59 for the three cases analyzed]:

(1) This should include a detailed description of the accident sequence under consideration; what functions and systems are failing and succeeding, what phenomena are occurring because of the failures and successes and their resulting effects, what is the final outcome of the sequence, etc.

(2) The basic accident type is described here.

(3) Because of the accident type and the "symptoms" of the accident, certain immediate conditions (i.e., entry conditions) are generated (e.g., reactor trip, low reactor water level, high drywell pressure, etc.). These immediate conditions are listed here.

(4) From the accident conditions or symptoms, the operator is immediately directed into certain EOPs. These are listed here. Additionally, other relevant procedures are also listed here.

Table 2 Notes [Refers to Tables C-38, C-49 and C-60 for the three cases analyzed]:

See Step #1, page 6-9 and Step #3, page 8-3 of ASEP HRA procedures [1].

(1) In accident sequences, there can be several cut sets that result in similar events where the occurrences (e.g., phenomena) are the same, and therefore the time, etc., is also exactly the same.

(2) The conditions that are generated as a result of the sequence (and cut sets) are listed and described here.

(3) The time from the occurrence of the initiator for each event/occurrence is listed here.

(4) Any annunciator that is alarmed for each condition and the indications that are available to the operator are listed here.

Table 3 Notes [Refers to Tables C-39, C-50 and C-61 for the three cases analyzed]:

See Step #2, page 6-10 and Step #4, page 8-3 of ASEP HRA procedures [1].

(1) A general description of the basic events and the types of failures occurring are discussed here.

(2) The resulting symptoms or system failures are discussed.

(3) Whether the basic event is the first, second, third, etc., abnormal event is listed here. An abnormal event is an event that disrupts the normal conditions in the plant; e.g., initiating event or system failure subsequent to the initiating event. An event is considered to be a second, third, etc., abnormal event when the operator must use a different procedure. For example, the initiating event enters the operator in a certain procedure, if any event is covered by that procedure it is not considered an additional abnormal event. Also, if there is an additional abnormal event and if it occurs later in time (i.e., 15-20 min. after the first event), it is considered as a first abnormal event.

(4) The possible recovery actions that the operator could do (whether or not there is a procedure) are identified.

(5) Whether or not there is a procedure for the possible recovery actions is noted and the various activities that the operator must do to accomplish the "recovery action" are described. Only the "major" performance type activities (e.g., depressurize, line up systems for injection, etc.) are listed here for analysis. The decision/indication type activities (e.g., "Is water level decreasing?", etc.) that are in the procedures are not analyzed in terms of obtaining a failure probability. It is generally assumed that the operator successfully "performs" these types of activities. However, if the answer to a procedural question involves conflicting signals, performing the task away from his normal location, etc., this could be considered as a major activity.

(6) Any additional comments, sources of information are discussed here. Additionally, whether the actions (and activities are skill-based or rule-based is identified, and why. RULE-BASED -- the actions the operator performs are governed by written rules. SKILL-BASED -- the actions the operator performs are governed by memory.

Table 4 Notes [Refers to Tables C-40, C-51 and C-62 for the three cases analyzed]:

(1) The possible recovery actions are listed.

(2) The last possible time at which, if the operator establishes the required function, subsequent core damage is prevented based on thermal hydraulic analysis.

(3) In many cases, the operator is not alerted to the failure at the time of the initiator. The time at which the operator is alerted that the failure (or symptom) has occurred.

(4) The time from which the operator is alerted to the problem to when he must perform the recovery actions is the maximum amount of time he has available to both diagnose and perform the identified activities.

(5) Any comments, notes, or sources of information are discussed here.

Table 5 Notes [Refers to Tables C-41, C-52 and C-63 for the three cases analyzed]:

See Step #3, page 6-10 and Steps #5, 6, and 7, pages 8-3 and 8-4 of the ASEP HRA procedures [1].

(1) The major activities to be analyzed are listed.

(2) In assessing the total time to perform the action, it is the minimum time in which the operator can perform the activity

that is required. Therefore, it is assumed that the operator knows the proper location.

(3) For the same reason given above in #2, it is assumed that the operator knows where the activity needs to be performed.

(4) For the same reason given above in #2, it is assumed that the operator understands and is experienced in the activity. Although it is assumed that the operator is knowledgeable in accomplishing the required action, any complexity and difficulty in performing the action should be factored into the time.

(5) Ta is the sum of the travel time and performance time.

Table 6 Notes [Refers to Tables C-42, C-53 and C-64 for the three cases analyzed]:

See Step #4, page 6-10 and Step #7, page 8-4 of the ASEP HRA procedures [1].

(1) The resulting symptoms or system failures that need to be diagnosed are listed.

(2) Tm is determined in Table 4.

(3) Ta is determined in Table 5.

(4) Time available to diagnosis is equal to Tm less Ta.

Table 7 Notes [Refers to Tables C-43, C-54 and C-65 for the three cases analyzed]:

See Step #9, pages 8-4 to 8-7 [1].

(1) In order to accomplish the action, the probability of misdiagnosis for each activity must be determined, given that the operator is required to perform a diagnosis for every activity.

(2) If the analyst can determine that the probability of the operator failing to diagnose the event is negligible, then the remainder of the table is not applicable. Reasons for negligible diagnosis errors are discussed in the comment column.

(3) See Table 3 for definition of abnormal event.

(4) If there is more than one abnormal event, there is a probability that the operator will fail to recognize an additional occurrence of an event. Therefore, the probability

that subsequent abnormal events are not noticed needs to be estimated. This HEP is added to the final HEP. At the time of the second, third, etc., abnormal event, you need to determine the total number of annunciators being alarmed. Read down the column marked "Number of ANNs" to the total number of annunciators you have determined, then read straight across to the column marked $Pr(F_i)$; this is the HEP that the operator will fail to respond to the signal of the second, etc., abnormal event in the midst of the other annunciators.

(5) Based on Td (from Table 6) an initial HEP for failure to diagnose is selected from Table 8-2.

(6) For reactor and containment parameters, see Table 2-1, page 2-6 of the ASEP HRA procedures.

(7) It is assumed that misdiagnosis of scram is "epsilon" (≤1E-4). The HEP for each action (or activity) should be adjusted accordingly (up or down) depending on whether the event is covered in training, the event is practiced by the operators, the event is well recognized and interviews indicate that all the operators are familiar with the accident, the event is practiced by the operators in simulator requalification exercises and the complexity of the sequence (e.g., conflicting readings). To adjust the HEP upward and downward, use the associated error factor to adjust.

Table 8 Notes [Refers to Tables C-44, C-55 and C-66 for the three cases analyzed]:

See Step #9, pages 8-4 to 8-7 [1].

(1) In order to accomplish the action, the probability of misdiagnosis for each activity must be determined, given that the operator is required to perform a diagnosis for every activity.

(2) If the analyst can determine that the probability of the operator failing to diagnose the event is negligible, then the remainder of table is not applicable. Reasons for negligible diagnosis errors are discussed in the comment column.

(3) Based on Td (from Table 6) an initial HEP for failure to diagnose is selected from Figure 8-1.

(4) For reactor and containment parameters see Table 2-1, page 2-6 of the ASEP HRA procedures.

(5) It is assumed that misdiagnosis of scram is "epsilon" (≤1E-4). The initial HEP is adjusted downward (use lower bound) or upward (use upper bound) depending on whether the plant uses symptom-oriented EOPs, the event is covered in the EOPs, the operators are trained on the EOPs and the EOPs are well

designed. Additionally, the HEP for each action (or activity) should be adjusted according to the complexity of sequence (e.g., conflicting readings).

Table 9 Notes [Refers to Tables C-45, C-56 and C-67 for the three cases analyzed]:

See Step #10, pages 8-7 and 8-8 in the ASEP HRA procedures [1].

(1) In order to accomplish the action, the probability of misdiagnosis for each activity must be determined, given that the operator is required to perform a diagnosis for every activity.

(2) Any safety systems that were functioning and then fail are included here.

(3) The following conditions are met:

(a) Plant uses symptom-oriented EOPs.
(b) IE (sequence) in question is covered in the EOPs.
(c) Operators have been trained using the symptom EOPs.
(d) EOPs are well designed (e.g., no inconsistencies, no potential for misleading or confusing statements or paths, etc.).

(4) An individual operator performs more than one activity involving more than one function without good indications (cues) for when he must shift from one activity to another.

(5) If any of the above items (#1, #2, and #3) are not met, then the action (or activity should be classified as "dynamic" and not "step-by-step"). Generally, step-by-step is defined as a routine, procedurally guided set of steps when performed one at a time.

Table 10 Notes [Refers to Tables C-46, C-57 and C-68 for the three cases analyzed]:

See Step #10, pages 8-7 and 8-8 in the ASEP HRA procedures [1].

(1) In order to accomplish the action, the probability of misdiagnosis for each activity must be determined, given that the operator is required to perform a diagnosis for every activity.

(2) The time available to diagnose and perform the action (activities) is less than two hours.

(3) This item is only applicable for PWRs. A large LOCA is assessed as extremely high stress until such time as

recirculation is established, then moderately high stress is assessed.

(4) In the course of the sequence, more than two safety systems fail.

(5) Operator is very experienced in the sequence regardless of the above circumstances.

(6) Extremely high stress is assessed if any of Items #2, #3, or #4 are met. However, if Item #5 is met, moderately high stress can be assessed. Additionally, the stress is adjusted to take into account such things as the "degree of burden," the complexity of the action (activity), how quickly the action (activity) needs to be performed, and the accessibility of the location.

Table 11 Notes [Refers to Tables C-47, C-58 and C-69 for the three cases analyzed]:

See Table 8-5, pages 8-13 and 8-14 in the ASEP HRA procedures [1].

(1) In order to accomplish the action, given the operator must perform several activities in order to accomplish that action, the probability of failing to perform each activity needs to be determined. The HEP for the action is the sum of the HEPs for each activity (this assumes that failure of any of the associated activities results in failure of the action).

(2) As above, each "major" activity is analyzed. See Table 3 for definition of a major activity.

(3) This is the failure probability of the original operator performing the activity. The HEP is based on whether the activity is step-by-step, dynamic, moderately high stress, or extremely high stress (refer to Tables 9 and 10). The HEP is taken from either Item #3, #4, or #5 of Table 8-5 [1].

(4) If recovery of the activity (action) made by the original operator is possible, the probability is for a second person (generally the shift supervisor) failing to correct the original operator. The HEP is based on whether the activity is step-by-step, dynamic, moderately high stress, or extremely high stress (refer to Tables 9 and 10). The HEP is taken from Item #6, #7 or #8 of Table 8-5 [1].

(5) If the accident sequence is such that a third independent check (e.g., accident management team, second shift, etc.) comes into play in that they can possibly correct the error made by the "original operator and shift supervisor," a probability for them failing to do so is assessed. The HEP is based on whether the activity is step-by-step, dynamic,

moderately high stress, or extremely high stress (refer to Tables 9 and 10). The HEP is taken from Item #6, #7, or #8 of Table 8-5 [1].

(6) The probability of failing to perform an action is the multiplication of the HEPs of Items #3, #4, and #5.

TABLE C-37

LOSS OF INJECTION SEQUENCES ACCIDENT SEQUENCE DESCRIPTION

EVENT TREE: Any loss of injection type sequence (AV_2V_3, $S_2\bar{U}_1V_2V_3V_4$, $T_2U_1U_2U_3X_1$, et al.) including failure to depressurize events.

SEQUENCE NUMBER: Numerous

SEQUENCE DESIGNATOR: (See above)

SEQUENCE DESCRIPTION:

(1) Variety of types of sequences where core cooling is lost because of failures to establish core cooling via injection into the core. Failures could involve operator failure to turn on or otherwise control injection and/or failure to depressurize the reactor should high pressure core cooling be lost.

ACCIDENT TYPE:

(2) Loss of injection/failure to depressurize type sequences.

ACCIDENT CONDITIONS:

(3) Variety of initiators
Reactor scram is successful
Power conversion system unavailable
Reactor pressure decreasing

APPLICABLE PROCEDURES:

(4) T-100 Scram, T-99 Post-Scram, T-101 Reactor Pressure Vessel Level Control, T-111 Level Restoration, T-113 Blowdown Cooling, T-116 Reactor Pressure Vessel Flooding, T-117 Level/Power Control

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TABLE C-38

LOSS OF INJECTION SEQUENCES SEQUENCE AND CUT SET TIMING*

CUT SETS:
(1) Variety - involves events such as: ESF-XHE-FO-RCICL, ESF-XHE-FO-DEPRE, CRD-XHE-FO-CRD, et al.

EVENT/OCCURRENCE (2)	TIME (3)	ANNUNCIATOR/INDICATION (4)	COMMENTS/ SOURCE OF INFORMATION (5)
Transient or LOCA	0		Information based on LTAS [4] runs
Low level for HPCI/RCIC start	~5 mins	Annunciated and numerous indications	
Low level for ADS timer start and LPCS/LPCI start	~5 mins (large LOCAs) to ~20 mins (early HPCI-RCIC failure in transients) ~12 hrs (late HPCI-RCIC failure in transients)		
Core Damage (~2 feet above the bottom of the active fuel)	~30 mins - 13 hrs (depends on large LOCA, transient, time that injection fails, etc.)		

TABLE C-39

LOSS OF INJECTION SEQUENCES CUT SET FAILURE AND POTENTIAL OPERATOR ACTIONS*

CUT SETS:

DESCRIPTION OF EVENT (1)	SYMPTOMS (2)	ABN EVENT (3)	POSSIBLE RECOVERY ACTIONS (4)	ACTIVITIES (TASKS) REQUIRED TO PERFORM ACTION AND PROCEDURALIZED (5)	COMMENTS/ SOURCE OF INFORMATION (6)
Early signs of loss of injection	Reactor pressure vessel level decreasing, power conversion system lost	1	Reactor power conversion system		Used power conversion system non-recovery values out of data base. These values are considered independent of the restore reactor pressure vessel level actions.
		2 (if failure of automatic injection is late, such as due to room cooling)	Actuate systems, control system operation, depressurize and use low pressure systems, use CRD in enhanced (early) or 1 pump (late) modes, use HPSW as last source	Few actions, all in control room except CRD which requires local manual actions for enhanced mode. All are procedur-alized	

TABLE C-40

LOSS OF INJECTION SEQUENCES SEQUENCE AND CUT SET AVAILABLE TIME

CUT SETS:

ACTION (1)	TIME BY WHICH OPERATOR MUST ACT TO PREVENT SUBSEQUENT CORE DAMAGE (Tcd) (2)	TIME AT WHICH OPERATOR IS ALTERED THAT SYMPTOM HAS OCCURRED (To) (3)	MAXIMUM TIME AVAILABLE TO PERFORM THE IDENTIFIED OPERATOR ACTIVITIES (Tm) (4)	COMMENTS/ SOURCE OF INFORMATION (5)
Restore injection	A sequence: ~5 mins	<5 mins	~10-15 mins	
	S_1 with success of U_1 early: ~45-60 mins	~15-30 mins	~20-30 mins	
	S_1 with failure of U_1 early: ~20-30 mins	~<5 mins	~15-25 mins	
	S_2 sequence: ~45-60 mins	~<5 mins	~40-55 mins	
	T type sequence: ~68 mins	~<5 mins	~1 hr	
	Long-term failure (where U_1U_2 failures occur in ~10 hr time frame: ~12-13 hrs	~10 hrs	~2-3 hrs	
	CRD and related events involving reactor building cooling water use, including ESW valves:			
	(a) ~1/2 hr or 13 hrs for CRD and RBCW transfer	(a) ~<5 mins for T-type sequences ~10 hrs for long-term failure	(a) ~25 mins for T-type sequences ~3 hrs for long-term failures	
	(b) ~1 hr or 14 hrs for ESW valve transfer*	(b) ~<5 mins for T-type sequences ~10 hrs for long-term failures	(b) ~1 hr for T-type sequences ~4 hrs for long-term failures	

*Assumes CRD can work for ~1/2 to 1 hr without ESW (will take some time to heat up RBCW)

TABLE C-41

LOSS OF INJECTION SEQUENCES OPERATOR ACTION PERFORMANCE TIME*

CUT SETS:

ACTION	ACTIVITIES (1)	LOCATION (2)	TRAVEL TIME (3)	PERFORMANCE TIME (4)	TOTAL TIME (Ta) (5)	COMMENTS/ SOURCE OF INFORMATION
Actuate and/or control HPCI/RCIC/ LPCS/LPCI/HPSW/ CRD 1 pump/ Depressurization		Control room	1 min	1 min	2 mins	
Operate CRD in enhanced mode		Local and control room	5 mins	5-10 mins	10-15 mins	
Put CRD pumps on diesel generators		Local and control room	5 mins	10 mins	15 mins	
Use RBCW for CRD		Local and control room	5 mins	10 mins	15 mins	
Open ESW valves for RBCW		Local and control room	5 mins	5-10 mins	10-15 mins	

TABLE C-42
LOSS OF INJECTION SEQUENCES DIAGNOSIS TIME OF SEQUENCE AND CUT SET*

SEQUENCE/CUT SET	SYMPTOM (1)	MAXIMUM TIME AVAILABLE (Tm) (2)	TOTAL ACTION TIME (Ta) (3)	TIME AVAILABLE TO DIAGNOSIS (Td) (4)	COMMENTS/ SOURCE OF INFORMATION
A sequence	Actuate injection system	10-15 mins	2 mins	~8-13 mins (~10 mins)	
S_1 with early U_1 success	Actuate/control injection	~20-30 mins	2 mins	~18-28 mins (~25 mins)	
S_1 with early U_1 failure	Actuate/control injection	15-25 mins	2 mins	~13-23 mins (~15-20 mins)	
S_2 sequence	Actuate/control injection	40-55 mins	2 mins	38-53 mins (~45 mins)	
T type sequence	Actuate/control injection	~1 hr	2 mins	~1 hr (~1 hr)	
Long-term failure sequence	Actuate/control injection	~2-3 hrs	<5 mins	(~2-3 hrs)	
CRD enhanced	Start CRD enhanced	~25 mins or 3 hrs	10-15 mins	(~10-15 mins) or (~2 3/4 hrs)	
Put CRD on diesels	Close breakers, start CRD	~25 mins or 3 hrs	15 mins	(~10 mins) or (~2 3/4 hrs)	
Use RBCW for CRD	Start RBCW	~25 mins or 3 hrs	15 mins	(~10 mins) or (~2 3/4 hrs)	
Open ESW valves for RBCW	Locally open 3 locked-closed valves	~1 hr or 4 hrs	~15 mins	(~3/4 hr) or (~3 3/4 hrs)	

TABLE C-43

LOSS OF INJECTION SEQUENCES DIAGNOSIS ANALYSIS--MORE THAN ONE ABNORMAL EVENT*

CUT SETS:

ACTION (Symptom) (1)	DIAGNOSIS NEGLIGIBLE (2)	NUMBER OF ABN EVENT (3)	ANNUNCIATOR HEP (Table 8-4) (4)	FAILURE TO DIAGNOSIS (Table 8-2) (5)	SKILL-BASED (6)	ADJUSTMENT IN FINAL HEP (7)	COMMENTS/ SOURCE OF INFORMATION
For all short-term injection losses, treated as the first abnormal event - see Table 8 [1].							
For long-term or subsequent failures of injection (e.g., - loss of HPCI/RCIC due to room cooling), second abnormal event applies. However, item 9.b.2 of Table 8-1 [1] says to analyze these as the first column of Table 8-2 [1]. Therefore, see Table 8 [1].							

TABLE C-44

LOSS OF INJECTION SEQUENCES DIAGNOSIS ANALYSIS--ONE ABNORMAL EVENT*

CUT SETS:

ACTION (SYMPTOM) (1)	DIAGNOSIS NEGLIGIBLE (2)	FAILURE TO DIAGNOSIS (Figure 8-1) (3)	SKILL-BASED (4)	ADJUSTMENT IN FINAL HEP (5)	COMMENTS/ SOURCE OF INFORMATION
A sequence		Per 9.d. in Table 8-1 of HRA Guide [1]--can use lower bound: ~1E-2	Skill-based		
S_1 with early U_1 success		As above: ~3E-4	Skill-based		
S_1 with early U_1 failure		As above: ~1E-3	As above		
S_2 sequence		As above: ~1E-5	As above		
T type sequence		As above: ~3E-6	As above		
Long term sequences		As above: <3E-6	As above		
CRD enhanced		Will use nominal curve--not first set of systems: ~7E-2 or 5E-5	As above		Short versus long time available
Put CRD on diesel generators		As above: ~0.1 or 5E-5	As above		As above
Use RBCW for CRD		As above: ~0.1 or 5E-5	As above		As above
Open ESW valves		As above: ~3E-4 or 5E-5	As above		As above

TABLE C-45

LOSS OF INJECTION SEQUENCES POST-DIAGNOSIS ACTION-TYPE IDENTIFICATION*

CUT SETS:

ACTION (ACTIVITIES) (1)	SAFETY SYSTEMS FAILED (2)	EOPs, TRAINING, USE EOPs, WELL-DESIGNED EOPs (3)	OPERATOR PERFORMS ≥ ONE ACTIVITY (4)	DYNAMIC OR STEP-BY-STEP (5)	COMMENTS/ SOURCE OF INFORMATION
True of all activities	(if No)	Yes	Typically not	Step-by Step	
	(if Yes)	Yes	Typically not	Dynamic	

TABLE C-46

LOSS OF INJECTION SEQUENCES POST-DIAGNOSIS STRESS-LEVEL IDENTIFICATION*

CUT SETS:

ACTION (ACTIVITIES) (1)	RECIRC. PHASE IN LARGE LOCA (3)	MORE THAN TWO SAFETY SYSTEMS FAIL (4)	OPERATOR FAMILIAR W/SEQUENCE (5)	STRESS LEVEL (6)	COMMENTS/ SOURCE OF INFORMATION
True of all activities	NA	(if No) (if Yes)	Somewhat to yes in all calculations	Moderately high stress Extremely high stress	

TABLE C-47

LOSS OF INJECTION SEQUENCES POST-DIAGNOSIS ANALYSIS*

CUT SETS:

ACTION (1)	ACTIVITIES (2)	ORIGINAL OPERATOR HEP (3)	SUPERVISOR FAILS TO CORRECT OPERATOR HEP (4)	THIRD INDEPENDENT CHECK/CORRECTION HEP (5)	TOTAL HEP (6)	COMMENTS/ SOURCE OF INFORMATION
All loss of injection sequences (Apply to collective set of events in the cut sets)		0.02 (Moderately High, Step-By Step)[1]	.32	.32	6E-3 or 2E-3	Diagnosis impact important only in the A sequence, and perhaps in S_1 with early U_1 success sequence, and early CRD enhanced mode use. Apply as required for specific cut set and cut set timing; considering most likely operator action(s). Note that if lots of time is available the operator is no longer under extremely high stress. If the operator has merely to press a button or turn an SRV valve and he has approximately an hour to do it, do not use anything greater than 1E-3.
		0.05 (Moderately High, Dynamic)[2]	.8	.8	2.5E-2 or ~1E-2	
		0.05 (Extremely High, Step-By-Step)[3]	.8	.8	2.5E-2 or 1E-2	
		0.15 (Extremely High, Dynamic)[4]	.8	.8	~.1 or ~6E-2	

(1) Two or less safety systems failed and no operating safety systems subsequently failed.
(2) Two or less safety systems failed and operating safety system(s) did subsequently fail.
(3) More than two safety systems failed and no operating safety systems subsequently failed.
(4) More than two safety systems failed and operating safety systems subsequently failed.

TABLE C-48

W SEQUENCES ACCIDENT SEQUENCE DESCRIPTION

EVENT TREE: Any "W" type sequence (may be AWs, SWs, TWs-NON-ATWS)

SEQUENCE NUMBER: Numerous

SEQUENCE DESIGNATOR: Examples include: $A\overline{V2}W1W3\ldots$, $AV2\overline{V3}W1W3\ldots$ $S1U1\overline{X1}V2V3\overline{V4}W1W3\ldots$,

$S2\overline{U1}W1W3\ldots$, $T1P_1U1\overline{U2}W1W3\ldots$, $T2U1U2\overline{X1V1}W1W2W3\ldots$

SEQUENCE DESCRIPTION:

(1) Variety of types of sequences where core cooling is being maintained but because the Power Conversion System (PCS) is unavailable, core heat is dumped to containment. Failure to remove heat from containment causes temperature and pressure rises in containment which ultimately could cause containment failure leading to possible loss of core injection. The operator must put the RHR system into some mode of containment cooling or ultimately vent the containment should pressure get very high (~100 psig).

ACCIDENT TYPE:

(2) Loss of long-term decay heat removal.

ACCIDENT CONDITIONS:

(3) Variety of initiators
Reactor scram is successful
PCS available
Containment control required if have a torus temperature >95°F or drywell pressure >2 psig or drywell temperature >145°F.

APPLICABLE PROCEDURES:

(4) Procedures of interest for these human actions are: T-102-Containment Control, T-200-Containment Venting, T-100-Scram, T-99-Post-Scram.

TABLE C-49

W SEQUENCES SEQUENCE AND CUT SET TIMING*

CUT SETS:
(1) Ones of interest are: ...ESF-XHE-FO-RHRAT... or ...PCV-XHE-FO-PCV*ESF-XHE-FO-RHRAT...

EVENT/OCCURRENCE (of most interest) (2)	TIME (3)	ANNUNCIATOR/INDICATION (4) (4)	COMMENTS/ SOURCE OF INFORMATION (5)
Suppression pool temperature >95°F	~<15 mins (depending on initiator)	All conditions indicated, alarms on 2 psig	Timing based on runs with LTAS [4]
Drywell pressure >2 psig	~few to 30 mins (depending on initiator)		
Drywell temperature >145°F	~1-10 hrs (depending on initiator)		
Drywell/wetwell pressure ~100 psig (for venting) -Procedure T-200	~few to >24 hrs (depending on initiator) Intermediate indications along the way continue to remind the operator to establish some form of containment cooling		

TABLE C-50

W SEQUENCES CUT SET FAILURE AND POTENTIAL OPERATOR ACTIONS*

CUT SETS: See Table 2

DESCRIPTION OF EVENT (1)	SYMPTOMS (2)	ABN EVENT (3)	POSSIBLE RECOVERY ACTIONS (4)	ACTIVITIES (TASKS) REQUIRED TO PERFORM ACTION AND PROCEDURALIZED (5)	COMMENTS/ SOURCE OF INFORMATION (6)
Operator fails to place RHR/ HPSW in a containment cooling mode (may be SPC, SDC, CSS)	Containment cooling fails	1 or 2*	Restore containment cooling or restore PCS (considered an independent action)--will use ASEP data for this action	Start RHR/HPSW pumps. Line up for containment cooling and start cooling. (Proceduralized)	Some skill-based; generally rule-based.
Operator also fails to vent containment	Containment cooling fails	3*		Turn containment bypass switch in control room to bypass. Open 2" wetwell and drywell vent lines. If pressure continues to rise, open 6" ILRT line (proceduralized)	

*Normal-type shutdowns call for RHR cooling as part of T-100/T-99. Otherwise T-102 then used (second event) or T-200 (third event).

TABLE C-51

W SEQUENCE SEQUENCE AND CUT SET AVAILABLE TIME

CUT SETS: See Table 2

ACTION (1)	TIME BY WHICH OPERATOR MUST ACT TO PREVENT SUBSEQUENT CORE DAMAGE (Tcd) (2)	TIME AT WHICH OPERATOR IS ALERTED THAT SYMPTOM HAS OCCURRED (To) (3)	MAXIMUM TIME AVAILABLE TO PERFORM THE IDENTIFIED OPERATOR ACTIVITIES (Tm) (4)	COMMENTS/ SOURCE OF INFORMATION (5)
ESF-XHE-FO-RHRAT	Shortest time is ~1-2 hrs for large LOCAs, will use: ~2 hrs (large LOCAs) ~>30 hrs (for transients)	SRVs cycling--few mins	~2 hrs for large LOCAs ~30 hrs for transients	
		Pool temperature >95°F--few mins	As above	
		Drywell pressure >2 psig--few to 30 mins	As above	
		Drywell temperature >145°F---1-10 hrs	~1 hr for Large LOCA ~20 hrs for transients	
PCV-XHE-FO-PCV	~2 hrs for large LOCAs ~>30 hrs for transients	100 psig reached in containment---2 to >30 hrs	Established at <1/2 hr for large LOCAs and ~1 hr or more for transients except if only low pressure cooling systems are operating (i.e., no CRD), will need to vent before 100 psig is reached or SRVs close and core damage is likely to occur before 100 psig is reached.	

TABLE C-52

W SEQUENCES OPERATOR ACTION PERFORMANCE TIME*

CUT SETS: See Table C-49

ACTION	ACTIVITIES (1)	LOCATION (2)	TRAVEL TIME (3)	PERFORMANCE TIME (4)	TOTAL TIME (Ta) (5)	COMMENTS/ SOURCE OF INFORMATION
ESF-XHE-FO-RHRAT	See Table C-50	Control Room	1 min	<10 mins	~10 mins	
PCV-XHE-FO-PCV	See Table C-50	Control Room and local for ILRT (Integrated Leak Rate Test) line set up before 100 psig is reached.	~1 min	~15 mins	~15 mins	ILRT line is set up and opened before 100 psig is reached. When the time to vent is reached, all actions are in the control room.

TABLE C-53

W SEQUENCES DIAGNOSIS TIME OF SEQUENCE AND CUT SET*

SEQUENCE/CUT SET	SYMPTOM (1)	MAXIMUM TIME AVAILABLE (Tm) (2)	TOTAL ACTION TIME (Ta) (3)	TIME AVAILABLE TO DIAGNOSIS (Td) (4)	COMMENTS/ SOURCE OF INFORMATION
ESF-XHE-FO-RHRAT	SRVs cycle	~2 hrs for large LOCAs ~30 hrs for transients	~10 mins	Nearly 2 hrs to ~30 hrs	
	Pool temp >95°F	As above		As above	
	Drywell pressure >2 psig	As above		As above	
	Drywell temp. >145°F	~1 hr for large LOCAs ~20 hrs for transients		~3/4 hr to ~20 hrs	
PCV-XHE-FO-PCV		<30 mins for large LOCAs	~15 mins	~15 mins to 3/4 hr (except operator will actually be monitoring all along)	Need to act before 100 psig reached if SRVs reclose and CRD unavailable
		~1 hr for transients unless SRVs reclose and CRD unavailable-then must vent before 100 psig reached			

TABLE C-54

W SEQUENCES DIAGNOSIS ANALYSIS--MORE THAN ONE ABNORMAL EVENT*

CUT SETS:

ACTION (Symptom) (1)	DIAGNOSIS NEGLIGIBLE (2)	NUMBER OF ABN EVENT (3)	ANNUNCIATOR HEP (Table 8-4) (4)	FAILURE TO DIAGNOSIS (Table 8-2) (5)	SKILL-BASED (6)	ADJUSTMENT IN FINAL HEP (7)	COMMENTS/ SOURCE OF INFORMATION
SRVs cycle and pool temp >95°F and perhaps drywell pressure >2 psig (occur closely in time with initiator)	--	1 or 2 per Table 3 and item 9.b.2 of Table 8-1 in HRA Guide[1] (will use 2 for conservatism)	Normal response annunciations not required at first	Per Table 8-2 for second event and item 9e in Table 8-1 of HRA guide [1] (i.e., use lower bounds) <3E-6 to 3E-7	Skill-based	--	
Drywell temperature >145°	--	Use 1 per item 9.b.2 of Table 8-1 of HRA guide [1]	See Table 8				
PCV event	--	Use 1 per item 9.b.2 of Table 8-1 of HRA guide [1]	See Table 8				

TABLE C-55

DIAGNOSIS ANALYSIS--ONE ABNORMAL EVENT*

CUT SETS:

ACTION (SYMPTOM) (1)	DIAGNOSIS NEGLIGIBLE (2)	FAILURE TO DIAGNOSIS (Figure 8-1) (3)	SKILL-BASED (4)	ADJUSTMENT IN FINAL HEP (5)	COMMENTS/ SOURCE OF INFORMATION
Drywell temperature >145°F	Not worth evaluating since diagnosis failure on first events already ~<3E-6				
PCV event	Will conservatively assume complete dependence on PCV event given failure of RHR containment cooling for diagnosis				It must vent before 100 psig is reached--Figure 8-1 [1] suggests 1.0 failure. However, operators will have watched pressure rise before this and prepared venting. Will use 0.5 for failure to recognize that venting early is necessary so SRVs can be reopened.

TABLE C-56

W SEQUENCES POST-DIAGNOSIS ACTION-TYPE IDENTIFICATION*

CUT SETS:

ACTION (ACTIVITIES) (1)	SAFETY SYSTEMS FAILED (2)	EOPs, TRAINING, USE EOPs, WELL-DESIGNED EOPs (3)	OPERATOR PERFORMS ≥ ONE ACTIVITY (4)	DYNAMIC OR STEP-BY-STEP (5)	COMMENTS/ SOURCE OF INFORMATION
ESF-XHE-FO-RHRAT	Not related to this	Yes	No	Step-by-step	
PCV-XHE-FO-PCV	Yes--some core cooling has failed but cooling still under control with CRD (if not CRD--using 0.5 for PCV failure--see Table 8 comment)	Yes	No	Step-by-step	

TABLE C-57

W SEQUENCES POST-DIAGNOSIS STRESS-LEVEL IDENTIFICATION*

CUT SETS:

ACTION (ACTIVITIES) (1)	RECIRC. PHASE IN LARGE LOCA (3)	MORE THAN TWO SAFETY SYSTEMS FAIL (4)	OPERATOR FAMILIAR W/SEQUENCE (5)	STRESS LEVEL (6)	COMMENTS/ SOURCE OF INFORMATION
ESF-XHE-FO-RHRAT	--	No	Yes	Moderately high stress	
PCV-XHE-FO PCV	--	Could be	Moderately	Extremely high stress	

TABLE C-58

W SEQUENCES POST-DIAGNOSIS ANALYSIS*

CUT SETS:

ACTION (1)	ACTIVITIES (2)	ORIGINAL OPERATOR HEP (3)	SUPERVISOR FAILS TO CORRECT OPERATOR HEP (4)	THIRD INDEPENDENT CHECK/CORRECTION HEP (5)	TOTAL HEP (6)	COMMENTS/ SOURCE OF INFORMATION
ESF-XHE-FO-RHRAT	--	=.02+5=4E-3 item 3 of Table 8-5 of HRA guide [1] (using lower bound--lots of time)	=.2+5 per item =4E-2, item 6 of Table 8-5 of HRA guide [1] (using lower bound--lots of time)	=.2 large LOCAs, .04 transients per item 6 again but using lower bound for transients--there is lots of time for transients for independent review to get involved	~3E-5 for large LOCAs; ~6E-6 (used 1E-5 in the cut sets) for transients (diagnosis small)	
PCV-XHE-FO-PCV	--	=0.5 item 4 of Table 8-5 of HRA guide [1]	=.5 item 7 of Table 8-5 [1]	Third party will really play a role on whether to vent--=.5 per item 7 of Table 8-5 [1]	~.01 (diagnosis small) except when CRD is not available and must vent early--then using .5	

TABLE C-59

SPECIAL CASE: ESW-XHE-FO-EHS ACCIDENT SEQUENCE DESCRIPTION

EVENT TREE:

SEQUENCE NUMBER:

SEQUENCE DESIGNATOR: Special Case: ESW-XHE-FO-EHS

SEQUENCE DESCRIPTION:
(1) In cases where emergency service water has started and run for ~>45 sec, manual operation of the emergency cooling water pump is required if the ESW pumps should subsequently fail. For T1 or LOSP type events, only minutes are available to supply jacket cooling to diesels. For all others, a few minutes to approximately 10 to 15 minutes are available to restore cooling to ECCS low pressure pumps.

ACCIDENT TYPE:
(2) NA

ACCIDENT CONDITIONS:
(3) NA

APPLICABLE PROCEDURES:
(4) NA

TABLE C-60

SPECIAL CASE: ESW-XHE-FO-EHS SEQUENCE AND CUT SET TIMING*

CUT SETS:
(1) All cut sets involving ESW-XHE-FO-EHS

EVENT/OCCURRENCE (2)	TIME (3)	ANNUNCIATOR/INDICATION (4)	COMMENTS/ SOURCE OF INFORMATION (5)
Subsequent failure of ESW at ->45 sec after start	Variable	Yes	

TABLE C-61

SPECIAL CASE: ESW-XHE-FO-EHS CUT SET FAILURE AND POTENTIAL OPERATOR ACTIONS*

CUT SETS: All cut sets involving ESW-XHE-FO-EHS

DESCRIPTION OF EVENT (1)	SYMPTOMS (2)	ABN EVENT (3)	POSSIBLE RECOVERY ACTIONS (4)	ACTIVITIES (TASKS) REQUIRED TO PERFORM ACTION AND PROCEDURALIZED (5)	COMMENTS/ SOURCE OF INFORMATION (6)
Restore cooling to ESW loads with the ECW pump	Loss of ESW at ~>45 sec. after start	2 [Probably treated as 1 since not likely to occur in the first 10 minutes of initiator]	Restore with ECW pump	Control room operations, start ECW pump	

TABLE C-62

SPECIAL CASE: ESW-XHE-FO-EHS SEQUENCE AND CUT SET AVAILABLE TIME

CUT SETS: All cut sets involving ESW-XHE-FO-EHS

ACTION (1)	TIME BY WHICH OPERATOR MUST ACT TO PREVENT SUBSEQUENT CORE DAMAGE (Tcd) (2)	TIME AT WHICH OPERATOR IS ALERTED THAT SYMPTOM HAS OCCURRED (To) (3)	MAXIMUM TIME AVAILABLE TO PERFORM THE IDENTIFIED OPERATOR ACTIVITIES (Tm) (4)	COMMENTS/ SOURCE OF INFORMATION (5)
Restore cooling with ECW pump	~3-15 minutes to prevent loss of diesel generators/low pressure ECCS pumps	Time of ESW loss	~3-15 mins	

TABLE C-63

SPECIAL CASE: ESW-XHE-FO-EHS OPERATOR ACTION PERFORMANCE TIME*

CUT SETS: All cut sets involving ESW-XHE-FO-EHS

ACTION	ACTIVITIES (1)	LOCATION (2)	TRAVEL TIME (3)	PERFORMANCE TIME (4)	TOTAL TIME (Ta) (5)	COMMENTS/ SOURCE OF INFORMATION
Restore cooling with ECW pump	Start from control room	Control room	1 min	1 min	~2 mins	

TABLE C-64

SPECIAL CASE: ESW-XHE-FO-EHS DIAGNOSIS TIME OF SEQUENCE AND CUT SET*

SEQUENCE/CUT SET	SYMPTOM (1)	MAXIMUM TIME AVAILABLE (Tm) (2)	TOTAL ACTION TIME (Ta) (3)	TIME AVAILABLE TO DIAGNOSIS (Td) (4)	COMMENTS/ SOURCE OF INFORMATION
Cut sets involving ESW-XHE-FO-EHS		3-15 mins	~2 mins	~1-10 mins	

TABLE C-65

SPECIAL CASE: ESW-XHE-FO-EHS DIAGNOSIS ANALYSIS--MORE THAN ONE ABNORMAL EVENT*

CUT SETS: All cut sets involving ESW-XHE-FO-EHS

ACTION (Symptom) (1)	DIAGNOSIS NEGLIGIBLE (2)	NUMBER OF ABN EVENT (3)	ANNUNCIATOR HEP (Table 8-4 [1]) (4)	FAILURE TO DIAGNOSIS (Table 8-2 [1]) (5)	SKILL-BASED (6)	ADJUSTMENT IN FINAL HEP (7)	COMMENTS/ SOURCE OF INFORMATION
Treat as the first abnormal event.							

TABLE C-66

SPECIAL CASE: ESW-XHE-FO-EHS DIAGNOSIS ANALYSIS--ONE ABNORMAL EVENT*

CUT SETS: All cut sets involving ESW-XHE-FO-EHS

ACTION (SYMPTOM) (1)	DIAGNOSIS NEGLIGIBLE (2)	FAILURE TO DIAGNOSIS (Figure 8-1 [1] (3)	SKILL-BASED (4)	ADJUSTMENT IN FINAL HEP (5)	COMMENTS/ SOURCE OF INFORMATION
Restore ESW with ECW pump		Using nominal ~1.0-0.1	Somewhat		Usually occurs in cut sets involving diesels where only 1-2 mins are available--will use 0.9.

TABLE C-67

SPECIAL CASE: ESW-XHE-FO-EHS POST-DIAGNOSIS ACTION-TYPE IDENTIFICATION*

CUT SETS: All cut sets involving ESW-XHE-FO-EHS

ACTION (ACTIVITIES) (1)	SAFETY SYSTEMS FAILED (2)	EOPs, TRAINING, USE EOPs, WELL-DESIGNED EOPs (3)	OPERATOR PERFORMS ≥ ONE ACTIVITY (4)	DYNAMIC OR STEP-BY-STEP (5)	COMMENTS/ SOURCE OF INFORMATION
Restore ESW with use of ECW pump	Maybe	Yes	For purposes of this event-- Yes	Most likely-- Dynamic	

TABLE C-68

SPECIAL CASE: ESW-XHE-FO-EHS POST-DIAGNOSIS STRESS-LEVEL IDENTIFICATION*

CUT SETS: All cut sets involving ESW-XHE-FO-EHS

ACTION (ACTIVITIES) (1)	MORE THAN TWO SAFETY SYSTEMS FAIL (4)	OPERATOR FAMILIAR W/SEQUENCE (5)	STRESS LEVEL (6)	COMMENTS/ SOURCE OF INFORMATION
Restore ESW with ECW pump	Might be	Somewhat	Moderate to high stress	

TABLE C-69

SPECIAL CASE: ESW-XHE-FO-EHS POST-DIAGNOSIS ANALYSIS*

CUT SETS: All cut sets involving ESW-XHE-FO-EHS

ACTION (1)	ACTIVITIES (2)	ORIGINAL OPERATOR HEP (3)	SUPERVISOR FAILS TO CORRECT OPERATOR HEP (4)	THIRD INDEPENDENT CHECK/CORRECTION HEP (5)	TOTAL HEP (6)	COMMENTS/ SOURCE OF INFORMATION
Restore ESW with ECW pump		.05 or .25	Not much time		~.05 or .25	Diagnosis overrides: see Table 8 [1], ~ 0.9

C.4 Abbreviations

ACO	Assistant Control (Room) Operator or Auxiliary Control (Room) Operator - both are licensed ROs
ADS	Automatic Depressurization System
ANN	Annunciator
AO	Auxiliary Operator, an Unlicensed Operator
ASEP	Accident Sequence Evaluation Program
ASLC	Alternate Standby Liquid Control System
ATWS	Anticipated Transient Without Scram
BHEP	Basic Human Error Probability
CD	Complete Dependence
CO	Control (Room) Operator, an SRO
CR	Control Room
CRD	Control Room Drive
CS	Containment Spray
CST	Condensate Storage Tank
ECCS	Emergency Core Cooling System
ECOM	Error of Commission
EF	Error Factor
EOM	Error of Omission
EOP	Emergency Operating Procedure
FW	Feedwater
HCTL	Heat Capacity Temperatures Limit
HD	High Dependence
HEP	Human Error Probability
HP	High Pressure
HPCS	High Pressure Core Spray
HPT	Human Performance Technologies, Inc.
HRA	Human Reliability Analysis
HX	Heat Exchanger
LD	Low Dependence
LP	Low Pressure
LPCI	Low Pressure Coolant Injection
LPCS	Low Pressure Core Spray
MD	Moderate Dependence
MOV	Motor-Operated Valve
MISV	Main Steam Isolation Valve
NHEP	Nominal Human Error Probability
ONEP	Off-Normal Event Procedure
P&ID	Piping and Instrumentation Diagram
PCS	Power Conversion System
PRA	Probabilistic Risk Assessment
PSF	Performance Shaping Factor
RCIC	Reactor Core Isolation Cooling
RF	(Human Error) Recovery Factor
RHR	Residual Heat Removal
RO	Reactor Operator
RPS	Reactor Protection System (i.e., control rods)

RPV	Reactor Pressure Vessel
SLC	Standby Liquid Control System
SLO	Senior Licensed Operator (same as SRO)
SP	Suppression Pool
SPC	Suppression Pool Cooling
SPT	Suppression Pool Temperature
SRO	Senior Reactor Operator
SRV	Safety Relief Valve
SS	Shift Supervisor
SSP	Shift Superintendent
SSW	Standby Service Water
STA	Shift Technical Advisor
TAF	Top of Active Fuel
T&M	Test and Maintenance
ZD	Zero Dependence

C.5 References

[1] A. D. Swain, Accident Sequence Evaluation Program Human Reliability Analysis Procedure, NUREG/CR-4772, SAND86-1996, Sandia National Laboratories, February 1987.

[2] A. D. Swain and H. E. Guttmann, "Handbook of Human Reliability Analysis with Emphasis on Nuclear Power Plant Applications," Final Report, NUREG/CR-1278, SAND80-0200, August 1983

[3] M. T. Drouin, et al., Analysis of Core Damage Frequency From Internal Events: Methodology Guidelines, NUREG/CR-4550, SAND86-2084, Volume 1, Sandia National Laboratories, September 1987.

[4] R. M. Harrington and L. C. Fuller, BWR-LTAS: A Boiling Water Reactor Long-Term Accident Simulation Code, Oak Ridge National Laboratory, NUREG/CR-3764, ORNL/TM 9163, February 1985.

APPENDIX D

PLANT-SPECIFIC DATA ANALYSIS

LIST OF FIGURES

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An extensive plant-specific data analysis was not performed for the Peach Bottom analysis. However, a review was performed of plant data for a significant number of components considered likely to contribute to the dominant sequences once the analysis was complete. Table D-1 lists those components for which a data review was performed. In each case, approximately five years worth of maintenance records, licensee event reports (LERs), and other incident records were reviewed, and estimates of component failures were made using this Peach Bottom specific information. Using statistical checks, these plant-specific estimates were compared by Sandia analysts with the generic data base documented in Volume 1 of this NUREG/CR report to see if sufficient differences existed such that the plant-specific data could not be represented by the generic data base. In virtually all cases, the use of the generic data base was determined to be representative of Peach Bottom's specific equipment operating histories. However, two sets of data were determined to be sufficiently different from the generic data base and so the Peach Bottom specific estimates were used. These were:

(1) the diesel failure-to-start probabilities represented by ACP-DGN-LP-EDGA,B,C,D in the fault trees and,

(2) the HPCI and RCIC turbine driven pump failure-to-run failure rates represented by HCI-TDP-FR-20S37 and RCI-TDP-FR-20S38 in the fault trees.

The diesel failures were estimated at 3E-3 per demand instead of the generic value of 3E-2. This difference while seemingly large, was substantiated by three separate reviews of Peach Bottom diesel generator performance history. In the first review effort performed as part of a Nuclear Regulatory Commission (NRC) - sponsored program on Station Blackout, Oak Ridge National Laboratory (ORNL) arrived at a Peach Bottom - specific diesel generator failure-to-start probability of 4E-3[1]. Later, in an update of that review, ORNL revised the estimate to 3E-3[2]. The third estimate was determined as part of the beginning phases of this analysis in the Summer of 1985. At that time, the data analysts on the Peach Bottom team reviewed the diesel generator failure and demand history and independently arrived at a failure-to-start probability of 6.7E-3. It was recognized that this value may be somewhat conservative since the tendency was to count "questionable" failures as failures. Hence, recognizing this potentially conservative estimate, and relying on ORNL's more extensive and latest available analysis, the 3E-3 value was used as the mean estimate in this PRA effort. This data is believed to be indicative of a conscious effort by the Peach Bottom plant staff to improve and maintain diesel generator performance, which was instituted shortly after the Three Mile Island accident.

In the case of the turbine-driven failure-to-run estimates, the plant-specific rate of 5E-3/hour or 5E-2 in 10 hours was used instead of values of the order of 1E-4 to 1E-5/hour presented in an LER summary report [3]. It was later found that this LER summary report erroneously based its value on plant operating time instead of pump operating time. Since then, the generic data base in Volume 1 now reflects values in the 1E-3/hour range.

Table D-1
Components Reviewed for Failure History at Peach Bottom*

EQUIPMENT	FAILURE-TO-START	FAILURE-TO RUN	FAILURE-TO OPERATE
HPCI pump including turbine	X	X	
RCIC pump including turbine	X	X	
LPCS motor pumps A,B, C,D (individually)	X	X	
RHR/LPCI motor pumps A,B,C,D (individually)	X	X	
ESW motor pumps A,B (individually)	X	X	
HPSW motor pumps A,B, C,D (individually)	X	X	
Valves (all types including MOV,SOV,AOV, check...) for the following systems:			
HPCI			X
RCIC			X
LPCS			X
RHR/LPCI			X
ESW			X
HPSW			X
Miscellaneous:			
Diesel failure-to-start			
SRV demands and failure-to-reclose history			
Battery failures			
Common cause events			

* Both Units

All other values in the analysis except for certain initiating event categories (discussed below) were estimated with generic data base values. These values were modified in some cases to reflect test intervals that are specific to Peach Bottom (e.g., specific test intervals for testing actuation circuits at Peach Bottom). So, for example, a generic hourly failure rate for actuation equipment was combined with Peach Bottom specific test intervals to arrive at a plant-specific failure on demand. However, these still use a generic value for the basis of the failure estimate. Human reliability values were similarly estimated using generic values as a basis but modified considering Peach Bottom-specific procedures, practices, degree of training, plant layout, etc.

Based on Peach Bottom's actual operating history and plant specific features, the initiating event frequency estimates for three classes of initiators were arrived at using plant specific data. These included T1 (loss of offsite power), T2 (loss of the PCS), and T3A, T3B, T3C (trip with PCS initially available, loss of feedwater, and inadvertent opening of a primary system safety relief valve, respectively).

The T1 event, specifically, was estimated using a detailed analysis whose methodology is reported in reference 4. In that analysis, Sandia staff coupled industry-wide experience with Peach Bottom's history of no total losses of offsite power and accounting for the plant's specific switchyard, grid, and weather factors, arrived at a Peach Bottom-specific estimate for the T1 initiator and the recovery potential as a function of time. That information is summarized in Figures D-1 and D-2.

Sufficient experience existed in the form of actual events to estimate the T3A and T3C transients for Peach Bottom. The T3A frequency is based on 40 events over approximately 16 years operating experience (both units). The T3C frequency is based on 3 events over the 16 years experience. T2 and T3B were statistical estimates based on no occurrences of such events at Peach Bottom and the corresponding specific Individual Plant Examination analysis conducted by the utility using generic data [see 5]. The resulting initiator event frequencies are summarized in Section 4.3 of this report.

References:

[1] R.E. Battle and D.J. Campbell, Reliability of Emergency AC Power Systems at Nuclear Power Plants, Oak Ridge National Laboratory, NUREG/CR-2989, ORNL/TM-8545, July 1983.

[2] R.E. Battle, Emergency Diesel Generator Operating Experiences 1981-1983, Oak Ridge National Laboratory, NUREG/CR-4347, ORNL/TM-9739, DRAFT, July 1985.

[3] M. Trojovsky, Data Summaries of Licensee Event Reports of Pumps at U.S. Commercial Nuclear Power Plants January 1, 1972 to September 30, 1980, EG&G Idaho, Inc., NUREG/CR-1205, EGG-EA-5524, Revision 1, January 1982.

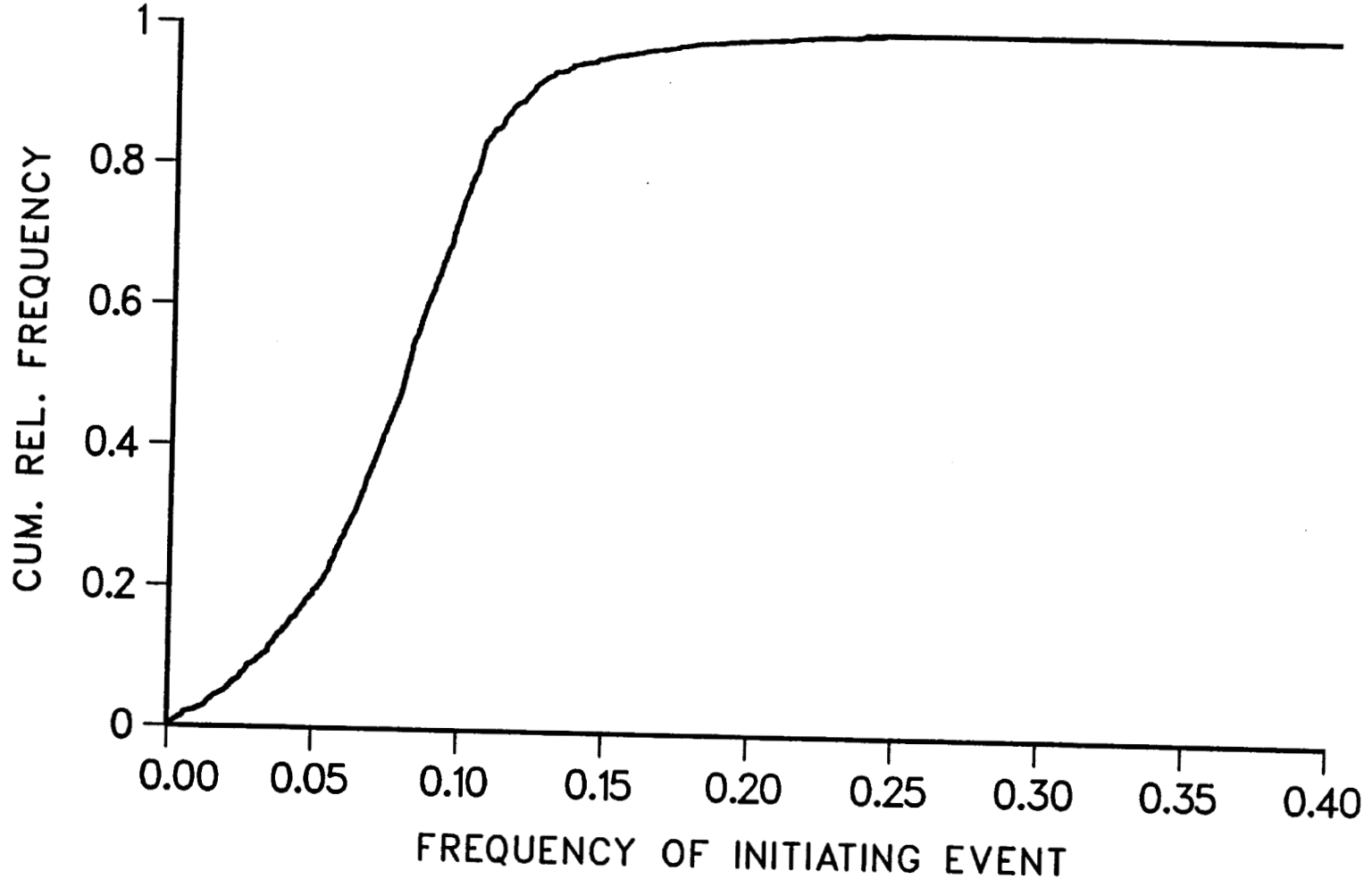

Figure D-1. Distribution of Loss of Offsite Power Initiating Event Frequency for Peach Bottom.

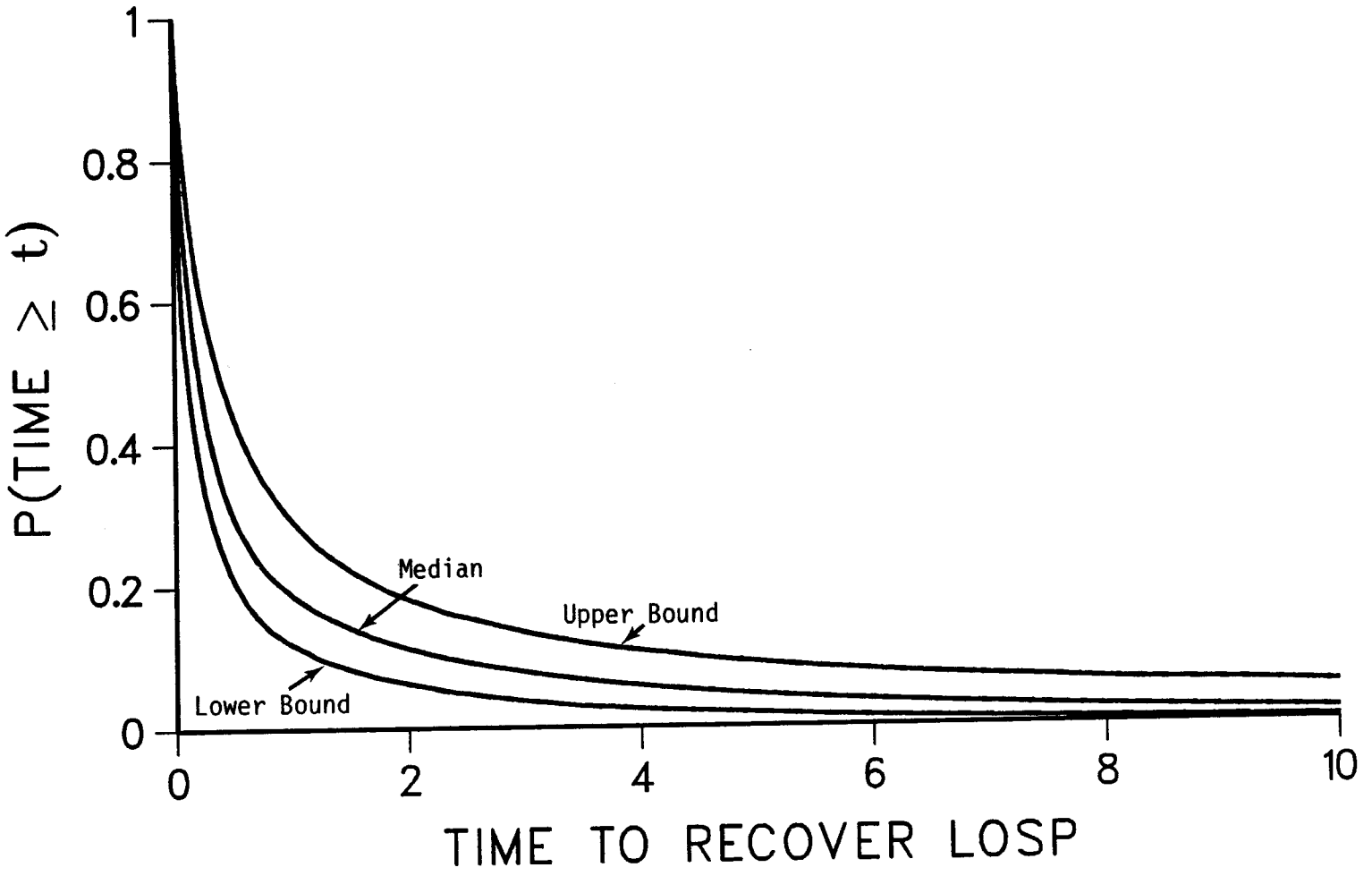

Figure D-2. Recovery Curve for Peach Bottom.

[4] R. L. Iman, S. C. Hora, Modeling Time to Recovery and Initiating Event Frequency for Loss of Offsite Power Incidents at Nuclear Power Plants, Sandia National Laboratories, NUREG/CR-5032, SAND87-2428, January 1988.

[5] Individual Plant Evaluation - Peach Bottom Atomic Power Station, Philadelphia Electric Company, May 1986.

APPENDIX E

CUT SETS FOR DOMINANT ACCIDENT SEQUENCES AND PLANT DAMAGE STATES

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Page

Cut Sets for Each Accident Sequence with Point Estimates

1. T1-BNU11 ..... E-4
2. T3A-C-SLC E-9
3. T3A-CU11X E-9
4. S1-V2V3V4NU11 ..... E-10
5. T1-BU11U21 ..... E-10
6. T1-P1BNU11 ..... E-10
7. T1-BU11NU21 ..... E-13
8. T3C-C-SLC E-17
9. T1-P2V234NU11B E-17
10. T2-P2V234NU11 ..... E-17
11. T3B-P2V234NU11 ..... E-17
12. A-V2V3 ..... E-18
13. T1-C-SLC E-18
14. T3B-C-SLC E-18
15. T2-C-SLC E-19
16. T3A-P2V234NU11 ..... E-19
17. T3C-CU11X E-19
18. T1-P1BU11U21 ..... E-19

Cut Sets for Each Plant Damage State

PDS-01 ..... E-20
PDS-02 ..... E-20
PDS-03 ..... E-20
PDS-04 ..... E-20
PDS-05 ..... E-20
PDS-06 ..... E-25
PDS-07 ..... E-25
PDS-08 ..... E-25
PDS-09 ..... E-25

The purpose of this appendix is to present the SETS code listing of the cut sets for each accident sequence including the point estimate core damage frequencies. There are 18 accident sequences including recovery with core damage frequencies above 1.0E-8.

Subsequent to the SETS runs, one change was made to three accident sequences (1, 6, and 7) to expand all cut sets in those sequences to include battery depletion. This resulted in five cut sets for every original cut set. This is discussed in Section 4.12, since it was done for the uncertainty analysis. This expansion can be seen in Appendix F where the cut sets used in the TEMAC code are presented.

A complete list of cut sets for each plant damage state is also shown in this appendix. This listing also does not include the battery depletion expansion. Again, the expanded cut sets can be seen in Appendix F in the TEMAC output.

TERM NUMBER	PROB. OF TERM	
		T1-BNU11 =
1	7.3079e-08	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
2	5.6485e-08	IE-T1 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
3	3.6972e-08	IE-T1 * LOSPNR13HR * EHV-AOV-CC-CCF * BETA-6AOVS +
4	1.9931e-08	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGMANR12HR * ACP-DGN-MA-EDGB +
5	1.9931e-08	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGMANR12HR * ACP-DGN-MA-EDGC +
6	1.6021e-08	IE-T1 * LOSPNR13HR * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR +
7	1.5225e-08	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-CKV-CB-C515B +
8	1.5225e-08	IE-T1 * ESW-CKV-CB-C515A * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
9	1.4159e-08	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-PTF-RE-DGB +
10	1.4159e-08	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-PTF-RE-DGC +
11	1.3702e-08	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FS-MDPA +
12	1.3702e-08	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FS-MDPB +
13	1.3702e-08	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
14	1.3702e-08	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-LP-EDGC +
15	1.0505e-08	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-TE-EDGB +
16	1.0505e-08	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-TE-EDGC +
17	1.0048e-08	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-PTF-RE-MDPA +
18	1.0048e-08	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-PTF-RE-MDPB +
19	9.5511e-09	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-PTF-RE-DGC +
20	9.5511e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * ESW-PTF-RE-DGB +
21	9.2430e-09	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-MDP-FS-MDPB +
22	9.2430e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * ESW-MDP-FS-MDPA +
23	9.1349e-09	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-MA-MDPA +
24	9.1349e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-MA-MDPB +
25	7.3944e-09	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * DGMANR12HR * ACP-DGN-MA-EDGC +
26	7.3944e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * DGMANR12HR * ACP-DGN-MA-EDGB +

TERM NUMBER	PROB. OF TERM	
27	6.7782e-09	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-PTF-RE-MDPB +
28	6.7782e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * ESW-PTF-RE-MDPA +
29	6.1620e-09	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-MDP-MA-MDPB +
30	6.1620e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * ESW-MDP-MA-MDPA +
31	5.4810e-09	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FR-MDPA +
32	5.4810e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FR-MDPB +
33	5.0836e-09	IE-T1 * LOSPNR13HR * DGHWNR12HR * ESW-CKV-CB-C515B * ACP-DGN-LP-EDGC +
34	5.0836e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
35	4.5675e-09	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-AOV-CC-0241B +
36	4.5675e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-AOV-CC-0241C +
37	3.0810e-09	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-AOV-CC-0241C +
38	3.0810e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * ESW-AOV-CC-0241B +
39	2.8653e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-PTF-RE-DGC * ESW-AOV-CC-0241B +
40	2.8653e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-PTF-RE-DGB * ESW-AOV-CC-0241C +
41	2.8345e-09	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * DGMANR12HR * ACP-DGN-TE-EDGC +
42	2.8345e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * DGMANR12HR * ACP-DGN-TE-EDGB +
43	2.7729e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPB * ESW-AOV-CC-0241B +
44	2.7729e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPA * ESW-AOV-CC-0241C +
45	2.6574e-09	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGMANR12HR * ACP-DGN-RE-EDGB +
46	2.6574e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGMANR12HR * ACP-DGN-RE-EDGC +
47	2.2183e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-MA-EDGB * ESW-AOV-CC-0241C +
48	2.2183e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-MA-EDGC * ESW-AOV-CC-0241B +
49	2.0761e-09	IE-T1 * LOSPNR18HR * ESW-CKV-CB-C515B * ESW-MDP-FR-MDPB +
50	2.0761e-09	IE-T1 * ESW-CKV-CB-C515A * LOSPNR18HR * ESW-MDP-FR-MDPA +
51	2.0335e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-AOV-CC-0241B * ESW-PTF-RE-MDPB +
52	2.0335e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-AOV-CC-0241C * ESW-PTF-RE-MDPA +
53	1.9308e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPA * ESW-PTF-RE-DGC +

TERM NUMBER	PROB. OF TERM	
54	1.9308e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPB * ESW-PTF-RE-DGB +
55	1.8685e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FS-MDPB * ESW-MDP-FR-MDPA +
56	1.8685e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FS-MDPA * ESW-MDP-FR-MDPB +
57	1.8486e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPA * ESW-AOV-CC-0241C +
58	1.8486e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPB * ESW-AOV-CC-0241B +
59	1.5251e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGHWNR12HR * ACP-DGN-LP-EDGC * ESW-AOV-CC-0241B +
60	1.5251e-09	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGHWNR12HR * ACP-DGN-LP-EDGB * ESW-AOV-CC-0241C +
61	1.4948e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * DGMANR12HR * ACP-DGN-MA-EDGC * ESW-MDP-FR-MDPA +
62	1.4948e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * DGMANR12HR * ACP-DGN-MA-EDGB * ESW-MDP-FR-MDPB +
63	1.3702e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPA * ESW-PTF-RE-MDPB +
64	1.3702e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPB * ESW-PTF-RE-MDPA +
65	1.3702e-09	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * EHV-SRV-CC-RV2 +
66	1.3702e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * EHV-SRV-CC-RV3 +
67	1.2992e-09	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-FR-EDGD +
68	1.2457e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPB * ESW-MDP-MA-MDPA +
69	1.2457e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPA * ESW-MDP-MA-MDPB +
70	1.0277e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * DGHWNR12HR * ACP-DGN-LP-EDGB * ESW-MDP-FR-MDPB +
71	1.0277e-09	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * DGHWNR12HR * ACP-DGN-LP-EDGC * ESW-MDP-FR-MDPA +
72	9.8592e-10	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * DGMANR12HR * ACP-DGN-RE-EDGC +
73	9.8592e-10	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * DGMANR12HR * ACP-DGN-RE-EDGB +
74	9.2430e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-AOV-CC-0241C * ESW-AOV-CC-0241B +
75	9.2430e-10	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * EHV-SRV-CC-RV3 +
76	9.2430e-10	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * EHV-SRV-CC-RV2 +
77	9.1349e-10	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-AOV-MA-0241B +
78	9.1349e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-AOV-MA-0241C +
79	8.5036e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ESW-AOV-CC-0241B * ACP-DGN-TE-EDGC +
80	8.5036e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ESW-AOV-CC-0241C * ACP-DGN-TE-EDGB +

TERM NUMBER	PROB. OF TERM	
81	8.3187e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPA * EHV-SRV-CC-RV3 +
82	8.3187e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPB * EHV-SRV-CC-RV2 +
83	7.4740e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPB * ESW-MDP-FR-MDPA +
84	6.6550e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-MA-EDGC * EHV-SRV-CC-RV2 +
85	6.6550e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-MA-EDGB * EHV-SRV-CC-RV3 +
86	6.2284e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPB * ESW-AOV-CC-0241B +
87	6.2284e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPA * ESW-AOV-CC-0241C +
88	6.1620e-10	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-AOV-MA-0241C +
89	6.1620e-10	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * ESW-AOV-MA-0241B +
90	5.7301e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * DGMANR12HR * ESW-MDP-FR-MDPB * ACP-DGN-TE-EDGB +
91	5.7301e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * DGMANR12HR * ESW-MDP-FR-MDPA * ACP-DGN-TE-EDGC +
92	5.5458e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPA * EHV-SRV-CC-RV3 +
93	5.5458e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPB * EHV-SRV-CC-RV2 +
94	4.8720e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-MA-EDGB * ACP-DGN-FR-EDGD +
95	4.8720e-10	IE-T1 * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-MA-EDGC * ACP-DGN-FR-EDGD +
96	4.8720e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-MA-EDGD +
97	4.5753e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGHWNR12HR * ACP-DGN-LP-EDGB * EHV-SRV-CC-RV3 +
98	4.5753e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGHWNR12HR * ACP-DGN-LP-EDGC * EHV-SRV-CC-RV2 +
99	4.5675e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-CKV-HW-C515B +
100	4.5675e-10	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-CKV-HW-C515A +
101	3.9585e-10	IE-T1 * LOSPNR18HR * DGHWNR12HR * ACP-DGN-FR-EDGD * ESW-MDP-FS-CCF * BETA-2SWPS +
102	2.6740e-10	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGACTNR12HR * DGACTB +
103	2.6740e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGACTC * DGACTNR12HR +
104	2.5511e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-TE-EDGC * EHV-SRV-CC-RV2 +
105	2.5511e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-TE-EDGB * EHV-SRV-CC-RV3 +
106	2.4360e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FS-ECW +
107	2.4360e-10	IE-T1 * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-LP-EDGC * ACP-DGN-FR-EDGD +

TERM NUMBER	PROB. OF TERM	
108	2.4360e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-LP-EDGB * ACP-DGN-FR-EDGD +
109	2.4360e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-LP-EDGD +
110	2.4360e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FS-MDPA * ACP-DGN-FR-EDGD +
111	2.4360e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MOV-CC-M0841 +
112	2.4360e-10	IE-T1 * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FS-MDPB * ACP-DGN-FR-EDGD +
113	2.4032e-10	IE-T1 * LOSPNR13HR * ESW-MDP-FS-CCF * BETA-2SWPS * ESW-MDP-FS-ECW +
114	2.4032e-10	IE-T1 * LOSPNR13HR * ESW-MDP-FS-CCF * BETA-2SWPS * ESW-MOV-CC-M0841 +
115	2.4032e-10	IE-T1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-MDP-FS-CCF * BETA-2SWPS +
116	2.4032e-10	IE-T1 * ESW-CKV-CB-C515A * LOSPNR13HR * ESW-MDP-FS-CCF * BETA-2SWPS +
117	2.2183e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-MA-EDGC * ESW-CKV-HW-C515A +
118	2.2183e-10	IE-T1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-MA-EDGB * ESW-CKV-HW-C515B +
119	1.9225e-10	IE-T1 * LOSPNR13HR * DGMANR12HR * ACP-DGN-MA-EDGD * ESW-MDP-FS-CCF * BETA-2SWPS +
120	1.8270e-10	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-XVM-PG-D505B +
121	1.8270e-10	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-XVM-PG-X507A +
122	1.8270e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-XVM-PG-D505C +
123	1.8270e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-XVM-PG-X507B +
124	1.8270e-10	IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-XVM-PG-XV510 +
125	1.8270e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-XVM-PG-XV509 +
126	1.7938e-10	IE-T1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DCHWNR18HR * DCP-BAT-LP-C3 +
127	1.6240e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-MA-MDPA * ACP-DGN-FR-EDGD +
128	1.6240e-10	IE-T1 * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-MA-MDPB * ACP-DGN-FR-EDGD +
129	1.6240e-10	IE-T1 * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-MA-ECW +
130	1.3217e-10	IE-T1 * LOSPNR13HR * DGHWNR12HR * ESW-MDP-FS-CCF * BETA-2SWPS * ACP-DGN-LP-EDGD

THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS 7.307942400000e-08
(THE SUM OF THE TERM VALUES IS 6.003120714199e-07)

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TERM     PROB.
NUMBER   OF TERM

                    T3A-C-SLC =

   1   8.0000e-07   NR * IE-T3A * RPSM1 * SLC-XHE-RE-DIVER +
   2   5.0000e-07   NR * IE-T3A * RPSM1 * SLC-XHE-FO-SLC +
   3   8.5000e-08   NR * IE-T3A * RPSM1 * SLC-SYS-TE-SLC +
   4   1.5750e-08   NR * IE-T3A * RPSM1 * SLC-MDP-FS-CCF * BETA-2SIPUMPS +
   5   2.5000e-09   NR * IE-T3A * RPSM1 * SLC-CKV-HW-CV17 +
   6   2.5000e-09   NR * IE-T3A * RPSM1 * SLC-CKV-HW-CV16 +
   7   1.0000e-09   NR * IE-T3A * RPSM1 * SLC-XVM-PG-XV15 +
   8   1.0000e-09   NR * IE-T3A * RPSM1 * SLC-XVM-PG-XV18 +
   9   1.0000e-09   NR * IE-T3A * RPSM1 * SLC-XVM-PG-XV11

   THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   8.000000000000e-07
        (THE SUM OF THE TERM VALUES IS   1.408750000000e-06)


                    T3A-CU11X =

   1   1.5000e-07   NR * IE-T3A * HCI-TDP-FS-20S37 * RPSM1 * ESF-XHE-FO-DATWS +
   2   5.0000e-08   NR * IE-T3A * HCI-TDP-MA-20S37 * RPSM1 * ESF-XHE-FO-DATWS +
   3   2.5000e-08   NR * IE-T3A * HCI-TDP-FO-20S37 * RPSM1 * ESF-XHE-FO-DATWS +
   4   1.5000e-08   NR * IE-T3A * HCI-MOV-CC-MV14 * RPSM1 * ESF-XHE-FO-DATWS +
   5   1.5000e-08   NR * IE-T3A * HCI-MOV-CC-MV19 * RPSM1 * ESF-XHE-FO-DATWS +
   6   1.0000e-09   NR * IE-T3A * HCI-MOV-MA-MV57 * RPSM1 * ESF-XHE-FO-DATWS +
   7   1.0000e-09   NR * IE-T3A * HCI-MOV-MA-PCV50 * RPSM1 * ESF-XHE-FO-DATWS +
   8   1.0000e-09   NR * IE-T3A * HCI-MOV-MA-MV20 * RPSM1 * ESF-XHE-FO-DATWS +
   9   1.0000e-09   NR * IE-T3A * HCI-MOV-MA-MV17 * RPSM1 * ESF-XHE-FO-DATWS +
  10   1.0000e-09   NR * IE-T3A * HCI-MOV-MA-MV14 * RPSM1 * ESF-XHE-FO-DATWS +
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 TERM      PROB.
NUMBER   OF TERM

   11   6.2500e-10    NR * IE-T3A * RPSM1 * ESF-XHE-FO-DATWS * HCI-ICC-HW-FC108 +

   12   5.0000e-10    NR * IE-T3A * RPSM1 * ESF-XHE-FO-DATWS * HCI-CKV-HW-CV32 +

   13   5.0000e-10    NR * IE-T3A * RPSM1 * ESF-XHE-FO-DATWS * HCI-TCV-HW-TCV18 +

   14   5.0000e-10    NR * IE-T3A * RPSM1 * ESF-XHE-FO-DATWS * HCI-CKV-HW-CV65

      THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   1.500000000000e-07
           (THE SUM OF THE TERM VALUES IS   2.621250000000e-07)


                     S1-V2V3V4NU11 =

    1   1.5900e-07    ESF-XHE-MC-PRES * NR * IE-S1 +

    2   3.0000e-10    NR * ESF-ASP-FC-PL52A * ESF-ASP-FC-PL52B * IE-S1 +

    3   3.0000e-10    NR * ESF-ASP-FC-PL52C * ESF-ASP-FC-PL52D * IE-S1

      THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   1.590000000000e-07
           (THE SUM OF THE TERM VALUES IS   1.596000000000e-07)


                     T1-BU11U21 =

    1   1.7775e-07    NR * IE-T1 * DCP-BAT-LF-CCF * BETA-5BAT

      THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   1.777500000000e-07
           (THE SUM OF THE TERM VALUES IS   1.777500000000e-07)


                     T1-P18NU11 =

    1   7.0156e-09    IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +

    2   5.4226e-09    IE-T1 * ESW-AOV-CC-CCF * BETA-3AOVS * P1 * LOSPNR13HR +

    3   3.5493e-09    IE-T1 * P1 * LOSPNR13HR * EHV-AOV-CC-CCF * BETA-6AOVS +

    4   1.9134e-09    IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGMANR12HR * ACP-DGN-MA-EDGC +

    5   1.9134e-09    IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGMANR12HR * ACP-DGN-MA-EDGB +

    6   1.5380e-09    IE-T1 * P1 * LOSPNR13HR * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR +

    7   1.4616e-09    IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +

    8   1.4616e-09    IE-T1 * P1 * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-CKV-CB-C515B +
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TERM NUMBER	PROB. OF TERM	
9	1.3593e-09	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-PTF-RE-DGC +
10	1.3593e-09	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-PTF-RE-DGB +
11	1.3154e-09	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-LP-EDGC +
12	1.3154e-09	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FS-MDPB +
13	1.3154e-09	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FS-MDPA +
14	1.3154e-09	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
15	1.0085e-09	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-TE-EDGC +
16	1.0085e-09	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-TE-EDGB +
17	9.6485e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-PTF-RE-MDPA +
18	9.6485e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-PTF-RE-MDPB +
19	9.1691e-10	IE-T1 * P1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-PTF-RE-DGC +
20	9.1691e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR13HR * ESW-PTF-RE-DGB +
21	8.8733e-10	IE-T1 * P1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-MDP-FS-MDPB +
22	8.8733e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR13HR * ESW-MDP-FS-MDPA +
23	8.7695e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-MA-MDPB +
24	8.7695e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-MA-MDPA +
25	7.0986e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR13HR * DGMANR12HR * ACP-DGN-MA-EDGB +
26	7.0986e-10	IE-T1 * P1 * LOSPNR13HR * ESW-CKV-CB-C515B * DGMANR12HR * ACP-DGN-MA-EDGC +
27	6.5071e-10	IE-T1 * P1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-PTF-RE-MDPB +
28	6.5071e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR13HR * ESW-PTF-RE-MDPA +
29	5.9155e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR13HR * ESW-MDP-MA-MDPA +
30	5.9155e-10	IE-T1 * P1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-MDP-MA-MDPB +
31	5.2617e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FR-MDPB +
32	5.2617e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FR-MDPA +
33	4.8803e-10	IE-T1 * P1 * LOSPNR13HR * DGHWNR12HR * ESW-CKV-CB-C515B * ACP-DGN-LP-EDGC +
34	4.8803e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR13HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
35	4.3848e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-AOV-CC-0241C +

TERM NUMBER	PROB. OF TERM	
36	4.3848e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-AOV-CC-0241B +
37	2.9578e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR13HR * ESW-AOV-CC-0241B +
38	2.9578e-10	IE-T1 * P1 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-AOV-CC-0241C +
39	2.7211e-10	IE-T1 * P1 * LOSPNR13HR * ESW-CKV-CB-C515B * DGMANR12HR * ACP-DGN-TE-EDGC +
40	2.7211e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR13HR * DGMANR12HR * ACP-DGN-TE-EDGB +
41	2.6620e-10	IE-T1 * P1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPA * ESW-AOV-CC-0241C +
42	2.6620e-10	IE-T1 * P1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPB * ESW-AOV-CC-0241B +
43	2.1296e-10	IE-T1 * P1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-MA-EDGB * ESW-AOV-CC-0241C +
44	2.1296e-10	IE-T1 * P1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGMANR12HR * ACP-DGN-MA-EDGC * ESW-AOV-CC-0241B +
45	1.9931e-10	IE-T1 * ESW-CKV-CB-C515A * P1 * LOSPNR18HR * ESW-MDP-FR-MDPA +
46	1.9931e-10	IE-T1 * P1 * LOSPNR18HR * ESW-CKV-CB-C515B * ESW-MDP-FR-MDPB +
47	1.7938e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FS-MDPB * ESW-MDP-FR-MDPA +
48	1.7938e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FS-MDPA * ESW-MDP-FR-MDPB +
49	1.7747e-10	IE-T1 * P1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPB * ESW-AOV-CC-0241B +
50	1.7747e-10	IE-T1 * P1 * LOSPNR13HR * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPA * ESW-AOV-CC-0241C +
51	1.4641e-10	IE-T1 * P1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGHWNR12HR * ACP-DGN-LP-EDGB * ESW-AOV-CC-0241C +
52	1.4641e-10	IE-T1 * P1 * LOSPNR13HR * ESW-XHE-FO-EHS * DGHWNR12HR * ACP-DGN-LP-EDGC * ESW-AOV-CC-0241B +
53	1.3154e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * EHV-SRV-CC-RV3 +
54	1.3154e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * EHV-SRV-CC-RV2 +
55	1.2472e-10	IE-T1 * P1 * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-FR-EDGD +
56	1.1958e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPA * ESW-MDP-MA-MDPB +
57	1.1958e-10	IE-T1 * P1 * ESW-XHE-FO-EHS * LOSPNR18HR * ESW-MDP-FR-MDPB * ESW-MDP-MA-MDPA

THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS 7.015624703999e-09
(THE SUM OF THE TERM VALUES IS 5.250013867775e-08)

TERM NUMBER	PROB. OF TERM	
		T1-BU11NU21 =
1	3.6540e-09	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
2	2.8242e-09	IE-T1 * ESW-AOV-CC-CCF * BETA-3AOVS * HCI-TDP-FR-20S37 * LOSPNR13HR +
3	2.1924e-09	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
4	1.8486e-09	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * EHV-AOV-CC-CCF * BETA-6AOVS +
5	1.6945e-09	IE-T1 * HCI-TDP-FS-20S37 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
6	1.1092e-09	IE-T1 * HCI-TDP-FS-20S37 * LOSPNR13HR * EHV-AOV-CC-CCF * BETA-6AOVS +
7	9.9654e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGMANR12HR * ACP-DGN-MA-EDGC +
8	9.9654e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGMANR12HR * ACP-DGN-MA-EDGB +
9	8.0106e-10	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR +
10	7.6124e-10	IE-T1 * HCI-TDP-FR-20S37 * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-CKV-CB-C515B +
11	7.6124e-10	IE-T1 * ESW-CKV-CB-C515A * HCI-TDP-FR-20S37 * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
12	7.3079e-10	IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
13	7.0796e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-PTF-RE-DGC +
14	7.0796e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-PTF-RE-DGB +
15	6.8512e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FS-MDPB +
16	6.8512e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FS-MDPA +
17	6.8512e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-LP-EDGC +
18	6.8512e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
19	5.9792e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGMANR12HR * ACP-DGN-MA-EDGC +

TERM NUMBER	PROB. OF TERM	
20	5.9792e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGMANR12HR * ACP-DGN-MA-EDGB +
21	5.6485e-10	IE-T1 * HCI-TDP-MA-20S37 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
22	5.0242e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-PTF-RE-MDPB +
23	5.0242e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-PTF-RE-MDPA +
24	4.8803e-10	IE-T1 * HCI-TDP-FS-20S37 * LOSPNR13HR * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * DGHWNR12HR * ESW-MDP-MA-MDPA +
25	4.8803e-10	IE-T1 * HCI-TDP-FS-20S37 * LOSPNR13HR * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-MA-MDPB +
26	4.8803e-10	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * DGHWNR12HR * ESW-MDP-FR-MDPA +
27	4.8803e-10	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FR-MDPB +
28	4.8064e-10	IE-T1 * HCI-TDP-FS-20S37 * LOSPNR13HR * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR +
29	4.6215e-10	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-MDP-FS-MDPB +
30	4.6215e-10	IE-T1 * ESW-CKV-CB-C515A * HCI-TDP-FR-20S37 * LOSPNR13HR * ESW-MDP-FS-MDPA +
31	4.5675e-10	IE-T1 * HCI-TDP-FS-20S37 * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-CKV-CB-C515B +
32	4.5675e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515A * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
33	4.5675e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-MA-MDPB +
34	4.5675e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-MA-MDPA +
35	4.2477e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-PTF-RE-DGB +
36	4.2477e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-PTF-RE-DGC +
37	4.1107e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-LP-EDGC +
38	4.1107e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FS-MDPA +
39	4.1107e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FS-MDPB +

TERM NUMBER	PROB. OF TERM	
40	4.1107e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
41	3.8201e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGMANR12HR * ACP-DGN-TE-EDGB +
42	3.8201e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGMANR12HR * ACP-DGN-TE-EDGC +
43	3.6972e-10	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * ESW-CKV-CB-C515B * DGMANR12HR * ACP-DGN-MA-EDGC +
44	3.6972e-10	IE-T1 * HCI-TDP-MA-20S37 * LOSPNR13HR * EHV-AOV-CC-CCF * BETA-6AOVS +
45	3.6972e-10	IE-T1 * ESW-CKV-CB-C515A * HCI-TDP-FR-20S37 * LOSPNR13HR * DGMANR12HR * ACP-DGN-MA-EDGB +
46	3.5493e-10	IE-T1 * HCI-TDP-MA-20S37 * LOSPNR13HR * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * DGMANR12HR * ACP-DGN-MA-EDGB +
47	3.5493e-10	IE-T1 * HCI-TDP-MA-20S37 * LOSPNR13HR * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * DGMANR12HR * ACP-DGN-MA-EDGC +
48	3.0810e-10	IE-T1 * ESW-CKV-CB-C515A * HCI-TDP-FR-20S37 * LOSPNR13HR * ESW-MDP-MA-MDPA +
49	3.0810e-10	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-MDP-MA-MDPB +
50	2.7729e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515A * LOSPNR13HR * ESW-MDP-FS-MDPA +
51	2.7729e-10	IE-T1 * HCI-TDP-FS-20S37 * LOSPNR13HR * ESW-CKV-CB-C515B * ESW-MDP-FS-MDPB +
52	2.7113e-10	IE-T1 * HCI-TDP-MA-20S37 * LOSPNR13HR * ACP-DGN-FR-EDGC * DGHWNR12HR * ESW-CKV-CB-C515B +
53	2.7113e-10	IE-T1 * HCI-TDP-MA-20S37 * ESW-CKV-CB-C515A * LOSPNR13HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
54	2.5418e-10	IE-T1 * ESW-CKV-CB-C515A * HCI-TDP-FR-20S37 * LOSPNR13HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
55	2.5418e-10	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * DGHWNR12HR * ESW-CKV-CB-C515B * ACP-DGN-LP-EDGC +
56	2.2920e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGMANR12HR * ACP-DGN-TE-EDGB +
57	2.2920e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGMANR12HR * ACP-DGN-TE-EDGC +
58	2.2837e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-AOV-CC-0241B +
59	2.2837e-10	IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-AOV-CC-0241C +
60	2.2183e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515A * LOSPNR13HR * DGMANR12HR * ACP-DGN-MA-EDGB +
61	2.2183e-10	IE-T1 * HCI-TDP-FS-20S37 * LOSPNR13HR * ESW-CKV-CB-C515B * DGMANR12HR * ACP-DGN-MA-EDGC +

TERM NUMBER	PROB. OF TERM	
62	2.1924e-10	IE-T1 * HCI-MOV-CC-MV19 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
63	2.1924e-10	IE-T1 * HCI-MOV-CC-MV14 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR +
64	1.7938e-10	IE-T1 * DCP-BAT-LP-B2 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DCHWNR18HR +
65	1.6945e-10	IE-T1 * HCI-MOV-CC-MV19 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
66	1.6945e-10	IE-T1 * HCI-MOV-CC-MV14 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
67	1.6443e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FR-MDPB +
68	1.6443e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FR-MDPA +
69	1.6021e-10	IE-T1 * HCI-TDP-MA-20S37 * LOSPNR13HR * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR +
70	1.5251e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515A * LOSPNR13HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
71	1.5251e-10	IE-T1 * HCI-TDP-FS-20S37 * LOSPNR13HR * DGHWNR12HR * ESW-CKV-CB-C515B * ACP-DGN-LP-EDGC +
72	1.4173e-10	IE-T1 * ESW-CKV-CB-C515A * HCI-TDP-FR-20S37 * LOSPNR13HR * DGMANR12HR * ACP-DGN-TE-EDGB +
73	1.4173e-10	IE-T1 * HCI-TDP-FR-20S37 * LOSPNR13HR * ESW-CKV-CB-C515B * DGMANR12HR * ACP-DGN-TE-EDGC +
74	1.3702e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-AOV-CC-0241C +
75	1.3702e-10	IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ACP-DGN-LP-EDGC +
76	1.3702e-10	IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * LOSPNR18HR * ACP-DGN-FR-EDGB * DGHWNR12HR * ESW-MDP-FS-MDPB +
77	1.3702e-10	IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-AOV-CC-0241B +
78	1.3702e-10	IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ACP-DGN-LP-EDGB +
79	1.3702e-10	IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * LOSPNR18HR * DGHWNR12HR * ESW-MDP-FS-MDPA

THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS 3.653971200000e-09
(THE SUM OF THE TERM VALUES IS 4.198983983999e-08)

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TERM     PROB.
NUMBER   OF TERM

                    T3C-C-SLC =

   1   6.0800e-08   NR * RPSM * IE-T3C * SLC-XHE-RE-DIVER +

   2   3.8000e-08   NR * RPSM * IE-T3C * SLC-XHE-FO-SLC +

   3   6.4600e-09   NR * RPSM * IE-T3C * SLC-SYS-TE-SLC +

   4   1.1970e-09   NR * RPSM * IE-T3C * SLC-MDP-FS-CCF * BETA-2SIPUMPS +

   5   1.9000e-10   NR * RPSM * IE-T3C * SLC-CKV-HW-CV16 +

   6   1.9000e-10   NR * RPSM * IE-T3C * SLC-CKV-HW-CV17

  THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   6.080000000000e-08
       (THE SUM OF THE TERM VALUES IS   1.068370000000e-07)

                    T1-P2V234NU11B =

   1   8.3740e-08   ESF-XHE-MC-PRES * NR * P2 * IE-T1 +

   2   3.9500e-09   NR * ESF-XHE-FO-HSWIN * P2 * ESW-CKV-HW-CV513 * IE-T1 +

   3   1.5800e-09   NR * ESF-XHE-FO-HSWIN * P2 * IE-T1 * ESW-XVM-PG-XV502 +

   4   1.5800e-10   NR * ESF-ASP-FC-PL52A * ESF-ASP-FC-PL52B * P2 * IE-T1 +

   5   1.5800e-10   NR * ESF-ASP-FC-PL52C * ESF-ASP-FC-PL52D * P2 * IE-T1

  THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   8.374000000000e-08
       (THE SUM OF THE TERM VALUES IS   8.958599999999e-08)

                    T2-P2V234NU11 =

   1   5.3000e-08   ESF-XHE-MC-PRES * NR * P2 * IE-T2

  THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   5.300000000000e-08
       (THE SUM OF THE TERM VALUES IS   5.300000000000e-08)

                    T3B-P2V234NU11 =

   1   6.3600e-08   ESF-XHE-MC-PRES * NR * P2 * IE-T3B +

   2   3.0000e-10   NR * ESF-XHE-FO-HSWIN * P2 * NSW-SYS-FO-NSW-1 * IE-T3B * ESW-CKV-HW-CV513

  THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   6.360000000000e-08
       (THE SUM OF THE TERM VALUES IS   6.390000000000e-08)
```

```
TERM     PROB.
NUMBER   OF TERM

                    A-V2V3 =

   1   5.3000e-08   IE-A * ESF-XHE-MC-PRES * NR +

   2   1.0000e-10   IE-A * NR * ESF-ASP-FC-PL52A * ESF-ASP-FC-PL52B +

   3   1.0000e-10   IE-A * NR * ESF-ASP-FC-PL52C * ESF-ASP-FC-PL52D

     THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   5.300000000000e-08
          (THE SUM OF THE TERM VALUES IS   5.320000000000e-08)


                    T1-C-SLC =

   1   2.5280e-08   NR * IE-T1 * RPSM * SLC-XHE-RE-DIVER +

   2   1.5800e-08   NR * IE-T1 * RPSM * SLC-XHE-FO-SLC +

   3   2.6860e-09   NR * IE-T1 * RPSM * SLC-SYS-TE-SLC +

   4   4.9770e-10   NR * IE-T1 * RPSM * SLC-MDP-FS-CCF * BETA-2SIPUMPS

     THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   2.528000000000e-08
          (THE SUM OF THE TERM VALUES IS   6.426370000000e-08)


                    T3B-C-SLC =

   1   1.9200e-08   NR * IE-T3B * RPSM * SLC-XHE-RE-DIVER +

   2   1.2000e-08   NR * IE-T3B * RPSM * SLC-XHE-FO-SLC +

   3   2.0400e-09   NR * IE-T3B * RPSM * SLC-SYS-TE-SLC +

   4   3.7800e-10   NR * IE-T3B * RPSM * SLC-MDP-FS-CCF * BETA-2SIPUMPS

     THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   1.920000000000e-08
          (THE SUM OF THE TERM VALUES IS   3.361800000000e-08)
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```
TERM      PROB.
NUMBER   OF TERM

                    T2-C-SLC =

   1   1.6000e-08   NR * IE-T2 * RPSM * SLC-XHE-RE-DIVER +

   2   1.0000e-08   NR * IE-T2 * RPSM * SLC-XHE-FO-SLC +

   3   1.7000e-09   NR * IE-T2 * RPSM * SLC-SYS-TE-SLC +

   4   3.1500e-10   NR * IE-T2 * RPSM * SLC-MDP-FS-CCF * BETA-2SIPUMPS

     THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   1.600000000000e-08
          (THE SUM OF THE TERM VALUES IS   2.801500000000e-08)

                    T3A-P2V234NU11 =

   1   2.6500e-08   ESF-XHE-MC-PRES * NR * P2 * IE-T3A * Q

     THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   2.650000000000e-08
          (THE SUM OF THE TERM VALUES IS   2.650000000000e-08)

                    T3C-CU11X =

   1   1.1400e-08   NR * HCI-TDP-FS-20S37 * ESF-XHE-FO-DATWS * RPSM * IE-T3C +

   2   3.8000e-09   NR * HCI-TDP-MA-20S37 * ESF-XHE-FO-DATWS * RPSM * IE-T3C +

   3   1.9000e-09   NR * HCI-TDP-FO-20S37 * ESF-XHE-FO-DATWS * RPSM * IE-T3C +

   4   1.1400e-09   NR * HCI-MOV-CC-MV19 * ESF-XHE-FO-DATWS * RPSM * IE-T3C +

   5   1.1400e-09   NR * HCI-MOV-CC-MV14 * ESF-XHE-FO-DATWS * RPSM * IE-T3C

     THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   1.140000000000e-08
          (THE SUM OF THE TERM VALUES IS   1.938000000000e-08)

                    T1-P1BU11U21 =

   1   1.7064e-08   NR * IE-T1 * DCP-BAT-LF-CCF * BETA-5BAT * P1

     THE MAXIMUM TERM VALUE FOR COMPUTATION 1 IS   1.706400000000e-08
          (THE SUM OF THE TERM VALUES IS   1.706400000000e-08)
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* * * * * PEACH BOTTOM PLANT DAMAGE STATES (PDS) * * * * *

PDS-01 =
     IE-S1 * ESF-XHE-MC-PRES * NR +
     IE-S1 * ESF-ASP-FC-PL52A * ESF-ASP-FC-PL52B * NR +
     IE-S1 * ESF-ASP-FC-PL52C * ESF-ASP-FC-PL52D * NR +
     IE-A  * ESF-XHE-MC-PRES * NR +
     IE-A  * ESF-ASP-FC-PL52A * ESF-ASP-FC-PL52B * NR +
     IE-A  * ESF-ASP-FC-PL52C * ESF-ASP-FC-PL52D * NR.
PDS-02 =
     IE-T3B * P2 * ESF-XHE-MC-PRES * NR +
     IE-T2  * P2 * ESF-XHE-MC-PRES * NR +
     IE-T3A * Q * P2 * ESF-XHE-MC-PRES * NR ●
     IE-T1 * P2 * ESF-XHE-MC-PRES * NR +
     IE-T1 * P2 * ESF-ASP-FC-PL52A * ESF-ASP-FC-PL52B * NR +
     IE-T1 * P2 * ESF-ASP-FC-PL52C * ESF-ASP-FC-PL52D * NR.
PDS-03 =
     IE-T3B * P2 * ESW-CKV-HW-CV513 * ESF-XHE-FO-HSWIN * NSW-SYS-FO-NSW-1 * NR +
     IE-T1 * P2 * ESF-XHE-FO-HSWIN * ESW-CKV-HW-CV513 * NR +
     IE-T1 * P2 * ESF-XHE-FO-HSWIN * ESW-XVM-PG-XV502 * NR.
PDS-04 =
     IE-T1 * P1 * DCP-BAT-LF-CCF * BETA-5BAT * NR +
     IE-T1 * DCP-BAT-LF-CCF * BETA-5BAT * NR.
PDS-05 =
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
     IE-T1 * P1 * EHV-AOV-CC-CCF * BETA-6AOVS * LOSPNR13HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR18HR +
     IE-T1 * P1 * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR * LOSPNR13HR +
     IE-T1 * P1 * ACP-DGN-FR-EDGB * ESW-CKV-CB-C515A * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ACP-DGN-FR-EDGC * ESW-CKV-CB-C515B * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-PTF-RE-DGC * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-PTF-RE-DGB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FS-MDPA * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FS-MDPB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-TE-EDGC * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-TE-EDGB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-PTF-RE-MDPA * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-PTF-RE-MDPB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-CKV-CB-C515B * ESW-PTF-RE-DGC * LOSPNR13HR +
     IE-T1 * P1 * ESW-CKV-CB-C515A * ESW-PTF-RE-DGB * LOSPNR13HR +
     IE-T1 * P1 * ESW-CKV-CB-C515B * ESW-MDP-FS-MDPB * LOSPNR13HR +
     IE-T1 * P1 * ESW-CKV-CB-C515A * ESW-MDP-FS-MDPA * LOSPNR13HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-MA-MDPA * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-MA-MDPB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-CKV-CB-C515A * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR13HR +
     IE-T1 * P1 * ESW-CKV-CB-C515B * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR13HR  +
     IE-T1 * P1 * ESW-CKV-CB-C515B * ESW-PTF-RE-MDPB * LOSPNR13HR +
     IE-T1 * P1 * ESW-CKV-CB-C515A * ESW-PTF-RE-MDPA * LOSPNR13HR +
     IE-T1 * P1 * ESW-CKV-CB-C515A * ESW-MDP-MA-MDPA * LOSPNR13HR +
     IE-T1 * P1 * ESW-CKV-CB-C515B * ESW-MDP-MA-MDPB * LOSPNR13HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FR-MDPB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FR-MDPA * DGHWNR12HR * LOSPNR18HR +
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IE-T1 * P1 * ESW-CKV-CB-C515B * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR13HR +
IE-T1 * P1 * ESW-CKV-CB-C515A * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-AOV-CC-0241B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-AOV-CC-0241C * DGHWNR12HR * LOSPNR18HR +
IE-T1 * P1 * ESW-CKV-CB-C515A * ESW-AOV-CC-0241B * LOSPNR13HR +
IE-T1 * P1 * ESW-CKV-CB-C515B * ESW-AOV-CC-0241C * LOSPNR13HR +
IE-T1 * P1 * ESW-CKV-CB-C515B * ACP-DGN-TE-EDGC * DGMANR12HR * LOSPNR13HR +
IE-T1 * P1 * ESW-CKV-CB-C515A * ACP-DGN-TE-EDGB * DGMANR12HR * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPB * ESW-AOV-CC-0241B * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPA * ESW-AOV-CC-0241C * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGB * ESW-AOV-CC-0241C * DGMANR12HR * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGC * ESW-AOV-CC-0241B * DGMANR12HR * LOSPNR13HR +
IE-T1 * P1 * ESW-CKV-CB-C515A * ESW-MDP-FR-MDPA * LOSPNR18HR +
IE-T1 * P1 * ESW-CKV-CB-C515B * ESW-MDP-FR-MDPB * LOSPNR18HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPB * ESW-MDP-FR-MDPA * LOSPNR18HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPA * ESW-MDP-FR-MDPB * LOSPNR18HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPA * ESW-AOV-CC-0241C * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPB * ESW-AOV-CC-0241B * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-LP-EDGB * ESW-AOV-CC-0241C * DGHWNR12HR * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-LP-EDGC * ESW-AOV-CC-0241B * DGHWNR12HR * LOSPNR13HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * EHV-SRV-CC-RV3 * DGHWNR12HR * LOSPNR18HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * EHV-SRV-CC-RV2 * DGHWNR12HR * LOSPNR18HR +
IE-T1 * P1 * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPB * ESW-MDP-MA-MDPA * LOSPNR18HR +
IE-T1 * P1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPA * ESW-MDP-MA-MDPB * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
IE-T1 * EHV-AOV-CC-CCF * BETA-6AOVS * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR * LOSPNR13HR +
IE-T1 * ACP-DGN-FR-EDGC * ESW-CKV-CB-C515B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGB * ESW-CKV-CB-C515A * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-PTF-RE-DGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-PTF-RE-DGC * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FS-MDPA * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FS-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-TE-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-TE-EDGC * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-PTF-RE-MDPA * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-PTF-RE-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-CKV-CB-C515B * ESW-PTF-RE-DGC * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ESW-PTF-RE-DGB * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515B * ESW-MDP-FS-MDPB * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ESW-MDP-FS-MDPA * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-MA-MDPA * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-MA-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-CKV-CB-C515B * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515B * ESW-PTF-RE-MDPB * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ESW-PTF-RE-MDPA * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ESW-MDP-MA-MDPA * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515B * ESW-MDP-MA-MDPB * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FR-MDPA * DGHWNR12HR * LOSPNR18HR +
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IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FR-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-CKV-CB-C515B * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-AOV-CC-0241B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-AOV-CC-0241C * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-CKV-CB-C515A * ESW-AOV-CC-0241B * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515B * ESW-AOV-CC-0241C * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-PTF-RE-DGC * ESW-AOV-CC-0241B * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-PTF-RE-DGB * ESW-AOV-CC-0241C * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ACP-DGN-TE-EDGB * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515B * ACP-DGN-TE-EDGC * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPB * ESW-AOV-CC-0241B * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPA * ESW-AOV-CC-0241C * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-RE-EDGB * DGMANR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-RE-EDGC * DGMANR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGB * ESW-AOV-CC-0241C * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGC * ESW-AOV-CC-0241B * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515B * ESW-MDP-FR-MDPB * LOSPNR18HR +
IE-T1 * ESW-CKV-CB-C515A * ESW-MDP-FR-MDPA * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-AOV-CC-0241B * ESW-PTF-RE-MDPB * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-AOV-CC-0241C * ESW-PTF-RE-MDPA * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPA * ESW-PTF-RE-DGC * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPB * ESW-PTF-RE-DGB * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPB * ESW-MDP-FR-MDPA * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPA * ESW-MDP-FR-MDPB * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPA * ESW-AOV-CC-0241C * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPB * ESW-AOV-CC-0241B * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-LP-EDGC * ESW-AOV-CC-0241B * DGHWNR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-LP-EDGB * ESW-AOV-CC-0241C * DGHWNR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGC * ESW-MDP-FR-MDPA * DGMANR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGB * ESW-MDP-FR-MDPB * DGMANR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPA * ESW-PTF-RE-MDPB * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPB * ESW-PTF-RE-MDPA * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * EHV-SRV-CC-RV2 * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * EHV-SRV-CC-RV3 * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPB * ESW-MDP-MA-MDPA * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPA * ESW-MDP-MA-MDPB * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-LP-EDGB * ESW-MDP-FR-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-LP-EDGC * ESW-MDP-FR-MDPA * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-CKV-CB-C515B * ACP-DGN-RE-EDGC * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ACP-DGN-RE-EDGB * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-AOV-CC-0241C * ESW-AOV-CC-0241B * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * EHV-SRV-CC-RV2 * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515B * EHV-SRV-CC-RV3 * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-AOV-MA-0241B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-AOV-MA-0241C * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-AOV-CC-0241B * ACP-DGN-TE-EDGC * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-AOV-CC-0241C * ACP-DGN-TE-EDGB * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPA * EHV-SRV-CC-RV3 * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FS-MDPB * EHV-SRV-CC-RV2 * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPB * ESW-MDP-FR-MDPA * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGC * EHV-SRV-CC-RV2 * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGB * EHV-SRV-CC-RV3 * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPB * ESW-AOV-CC-0241B * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPA * ESW-AOV-CC-0241C * LOSPNR18HR +
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IE-T1 * ESW-CKV-CB-C515B * ESW-AOV-MA-0241C * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ESW-AOV-MA-0241B * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPB * ACP-DGN-TE-EDGB * DGMANR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-FR-MDPA * ACP-DGN-TE-EDGC * DGMANR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPB * EHV-SRV-CC-RV2 * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ESW-MDP-MA-MDPA * EHV-SRV-CC-RV3 * LOSPNR13HR +
IE-T1 * ACP-DGN-FR-EDGB * ACP-DGN-MA-EDGC * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ACP-DGN-MA-EDGB * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * ACP-DGN-MA-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-LP-EDGB * EHV-SRV-CC-RV3 * DGHWNR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-LP-EDGC * EHV-SRV-CC-RV2 * DGHWNR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-CKV-HW-C515B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-CKV-HW-C515A * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGD * ESW-MDP-FS-CCF * BETA-2SWPS * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * DGACTB * DGACTNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * DGACTC * DGACTNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-TE-EDGC * EHV-SRV-CC-RV2 * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-TE-EDGB * EHV-SRV-CC-RV3 * DGMANR12HR * LOSPNR13HR +
IE-T1 * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * ESW-MDP-FS-ECW * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGB * ACP-DGN-LP-EDGC * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ACP-DGN-LP-EDGB * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * ACP-DGN-LP-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ESW-MDP-FS-MDPA * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * ESW-MOV-CC-M0841 * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGB * ESW-MDP-FS-MDPB * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-MDP-FS-ECW * BETA-2SWPS * ESW-MDP-FS-ECW * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515A * ESW-MDP-FS-CCF * BETA-2SWPS * LOSPNR13HR +
IE-T1 * ESW-CKV-CB-C515B * ESW-MDP-FS-CCF * BETA-2SWPS * LOSPNR13HR +
IE-T1 * ESW-MDP-FS-CCF * BETA-2SWPS * ESW-MOV-CC-M0841 * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGC * ESW-CKV-HW-C515A * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-MA-EDGB * ESW-CKV-HW-C515B * DGMANR12HR * LOSPNR13HR +
IE-T1 * ACP-DGN-MA-EDGD * ESW-MDP-FS-CCF * BETA-2SWPS * DGMANR12HR * LOSPNR13HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-XVM-PG-X507A * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-XVM-PG-X507B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-XVM-PG-D505B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-XVM-PG-D505C * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-XVM-PG-XV509 * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-XVM-PG-XV510 * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * DCP-BAT-LP-C3 * DCHWNR18HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGB * ESW-MDP-MA-MDPB * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ESW-MDP-MA-MDPA * ACP-DGN-FR-EDGD * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * ESW-MDP-MA-ECW * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-MDP-FS-CCF * BETA-2SWPS * ACP-DGN-LP-EDGD * DGHWNR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * EHV-AOV-CC-CCF * BETA-6AOVS * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * EHV-AOV-CC-CCF * BETA-6AOVS * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ACP-DGN-FR-EDGC * ESW-CKV-CB-C515B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ACP-DGN-FR-EDGB * ESW-CKV-CB-C515A * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-PTF-RE-DGC * DGHWNR12HR * LOSPNR18HR +
```

```
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-PTF-RE-DGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FS-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FS-MDPA * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-MA-20S37 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-PTF-RE-MDPB * LOSPNR18HR * DGHWNR12HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-PTF-RE-MDPA * LOSPNR18HR * DGHWNR12HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-MA-MDPA * LOSPNR13HR * DGHWNR12HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-MA-MDPB * LOSPNR13HR * DGHWNR12HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FR-MDPA * LOSPNR13HR * DGHWNR12HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FR-MDPB * LOSPNR13HR * DGHWNR12HR +
IE-T1 * HCI-TDP-FS-20S37 * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515B * ESW-MDP-FS-MDPB * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515A * ESW-MDP-FS-MDPA * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * ACP-DGN-FR-EDGC * ESW-CKV-CB-C515B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ACP-DGN-FR-EDGB * ESW-CKV-CB-C515A * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-MA-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-MA-MDPA * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-PTF-RE-DGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-PTF-RE-DGC * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FS-MDPA * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FS-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-TE-EDGB * DGMANR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-TE-EDGC * DGMANR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515B * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-MA-20S37 * EHV-AOV-CC-CCF * BETA-6AOVS * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515A * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515A * ESW-MDP-MA-MDPA * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515B * ESW-MDP-MA-MDPB * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515A * ESW-MDP-FS-MDPA * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515B * ESW-MDP-FS-MDPB * LOSPNR13HR +
IE-T1 * HCI-TDP-MA-20S37 * ACP-DGN-FR-EDGC * ESW-CKV-CB-C515B * DGHWNR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-MA-20S37 * ACP-DGN-FR-EDGB * ESW-CKV-CB-C515A * DGHWNR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515A * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515B * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-TE-EDGB * DGMANR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-TE-EDGC * DGMANR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-AOV-CC-0241B * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FR-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-AOV-CC-0241C * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515A * ACP-DGN-MA-EDGB * DGMANR12HR * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515B * ACP-DGN-MA-EDGC * DGMANR12HR * LOSPNR13HR +
IE-T1 * HCI-MOV-CC-MV14 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-MOV-CC-MV19 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-FR-EDGB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * DCP-BAT-LP-B2 * DCHWNR18HR * LOSPNR18HR +
IE-T1 * HCI-MOV-CC-MV19 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
IE-T1 * HCI-MOV-CC-MV14 * ESW-AOV-CC-CCF * BETA-3AOVS * LOSPNR13HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FR-MDPB * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FR-MDPA * DGHWNR12HR * LOSPNR18HR +
IE-T1 * HCI-TDP-MA-20S37 * ACP-DGN-LP-CCF * BETA-4DGNS * DGCCFNR12HR * LOSPNR13HR +
```

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     IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515A * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR13HR +
     IE-T1 * HCI-TDP-FS-20S37 * ESW-CKV-CB-C515B * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR13HR +
     IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515A * ACP-DGN-TE-EDGB * DGMANR12HR * LOSPNR13HR +
     IE-T1 * HCI-TDP-FR-20S37 * ESW-CKV-CB-C515B * ACP-DGN-TE-EDGC * DGMANR12HR * LOSPNR13HR +
     IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-AOV-CC-0241C * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ACP-DGN-LP-EDGC * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGB * ESW-MDP-FS-MDPB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * HCI-TDP-FS-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-AOV-CC-0241B * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ACP-DGN-LP-EDGB * DGHWNR12HR * LOSPNR18HR +
     IE-T1 * HCI-TDP-MA-20S37 * ESW-XHE-FO-EHS * ACP-DGN-FR-EDGC * ESW-MDP-FS-MDPA * DGHWNR12HR * LOSPNR18HR.
PDS-06 =
     IE-T3C * HCI-TDP-FS-20S37 * ESF-XHE-FO-DATWS * RPSM * NR +
     IE-T3C * HCI-TDP-MA-20S37 * ESF-XHE-FO-DATWS * RPSM * NR +
     IE-T3C * HCI-TDP-FO-20S37 * ESF-XHE-FO-DATWS * RPSM * NR +
     IE-T3C * HCI-MOV-CC-MV19  * ESF-XHE-FO-DATWS * RPSM * NR +
     IE-T3C * HCI-MOV-CC-MV14  * ESF-XHE-FO-DATWS * RPSM * NR +
     IE-T3A * RPSM * HCI-TDP-FS-20S37 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-TDP-MA-20S37 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-TDP-FO-20S37 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-MOV-CC-MV14 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-MOV-CC-MV19 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-MOV-MA-MV14 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-MOV-MA-PCV50 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-MOV-MA-MV20 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-MOV-MA-MV57 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-MOV-MA-MV17 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-ICC-HW-FC108 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-TCV-HW-TCV18 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-CKV-HW-CV32 * ESF-XHE-FO-DATWS * NR +
     IE-T3A * RPSM * HCI-CKV-HW-CV65 * ESF-XHE-FO-DATWS * NR.
PDS-07 =
     IE-T3C * RPSM * SLC-XHE-RE-DIVER * NR +
     IE-T3C * RPSM * SLC-XHE-FO-SLC * NR +
     IE-T3C * RPSM * SLC-SYS-TE-SLC * NR +
     IE-T3C * RPSM * SLC-MDP-FS-CCF * BETA-2SIPUMPS * NR +
     IE-T3C * RPSM * SLC-CKV-HW-CV17 * NR +
     IE-T3C * RPSM * SLC-CKV-HW-CV16 * NR.
PDS-08 =
     IE-T3A * RPSM * SLC-XHE-RE-DIVER * NR +
     IE-T3A * RPSM * SLC-XHE-FO-SLC * NR +
     IE-T3A * RPSM * SLC-SYS-TE-SLC * NR +
     IE-T3A * RPSM * SLC-MDP-FS-CCF * BETA-2SIPUMPS * NR +
     IE-T3A * RPSM * SLC-CKV-HW-CV16 * NR +
     IE-T3A * RPSM * SLC-CKV-HW-CV17 * NR +
     IE-T3A * RPSM * SLC-XVM-PG-XV15 * NR +
     IE-T3A * RPSM * SLC-XVM-PG-XV18 * NR +
     IE-T3A * RPSM * SLC-XVM-PG-XV11 * NR +
     IE-T3B * RPSM * SLC-XHE-RE-DIVER * NR +
     IE-T3B * RPSM * SLC-XHE-FO-SLC * NR +
     IE-T3B * RPSM * SLC-SYS-TE-SLC * NR +
     IE-T3B * RPSM * SLC-MDP-FS-CCF * BETA-2SIPUMPS * NR +
     IE-T2  * RPSM * SLC-XHE-RE-DIVER * NR +
     IE-T2  * RPSM * SLC-XHE-FO-SLC * NR +
     IE-T2  * RPSM * SLC-SYS-TE-SLC * NR +
     IE-T2  * RPSM * SLC-MDP-FS-CCF * BETA-2SIPUMPS * NR.
PDS-09 =
```

```
IE-T1 * RPSM * SLC-XHE-RE-DIVER * NR +
IE-T1 * RPSM * SLC-XHE-FO-SLC * NR +
IE-T1 * RPSM * SLC-SYS-TE-SLC * NR +
IE-T1 * RPSM * SLC-MDP-FS-CCF * BETA-2SIPUMPS * NR.
```

APPENDIX F

IMPORTANCE VALUES FOR DOMINANT CUT SET EVENTS

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This appendix presents the results of the TEMAC importance measures and uncertainty analysis. There are three levels of detail that are used. First, the top events and cut sets are given and discussed in Section 5 of the main report. Second, an intermediate level is presented in this appendix, which gives more events for each measure and more cut sets contributing to the core damage frequency than that shown in Section 5. Last, the complete listing of events and cut sets for the total core damage frequency, each accident sequence, and each plant damage state is available on diskettes from the NRC upon request. This complete listing also includes other lists with the results sorted differently.

The purpose for not providing all the TEMAC output is to reduce the size of the document, especially since only a very limited number of readers will want the additional detail contained on the diskettes.

There are five lists given in this appendix. The following table shows the extent of each list provided in this appendix.

	Total CDF	Each Accident Sequence	Each PDS
1. Descriptive Statistics	All (1 Page)	All (1 Page)	All (1 Page)
2. Risk Reduction	All (3 Pages)	All (~2 Pages)	All (~2 Pages)
3. Risk Increase	All (3 Pages)	All (~2 Pages)	All (~2 Pages)
4. Uncertainty Importance	All (3 Pages)	All (~2 Pages)	All (~2 Pages)
5. Ranked cut sets	99%	90%	90%

The most important set of results is the total core damage frequency (CDF) run where all the cut sets are combined. Thus, 99% of the cut sets are included. 90% of the cut sets are included for each accident sequence and plant damage state.

Detailed explanations of the risk measures are given in Section 4.12. One final comment is that the cut sets are given in this appendix include the cut set expansion for accident sequences (1, 6 and 7) to account for battery depletion. This is also discussed in Section 4.12 of Part 1 of this volume.

PEACH BOTTOM TOTAL PLANT RUN

TOP EVENT PEACH.TOT CONTAINS 142 EVENTS IN 1393 CUT SETS

THE FREQUENCY OF TOP EVENT PEACH.TOT IS 3.62E-06

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PEACH.TOT

N	1000
MEAN	4.50E-06
STD DEV	1.54E-05
LOWER 5%	3.46E-07
LOWER 25%	9.21E-07
MEDIAN	1.85E-06
UPPER 25%	3.88E-06
UPPER 5%	1.33E-05

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PEACH BOTTOM TOTAL PLANT RUN
RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	63	1.00E+00	(1.0)	2.54E-06	(1.0)		
RPSM	46	1.00E-05	(135.0)	1.90E-06	(2.0)	3.11E-08	6.64E-06
SLC-XHE-RE-DIVER	5	3.19E-02	(33.0)	9.18E-07	(3.0)	4.08E-09	3.88E-06
ESW-XHE-FO-EHS	795	9.00E-01	(2.0)	6.21E-07	(4.0)	8.04E-09	2.89E-06
SLC-XHE-FO-SLC	5	2.00E-02	(45.5)	5.76E-07	(5.0)	4.47E-09	2.25E-06
ESF-XHE-MC-PRES	6	5.32E-04	(106.0)	4.40E-07	(6.0)	5.96E-09	1.71E-06
ACP-DGN-FR-EDGC	355	1.60E-02	(49.0)	3.67E-07	(7.5)	7.30E-10	2.55E-06
ACP-DGN-FR-EDGB	355	1.60E-02	(49.0)	3.67E-07	(7.5)	7.30E-10	2.55E-06
INJ-FAILS	266	5.00E-01	(13.0)	3.48E-07	(9.0)	0.00E+00	1.63E-06
ESF-XHE-FO-DATWS	19	2.00E-01	(22.0)	2.82E-07	(10.0)	3.24E-09	1.09E-06
BAT-DEP-3HR	266	8.33E-02	(26.0)	2.61E-07	(11.0)	0.00E+00	1.38E-06
P2	9	2.00E-03	(86.5)	2.34E-07	(12.0)	1.56E-09	8.57E-07
BAT-DEP-9HR	266	2.50E-01	(19.5)	2.05E-07	(13.0)	0.00E+00	1.10E-06
LOSPNR18HR	146	7.30E-03	(58.0)	2.02E-07	(14.0)	0.00E+00	1.05E-06
LOSPNR9HR	266	2.30E-02	(43.0)	2.02E-07	(15.0)	0.00E+00	8.52E-07
DCP-BAT-LF-CCF	2	9.00E-04	(103.0)	1.95E-07	(16.5)	3.49E-09	7.06E-07
BETA-5BAT	2	2.50E-03	(80.0)	1.95E-07	(16.5)	3.49E-09	7.06E-07
HCI-TDP-FS-20S37	142	3.00E-02	(36.5)	1.83E-07	(18.0)	3.23E-09	7.81E-07
LOSPNR12HR	266	1.50E-02	(51.0)	1.76E-07	(19.0)	0.00E+00	7.03E-07
DGHWNR12HR	126	5.50E-01	(11.0)	1.72E-07	(20.0)	0.00E+00	8.25E-07
BAT-DEP-5HR	266	8.33E-02	(26.0)	1.56E-07	(21.0)	0.00E+00	7.85E-07
LOSPNR13HR	120	1.30E-02	(52.5)	1.45E-07	(22.0)	0.00E+00	6.42E-07
DGHWNR3HR	126	8.00E-01	(3.0)	1.33E-07	(23.0)	0.00E+00	3.02E-07
ESW-CKV-CB-C515A	175	3.00E-03	(72.5)	1.25E-07	(24.5)	2.80E-09	4.49E-07
ESW-CKV-CB-C515B	175	3.00E-03	(72.5)	1.25E-07	(24.5)	2.80E-09	4.49E-07
LOSPNR17HR	146	8.10E-03	(57.0)	1.19E-07	(26.0)	0.00E+00	3.86E-07
BAT-DEP-7HR	266	8.33E-02	(26.0)	1.07E-07	(27.0)	0.00E+00	4.71E-07
LOSPNR5HR	120	4.80E-02	(30.0)	1.05E-07	(28.0)	0.00E+00	5.82E-07
DGHWNR9HR	126	5.80E-01	(10.0)	1.01E-07	(29.0)	0.00E+00	3.46E-07
P1	286	9.60E-02	(24.0)	9.83E-08	(30.0)	2.28E-09	4.14E-07
SLC-SYS-TE-SLC	5	3.40E-03	(63.0)	9.79E-08	(31.0)	9.47E-10	3.51E-07
BETA-3AOVS	35	5.50E-02	(28.0)	9.75E-08	(32.5)	2.10E-09	4.32E-07
ESW-AOV-CC-CCF	35	1.00E-03	(98.5)	9.75E-08	(32.5)	2.10E-09	4.32E-07
DGHWNR5HR	126	7.00E-01	(5.0)	7.59E-08	(34.0)	0.00E+00	1.23E-07
LOSPNR7HR	120	3.20E-02	(32.0)	6.63E-08	(35.0)	0.00E+00	3.91E-07
ACP-DGN-MA-EDGC	75	6.00E-03	(60.0)	6.61E-08	(36.5)	1.86E-10	2.37E-07
ACP-DGN-MA-EDGB	75	6.00E-03	(60.0)	6.61E-08	(36.5)	1.86E-10	2.37E-07
EHV-AOV-CC-CCF	25	1.00E-03	(98.5)	6.35E-08	(38.5)	1.42E-09	2.46E-07
BETA-6AOVS	25	3.60E-02	(31.0)	6.35E-08	(38.5)	1.42E-09	2.46E-07
LOSPNR14HR	146	1.20E-02	(54.0)	6.14E-08	(40.0)	0.00E+00	6.64E-08
HCI-TDP-MA-20S37	62	1.00E-02	(55.5)	5.96E-08	(41.0)	8.98E-10	2.19E-07
DGHWNR7HR	126	6.00E-01	(8.0)	5.17E-08	(42.0)	0.00E+00	6.56E-08
ESW-MDP-FS-MDPB	75	3.00E-03	(72.5)	4.95E-08	(43.5)	2.95E-10	2.02E-07
ESW-MDP-FS-MDPA	75	3.00E-03	(72.5)	4.95E-08	(43.5)	2.95E-10	2.02E-07
ESW-PTF-RE-DGC	40	3.13E-03	(64.5)	4.80E-08	(45.5)	2.00E-10	1.81E-07
ESW-PTF-RE-DGB	40	3.13E-03	(64.5)	4.80E-08	(45.5)	2.00E-10	1.81E-07
DGMANR12HR	49	4.00E-01	(17.5)	4.66E-08	(47.0)	0.00E+00	1.41E-07

DGMANR3HR	49	7.00E-01	(5.0)	4.56E-08	(48.0)	0.00E+00	1.52E-07
ACP-DGN-LP-EDGC	70	3.00E-03	(72.5)	4.06E-08	(49.5)	5.48E-10	1.51E-07
ACP-DGN-LP-EDGB	70	3.00E-03	(72.5)	4.06E-08	(49.5)	5.48E-10	1.51E-07
ESW-AOV-CC-0241C	95	1.00E-03	(98.5)	3.87E-08	(51.5)	1.02E-09	1.58E-07
ESW-AOV-CC-0241B	95	1.00E-03	(98.5)	3.87E-08	(51.5)	1.02E-09	1.58E-07
HCI-TDP-FR-20S37	170	5.00E-02	(29.0)	3.76E-08	(53.0)	4.96E-10	1.91E-07
ACP-DGN-LP-CCF	25	3.00E-03	(72.5)	3.52E-08	(54.5)	3.26E-10	1.31E-07
BETA-4DGNS	25	1.30E-02	(52.5)	3.52E-08	(54.5)	3.26E-10	1.31E-07
ESW-PTF-RE-MDPB	35	2.19E-03	(83.5)	3.32E-08	(56.5)	1.44E-10	1.10E-07
ESW-PTF-RE-MDPA	35	2.19E-03	(83.5)	3.32E-08	(56.5)	1.44E-10	1.10E-07
ESW-MDP-MA-MDPB	65	2.00E-03	(86.5)	3.30E-08	(58.5)	2.35E-10	1.34E-07
ESW-MDP-MA-MDPA	65	2.00E-03	(86.5)	3.30E-08	(58.5)	2.35E-10	1.34E-07
DGMANR9HR	49	4.50E-01	(15.5)	2.95E-08	(60.0)	0.00E+00	1.11E-07
ESW-MDP-FR-MDPB	85	1.20E-03	(91.5)	2.94E-08	(61.5)	7.63E-11	1.18E-07
ESW-MDP-FR-MDPA	85	1.20E-03	(91.5)	2.94E-08	(61.5)	7.63E-11	1.18E-07
ACP-DGN-TE-EDGC	50	2.30E-03	(81.5)	2.78E-08	(63.5)	4.35E-10	1.05E-07
ACP-DGN-TE-EDGB	50	2.30E-03	(81.5)	2.78E-08	(63.5)	4.35E-10	1.05E-07
HCI-TDP-FO-20S37	2	5.00E-03	(82.0)	2.69E-08	(65.0)	1.86E-10	9.34E-08
Q	1	1.00E-02	(55.5)	2.66E-08	(66.0)	6.40E-11	9.56E-08
DGMANR5HR	49	6.00E-01	(8.0)	2.57E-08	(67.0)	0.00E+00	5.86E-08
BETA-2SIPUMPS	5	2.10E-01	(21.0)	1.81E-08	(68.5)	4.07E-11	6.59E-08
SLC-MDP-FS-CCF	5	3.00E-03	(72.5)	1.81E-08	(68.5)	4.07E-11	6.59E-08
HCI-MOV-CC-MV14	12	3.00E-03	(72.5)	1.67E-08	(70.5)	6.28E-11	5.95E-08
HCI-MOV-CC-MV19	12	3.00E-03	(72.5)	1.67E-08	(70.5)	6.28E-11	5.95E-08
DGMANR7HR	49	5.00E-01	(13.0)	1.64E-08	(72.0)	0.00E+00	3.81E-08
DGCCFNR3HR	5	7.00E-01	(5.0)	1.02E-08	(73.0)	0.00E+00	3.78E-08
DGCCFNR12HR	5	4.00E-01	(17.5)	9.50E-09	(74.0)	0.00E+00	3.70E-08
EHV-SRV-CC-RV3	40	3.00E-04	(107.5)	8.13E-09	(75.5)	4.72E-11	3.53E-08
EHV-SRV-CC-RV2	40	3.00E-04	(107.5)	8.13E-09	(75.5)	4.72E-11	3.53E-08
ACP-DGN-RE-EDGC	10	7.98E-04	(104.5)	6.33E-09	(77.5)	1.36E-11	2.28E-08
ACP-DGN-RE-EDGB	10	7.98E-04	(104.5)	6.33E-09	(77.5)	1.36E-11	2.28E-08
ACP-DGN-FR-EDGD	55	1.60E-02	(49.0)	6.31E-09	(79.0)	1.28E-12	9.48E-08
DGCCFNR9HR	5	4.50E-01	(15.5)	6.17E-09	(80.0)	0.00E+00	2.70E-08
DGCCFNR5HR	5	6.00E-01	(8.0)	5.84E-09	(81.0)	0.00E+00	1.98E-08
ESF-XHE-FO-HSWIN	3	2.50E-01	(19.5)	5.83E-09	(82.0)	5.86E-11	2.67E-08
ESW-CKV-HW-CV513	2	1.00E-04	(120.5)	4.25E-09	(83.0)	3.55E-11	1.90E-08
DGCCFNR7HR	5	5.00E-01	(13.0)	3.50E-09	(84.0)	0.00E+00	9.67E-09
SLC-CKV-HW-CV16	2	1.00E-04	(120.5)	2.69E-09	(85.5)	4.28E-11	1.08E-08
SLC-CKV-HW-CV17	2	1.00E-04	(120.5)	2.69E-09	(85.5)	4.28E-11	1.08E-08
BETA-2SWPS	35	2.60E-02	(40.0)	2.58E-09	(87.5)	7.76E-12	1.24E-08
ESW-MDP-FS-CCF	35	3.00E-03	(72.5)	2.58E-09	(87.5)	7.76E-12	1.24E-08
ESW-AOV-MA-0241C	10	2.00E-04	(112.0)	2.30E-09	(89.5)	1.09E-11	8.55E-09
ESW-AOV-MA-0241B	10	2.00E-04	(112.0)	2.30E-09	(89.5)	1.09E-11	8.55E-09
ESW-XVM-PG-XV502	1	4.00E-05	(129.5)	1.58E-09	(91.0)	1.16E-11	6.11E-09
ESW-CKV-HW-C515B	10	1.00E-04	(120.5)	1.12E-09	(92.5)	6.35E-12	4.48E-09
ESW-CKV-HW-C515A	10	1.00E-04	(120.5)	1.12E-09	(92.5)	6.35E-12	4.48E-09
ACP-DGN-MA-EDGD	10	6.00E-03	(60.0)	1.11E-09	(94.0)	8.40E-13	5.52E-09
HCI-MOV-MA-PCV50	1	2.00E-04	(112.0)	1.00E-09	(98.5)	2.13E-12	3.35E-09
HCI-MOV-MA-MV57	1	2.00E-04	(112.0)	1.00E-09	(98.5)	2.13E-12	3.35E-09
HCI-MOV-MA-MV20	1	2.00E-04	(112.0)	1.00E-09	(98.5)	2.13E-12	3.35E-09
HCI-MOV-MA-MV17	1	2.00E-04	(112.0)	1.00E-09	(98.5)	2.13E-12	3.35E-09
HCI-MOV-MA-MV14	1	2.00E-04	(112.0)	1.00E-09	(98.5)	2.13E-12	3.35E-09
SLC-XVM-PG-XV18	1	4.00E-05	(129.5)	1.00E-09	(98.5)	1.44E-11	3.57E-09
SLC-XVM-PG-XV15	1	4.00E-05	(129.5)	1.00E-09	(98.5)	1.44E-11	3.57E-09
SLC-XVM-PG-XV11	1	4.00E-05	(129.5)	1.00E-09	(98.5)	1.44E-11	3.57E-09
ESW-MOV-CC-M0841	10	3.00E-03	(72.5)	7.24E-10	(103.5)	1.07E-12	4.47E-09

ESW-MDP-FS-ECW	10	3.00E-03	(72.5)	7.24E-10	(103.5)	5.71E-13	7.48E-09
HCI-ICC-HW-FC108	1	1.25E-04	(116.0)	6.25E-10	(105.0)	5.75E-12	2.19E-09
ACP-DGN-LP-EDGD	10	3.00E-03	(72.5)	5.97E-10	(106.0)	1.94E-12	4.82E-09
ESF-ASP-FC-PL52D	3	1.00E-03	(98.5)	5.58E-10	(108.5)	3.07E-13	6.60E-09
ESF-ASP-FC-PL52C	3	1.00E-03	(98.5)	5.58E-10	(108.5)	3.07E-13	6.60E-09
ESF-ASP-FC-PL52B	3	1.00E-03	(98.5)	5.58E-10	(108.5)	3.07E-13	6.60E-09
ESF-ASP-FC-PL52A	3	1.00E-03	(98.5)	5.58E-10	(108.5)	3.07E-13	6.60E-09
HCI-TCV-HW-TCV18	1	1.00E-04	(120.5)	5.00E-10	(112.0)	4.42E-12	1.83E-09
HCI-CKV-HW-CV65	1	1.00E-04	(120.5)	5.00E-10	(112.0)	4.42E-12	1.83E-09
HCI-CKV-HW-CV32	1	1.00E-04	(120.5)	5.00E-10	(112.0)	4.42E-12	1.83E-09
DGACTC	5	1.61E-03	(89.5)	4.37E-10	(114.5)	1.79E-13	1.65E-09
DGACTB	5	1.61E-03	(89.5)	4.37E-10	(114.5)	1.79E-13	1.65E-09
NSW-SYS-FO-NSW-1	1	1.00E-01	(23.0)	3.00E-10	(116.0)	9.97E-13	9.69E-10
DCP-BAT-LP-B2	5	1.08E-03	(93.5)	2.99E-10	(117.5)	1.47E-13	8.75E-10
DCP-BAT-LP-C3	5	1.08E-03	(93.5)	2.99E-10	(117.5)	1.47E-13	8.75E-10
ESW-XVM-PG-XV510	5	4.00E-05	(129.5)	2.82E-10	(121.5)	5.20E-13	1.06E-09
ESW-XVM-PG-XV509	5	4.00E-05	(129.5)	2.82E-10	(121.5)	5.20E-13	1.06E-09
ESW-XVM-PG-X507B	5	4.00E-05	(129.5)	2.82E-10	(121.5)	5.20E-13	1.06E-09
ESW-XVM-PG-X507A	5	4.00E-05	(129.5)	2.82E-10	(121.5)	5.20E-13	1.06E-09
ESW-XVM-PG-D505C	5	4.00E-05	(129.5)	2.82E-10	(121.5)	5.20E-13	1.06E-09
ESW-XVM-PG-D505B	5	4.00E-05	(129.5)	2.82E-10	(121.5)	5.20E-13	1.06E-09
DGACTNR12HR	2	2.00E-02	(45.5)	2.67E-10	(125.0)	0.00E+00	3.25E-10
ESW-MDP-MA-ECW	5	2.00E-03	(86.5)	2.50E-10	(126.0)	1.08E-14	1.70E-09
DGACTNR3HR	2	3.00E-02	(36.5)	2.11E-10	(127.0)	0.00E+00	2.84E-10
DCHWNR18HR	2	2.00E-02	(45.5)	1.79E-10	(128.0)	0.00E+00	2.89E-10
DGACTNR9HR	2	2.00E-02	(45.5)	1.48E-10	(129.0)	0.00E+00	2.71E-10
DCHWNR9HR	2	3.00E-02	(36.5)	1.41E-10	(130.0)	0.00E+00	2.48E-10
DGACTNR5HR	2	3.00E-02	(36.5)	1.37E-10	(131.0)	0.00E+00	7.18E-11
DCHWNR17HR	2	2.50E-02	(41.5)	1.24E-10	(132.0)	0.00E+00	3.66E-10
DGACTNR7HR	2	3.00E-02	(36.5)	1.10E-10	(133.0)	0.00E+00	7.27E-11
DCHWNR12HR	2	3.00E-02	(36.5)	9.21E-11	(134.0)	0.00E+00	8.97E-11
DCHWNR14HR	2	2.50E-02	(41.5)	6.14E-11	(135.0)	0.00E+00	6.84E-11

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3A	24	2.50E+00	(1.0)	1.69E-06	(1.0)	2.95E-08	6.00E-06
IE-T1	1341	7.90E-02	(3.0)	1.41E-06	(2.0)	8.96E-08	5.97E-06
IE-S1	3	3.00E-04	(6.0)	1.60E-07	(3.0)	9.66E-10	6.42E-07
IE-T3C	11	1.90E-01	(2.0)	1.26E-07	(4.0)	1.68E-09	4.65E-07
IE-T3B	6	6.00E-02	(4.0)	9.77E-08	(5.0)	2.29E-09	3.27E-07
IE-T2	5	5.00E-02	(5.0)	8.12E-08	(6.0)	1.66E-09	2.82E-07
IE-A	3	1.00E-04	(7.0)	5.34E-08	(7.0)	3.26E-10	1.93E-07

PEACH BOTTOM TOTAL PLANT RUN
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	46	1.00E-05	(135.0)	1.90E-01	(1.0)	2.94E-02	5.82E-01
ESF-XHE-MC-PRES	6	5.32E-04	(106.0)	8.28E-04	(2.0)	1.07E-04	2.87E-03
DCP-BAT-LF-CCF	2	9.00E-04	(103.0)	2.16E-04	(3.0)	2.88E-05	5.91E-04
P2	9	2.00E-03	(86.5)	1.17E-04	(4.0)	5.53E-06	4.43E-04
ESW-AOV-CC-CCF	35	1.00E-03	(98.5)	9.74E-05	(5.0)	3.13E-06	3.76E-04
BETA-5BAT	2	2.50E-03	(80.0)	7.77E-05	(6.0)	1.93E-06	3.09E-04
EHV-AOV-CC-CCF	25	1.00E-03	(98.5)	6.34E-05	(7.0)	2.06E-06	2.57E-04
ESW-CKV-HW-CV513	2	1.00E-04	(120.5)	4.25E-05	(8.0)	5.17E-07	1.97E-04
ESW-CKV-CB-C515B	175	3.00E-03	(72.5)	4.14E-05	(9.5)	1.72E-06	1.47E-04
ESW-CKV-CB-C515A	175	3.00E-03	(72.5)	4.14E-05	(9.5)	1.72E-06	1.47E-04
ESW-XVM-PG-XV502	1	4.00E-05	(129.5)	3.95E-05	(11.0)	4.23E-07	1.83E-04
ESW-AOV-CC-0241B	95	1.00E-03	(98.5)	3.87E-05	(12.5)	1.66E-06	1.34E-04
ESW-AOV-CC-0241C	95	1.00E-03	(98.5)	3.87E-05	(12.5)	1.66E-06	1.34E-04
SLC-SYS-TE-SLC	5	3.40E-03	(63.0)	2.87E-05	(14.0)	7.51E-07	1.07E-04
SLC-XHE-FO-SLC	5	2.00E-02	(45.5)	2.82E-05	(15.0)	7.36E-07	1.06E-04
SLC-XHE-RE-DIVER	5	3.19E-02	(33.0)	2.79E-05	(16.0)	7.20E-07	1.04E-04
LOSPNR18HR	146	7.30E-03	(58.0)	2.75E-05	(17.0)	0.00E+00	1.55E-04
EHV-SRV-CC-RV3	40	3.00E-04	(107.5)	2.71E-05	(18.5)	1.09E-06	9.88E-05
EHV-SRV-CC-RV2	40	3.00E-04	(107.5)	2.71E-05	(18.5)	1.09E-06	9.88E-05
SLC-CKV-HW-CV17	2	1.00E-04	(120.5)	2.69E-05	(20.5)	6.50E-07	1.01E-04
SLC-CKV-HW-CV16	2	1.00E-04	(120.5)	2.69E-05	(20.5)	6.50E-07	1.01E-04
SLC-XVM-PG-XV18	1	4.00E-05	(129.5)	2.50E-05	(23.0)	5.65E-07	9.37E-05
SLC-XVM-PG-XV15	1	4.00E-05	(129.5)	2.50E-05	(23.0)	5.65E-07	9.37E-05
SLC-XVM-PG-XV11	1	4.00E-05	(129.5)	2.50E-05	(23.0)	5.65E-07	9.37E-05
ESW-MDP-FR-MDPB	85	1.20E-03	(91.5)	2.45E-05	(25.5)	4.56E-07	1.04E-04
ESW-MDP-FR-MDPA	85	1.20E-03	(91.5)	2.45E-05	(25.5)	4.56E-07	1.04E-04
ACP-DGN-FR-EDGB	355	1.60E-02	(49.0)	2.26E-05	(27.5)	2.83E-07	9.17E-05
ACP-DGN-FR-EDGC	355	1.60E-02	(49.0)	2.26E-05	(27.5)	2.83E-07	9.17E-05
ESW-MDP-MA-MDPB	65	2.00E-03	(86.5)	1.65E-05	(29.5)	7.69E-07	5.94E-05
ESW-MDP-MA-MDPA	65	2.00E-03	(86.5)	1.65E-05	(29.5)	7.69E-07	5.94E-05
ESW-MDP-FS-MDPB	75	3.00E-03	(72.5)	1.65E-05	(31.5)	7.72E-07	5.83E-05
ESW-MDP-FS-MDPA	75	3.00E-03	(72.5)	1.65E-05	(31.5)	7.72E-07	5.83E-05
ESW-PTF-RE-DGC	40	3.13E-03	(64.5)	1.53E-05	(33.5)	7.14E-07	5.47E-05
ESW-PTF-RE-DGB	40	3.13E-03	(64.5)	1.53E-05	(33.5)	7.14E-07	5.47E-05
ESW-PTF-RE-MDPA	35	2.19E-03	(83.5)	1.51E-05	(35.5)	7.16E-07	5.40E-05
ESW-PTF-RE-MDPB	35	2.19E-03	(83.5)	1.51E-05	(35.5)	7.16E-07	5.40E-05
LOSPNR17HR	146	8.10E-03	(57.0)	1.46E-05	(37.0)	0.00E+00	7.01E-05
ACP-DGN-LP-EDGC	70	3.00E-03	(72.5)	1.35E-05	(38.5)	3.17E-07	5.26E-05
ACP-DGN-LP-EDGB	70	3.00E-03	(72.5)	1.35E-05	(38.5)	3.17E-07	5.26E-05
ACP-DGN-TE-EDGC	50	2.30E-03	(81.5)	1.21E-05	(40.5)	2.63E-07	4.32E-05
ACP-DGN-TE-EDGB	50	2.30E-03	(81.5)	1.21E-05	(40.5)	2.63E-07	4.32E-05
ACP-DGN-LP-CCF	25	3.00E-03	(72.5)	1.17E-05	(42.0)	1.74E-07	4.63E-05
LOSPNR12HR	266	1.50E-02	(51.0)	1.15E-05	(43.0)	0.00E+00	4.22E-05
ESW-AOV-MA-0241B	10	2.00E-04	(112.0)	1.15E-05	(44.5)	4.35E-07	4.37E-05
ESW-AOV-MA-0241C	10	2.00E-04	(112.0)	1.15E-05	(44.5)	4.35E-07	4.37E-05
ESW-CKV-HW-C515B	10	1.00E-04	(120.5)	1.12E-05	(46.5)	1.18E-07	4.45E-05
ESW-CKV-HW-C515A	10	1.00E-04	(120.5)	1.12E-05	(46.5)	1.18E-07	4.45E-05

LOSPNR13HR	120	1.30E-02	(52.5)	1.10E-05	(48.0)	0.00E+00	4.72E-05
ACP-DGN-MA-EDGC	75	6.00E-03	(60.0)	1.09E-05	(49.5)	1.79E-07	4.22E-05
ACP-DGN-MA-EDGB	75	6.00E-03	(60.0)	1.09E-05	(49.5)	1.79E-07	4.22E-05
LOSPNR9HR	266	2.30E-02	(43.0)	8.56E-06	(51.0)	0.00E+00	3.85E-05
ACP-DGN-RE-EDGB	10	7.98E-04	(104.5)	7.92E-06	(52.5)	1.04E-07	3.09E-05
ACP-DGN-RE-EDGC	10	7.98E-04	(104.5)	7.92E-06	(52.5)	1.04E-07	3.09E-05
ESW-XVM-PG-XV510	5	4.00E-05	(129.5)	7.04E-06	(56.5)	1.85E-08	3.06E-05
ESW-XVM-PG-D505C	5	4.00E-05	(129.5)	7.04E-06	(56.5)	1.85E-08	3.06E-05
ESW-XVM-PG-XV509	5	4.00E-05	(129.5)	7.04E-06	(56.5)	1.85E-08	3.06E-05
ESW-XVM-PG-X507B	5	4.00E-05	(129.5)	7.04E-06	(56.5)	1.85E-08	3.06E-05
ESW-XVM-PG-X507A	5	4.00E-05	(129.5)	7.04E-06	(56.5)	1.85E-08	3.06E-05
ESW-XVM-PG-D505B	5	4.00E-05	(129.5)	7.04E-06	(56.5)	1.85E-08	3.06E-05
SLC-MDP-FS-CCF	5	3.00E-03	(72.5)	6.03E-06	(60.0)	7.51E-08	2.31E-05
HCI-TDP-MA-20S37	62	1.00E-02	(55.5)	5.90E-06	(61.0)	2.12E-07	2.33E-05
HCI-TDP-FS-20S37	142	3.00E-02	(36.5)	5.90E-06	(62.0)	2.24E-07	2.28E-05
HCI-MOV-CC-MV14	12	3.00E-03	(72.5)	5.56E-06	(63.5)	1.45E-07	2.19E-05
HCI-MOV-CC-MV19	12	3.00E-03	(72.5)	5.56E-06	(63.5)	1.45E-07	2.19E-05
HCI-TDP-FO-20S37	2	5.00E-03	(62.0)	5.35E-06	(65.0)	7.99E-08	2.00E-05
LOSPNR14HR	146	1.20E-02	(54.0)	5.06E-06	(66.0)	0.00E+00	8.17E-06
HCI-CKV-HW-CV32	1	1.00E-04	(120.5)	5.00E-06	(68.0)	6.85E-08	1.88E-05
HCI-TCV-HW-TCV18	1	1.00E-04	(120.5)	5.00E-06	(68.0)	6.85E-08	1.88E-05
HCI-CKV-HW-CV65	1	1.00E-04	(120.5)	5.00E-06	(68.0)	6.85E-08	1.88E-05
HCI-ICC-HW-FC108	1	1.25E-04	(116.0)	5.00E-06	(70.0)	6.85E-08	1.88E-05
HCI-MOV-MA-PCV50	1	2.00E-04	(112.0)	5.00E-06	(73.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV57	1	2.00E-04	(112.0)	5.00E-06	(73.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV20	1	2.00E-04	(112.0)	5.00E-06	(73.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV17	1	2.00E-04	(112.0)	5.00E-06	(73.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV14	1	2.00E-04	(112.0)	5.00E-06	(73.0)	6.85E-08	1.88E-05
BAT-DEP-3HR	266	8.33E-02	(26.0)	2.87E-06	(76.0)	0.00E+00	1.24E-05
BETA-4DGNS	25	1.30E-02	(52.5)	2.68E-06	(77.0)	3.70E-08	1.01E-05
Q	1	1.00E-02	(55.5)	2.63E-06	(78.0)	9.34E-09	9.40E-06
LOSPNR5HR	120	4.80E-02	(30.0)	2.08E-06	(79.0)	0.00E+00	1.74E-05
LOSPNR7HR	120	3.20E-02	(32.0)	2.01E-06	(80.0)	0.00E+00	1.49E-05
BAT-DEP-5HR	266	8.33E-02	(26.0)	1.71E-06	(81.0)	0.00E+00	7.14E-06
BETA-6AOVS	25	3.60E-02	(31.0)	1.70E-06	(82.0)	5.38E-08	6.84E-06
BETA-3AOVS	35	5.50E-02	(28.0)	1.68E-06	(83.0)	5.24E-08	6.85E-06
BAT-DEP-7HR	266	8.33E-02	(26.0)	1.17E-06	(84.0)	0.00E+00	4.17E-06
ESF-XHE-FO-DATWS	19	2.00E-01	(22.0)	1.13E-06	(85.0)	2.04E-08	4.33E-06
P1	286	9.60E-02	(24.0)	9.26E-07	(86.0)	5.22E-08	4.28E-06
ESW-MDP-FS-CCF	35	3.00E-03	(72.5)	8.58E-07	(87.0)	2.37E-08	3.15E-06
HCI-TDP-FR-20S37	170	5.00E-02	(29.0)	7.15E-07	(88.0)	2.08E-08	3.20E-06
BAT-DEP-9HR	266	2.50E-01	(19.5)	6.16E-07	(89.0)	0.00E+00	2.94E-06
ESF-ASP-FC-PL52D	3	1.00E-03	(98.5)	5.57E-07	(91.5)	6.67E-09	2.07E-06
ESF-ASP-FC-PL52C	3	1.00E-03	(98.5)	5.57E-07	(91.5)	6.67E-09	2.07E-06
ESF-ASP-FC-PL52B	3	1.00E-03	(98.5)	5.57E-07	(91.5)	6.67E-09	2.07E-06
ESF-ASP-FC-PL52A	3	1.00E-03	(98.5)	5.57E-07	(91.5)	6.67E-09	2.07E-06
ACP-DGN-FR-EDGD	55	1.60E-02	(49.0)	3.88E-07	(94.0)	9.46E-10	2.44E-06
INJ-FAILS	266	5.00E-01	(13.0)	3.48E-07	(95.0)	0.00E+00	1.54E-06
DCP-BAT-LP-B2	5	1.08E-03	(93.5)	2.77E-07	(96.5)	1.98E-10	9.62E-07
DCP-BAT-LP-C3	5	1.08E-03	(93.5)	2.77E-07	(96.5)	1.98E-10	9.62E-07
DGACTC	5	1.61E-03	(89.5)	2.71E-07	(98.5)	2.31E-10	1.01E-06
DGACTB	5	1.61E-03	(89.5)	2.71E-07	(98.5)	2.31E-10	1.01E-06
ESW-MOV-CC-M0841	10	3.00E-03	(72.5)	2.40E-07	(100.5)	1.81E-09	2.03E-06
ESW-MDP-FS-ECW	10	3.00E-03	(72.5)	2.40E-07	(100.5)	1.82E-09	2.03E-06
ACP-DGN-LP-EDGD	10	3.00E-03	(72.5)	1.98E-07	(102.0)	8.36E-10	1.89E-06
ACP-DGN-MA-EDGD	10	6.00E-03	(60.0)	1.63E-07	(103.0)	7.21E-10	1.66E-06

DGHWNR12HR	126	5.50E-01	(11.0)	1.41E-07	(104.0)	0.00E+00	6.05E-07
ESW-MDP-MA-ECW	5	2.00E-03	(86.5)	1.25E-07	(105.0)	2.26E-11	1.23E-06
BETA-2SWPS	35	2.60E-02	(40.0)	9.67E-08	(106.0)	4.99E-10	4.97E-07
DGHWNR9HR	126	5.80E-01	(10.0)	7.32E-08	(107.0)	0.00E+00	2.54E-07
DGMANR12HR	49	4.00E-01	(17.5)	6.99E-08	(108.0)	0.00E+00	2.18E-07
ESW-XHE-FO-EHS	795	9.00E-01	(2.0)	6.90E-08	(109.0)	1.73E-10	3.19E-07
BETA-2SIPUMPS	5	2.10E-01	(21.0)	6.82E-08	(110.0)	2.34E-10	2.41E-07
DGMANR9HR	49	4.50E-01	(15.5)	3.61E-08	(111.0)	0.00E+00	1.70E-07
DGHWNR7HR	126	6.00E-01	(8.0)	3.45E-08	(112.0)	0.00E+00	4.60E-08
DGHWNR3HR	126	8.00E-01	(3.0)	3.32E-08	(113.0)	0.00E+00	5.54E-08
DGHWNR5HR	126	7.00E-01	(5.0)	3.25E-08	(114.0)	0.00E+00	3.07E-08
DGMANR3HR	49	7.00E-01	(5.0)	1.95E-08	(115.0)	0.00E+00	5.45E-08
ESF-XHE-FO-HSWIN	3	2.50E-01	(19.5)	1.75E-08	(116.0)	3.17E-10	7.55E-08
DGMANR5HR	49	6.00E-01	(8.0)	1.71E-08	(117.0)	0.00E+00	3.19E-08
DGMANR7HR	49	5.00E-01	(13.0)	1.64E-08	(118.0)	0.00E+00	2.30E-08
DGCCFNR12HR	5	4.00E-01	(17.5)	1.43E-08	(119.0)	0.00E+00	6.94E-08
DGACTNR12HR	2	2.00E-02	(45.5)	1.31E-08	(120.0)	0.00E+00	3.58E-08
DCHWNR18HR	2	2.00E-02	(45.5)	8.79E-09	(121.0)	0.00E+00	2.79E-08
DGCCFNR9HR	5	4.50E-01	(15.5)	7.54E-09	(122.0)	0.00E+00	3.79E-08
DGACTNR9HR	2	2.00E-02	(45.5)	7.27E-09	(123.0)	0.00E+00	1.92E-08
DGACTNR3HR	2	3.00E-02	(36.5)	6.81E-09	(124.0)	0.00E+00	1.69E-08
DCHWNR17HR	2	2.50E-02	(41.5)	4.85E-09	(125.0)	0.00E+00	1.49E-08
DCHWNR9HR	2	3.00E-02	(36.5)	4.57E-09	(126.0)	0.00E+00	1.16E-08
DGACTNR5HR	2	3.00E-02	(36.5)	4.44E-09	(127.0)	0.00E+00	4.04E-09
DGCCFNR3HR	5	7.00E-01	(5.0)	4.38E-09	(128.0)	0.00E+00	1.07E-08
DGCCFNR5HR	5	6.00E-01	(8.0)	3.90E-09	(129.0)	0.00E+00	8.36E-09
DGACTNR7HR	2	3.00E-02	(36.5)	3.55E-09	(130.0)	0.00E+00	2.54E-09
DGCCFNR7HR	5	5.00E-01	(13.0)	3.50E-09	(131.0)	0.00E+00	1.21E-08
DCHWNR12HR	2	3.00E-02	(36.5)	2.98E-09	(132.0)	0.00E+00	3.83E-09
NSW-SYS-FO-NSW-1	1	1.00E-01	(23.0)	2.70E-09	(133.0)	1.92E-11	1.01E-08
DCHWNR14HR	2	2.50E-02	(41.5)	2.39E-09	(134.0)	0.00E+00	3.33E-09
NR	63	1.00E+00	(1.0)	0.00E+00	(135.0)		

PEACH BOTTOM TOTAL PLANT RUN
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	46	1.00E-05	(135.0)	29.7	(1.0)	2.07	0.87
ACP-DGN-FR-EDGC	355	1.60E-02	(49.0)	11.5	(3.0)	1.18	0.84
ACP-DGN-FR-EDGD	55	1.60E-02	(49.0)	11.5	(3.0)	1.18	0.84
ACP-DGN-FR-EDGB	355	1.60E-02	(49.0)	11.5	(3.0)	1.18	0.84
ESF-XHE-MC-PRES	6	5.32E-04	(106.0)	6.4	(5.0)	1.33	0.96
SLC-XHE-RE-DIVER	5	3.19E-02	(33.0)	5.4	(6.0)	1.22	0.98
SLC-XHE-FO-SLC	5	2.00E-02	(45.5)	3.0	(7.0)	1.00	1.01
DCP-BAT-LF-CCF	2	9.00E-04	(103.0)	2.9	(8.0)	1.16	1.00
BAT-DEP-3HR	266	8.33E-02	(26.0)	2.9	(9.0)	1.13	1.04
ESW-MDP-FS-ECW	10	3.00E-03	(72.5)	1.6	(12.0)	1.02	1.01
ESW-MDP-FS-CCF	35	3.00E-03	(72.5)	1.6	(12.0)	1.02	1.01
SLC-MDP-FS-CCF	5	3.00E-03	(72.5)	1.6	(12.0)	1.02	1.01
ESW-MDP-FS-MDPA	75	3.00E-03	(72.5)	1.6	(12.0)	1.02	1.01
ESW-MDP-FS-MDPB	75	3.00E-03	(72.5)	1.6	(12.0)	1.02	1.01
P2	9	2.00E-03	(86.5)	1.5	(15.0)	1.03	1.00
INJ-FAILS	266	5.00E-01	(13.0)	1.5	(16.0)	0.93	1.00
LOSPNR13HR	120	1.30E-02	(52.5)	1.4	(17.0)	1.11	1.00
BETA-6AOVS	25	3.60E-02	(31.0)	1.3	(18.0)	0.99	1.00
DGHWNR9HR	126	5.80E-01	(10.0)	1.3	(19.0)	1.01	1.01
DGHWNR12HR	126	5.50E-01	(11.0)	1.3	(20.0)	1.01	1.03
DGHWNR7HR	126	6.00E-01	(8.0)	1.2	(21.0)	1.00	1.01
BETA-5BAT	2	2.50E-03	(80.0)	1.2	(22.0)	1.05	1.00
DGHWNR5HR	126	7.00E-01	(5.0)	1.0	(23.0)	1.00	1.00
DGHWNR3HR	126	8.00E-01	(3.0)	1.0	(24.0)	1.00	1.00
ESW-MDP-MA-MDPA	65	2.00E-03	(86.5)	1.0	(26.0)	1.02	1.01
ESW-MDP-MA-ECW	5	2.00E-03	(86.5)	1.0	(28.0)	1.02	1.01
ESW-MDP-MA-MDPB	65	2.00E-03	(86.5)	1.0	(26.0)	1.02	1.01
LOSPNR18HR	146	7.30E-03	(58.0)	1.0	(28.0)	1.02	1.02
BAT-DEP-5HR	266	8.33E-02	(26.0)	0.9	(29.0)	1.06	1.01
HCI-ICC-HW-FC108	1	1.25E-04	(116.0)	0.8	(30.0)	1.00	1.00
LOSPNR12HR	266	1.50E-02	(51.0)	0.8	(31.0)	1.06	1.02
DCHWNR18HR	2	2.00E-02	(45.5)	0.8	(32.0)	1.00	1.00
HCI-TDP-FS-20S37	142	3.00E-02	(36.5)	0.7	(33.0)	1.01	1.01
ESW-MDP-FR-MDPA	85	1.20E-03	(91.5)	0.7	(34.5)	1.01	1.00
ESW-MDP-FR-MDPB	85	1.20E-03	(91.5)	0.7	(34.5)	1.01	1.00
P1	286	9.60E-02	(24.0)	0.7	(36.0)	1.00	1.00
ESW-PTF-RE-DGC	40	3.13E-03	(64.5)	0.7	(37.5)	1.00	1.01
ESW-PTF-RE-DGB	40	3.13E-03	(64.5)	0.7	(37.5)	1.00	1.01
ESW-PTF-RE-MDPA	35	2.19E-03	(83.5)	0.7	(39.5)	1.00	1.01
ESW-PTF-RE-MDPB	35	2.19E-03	(83.5)	0.7	(39.5)	1.00	1.01
SLC-SYS-TE-SLC	5	3.40E-03	(63.0)	0.7	(41.0)	0.99	1.03
ESW-XVM-PG-XV510	5	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
SLC-XVM-PG-XV18	1	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
ESW-XVM-PG-XV502	1	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
ESW-XVM-PG-X507B	5	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
ESW-XVM-PG-X507A	5	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
ESW-XVM-PG-D505B	5	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00

SLC-XVM-PG-XV11	1	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
ESW-XVM-PG-XV509	5	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
ESW-XVM-PG-D505C	5	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
SLC-XVM-PG-XV15	1	4.00E-05	(129.5)	0.6	(46.5)	1.00	1.00
EHV-SRV-CC-RV3	40	3.00E-04	(107.5)	0.6	(52.5)	1.00	1.00
EHV-SRV-CC-RV2	40	3.00E-04	(107.5)	0.6	(52.5)	1.00	1.00
ESW-CKV-CB-C515B	175	3.00E-03	(72.5)	0.6	(54.5)	1.03	1.00
ESW-CKV-CB-C515A	175	3.00E-03	(72.5)	0.6	(54.5)	1.03	1.00
BETA-2SWPS	35	2.60E-02	(40.0)	0.5	(56.0)	1.00	1.00
ESF-XHE-FO-DATWS	19	2.00E-01	(22.0)	0.5	(57.0)	1.02	1.03
EHV-AOV-CC-CCF	25	1.00E-03	(98.5)	0.5	(59.5)	0.97	1.00
ESW-AOV-CC-CCF	35	1.00E-03	(98.5)	0.5	(59.5)	0.97	1.00
ESW-AOV-CC-0241C	95	1.00E-03	(98.5)	0.5	(59.5)	0.97	1.00
ESW-AOV-CC-0241B	95	1.00E-03	(98.5)	0.5	(59.5)	0.97	1.00
LOSPNR9HR	266	2.30E-02	(43.0)	0.5	(62.0)	1.01	1.00
DCHWNR9HR	2	3.00E-02	(36.5)	0.5	(63.0)	1.00	1.00
LOSPNR14HR	146	1.20E-02	(54.0)	0.5	(64.0)	1.00	1.00
LOSPNR7HR	120	3.20E-02	(32.0)	0.5	(65.0)	1.01	1.01
DCHWNR17HR	2	2.50E-02	(41.5)	0.5	(66.0)	1.00	1.00
DCHWNR12HR	2	3.00E-02	(36.5)	0.5	(67.0)	1.00	1.00
DCHWNR14HR	2	2.50E-02	(41.5)	0.5	(68.0)	1.00	1.00
ACP-DGN-MA-EDGD	10	6.00E-03	(60.0)	0.4	(70.0)	1.00	1.01
ACP-DGN-MA-EDGC	75	6.00E-03	(60.0)	0.4	(70.0)	1.00	1.01
ACP-DGN-MA-EDGB	75	6.00E-03	(60.0)	0.4	(70.0)	1.00	1.01
DGCCFNR12HR	5	4.00E-01	(17.5)	0.4	(72.0)	1.00	1.00
DGMANR7HR	49	5.00E-01	(13.0)	0.4	(73.0)	1.01	1.00
HCI-TDP-MA-20S37	62	1.00E-02	(55.5)	0.4	(74.0)	1.00	1.01
BETA-4DGNS	25	1.30E-02	(52.5)	0.4	(75.0)	1.00	1.00
DGMANR9HR	49	4.50E-01	(15.5)	0.4	(76.0)	1.00	1.00
DGMANR12HR	49	4.00E-01	(17.5)	0.3	(77.0)	1.00	1.02
ACP-DGN-TE-EDGC	50	2.30E-03	(81.5)	0.3	(78.5)	1.00	1.00
ACP-DGN-TE-EDGB	50	2.30E-03	(81.5)	0.3	(78.5)	1.00	1.00
HCI-TDP-FR-20S37	170	5.00E-02	(29.0)	0.3	(80.0)	1.01	1.00
HCI-TDP-FO-20S37	2	5.00E-03	(62.0)	0.3	(81.0)	1.00	1.01
HCI-MOV-CC-MV19	12	3.00E-03	(72.5)	0.3	(83.0)	1.00	1.00
HCI-MOV-CC-MV14	12	3.00E-03	(72.5)	0.3	(83.0)	1.00	1.00
ESW-MOV-CC-M0841	10	3.00E-03	(72.5)	0.3	(83.0)	1.00	1.00
HCI-TCV-HW-TCV18	1	1.00E-04	(120.5)	0.3	(88.5)	1.00	1.00
HCI-CKV-HW-CV65	1	1.00E-04	(120.5)	0.3	(88.5)	1.00	1.00
HCI-CKV-HW-CV32	1	1.00E-04	(120.5)	0.3	(88.5)	1.00	1.00
SLC-CKV-HW-CV16	2	1.00E-04	(120.5)	0.3	(88.5)	1.00	1.00
ESW-CKV-HW-CV513	2	1.00E-04	(120.5)	0.3	(88.5)	1.00	1.00
ESW-CKV-HW-C515B	10	1.00E-04	(120.5)	0.3	(88.5)	1.00	1.00
ESW-CKV-HW-C515A	10	1.00E-04	(120.5)	0.3	(88.5)	1.00	1.00
SLC-CKV-HW-CV17	2	1.00E-04	(120.5)	0.3	(88.5)	1.00	1.00
DGMANR3HR	49	7.00E-01	(5.0)	0.2	(93.0)	1.00	1.00
BAT-DEP-9HR	266	2.50E-01	(19.5)	0.2	(94.0)	0.96	1.02
DGACTNR7HR	2	3.00E-02	(36.5)	0.2	(95.0)	1.00	1.00
BAT-DEP-7HR	266	8.33E-02	(26.0)	0.1	(96.0)	0.99	1.00
DGCCFNR3HR	5	7.00E-01	(5.0)	0.1	(97.0)	1.00	1.00
ESF-XHE-FO-HSWIN	3	2.50E-01	(19.5)	0.0	(116.0)		
Q	1	1.00E-02	(55.5)	0.0	(116.0)		
DCP-BAT-LP-B2	5	1.08E-03	(93.5)	0.0	(116.0)		
ESF-ASP-FC-PL52D	3	1.00E-03	(98.5)	0.0	(116.0)		
ESF-ASP-FC-PL52C	3	1.00E-03	(98.5)	0.0	(116.0)		
ACP-DGN-LP-EDGD	10	3.00E-03	(72.5)	0.0	(116.0)		

LOSPNR5HR	120	4.80E-02	(30.0)	0.0	(116.0)
ESF-ASP-FC-PL52B	3	1.00E-03	(98.5)	0.0	(116.0)
LOSPNR17HR	146	8.10E-03	(57.0)	0.0	(116.0)
ESF-ASP-FC-PL52A	3	1.00E-03	(98.5)	0.0	(116.0)
HCI-MOV-MA-PCV50	1	2.00E-04	(112.0)	0.0	(116.0)
HCI-MOV-MA-MV57	1	2.00E-04	(112.0)	0.0	(116.0)
HCI-MOV-MA-MV20	1	2.00E-04	(112.0)	0.0	(116.0)
DGMANR5HR	49	6.00E-01	(8.0)	0.0	(116.0)
HCI-MOV-MA-MV17	1	2.00E-04	(112.0)	0.0	(116.0)
HCI-MOV-MA-MV14	1	2.00E-04	(112.0)	0.0	(116.0)
ACP-DGN-RE-EDGC	10	7.98E-04	(104.5)	0.0	(116.0)
ACP-DGN-LP-EDGC	70	3.00E-03	(72.5)	0.0	(116.0)
ESW-XHE-FO-EHS	795	9.00E-01	(2.0)	0.0	(116.0)
DGCCFNR9HR	5	4.50E-01	(15.5)	0.0	(116.0)
ACP-DGN-RE-EDGB	10	7.98E-04	(104.5)	0.0	(116.0)
DGCCFNR7HR	5	5.00E-01	(13.0)	0.0	(116.0)
DGCCFNR5HR	5	6.00E-01	(8.0)	0.0	(116.0)
NSW-SYS-FO-NSW-1	1	1.00E-01	(23.0)	0.0	(116.0)
BETA-3AOVS	35	5.50E-02	(28.0)	0.0	(116.0)
ACP-DGN-LP-EDGB	70	3.00E-03	(72.5)	0.0	(116.0)
DGACTNR9HR	2	2.00E-02	(45.5)	0.0	(116.0)
BETA-2SIPUMPS	5	2.10E-01	(21.0)	0.0	(116.0)
DGACTNR5HR	2	3.00E-02	(36.5)	0.0	(116.0)
DGACTNR3HR	2	3.00E-02	(36.5)	0.0	(116.0)
DGACTNR12HR	2	2.00E-02	(45.5)	0.0	(116.0)
ESW-AOV-MA-0241C	10	2.00E-04	(112.0)	0.0	(116.0)
ESW-AOV-MA-0241B	10	2.00E-04	(112.0)	0.0	(116.0)
DGACTC	5	1.81E-03	(89.5)	0.0	(116.0)
DGACTB	5	1.81E-03	(89.5)	0.0	(116.0)
DCP-BAT-LP-C3	5	1.08E-03	(93.5)	0.0	(116.0)
ACP-DGN-LP-CCF	25	3.00E-03	(72.5)	0.0	(116.0)
NR	83	1.00E+00	(1.0)		

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	1341	7.90E-02	(3.0)	7.7	(1.0)	1.28	1.01
IE-T3A	24	2.50E+00	(1.0)	5.8	(2.0)	1.16	1.04
IE-T3C	11	1.90E-01	(2.0)	1.1	(3.0)	1.02	1.00
IE-S1	3	3.00E-04	(6.0)	0.7	(4.0)	1.07	0.98
IE-T3B	6	6.00E-02	(4.0)	0.7	(5.0)	1.05	1.02
IE-T2	5	5.00E-02	(5.0)	0.6	(6.0)	1.00	1.01
IE-A	3	1.00E-04	(7.0)	0.5	(7.0)	1.00	1.00

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PEACH BOTTOM TOTAL PLANT RUN

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PEACH.TOT WITH TOP EVENT FREQUENCY 3.62E-06

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1373	4	7.97E-07	0.22039	IE-T3A	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	1374	4	5.00E-07	0.35856	IE-T3A	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	16	4	1.78E-07	0.40768	BETA-5BAT	*	DCP-BAT-LF-CCF	*	IE-T1	*	NR	+
5	1	3	1.60E-07	0.45178	ESF-XHE-MC-PRES	*	IE-S1	*	NR	+		
6	1348	5	1.50E-07	0.49323	ESF-XHE-FO-DATWS	*	HCI-TDP-FS-20S37	*	IE-T3A	*	NR	*
7					RPSM	+						
8	1375	4	8.50E-08	0.51672	IE-T3A	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
9	7	4	8.41E-08	0.53995	ESF-XHE-MC-PRES	*	IE-T1	*	NR	*	P2	+
10	10	4	6.38E-08	0.55759	ESF-XHE-MC-PRES	*	IE-T3B	*	NR	*	P2	+
11	1367	4	6.06E-08	0.57434	IE-T3C	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
12	11	4	5.32E-08	0.58905	ESF-XHE-MC-PRES	*	IE-T2	*	NR	*	P2	+
13	4	3	5.32E-08	0.60375	ESF-XHE-MC-PRES	*	IE-A	*	NR	+		
14	1349	5	5.00E-08	0.61756	ESF-XHE-FO-DATWS	*	HCI-TDP-MA-20S37	*	IE-T3A	*	NR	*
15					RPSM	+						
16	1368	4	3.80E-08	0.62807	IE-T3C	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
17	303	7	3.65E-08	0.63816	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
18					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
19	308	5	2.82E-08	0.64597	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*
20					LOSPNR13HR	+						
21	304	7	2.79E-08	0.65368	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
22					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
23	12	5	2.66E-08	0.66103	ESF-XHE-MC-PRES	*	IE-T3A	*	NR	*	P2	*
24					Q	+						
25	1390	4	2.52E-08	0.66799	IE-T1	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
26	1350	5	2.50E-08	0.67490	ESF-XHE-FO-DATWS	*	HCI-TDP-FO-20S37	*	IE-T3A	*	NR	*
27					RPSM	+						
28	307	7	2.14E-08	0.68081	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
29					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
30	1382	4	1.91E-08	0.68610	IE-T3B	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
31	313	5	1.85E-08	0.69121	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*
32					LOSPNR13HR	+						
33	309	5	1.74E-08	0.69601	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
34					LOSPNR5HR	+						
35	17	5	1.71E-08	0.70072	BETA-5BAT	*	DCP-BAT-LF-CCF	*	IE-T1	*	NR	*
36					P1	+						
37	312	5	1.63E-08	0.70523	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
38					LOSPNR12HR	+						
39	1386	4	1.60E-08	0.70963	IE-T2	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
40	305	7	1.59E-08	0.71403	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
41					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
42	1391	4	1.58E-08	0.71840	IE-T1	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
43	1376	5	1.57E-08	0.72275	BETA-2SIPUMPS	*	IE-T3A	*	NR	*	RPSM	*
44					SLC-MDP-FS-CCF	+						
45	1352	5	1.50E-08	0.72690	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV19	*	IE-T3A	*	NR	*
46					RPSM	+						

47	1351	5	1.50E-08	0.73104	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV14	*	IE-T3A	*	NR	*
48					RPSM	+						
49	1383	4	1.20E-08	0.73436	IE-T3B	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
50	310	5	1.16E-08	0.73756	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
51					LOSPNR7HR	+						
52	1362	5	1.14E-08	0.74071	ESF-XHE-FO-DATWS	*	HCI-TDP-FS-20S37	*	IE-T3C	*	NR	*
53					RPSM	+						
54	314	5	1.10E-08	0.74385	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
55					LOSPNR5HR	+						
56	306	7	1.09E-08	0.74687	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
57					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
58	317	5	1.07E-08	0.74981	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
59					LOSPNR12HR	+						
60	1387	4	1.00E-08	0.75258	IE-T2	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
61	363	7	9.97E-09	0.75533	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
62					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
63	368	7	9.97E-09	0.75809	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
64					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
65	364	7	9.15E-09	0.76062	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*
66					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
67	369	7	9.15E-09	0.76315	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*
68					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
69	319	6	8.62E-09	0.76553	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*
70					IE-T1	*	LOSPNR5HR	+				
71	311	5	8.32E-09	0.76783	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
72					LOSPNR9HR	+						
73	318	6	8.01E-09	0.77004	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	IE-T1	*
74					INJ-FAILS	*	LOSPNR13HR	+				
75	328	6	7.61E-09	0.77215	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*
76					INJ-FAILS	*	LOSPNR18HR	+				
77	323	6	7.61E-09	0.77425	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*
78					INJ-FAILS	*	LOSPNR18HR	+				
79	315	5	7.58E-09	0.77635	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
80					LOSPNR7HR	+						
81	333	7	7.15E-09	0.77832	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*
82					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
83	338	7	7.15E-09	0.78030	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*
84					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
85	358	7	6.85E-09	0.78219	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*
86					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
87	343	7	6.85E-09	0.78408	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*
88					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
89	348	7	6.85E-09	0.78598	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
90					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
91	353	7	6.85E-09	0.78787	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
92					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
93	1369	4	6.46E-09	0.78965	IE-T3C	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
94	372	7	6.22E-09	0.79137	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*
95					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
96	367	7	6.22E-09	0.79309	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*
97					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
98	324	6	5.81E-09	0.79470	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*
99					IE-T1	*	LOSPNR9HR	+				
100	329	6	5.81E-09	0.79630	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*
101					IE-T1	*	LOSPNR9HR	+				
102	339	7	5.46E-09	0.79781	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*

103					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
104	334	7	5.46E-09	0.79932	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*	
105					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
106	316	5	5.45E-09	0.80083	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
107					LOSPNR9HR	+							
108	383	7	5.25E-09	0.80228	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
109					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
110	388	7	5.25E-09	0.80373	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
111					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
112	359	7	5.23E-09	0.80517	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*	
113					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
114	344	7	5.23E-09	0.80662	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*	
115					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
116	354	7	5.23E-09	0.80807	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
117					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
118	349	7	5.23E-09	0.80951	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
119					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
120	322	6	5.20E-09	0.81095	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*	
121					IE-T1	*	LOSPNR12HR	+					
122	365	7	5.12E-09	0.81236	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
123					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
124	370	7	5.12E-09	0.81378	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
125					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
126	403	7	5.00E-09	0.81516	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
127					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
128	408	7	5.00E-09	0.81654	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
129					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
130	320	6	4.93E-09	0.81790	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*	
131					IE-T1	*	LOSPNR7HR	+					
132	373	5	4.82E-09	0.81923	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	INJ-FAILS	*	
133					LOSPNR13HR	+							
134	378	5	4.82E-09	0.82057	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	INJ-FAILS	*	
135					LOSPNR13HR	+							
136	398	5	4.62E-09	0.82184	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	INJ-FAILS	*	
137					LOSPNR13HR	+							
138	393	5	4.62E-09	0.82312	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	INJ-FAILS	*	
139					LOSPNR13HR	+							
140	413	7	4.57E-09	0.82438	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
141					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
142	418	7	4.57E-09	0.82565	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
143					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
144	332	6	4.45E-09	0.82688	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
145					IE-T1	*	LOSPNR17HR	+					
146	327	6	4.45E-09	0.82811	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
147					IE-T1	*	LOSPNR17HR	+					
148	337	7	4.18E-09	0.82926	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*	
149					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
150	342	7	4.18E-09	0.83042	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*	
151					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
152	384	7	4.01E-09	0.83153	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
153					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
154	389	7	4.01E-09	0.83264	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
155					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
156	352	7	4.01E-09	0.83374	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
157					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
158	347	7	4.01E-09	0.83485	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	

159					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
160	362	7	4.01E-09	0.83596	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*
161					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
162	357	7	4.01E-09	0.83707	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*
163					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
164	429	6	3.98E-09	0.83817	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*
165					IE-T1	*	LOSPNR5HR	+				
166	424	6	3.98E-09	0.83927	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*
167					IE-T1	*	LOSPNR5HR	+				
168	13	5	3.95E-09	0.84036	ESF-XHE-FO-HSWIN	*	ESW-CKV-HW-CV513	*	IE-T1	*	NR	*
169					P2	+						
170	409	7	3.82E-09	0.84141	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPB	*
171					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
172	404	7	3.82E-09	0.84247	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPA	*
173					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
174	1363	5	3.80E-09	0.84352	ESF-XHE-FO-DATWS	*	HCI-TDP-MA-20S37	*	IE-T3C	*	NR	*
175					RPSM	+						
176	428	6	3.70E-09	0.84454	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*
177					INJ-FAILS	*	LOSPNR13HR	+				
178	423	6	3.70E-09	0.84556	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*
179					INJ-FAILS	*	LOSPNR13HR	+				
180	18	8	3.51E-09	0.84653	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
181					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+
182	414	7	3.49E-09	0.84749	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*
183					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
184	419	7	3.49E-09	0.84846	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*
185					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
186	366	7	3.41E-09	0.84940	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*
187					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
188	371	7	3.41E-09	0.85034	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*
189					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
190	438	5	3.37E-09	0.85128	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	INJ-FAILS	*
191					LOSPNR13HR	+						
192	433	5	3.37E-09	0.85221	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	INJ-FAILS	*
193					LOSPNR13HR	+						
194	325	6	3.32E-09	0.85312	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*
195					IE-T1	*	LOSPNR12HR	+				
196	330	6	3.32E-09	0.85404	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*
197					IE-T1	*	LOSPNR12HR	+				
198	335	7	3.11E-09	0.85490	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGC	*
199					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
200	340	7	3.11E-09	0.85576	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGB	*
201					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
202	448	5	3.08E-09	0.85661	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	INJ-FAILS	*
203					LOSPNR13HR	+						
204	443	5	3.08E-09	0.85747	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	INJ-FAILS	*
205					LOSPNR13HR	+						
206	392	7	3.07E-09	0.85831	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*
207					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
208	387	7	3.07E-09	0.85916	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
209					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
210	350	7	2.99E-09	0.85999	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
211					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
212	360	7	2.99E-09	0.86081	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPB	*
213					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
214	355	7	2.99E-09	0.86164	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*

215					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
216	345	7	2.99E-09	0.86246	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPA	*	
217					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
218	379	5	2.97E-09	0.86328	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
219					LOSPNR5HR	+							
220	374	5	2.97E-09	0.86410	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
221					LOSPNR5HR	+							
222	321	6	2.95E-09	0.86492	ACP-DGN-LP-CCF	*	BAT-DEP-7HR	*	BETA-4DGNS	*	DGCCFNR7HR	*	
223					IE-T1	*	LOSPNR9HR	+					
224	407	7	2.93E-09	0.86573	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPA	*	
225					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
226	412	7	2.93E-09	0.86654	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPB	*	
227					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
228	399	5	2.84E-09	0.86732	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
229					LOSPNR5HR	+							
230	394	5	2.84E-09	0.86811	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
231					LOSPNR5HR	+							
232	382	5	2.78E-09	0.86888	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
233					LOSPNR12HR	+							
234	377	5	2.78E-09	0.86964	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
235					LOSPNR12HR	+							
236	463	7	2.74E-09	0.87040	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
237					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
238	468	7	2.74E-09	0.87116	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
239					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
240	23	6	2.71E-09	0.87191	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*	
241					LOSPNR13HR	*	P1	+					
242	1392	4	2.69E-09	0.87265	IE-T1	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+	
243	19	6	2.68E-09	0.87339	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
244					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
245	422	7	2.67E-09	0.87413	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*	
246					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
247	417	7	2.67E-09	0.87487	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*	
248					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
249	397	5	2.67E-09	0.87560	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
250					LOSPNR12HR	+							
251	402	5	2.67E-09	0.87634	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
252					LOSPNR12HR	+							
253	453	6	2.54E-09	0.87704	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
254					INJ-FAILS	*	LOSPNR13HR	+					
255	458	6	2.54E-09	0.87775	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
256					INJ-FAILS	*	LOSPNR13HR	+					
257	1376	4	2.50E-09	0.87844	IE-T3A	*	NR	*	RPSM	*	SLC-CKV-HW-CV17	+	
258	1377	4	2.50E-09	0.87913	IE-T3A	*	NR	*	RPSM	*	SLC-CKV-HW-CV16	+	
259	427	6	2.40E-09	0.87979	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
260					IE-T1	*	LOSPNR12HR	+					
261	432	6	2.40E-09	0.88045	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
262					IE-T1	*	LOSPNR12HR	+					
263	385	7	2.29E-09	0.88109	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
264					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
265	390	7	2.29E-09	0.88172	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
266					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
267	473	7	2.28E-09	0.88235	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
268					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
269	478	7	2.28E-09	0.88298	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
270					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			

271	326	6	2.27E-09	0.88361	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*
272					IE-T1	*	LOSPNR14HR	+				
273	331	6	2.27E-09	0.88424	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*
274					IE-T1	*	LOSPNR14HR	+				
275	454	6	2.27E-09	0.88487	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*
276					IE-T1	*	LOSPNR5HR	+				
277	459	6	2.27E-09	0.88549	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*
278					IE-T1	*	LOSPNR5HR	+				
279	430	6	2.27E-09	0.88612	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*
280					IE-T1	*	LOSPNR7HR	+				
281	425	6	2.27E-09	0.88675	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*
282					IE-T1	*	LOSPNR7HR	+				
283	410	7	2.18E-09	0.88735	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPB	*
284					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
285	405	7	2.18E-09	0.88796	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPA	*
286					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
287	341	7	2.14E-09	0.88855	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGB	*
288					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
289	336	7	2.14E-09	0.88914	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGC	*
290					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
291	464	7	2.09E-09	0.88971	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*
292					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
293	469	7	2.09E-09	0.89029	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*
294					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
295	434	5	2.08E-09	0.89087	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*
296					LOSPNR5HR	+						
297	439	5	2.08E-09	0.89144	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*
298					LOSPNR5HR	+						
299	22	8	2.05E-09	0.89201	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
300					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
301	361	7	2.05E-09	0.89257	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPB	*
302					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
303	346	7	2.05E-09	0.89314	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPA	*
304					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
305	356	7	2.05E-09	0.89370	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*
306					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
307	351	7	2.05E-09	0.89427	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
308					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
309	1384	4	2.04E-09	0.89483	IE-T3B	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
310	420	7	1.99E-09	0.89538	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPB	*
311					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
312	415	7	1.99E-09	0.89593	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPA	*
313					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
314	375	5	1.98E-09	0.89648	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*
315					LOSPNR7HR	+						
316	380	5	1.98E-09	0.89703	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*
317					LOSPNR7HR	+						
318	437	5	1.95E-09	0.89756	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*
319					LOSPNR12HR	+						
320	442	5	1.95E-09	0.89810	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*
321					LOSPNR12HR	+						
322	1364	5	1.90E-09	0.89863	ESF-XHE-FO-DATWS	*	HCI-TDP-FO-20S37	*	IE-T3C	*	NR	*
323					RPSM	+						
324	395	5	1.90E-09	0.89915	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*
325					LOSPNR7HR	+						
326	400	5	1.90E-09	0.89967	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*

327					LOSPNR7HR	+							
328	444	5	1.90E-09	0.90020	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
329					LOSPNR5HR	+							
330	449	5	1.90E-09	0.90072	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
331					LOSPNR5HR	+							
332	953	8	1.83E-09	0.90123	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
333					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
334	447	5	1.78E-09	0.90172	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
335					LOSPNR12HR	+							
336	452	5	1.78E-09	0.90221	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
337					LOSPNR12HR	+							
338	28	6	1.77E-09	0.90270	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*	
339					LOSPNR13HR	*	P1	+					
340	479	7	1.74E-09	0.90318	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241C	*	
341					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
342	474	7	1.74E-09	0.90366	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241B	*	
343					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
344	1388	4	1.70E-09	0.90413	IE-T2	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+	
345	24	6	1.67E-09	0.90459	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
346					LOSPNR5HR	*	P1	+					
347	472	7	1.60E-09	0.90504	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPA	*	
348					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
349	467	7	1.60E-09	0.90548	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPB	*	
350					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
351	14	5	1.58E-09	0.90592	ESF-XHE-FO-HSWIN	*	ESW-XVM-PG-XV502	*	IE-T1	*	NR	*	
352					P2	+							
353	391	7	1.57E-09	0.90635	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
354					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
355	386	7	1.57E-09	0.90678	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
356					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
357	27	6	1.56E-09	0.90722	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
358					LOSPNR12HR	*	P1	+					
359	457	6	1.55E-09	0.90764	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
360					IE-T1	*	LOSPNR12HR	+					
361	462	6	1.55E-09	0.90807	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
362					IE-T1	*	LOSPNR12HR	+					
363	483	5	1.54E-09	0.90850	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*	
364					LOSPNR13HR	+							
365	488	5	1.54E-09	0.90892	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*	
366					LOSPNR13HR	+							
367	20	8	1.53E-09	0.90934	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
368					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
369	504	6	1.53E-09	0.90977	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
370					IE-T1	*	LOSPNR5HR	+					
371	509	6	1.53E-09	0.91019	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
372					IE-T1	*	LOSPNR5HR	+					
373	411	7	1.49E-09	0.91060	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPB	*	
374					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
375	406	7	1.49E-09	0.91101	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPA	*	
376					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
377	493	6	1.45E-09	0.91141	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	IE-T1	*	
378					INJ-FAILS	*	LOSPNR13HR	+					
379	498	6	1.45E-09	0.91181	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
380					INJ-FAILS	*	LOSPNR13HR	+					
381	381	5	1.42E-09	0.91221	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
382					LOSPNR9HR	+							

383	376	5	1.42E-09	0.91260	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*			
384					LOSPNR9HR	+									
385	503	6	1.42E-09	0.91299	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*			
386					INJ-FAILS	*	LOSPNR13HR	+							
387	508	6	1.42E-09	0.91338	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*			
388					INJ-FAILS	*	LOSPNR13HR	+							
389	958	6	1.41E-09	0.91377	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	IE-T1	*			
390					INJ-FAILS	*	LOSPNR13HR	+							
391	954	8	1.39E-09	0.91416	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*			
392					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+			
393	513	6	1.39E-09	0.91454	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*			
394					INJ-FAILS	*	LOSPNR13HR	+							
395	518	6	1.39E-09	0.91492	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*			
396					INJ-FAILS	*	LOSPNR13HR	+							
397	440	5	1.38E-09	0.91531	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*			
398					LOSPNR7HR	+									
399	435	5	1.38E-09	0.91569	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*			
400					LOSPNR7HR	+									
401	421	7	1.36E-09	0.91607	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPB	*			
402					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+					
403	416	7	1.36E-09	0.91644	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPA	*			
404					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+					
405	431	6	1.36E-09	0.91682	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515A	*			
406					IE-T1	*	LOSPNR9HR	+							
407	426	6	1.36E-09	0.91720	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515B	*			
408					IE-T1	*	LOSPNR9HR	+							
409	401	5	1.36E-09	0.91757	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*			
410					LOSPNR9HR	+									
411	396	5	1.36E-09	0.91795	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*			
412					LOSPNR9HR	+									
413	477	7	1.34E-09	0.91832	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241B	*			
414					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+					
415	482	7	1.34E-09	0.91869	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241C	*			
416					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+					
417	460	6	1.33E-09	0.91905	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*			
418					IE-T1	*	LOSPNR7HR	+							
419	455	6	1.33E-09	0.91942	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*			
420					IE-T1	*	LOSPNR7HR	+							
421	608	7	1.33E-09	0.91979	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*			
422					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+					
423	603	7	1.33E-09	0.92015	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*			
424					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+					
425	445	5	1.26E-09	0.92050	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*			
426					LOSPNR7HR	+									
427	450	5	1.26E-09	0.92085	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*			
428					LOSPNR7HR	+									
429	609	7	1.22E-09	0.92119	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*			
430					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+					
431	604	7	1.22E-09	0.92152	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*			
432					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+					
433	1370	5	1.20E-09	0.92185	BETA-2SIPUMPS	*	IE-T3C	*	NR	*	RPSM	*			
434					SLC-MDP-FS-CCF	+									
435	470	7	1.19E-09	0.92218	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPA	*			
436					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+					
437	529	7	1.19E-09	0.92251	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241C	*			
438					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+					

439	524	7	1.19E-09	0.92284	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241B	*
440					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+		
441	465	7	1.19E-09	0.92317	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPB	*
442					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
443	1365	5	1.14E-09	0.92349	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV19	*	IE-T3C	*	NR	*
444					RPSM	+						
445	1366	5	1.14E-09	0.92380	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV14	*	IE-T3C	*	NR	*
446					RPSM	+						
447	25	6	1.11E-09	0.92411	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
448					LOSPNR7HR	*	P1	+				
449	523	7	1.11E-09	0.92442	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*
450					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
451	528	7	1.11E-09	0.92473	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*
452					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
453	963	8	1.10E-09	0.92503	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
454					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
455	29	6	1.09E-09	0.92533	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
456					LOSPNR5HR	*	P1	+				
457	957	8	1.07E-09	0.92563	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
458					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20837	*	IE-T1	*	LOSPNR17HR	+
459	21	6	1.05E-09	0.92591	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
460					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+
461	533	5	1.04E-09	0.92620	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	INJ-FAILS	*
462					LOSPNR18HR	+						
463	538	5	1.04E-09	0.92649	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	INJ-FAILS	*
464					LOSPNR18HR	+						
465	32	6	1.02E-09	0.92677	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
466					LOSPNR12HR	*	P1	+				
467	543	6	1.01E-09	0.92705	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*
468					INJ-FAILS	*	LOSPNR13HR	+				
469	548	6	1.01E-09	0.92733	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*
470					INJ-FAILS	*	LOSPNR13HR	+				
471	1354	5	1.00E-09	0.92761	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-PCV50	*	IE-T3A	*	NR	*
472					RPSM	+						
473	1379	4	1.00E-09	0.92788	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV15	+
474	1353	5	1.00E-09	0.92816	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV14	*	IE-T3A	*	NR	*
475					RPSM	+						
476	1355	5	1.00E-09	0.92844	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV20	*	IE-T3A	*	NR	*
477					RPSM	+						
478	1356	5	1.00E-09	0.92871	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV57	*	IE-T3A	*	NR	*
479					RPSM	+						
480	1380	4	1.00E-09	0.92899	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV18	+
481	1381	4	1.00E-09	0.92927	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV11	+
482	1357	5	1.00E-09	0.92954	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV17	*	IE-T3A	*	NR	*
483					RPSM	+						
484	460	7	9.95E-10	0.92982	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241C	*
485					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
486	475	7	9.95E-10	0.93009	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241B	*
487					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
488	441	5	9.94E-10	0.93037	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*
489					LOSPNR9HR	+						
490	436	5	9.94E-10	0.93064	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*
491					LOSPNR9HR	+						
492	553	6	9.75E-10	0.93091	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	IE-T1	*
493					INJ-FAILS	*	LOSPNR18HR	+				
494	558	6	9.75E-10	0.93118	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	IE-T1	*

495					INJ-FAILS	*	LOSPNR18HR	+					
496	68	8	9.57E-10	0.93144	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
497					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
498	73	8	9.57E-10	0.93171	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
499					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
500	489	5	9.48E-10	0.93197	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
501					LOSPNR5HR	+							
502	484	5	9.48E-10	0.93223	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
503					LOSPNR5HR	+							
504	563	6	9.34E-10	0.93249	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
505					INJ-FAILS	*	LOSPNR18HR	+					
506	566	6	9.34E-10	0.93275	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
507					INJ-FAILS	*	LOSPNR18HR	+					
508	573	6	9.24E-10	0.93300	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
509					INJ-FAILS	*	LOSPNR13HR	+					
510	576	6	9.24E-10	0.93326	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
511					INJ-FAILS	*	LOSPNR13HR	+					
512	968	8	9.24E-10	0.93351	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	IE-T1	*	
513					INJ-FAILS	*	LOSPNR13HR	+					
514	507	6	9.20E-10	0.93377	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
515					IE-T1	*	LOSPNR12HR	+					
516	512	6	9.20E-10	0.93402	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
517					IE-T1	*	LOSPNR12HR	+					
518	451	5	9.08E-10	0.93427	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
519					LOSPNR9HR	+							
520	446	5	9.08E-10	0.93452	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
521					LOSPNR9HR	+							
522	494	6	8.90E-10	0.93477	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
523					IE-T1	*	LOSPNR5HR	+					
524	499	6	8.90E-10	0.93502	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
525					IE-T1	*	LOSPNR5HR	+					
526	492	5	8.89E-10	0.93526	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
527					LOSPNR12HR	+							
528	487	5	8.89E-10	0.93551	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
529					LOSPNR12HR	+							
530	74	8	8.79E-10	0.93575	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
531					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
532	69	8	8.79E-10	0.93599	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
533					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
534	505	6	8.72E-10	0.93623	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*	
535					IE-T1	*	LOSPNR7HR	+					
536	510	6	8.72E-10	0.93648	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*	
537					IE-T1	*	LOSPNR7HR	+					
538	959	6	8.69E-10	0.93672	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
539					IE-T1	*	LOSPNR5HR	+					
540	514	6	8.53E-10	0.93695	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
541					IE-T1	*	LOSPNR5HR	+					
542	519	6	8.53E-10	0.93719	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
543					IE-T1	*	LOSPNR5HR	+					
544	973	6	8.47E-10	0.93742	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	IE-T1	*	
545					INJ-FAILS	*	LOSPNR13HR	+					
546	964	8	8.37E-10	0.93765	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
547					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
548	497	6	8.35E-10	0.93788	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
549					IE-T1	*	LOSPNR12HR	+					
550	502	6	8.35E-10	0.93811	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	

551					IE-T1	*	LOSPNR12HR	+					
552	34	7	8.28E-10	0.93834	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*	
553					IE-T1	*	LOSPNR5HR	*	P1	+			
554	612	7	8.27E-10	0.93857	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
555					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
556	607	7	8.27E-10	0.93880	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
557					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
558	471	7	8.19E-10	0.93903	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPA	*	
559					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
560	466	7	8.19E-10	0.93925	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPB	*	
561					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
562	456	6	8.17E-10	0.93948	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*	
563					IE-T1	*	LOSPNR9HR	+					
564	461	6	8.17E-10	0.93970	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*	
565					IE-T1	*	LOSPNR9HR	+					
566	962	6	8.15E-10	0.93993	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
567					IE-T1	*	LOSPNR12HR	+					
568	517	6	8.00E-10	0.94015	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
569					IE-T1	*	LOSPNR12HR	+					
570	522	6	8.00E-10	0.94037	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
571					IE-T1	*	LOSPNR12HR	+					
572	28	6	7.99E-10	0.94059	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
573					LOSPNR9HR	*	P1	+					
574	955	8	7.96E-10	0.94081	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
575					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
576	33	7	7.69E-10	0.94102	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	IE-T1	*	
577					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
578	588	7	7.63E-10	0.94123	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
579					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
580	583	7	7.63E-10	0.94145	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
581					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
582	708	7	7.47E-10	0.94165	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
583					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
584	713	7	7.47E-10	0.94186	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
585					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
586	38	7	7.31E-10	0.94206	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
587					INJ-FAILS	*	LOSPNR18HR	*	P1	+			
588	43	7	7.31E-10	0.94226	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
589					INJ-FAILS	*	LOSPNR18HR	*	P1	+			
590	30	6	7.28E-10	0.94246	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
591					LOSPNR7HR	*	P1	+					
592	532	7	7.20E-10	0.94266	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-AOV-CC-0241C	*	
593					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
594	527	7	7.20E-10	0.94286	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-AOV-CC-0241B	*	
595					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
596	714	7	6.87E-10	0.94305	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-MDP-FR-MDPB	*	
597					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
598	709	7	6.87E-10	0.94324	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-MDP-FR-MDPA	*	
599					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
600	163	8	6.86E-10	0.94343	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
601					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
602	158	8	6.86E-10	0.94362	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
603					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
604	628	7	6.85E-10	0.94381	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	EHV-SRV-CC-RV2	*	ESW-XHE-FO-EHS	*	
605					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
606	618	7	6.85E-10	0.94400	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	EHV-SRV-CC-RV3	*	ESW-XHE-FO-EHS	*	

607					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
608	530	7	6.82E-10	0.94419	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-AOV-CC-0241C	*	
609					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
610	525	7	6.82E-10	0.94438	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-AOV-CC-0241B	*	
611					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
612	476	7	6.82E-10	0.94456	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-CC-0241B	*	
613					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
614	589	7	6.82E-10	0.94475	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241C	*	
615					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
616	584	7	6.82E-10	0.94494	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241B	*	
617					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
618	481	7	6.82E-10	0.94513	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-CC-0241C	*	
619					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
620	593	6	6.82E-10	0.94532	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
621					INJ-FAILS	*	LOSPNR18HR	+					
622	598	6	6.82E-10	0.94551	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
623					INJ-FAILS	*	LOSPNR18HR	+					
624	610	7	6.81E-10	0.94569	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
625					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
626	605	7	6.81E-10	0.94586	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
627					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
628	53	8	6.58E-10	0.94606	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
629					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
630	48	8	6.58E-10	0.94625	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
631					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
632	63	8	6.58E-10	0.94643	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
633					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
634	58	8	6.58E-10	0.94661	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
635					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
636	633	7	6.50E-10	0.94679	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	DGHWNR12HR	*	
637					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
638	967	8	6.41E-10	0.94697	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
639					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
640	490	5	6.32E-10	0.94714	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
641					LOSPNR7HR	+							
642	485	5	6.32E-10	0.94732	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
643					LOSPNR7HR	+							
644	1358	5	6.25E-10	0.94749	ESF-XHE-FO-DATWS	*	HCI-ICC-HW-FC108	*	IE-T3A	*	NR	*	
645					RPSM	+							
646	623	6	6.23E-10	0.94766	ESW-MDP-FR-MDPA	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
647					INJ-FAILS	*	LOSPNR18HR	+					
648	613	6	6.23E-10	0.94783	ESW-MDP-FR-MDPB	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
649					INJ-FAILS	*	LOSPNR18HR	+					
650	544	6	6.23E-10	0.94800	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
651					IE-T1	*	LOSPNR5HR	+					
652	549	6	6.23E-10	0.94818	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
653					IE-T1	*	LOSPNR5HR	+					
654	77	8	5.97E-10	0.94834	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
655					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
656	72	8	5.97E-10	0.94851	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
657					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
658	500	6	5.93E-10	0.94867	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
659					IE-T1	*	LOSPNR7HR	+					
660	495	6	5.93E-10	0.94883	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
661					IE-T1	*	LOSPNR7HR	+					
662	552	6	5.84E-10	0.94900	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	

663					IE-T1	*	LOSPNR12HR	+					
664	547	6	5.84E-10	0.94916	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
665					IE-T1	*	LOSPNR12HR	+					
666	960	6	5.79E-10	0.94932	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
667					IE-T1	*	LOSPNR7HR	+					
668	537	5	5.76E-10	0.94948	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	
669					LOSPNR17HR	+							
670	542	5	5.76E-10	0.90964	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	
671					LOSPNR17HR	+							
672	969	6	5.69E-10	0.94979	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
673					IE-T1	*	LOSPNR5HR	+					
674	574	6	5.69E-10	0.94995	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
675					IE-T1	*	LOSPNR5HR	+					
676	579	6	5.69E-10	0.95011	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
677					IE-T1	*	LOSPNR5HR	+					
678	520	6	5.69E-10	0.95026	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
679					IE-T1	*	LOSPNR7HR	+					
680	515	6	5.69E-10	0.95042	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
681					IE-T1	*	LOSPNR7HR	+					
682	44	7	5.58E-10	0.95058	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*	
683					IE-T1	*	LOSPNR9HR	*	P1	+			
684	39	7	5.58E-10	0.95073	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*	
685					IE-T1	*	LOSPNR9HR	*	P1	+			
686	978	6	5.55E-10	0.95088	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	IE-T1	*	
687					INJ-FAILS	*	LOSPNR13HR	+					
688	956	8	5.46E-10	0.95103	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
689					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+	
690	539	5	5.45E-10	0.95118	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	
691					LOSPNR9HR	+							
692	534	5	5.45E-10	0.95133	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	
693					LOSPNR9HR	+							
694	557	6	5.41E-10	0.95148	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
695					IE-T1	*	LOSPNR17HR	+					
696	562	6	5.41E-10	0.95163	BAT-DEP-9HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
697					IE-T1	*	LOSPNR17HR	+					
698	577	6	5.33E-10	0.95178	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
699					IE-T1	*	LOSPNR12HR	+					
700	582	6	5.33E-10	0.95193	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
701					IE-T1	*	LOSPNR12HR	+					
702	972	6	5.33E-10	0.95208	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
703					IE-T1	*	LOSPNR12HR	+					
704	639	6	5.29E-10	0.95222	ACP-DGN-RE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
705					IE-T1	*	LOSPNR5HR	+					
706	644	6	5.29E-10	0.95237	ACP-DGN-RE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
707					IE-T1	*	LOSPNR5HR	+					
708	159	8	5.24E-10	0.95251	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*	
709					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
710	164	8	5.24E-10	0.95266	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*	
711					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
712	31	6	5.23E-10	0.95280	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
713					LOSPNR9HR	*	P1	+					
714	629	7	5.23E-10	0.95295	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	EHV-SRV-CC-RV2	*	
715					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
716	619	7	5.23E-10	0.95309	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	EHV-SRV-CC-RV3	*	
717					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
718	506	6	5.22E-10	0.95324	ACP-DGN-TE-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515A	*	

719					IE-T1	*	LOSPNR9HR	+					
720	511	6	5.22E-10	0.95338	ACP-DGN-TE-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515B	*	
721					IE-T1	*	LOSPNR9HR	+					
722	974	6	5.21E-10	0.95352	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
723					IE-T1	*	LOSPNR5HR	+					
724	572	6	5.18E-10	0.95367	BAT-DEP-9HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
725					IE-T1	*	LOSPNR17HR	+					
726	567	6	5.18E-10	0.95381	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
727					IE-T1	*	LOSPNR17HR	+					
728	648	7	5.14E-10	0.95395	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
729					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
730	653	7	5.14E-10	0.95409	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
731					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
732	559	6	5.12E-10	0.95424	BAT-DEP-3HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
733					IE-T1	*	LOSPNR9HR	+					
734	554	6	5.12E-10	0.95438	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
735					IE-T1	*	LOSPNR9HR	+					
736	78	8	5.04E-10	0.95452	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
737					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
738	83	8	5.04E-10	0.95466	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
739					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
740	54	8	5.02E-10	0.95479	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*	
741					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
742	49	8	5.02E-10	0.95493	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*	
743					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
744	64	8	5.02E-10	0.95507	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
745					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
746	59	8	5.02E-10	0.95521	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
747					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
748	1359	5	5.00E-10	0.95535	ESF-XHE-FO-DATWS	*	HCI-TCV-HW-TCV18	*	IE-T3A	*	NR	*	
749					RPSM	+							
750	1361	5	5.00E-10	0.95549	ESF-XHE-FO-DATWS	*	HCI-CKV-HW-CV65	*	IE-T3A	*	NR	*	
751					RPSM	+							
752	1360	5	5.00E-10	0.95563	ESF-XHE-FO-DATWS	*	HCI-CKV-HW-CV32	*	IE-T3A	*	NR	*	
753					RPSM	+							
754	37	7	4.99E-10	0.95576	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*	
755					IE-T1	*	LOSPNR12HR	*	P1	+			
756	1038	8	4.98E-10	0.95590	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
757					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
758	1043	8	4.98E-10	0.95604	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
759					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
760	1393	5	4.98E-10	0.95618	BETA-2SIPUMPS	*	IE-T1	*	NR	*	RPSM	*	
761					SLC-MDP-FS-CCF	+							
762	634	7	4.98E-10	0.95631	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	BAT-DEP-3HR	*	
763					DGHWNR3HR	*	IE-T1	*	LOSPNR9HR	+			
764	643	6	4.92E-10	0.95645	ACP-DGN-RE-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
765					INJ-FAILS	*	LOSPNR13HR	+					
766	638	6	4.92E-10	0.95659	ACP-DGN-RE-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
767					INJ-FAILS	*	LOSPNR13HR	+					
768	75	8	4.91E-10	0.95672	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
769					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
770	70	8	4.91E-10	0.95686	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
771					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
772	564	6	4.90E-10	0.95699	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
773					IE-T1	*	LOSPNR9HR	+					
774	569	6	4.90E-10	0.95713	BAT-DEP-3HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	

775					IE-T1	*	LOSPNR9HR	+					
776	977	6	4.89E-10	0.95726	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
777					IE-T1	*	LOSPNR12HR	+					
778	193	8	4.80E-10	0.95740	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
779					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
780	188	8	4.80E-10	0.95753	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
781					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
782	965	8	4.78E-10	0.95766	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
783					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+	
784	35	7	4.73E-10	0.95779	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*	
785					IE-T1	*	LOSPNR7HR	*	P1	+			
786	717	7	4.66E-10	0.95792	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-MDP-FR-MDPB	*	
787					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
788	712	7	4.66E-10	0.95805	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-MDP-FR-MDPA	*	
789					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
790	587	7	4.64E-10	0.95818	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241B	*	
791					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
792	592	7	4.64E-10	0.95831	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241C	*	
793					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
794	166	6	4.63E-10	0.95843	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	INJ-FAILS	*	
795					LOSPNR13HR	*	P1	+					
796	173	6	4.63E-10	0.95856	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	INJ-FAILS	*	
797					LOSPNR13HR	*	P1	+					
798	658	6	4.62E-10	0.95869	ESW-AOV-CC-0241B	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	IE-T1	*	
799					INJ-FAILS	*	LOSPNR13HR	+					
800	668	5	4.62E-10	0.95882	EHV-SRV-CC-RV3	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*	
801					LOSPNR13HR	+							
802	663	5	4.62E-10	0.95894	EHV-SRV-CC-RV2	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*	
803					LOSPNR13HR	+							
804	674	7	4.58E-10	0.95907	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241B	*	
805					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
806	679	7	4.58E-10	0.95920	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241C	*	
807					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
808	1044	8	4.58E-10	0.95932	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
809					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
810	1039	8	4.58E-10	0.95945	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
811					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
812	693	7	4.57E-10	0.95958	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-AOV-MA-0241B	*	ESW-XHE-FO-EHS	*	
813					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
814	698	7	4.57E-10	0.95970	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-AOV-MA-0241C	*	ESW-XHE-FO-EHS	*	
815					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
816	486	5	4.54E-10	0.95983	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
817					LOSPNR9HR	+							
818	491	5	4.54E-10	0.95995	BAT-DEP-7HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
819					LOSPNR9HR	+							
820	606	7	4.54E-10	0.96008	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
821					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
822	611	7	4.54E-10	0.96020	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
823					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
824	93	6	4.44E-10	0.96033	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	INJ-FAILS	*	
825					LOSPNR13HR	*	P1	+					
826	88	6	4.44E-10	0.96045	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	INJ-FAILS	*	
827					LOSPNR13HR	*	P1	+					
828	103	8	4.38E-10	0.96057	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
829					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
830	98	8	4.38E-10	0.96069	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	

831					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+			
832	984	7	4.31E-10	0.96081	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*			
833					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+					
834	42	7	4.28E-10	0.96093	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*			
835					IE-T1	*	LOSPNR17HR	*	P1	+					
836	47	7	4.28E-10	0.96105	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*			
837					IE-T1	*	LOSPNR17HR	*	P1	+					
838	501	6	4.26E-10	0.96117	BAT-DEP-7HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*			
839					IE-T1	*	LOSPNR9HR	+							
840	496	6	4.26E-10	0.96128	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*			
841					IE-T1	*	LOSPNR9HR	+							
842	673	7	4.25E-10	0.96140	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*			
843					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+					
844	678	7	4.25E-10	0.96152	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*			
845					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+					
846	961	6	4.16E-10	0.96163	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*			
847					IE-T1	*	LOSPNR9HR	+							
848	683	6	4.16E-10	0.96175	EHV-SRV-CC-RV3	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*			
849					INJ-FAILS	*	LOSPNR13HR	+							
850	688	6	4.16E-10	0.96186	EHV-SRV-CC-RV2	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*			
851					INJ-FAILS	*	LOSPNR13HR	+							
852	545	6	4.15E-10	0.96198	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*			
853					IE-T1	*	LOSPNR7HR	+							
854	550	6	4.15E-10	0.96209	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*			
855					IE-T1	*	LOSPNR7HR	+							
856	526	7	4.09E-10	0.96221	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-AOV-CC-0241B	*			
857					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+					
858	521	6	4.09E-10	0.96232	BAT-DEP-7HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*			
859					IE-T1	*	LOSPNR9HR	+							
860	531	7	4.09E-10	0.96243	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-AOV-CC-0241C	*			
861					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+					
862	516	6	4.09E-10	0.96254	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*			
863					IE-T1	*	LOSPNR9HR	+							
864	167	8	4.01E-10	0.96265	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*			
865					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+			
866	162	8	4.01E-10	0.96277	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*			
867					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+			
868	632	7	4.01E-10	0.96288	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	EHV-SRV-CC-RV2	*			
869					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+					
870	622	7	4.01E-10	0.96299	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	EHV-SRV-CC-RV3	*			
871					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+					
872	983	7	4.01E-10	0.96310	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	HCI-TDP-FR-20S37	*			
873					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+					
874	590	7	3.98E-10	0.96321	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241C	*			
875					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+					
876	585	7	3.98E-10	0.96332	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241B	*			
877					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+					
878	649	7	3.92E-10	0.96343	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*			
879					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+					
880	654	7	3.92E-10	0.96353	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*			
881					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+					
882	84	8	3.85E-10	0.96364	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*			
883					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+			
884	79	8	3.85E-10	0.96375	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*			
885					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+			
886	62	8	3.85E-10	0.96385	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*			

887					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
888	57	8	3.85E-10	0.96396	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	
889					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
890	52	8	3.85E-10	0.96407	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*	
891					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
892	67	8	3.85E-10	0.96417	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
893					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
894	715	7	3.84E-10	0.96428	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-MDP-FR-MDPB	*	
895					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
896	710	7	3.84E-10	0.96438	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-MDP-FR-MDPA	*	
897					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
898	114	7	3.82E-10	0.96449	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
899					IE-T1	*	LOSPNR5HR	*	P1	+			
900	109	7	3.82E-10	0.96460	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
901					IE-T1	*	LOSPNR5HR	*	P1	+			
902	988	7	3.81E-10	0.96470	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FR-20S37	*	
903					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
904	993	7	3.81E-10	0.96481	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FR-20S37	*	
905					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
906	637	7	3.80E-10	0.96491	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	BAT-DEP-9HR	*	
907					DGHWNR9HR	*	IE-T1	*	LOSPNR17HR	+			
908	970	6	3.79E-10	0.96502	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
909					IE-T1	*	LOSPNR7HR	+					
910	580	6	3.79E-10	0.96512	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
911					IE-T1	*	LOSPNR7HR	+					
912	575	6	3.79E-10	0.96523	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
913					IE-T1	*	LOSPNR7HR	+					
914	602	6	3.78E-10	0.96533	BAT-DEP-9HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
915					IE-T1	*	LOSPNR17HR	+					
916	597	6	3.78E-10	0.96543	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
917					IE-T1	*	LOSPNR17HR	+					
918	1385	5	3.78E-10	0.96554	BETA-2SIPUMPS	*	IE-T3B	*	NR	*	RPSM	*	
919					SLC-MDP-FS-CCF	+							
920	703	6	3.74E-10	0.96564	ESW-MDP-FR-MDPA	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
921					INJ-FAILS	*	LOSPNR18HR	+					
922	189	8	3.67E-10	0.96574	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPB	*	
923					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
924	194	8	3.67E-10	0.96585	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPA	*	
925					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
926	998	8	3.65E-10	0.96595	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
927					HCI-TDP-MA-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
928	724	7	3.58E-10	0.96605	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	EHV-SRV-CC-RV2	*	
929					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
930	719	7	3.58E-10	0.96614	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	EHV-SRV-CC-RV3	*	
931					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
932	599	6	3.58E-10	0.96624	BAT-DEP-3HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
933					IE-T1	*	LOSPNR9HR	+					
934	594	6	3.58E-10	0.96634	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
935					IE-T1	*	LOSPNR9HR	+					
936	1003	8	3.57E-10	0.96644	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
937					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
938	1008	8	3.57E-10	0.96654	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
939					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
940	535	5	3.55E-10	0.96664	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	
941					LOSPNR12HR	+							
942	540	5	3.55E-10	0.96674	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	

943					LOSPNR12HR	+							
944	113	7	3.55E-10	0.96683	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
945					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
946	106	7	3.55E-10	0.96693	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
947					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
948	699	7	3.49E-10	0.96703	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-MA-0241C	*	
949					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
950	694	7	3.49E-10	0.96713	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-MA-0241B	*	
951					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
952	975	6	3.47E-10	0.96722	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
953					IE-T1	*	LOSPNR7HR	+					
954	627	6	3.46E-10	0.96732	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
955					IE-T1	*	LOSPNR17HR	+					
956	617	6	3.46E-10	0.96741	BAT-DEP-9HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
957					IE-T1	*	LOSPNR17HR	+					
958	1013	6	3.43E-10	0.96751	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
959					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
960	1023	6	3.43E-10	0.96760	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
961					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
962	1018	6	3.43E-10	0.96770	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
963					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
964	1028	6	3.43E-10	0.96779	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
965					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
966	979	6	3.41E-10	0.96788	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
967					IE-T1	*	LOSPNR5HR	+					
968	104	6	3.35E-10	0.96798	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
969					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
970	99	6	3.35E-10	0.96807	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
971					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
972	560	6	3.34E-10	0.96816	BAT-DEP-5HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
973					IE-T1	*	LOSPNR12HR	+					
974	555	6	3.34E-10	0.96825	BAT-DEP-5HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
975					IE-T1	*	LOSPNR12HR	+					
976	723	7	3.33E-10	0.96835	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	EHV-SRV-CC-RV2	*	ESW-XHE-FO-EHS	*	
977					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
978	718	7	3.33E-10	0.96844	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	EHV-SRV-CC-RV3	*	ESW-XHE-FO-EHS	*	
979					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
980	986	6	3.27E-10	0.96853	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
981					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR14HR	+	
982	76	6	3.27E-10	0.96862	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
983					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
984	71	6	3.27E-10	0.96871	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
985					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
986	614	6	3.27E-10	0.96880	BAT-DEP-3HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
987					IE-T1	*	LOSPNR9HR	+					
988	624	6	3.27E-10	0.96889	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
989					IE-T1	*	LOSPNR9HR	+					
990	233	6	3.24E-10	0.96898	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	INJ-FAILS	*	
991					LOSPNR13HR	*	P1	+					
992	228	6	3.24E-10	0.96907	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	INJ-FAILS	*	
993					LOSPNR13HR	*	P1	+					
994	982	6	3.20E-10	0.96916	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
995					IE-T1	*	LOSPNR12HR	+					
996	570	6	3.20E-10	0.96925	BAT-DEP-5HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
997					IE-T1	*	LOSPNR12HR	+					
998	565	6	3.20E-10	0.96933	BAT-DEP-5HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	

999					IE-T1	*	LOSPNR12HR	+					
1000	642	6	3.19E-10	0.96942	ACP-DGN-RE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
1001					IE-T1	*	LOSPNR12HR	+					
1002	647	6	3.19E-10	0.96951	ACP-DGN-RE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
1003					IE-T1	*	LOSPNR12HR	+					
1004	40	7	3.18E-10	0.96960	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
1005					IE-T1	*	LOSPNR12HR	*	P1	+			
1006	45	7	3.18E-10	0.96969	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
1007					IE-T1	*	LOSPNR12HR	*	P1	+			
1008	1369	5	3.15E-10	0.96977	BETA-2SIPUMPS	*	IE-T2	*	NR	*	RPSM	*	
1009					SLC-MDP-FS-CCF	+							
1010	733	6	3.11E-10	0.96986	ESW-AOV-CC-0241C	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
1011					INJ-FAILS	*	LOSPNR18HR	+					
1012	728	6	3.11E-10	0.96995	ESW-AOV-CC-0241B	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
1013					INJ-FAILS	*	LOSPNR18HR	+					
1014	1047	8	3.11E-10	0.97003	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
1015					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1016	1042	8	3.11E-10	0.97012	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
1017					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1018	743	5	3.08E-10	0.97020	ESW-AOV-MA-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*	
1019					LOSPNR13HR	+							
1020	738	5	3.08E-10	0.97029	ESW-AOV-MA-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*	
1021					LOSPNR13HR	+							
1022	640	6	3.02E-10	0.97037	ACP-DGN-RE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*	
1023					IE-T1	*	LOSPNR7HR	+					
1024	645	6	3.02E-10	0.97046	ACP-DGN-RE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*	
1025					IE-T1	*	LOSPNR7HR	+					
1026	652	7	3.01E-10	0.97054	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPB	*	
1027					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
1028	657	7	3.01E-10	0.97062	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPA	*	
1029					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
1030	3	4	3.00E-10	0.97070	ESF-ASP-FC-PL52C	*	ESF-ASP-FC-PL52D	*	IE-S1	*	NR	+	
1031	2	4	3.00E-10	0.97079	ESF-ASP-FC-PL52A	*	ESF-ASP-FC-PL52B	*	IE-S1	*	NR	+	
1032	15	6	3.00E-10	0.97087	ESF-XHE-FO-HSWIN	*	ESW-CKV-HW-CV513	*	IE-T3B	*	NR	*	
1033					NSW-SYS-FO-NSW-1	*	P2	+					
1034	165	8	2.99E-10	0.97095	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGB	*	
1035					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1036	160	8	2.99E-10	0.97104	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGC	*	
1037					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1038	1183	8	2.99E-10	0.97112	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
1039					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1040	1178	8	2.99E-10	0.97120	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
1041					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1042	620	7	2.99E-10	0.97128	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	EHV-SRV-CC-RV3	*	
1043					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1044	630	7	2.99E-10	0.97137	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	EHV-SRV-CC-RV2	*	
1045					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1046	551	6	2.98E-10	0.97145	BAT-DEP-7HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
1047					IE-T1	*	LOSPNR9HR	+					
1048	546	6	2.98E-10	0.97153	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
1049					IE-T1	*	LOSPNR9HR	+					
1050	118	6	2.96E-10	0.97161	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	INJ-FAILS	*	
1051					LOSPNR13HR	*	P1	+					
1052	123	6	2.96E-10	0.97169	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	INJ-FAILS	*	
1053					LOSPNR13HR	*	P1	+					
1054	82	8	2.95E-10	0.97178	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	

1055					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
1056	87	8	2.95E-10	0.97186	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
1057					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
1058	994	7	2.91E-10	0.97194	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*	
1059					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+			
1060	989	7	2.91E-10	0.97202	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*	
1061					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+			
1062	80	8	2.87E-10	0.97210	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
1063					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1064	55	8	2.87E-10	0.97218	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPA	*	
1065					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1066	50	8	2.87E-10	0.97226	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPB	*	
1067					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1068	65	8	2.87E-10	0.97233	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
1069					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1070	803	7	2.87E-10	0.97241	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
1071					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1072	798	7	2.87E-10	0.97249	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
1073					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1074	174	6	2.85E-10	0.97257	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
1075					LOSPNR5HR	*	P1	+					
1076	169	6	2.85E-10	0.97265	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
1077					LOSPNR5HR	*	P1	+					
1078	664	5	2.84E-10	0.97273	BAT-DEP-3HR	*	EHV-SRV-CC-RV2	*	ESW-CKV-CB-C515A	*	IE-T1	*	
1079					LOSPNR5HR	+							
1080	669	5	2.84E-10	0.97281	BAT-DEP-3HR	*	EHV-SRV-CC-RV3	*	ESW-CKV-CB-C515B	*	IE-T1	*	
1081					LOSPNR5HR	+							
1082	659	6	2.84E-10	0.97289	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
1083					IE-T1	*	LOSPNR5HR	+					
1084	541	5	2.84E-10	0.97298	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	
1085					LOSPNR14HR	+							
1086	536	5	2.84E-10	0.97304	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	
1087					LOSPNR14HR	+							
1088	36	7	2.83E-10	0.97312	ACP-DGN-LP-CCF	*	BAT-DEP-7HR	*	BETA-4DGNS	*	DGCCFNR7HR	*	
1089					IE-T1	*	LOSPNR9HR	*	P1	+			
1090	635	7	2.83E-10	0.97320	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	BAT-DEP-5HR	*	
1091					DGHWNR5HR	*	IE-T1	*	LOSPNR12HR	+			
1092	1033	6	2.82E-10	0.97328	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*	IE-T1	*	
1093					INJ-FAILS	*	LOSPNR13HR	+					
1094	197	8	2.81E-10	0.97336	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPA	*	
1095					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
1096	192	8	2.81E-10	0.97343	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPB	*	
1097					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
1098	999	8	2.79E-10	0.97351	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
1099					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR9HR	+	
1100	753	6	2.77E-10	0.97359	EHV-SRV-CC-RV3	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
1101					INJ-FAILS	*	LOSPNR13HR	+					
1102	748	6	2.77E-10	0.97366	EHV-SRV-CC-RV2	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
1103					INJ-FAILS	*	LOSPNR13HR	+					
1104	682	7	2.76E-10	0.97374	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-AOV-CC-0241C	*	
1105					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1106	677	7	2.76E-10	0.97382	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-AOV-CC-0241B	*	
1107					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1108	1184	8	2.75E-10	0.97389	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
1109					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
1110	1179	8	2.75E-10	0.97397	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	

1111					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
1112	94	6	2.73E-10	0.97404	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
1113					LOSPNR5HR	*	P1	+					
1114	89	6	2.73E-10	0.97412	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
1115					LOSPNR5HR	*	P1	+					
1116	1009	8	2.73E-10	0.97419	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*	
1117					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1118	1006	8	2.73E-10	0.97427	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*	
1119					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1120	971	6	2.72E-10	0.97434	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
1121					IE-T1	*	LOSPNR9HR	+					
1122	576	6	2.72E-10	0.97442	BAT-DEP-7HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
1123					IE-T1	*	LOSPNR9HR	+					
1124	581	6	2.72E-10	0.97449	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
1125					IE-T1	*	LOSPNR9HR	+					
1126	702	7	2.67E-10	0.97457	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-MA-0241C	*	
1127					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
1128	697	7	2.67E-10	0.97464	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-MA-0241B	*	
1129					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
1130	177	6	2.67E-10	0.97472	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
1131					LOSPNR12HR	*	P1	+					
1132	172	6	2.67E-10	0.97479	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
1133					LOSPNR12HR	*	P1	+					
1134	561	6	2.67E-10	0.97486	BAT-DEP-7HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
1135					IE-T1	*	LOSPNR14HR	+					
1136	556	6	2.67E-10	0.97494	BAT-DEP-7HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
1137					IE-T1	*	LOSPNR14HR	+					
1138	662	6	2.67E-10	0.97501	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
1139					IE-T1	*	LOSPNR12HR	+					
1140	672	5	2.67E-10	0.97509	BAT-DEP-9HR	*	EHV-SRV-CC-RV3	*	ESW-CKV-CB-C515B	*	IE-T1	*	
1141					LOSPNR12HR	+							
1142	667	5	2.67E-10	0.97516	BAT-DEP-9HR	*	EHV-SRV-CC-RV2	*	ESW-CKV-CB-C515A	*	IE-T1	*	
1143					LOSPNR12HR	+							
1144	804	7	2.63E-10	0.97523	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-MDP-FR-MDPA	*	
1145					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
1146	799	7	2.63E-10	0.97530	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-MDP-FR-MDPB	*	
1147					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
1148	143	8	2.63E-10	0.97538	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
1149					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
1150	138	8	2.63E-10	0.97545	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
1151					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
1152	680	7	2.62E-10	0.97552	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-AOV-CC-0241C	*	
1153					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
1154	675	7	2.62E-10	0.97559	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-AOV-CC-0241B	*	
1155					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
1156	1019	8	2.62E-10	0.97567	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
1157					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1158	1014	8	2.62E-10	0.97574	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*	
1159					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1160	1029	8	2.62E-10	0.97581	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*	
1161					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1162	1024	8	2.62E-10	0.97588	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
1163					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1164	987	7	2.60E-10	0.97596	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*	
1165					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+			
1166	1069	7	2.59E-10	0.97603	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*	

1167					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR5HR	+			
1168	107	8	2.57E-10	0.97610	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*	
1169					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
1170	102	8	2.57E-10	0.97617	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*	
1171					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
1172	97	6	2.56E-10	0.97624	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
1173					LOSPNR12HR	*	P1	+					
1174	92	6	2.56E-10	0.97631	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
1175					LOSPNR12HR	*	P1	+					
1176	689	6	2.56E-10	0.97638	BAT-DEP-3HR	*	EHV-SRV-CC-RV2	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
1177					IE-T1	*	LOSPNR5HR	+					
1178	684	6	2.56E-10	0.97645	BAT-DEP-3HR	*	EHV-SRV-CC-RV3	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
1179					IE-T1	*	LOSPNR5HR	+					
1180	566	6	2.56E-10	0.97652	BAT-DEP-7HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
1181					IE-T1	*	LOSPNR14HR	+					
1182	571	6	2.56E-10	0.97659	BAT-DEP-7HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
1183					IE-T1	*	LOSPNR14HR	+					
1184	716	7	2.56E-10	0.97666	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-MDP-FR-MDPB	*	
1185					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
1186	711	7	2.56E-10	0.97673	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-MDP-FR-MDPA	*	
1187					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
1188	1045	8	2.56E-10	0.97680	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
1189					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
1190	1040	8	2.56E-10	0.97688	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
1191					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
1192	1088	8	2.50E-10	0.97694	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
1193					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1194	1083	8	2.50E-10	0.97701	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
1195					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1196	976	6	2.50E-10	0.97708	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
1197					IE-T1	*	LOSPNR9HR	+					
1198	985	7	2.46E-10	0.97715	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*	
1199					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR7HR	+			
1200	591	7	2.45E-10	0.97722	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-CC-0241C	*	
1201					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
1202	586	7	2.45E-10	0.97729	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-CC-0241B	*	
1203					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
1204	1048	8	2.44E-10	0.97735	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
1205					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+	
1206	1058	8	2.44E-10	0.97742	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
1207					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+	
1208	1053	8	2.44E-10	0.97749	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
1209					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+	
1210	1063	8	2.44E-10	0.97756	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
1211					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+	
1212	133	7	2.44E-10	0.97762	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
1213					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
1214	128	7	2.44E-10	0.97769	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
1215					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
1216	778	7	2.44E-10	0.97776	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGD	*	DGHWNR12HR	*	
1217					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1218	773	7	2.44E-10	0.97783	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	ACP-DGN-MA-EDGB	*	DGHWNR12HR	*	
1219					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1220	768	7	2.44E-10	0.97789	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGD	*	ACP-DGN-MA-EDGC	*	DGHWNR12HR	*	
1221					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1222	1068	7	2.40E-10	0.97796	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	HCI-TDP-FS-20S37	*	

1223					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1224	692	6	2.40E-10	0.97803	BAT-DEP-9HR	*	EHV-SRV-CC-RV2	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
1225					IE-T1	*	LOSPNR12HR	+					
1226	687	6	2.40E-10	0.97809	BAT-DEP-9HR	*	EHV-SRV-CC-RV3	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
1227					IE-T1	*	LOSPNR12HR	+					
1228	600	6	2.33E-10	0.97816	BAT-DEP-5HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
1229					IE-T1	*	LOSPNR12HR	+					
1230	595	6	2.33E-10	0.97822	BAT-DEP-5HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
1231					IE-T1	*	LOSPNR12HR	+					
1232	1078	6	2.31E-10	0.97828	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FR-20S37	*	IE-T1	*	
1233					INJ-FAILS	*	LOSPNR13HR	+					
1234	1073	6	2.31E-10	0.97835	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FR-20S37	*	IE-T1	*	
1235					INJ-FAILS	*	LOSPNR13HR	+					
1236	117	7	2.30E-10	0.97841	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
1237					IE-T1	*	LOSPNR12HR	*	P1	+			
1238	112	7	2.30E-10	0.97848	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
1239					IE-T1	*	LOSPNR12HR	*	P1	+			
1240	763	7	2.29E-10	0.97854	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	EHV-SRV-CC-RV2	*	ESW-XHE-FO-EHS	*	
1241					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1242	758	7	2.29E-10	0.97860	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	EHV-SRV-CC-RV3	*	ESW-XHE-FO-EHS	*	
1243					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1244	1093	8	2.28E-10	0.97867	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
1245					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1246	1098	8	2.28E-10	0.97873	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
1247					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1248	1108	7	2.28E-10	0.97879	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FS-20S37	*	
1249					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1250	788	7	2.28E-10	0.97885	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-HW-C515A	*	ESW-XHE-FO-EHS	*	
1251					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1252	783	7	2.28E-10	0.97892	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-HW-C515B	*	ESW-XHE-FO-EHS	*	
1253					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1254	1103	7	2.28E-10	0.97898	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FS-20S37	*	
1255					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1256	980	6	2.27E-10	0.97904	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
1257					IE-T1	*	LOSPNR7HR	+					
1258	655	7	2.24E-10	0.97911	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPA	*	
1259					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1260	650	7	2.24E-10	0.97917	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPB	*	
1261					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1262	997	7	2.23E-10	0.97923	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
1263					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+			
1264	992	7	2.23E-10	0.97929	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
1265					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+			
1266	85	8	2.20E-10	0.97935	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
1267					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1268	80	8	2.20E-10	0.97941	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
1269					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1270	148	8	2.19E-10	0.97947	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
1271					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
1272	153	8	2.19E-10	0.97953	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
1273					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
1274	41	7	2.18E-10	0.97959	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*	
1275					IE-T1	*	LOSPNR14HR	*	P1	+			
1276	46	7	2.18E-10	0.97965	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*	
1277					IE-T1	*	LOSPNR14HR	*	P1	+			
1278	134	7	2.18E-10	0.97971	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*	

1279					IE-T1	*	LOSPNR5HR	*	P1	+			
1280	129	7	2.18E-10	0.97977	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*	
1281					IE-T1	*	LOSPNR5HR	*	P1	+			
1282	115	7	2.18E-10	0.97983	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*	
1283					IE-T1	*	LOSPNR7HR	*	P1	+			
1284	110	7	2.18E-10	0.97990	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*	
1285					IE-T1	*	LOSPNR7HR	*	P1	+			
1286	1064	8	2.18E-10	0.97996	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
1287					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR5HR	+	
1288	1059	8	2.18E-10	0.98002	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*	
1289					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+	
1290	1054	8	2.18E-10	0.98008	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
1291					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR5HR	+	
1292	1049	8	2.18E-10	0.98014	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*	
1293					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+	
1294	727	7	2.18E-10	0.98020	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	EHV-SRV-CC-RV2	*	
1295					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1296	722	7	2.18E-10	0.98026	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	EHV-SRV-CC-RV3	*	
1297					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1298	1118	8	2.14E-10	0.98031	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
1299					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1300	1113	8	2.14E-10	0.98037	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
1301					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1302	1002	8	2.14E-10	0.98043	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
1303					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR17HR	+	
1304	625	6	2.13E-10	0.98049	BAT-DEP-5HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
1305					IE-T1	*	LOSPNR12HR	+					
1306	615	6	2.13E-10	0.98055	BAT-DEP-5HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
1307					IE-T1	*	LOSPNR12HR	+					
1308	195	8	2.09E-10	0.98061	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPA	*	
1309					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1310	190	8	2.09E-10	0.98067	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPB	*	
1311					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1312	1012	8	2.09E-10	0.98072	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*	
1313					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1314	1007	8	2.09E-10	0.98078	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*	
1315					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1316	707	6	2.07E-10	0.98084	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
1317					IE-T1	*	LOSPNR17HR	+					
1318	1123	8	2.06E-10	0.98090	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
1319					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1320	1128	8	2.06E-10	0.98095	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
1321					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1322	1133	8	2.06E-10	0.98101	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
1323					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1324	1138	8	2.06E-10	0.98107	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
1325					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1326	166	8	2.05E-10	0.98112	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGB	*	
1327					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1328	161	8	2.05E-10	0.98116	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGC	*	
1329					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1330	725	7	2.05E-10	0.98124	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	EHV-SRV-CC-RV2	*	
1331					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
1332	720	7	2.05E-10	0.98129	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	EHV-SRV-CC-RV3	*	
1333					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
1334	621	7	2.05E-10	0.98135	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	EHV-SRV-CC-RV3	*	

1335					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
1336	764	7	2.05E-10	0.98141	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	EHV-SRV-CC-RV2	*	
1337					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
1338	759	7	2.05E-10	0.98146	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	EHV-SRV-CC-RV3	*	
1339					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
1340	631	7	2.05E-10	0.98152	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	EHV-SRV-CC-RV2	*	
1341					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
1342	144	8	2.01E-10	0.98158	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*	
1343					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
1344	139	8	2.01E-10	0.98163	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*	
1345					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
1346	1022	8	2.00E-10	0.98169	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
1347					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1348	1017	8	2.00E-10	0.98174	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*	
1349					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1350	1032	8	2.00E-10	0.98180	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	
1351					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1352	1027	8	2.00E-10	0.98185	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
1353					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1354	234	6	1.99E-10	0.98191	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
1355					LOSPNR5HR	*	P1	+					
1356	229	6	1.99E-10	0.98196	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
1357					LOSPNR5HR	*	P1	+					
1358	700	7	1.99E-10	0.98202	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-MA-0241C	*	
1359					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1360	695	7	1.99E-10	0.98207	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-MA-0241B	*	
1361					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1362	1149	7	1.99E-10	0.98213	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
1363					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+			
1364	1154	7	1.99E-10	0.98218	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
1365					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+			
1366	793	7	1.98E-10	0.98224	ACP-DGN-FR-EDGD	*	BETA-2SWPS	*	DGHWNR12HR	*	ESW-MDP-FS-CCF	*	
1367					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1368	56	6	1.96E-10	0.98229	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPA	*	
1369					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1370	51	6	1.96E-10	0.98235	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPB	*	
1371					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1372	61	6	1.96E-10	0.98240	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
1373					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1374	66	6	1.96E-10	0.98245	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
1375					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1376	704	6	1.96E-10	0.98251	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
1377					IE-T1	*	LOSPNR9HR	+					
1378	636	7	1.94E-10	0.98256	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	BAT-DEP-7HR	*	
1379					DGHWNR7HR	*	IE-T1	*	LOSPNR14HR	+			
1380	105	8	1.91E-10	0.98261	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPA	*	
1381					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1382	100	8	1.91E-10	0.98267	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPB	*	
1383					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
1384	1159	8	1.91E-10	0.98272	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
1385					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR5HR	+	
1386	1164	8	1.91E-10	0.98277	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
1387					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR5HR	+	
1388	1253	8	1.91E-10	0.98283	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
1389					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1390	1248	8	1.91E-10	0.98288	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	

1391					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
1392	1089	8	1.91E-10	0.98293	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPA	*	
1393					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1394	1084	8	1.91E-10	0.98298	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPB	*	
1395					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1396	1372	4	1.90E-10	0.98304	IE-T3C	*	NR	*	RPSM	*	SLC-CKV-HW-CV16	+	
1397	1371	4	1.90E-10	0.98309	IE-T3C	*	NR	*	RPSM	*	SLC-CKV-HW-CV17	+	
1398	175	6	1.90E-10	0.98314	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
1399					LOSPNR7HR	*	P1	+					
1400	170	6	1.90E-10	0.98319	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
1401					LOSPNR7HR	*	P1	+					
1402	670	5	1.90E-10	0.98325	BAT-DEP-5HR	*	EHV-SRV-CC-RV3	*	ESW-CKV-CB-C515B	*	IE-T1	*	
1403					LOSPNR7HR	+							
1404	665	5	1.90E-10	0.98330	BAT-DEP-5HR	*	EHV-SRV-CC-RV2	*	ESW-CKV-CB-C515A	*	IE-T1	*	
1405					LOSPNR7HR	+							
1406	660	6	1.90E-10	0.98335	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
1407					IE-T1	*	LOSPNR7HR	+					
1408	744	5	1.90E-10	0.98340	BAT-DEP-3HR	*	ESW-AOV-MA-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
1409					LOSPNR5HR	+							
1410	739	5	1.90E-10	0.98346	BAT-DEP-3HR	*	ESW-AOV-MA-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
1411					LOSPNR5HR	+							
1412	237	6	1.87E-10	0.98351	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
1413					LOSPNR12HR	*	P1	+					
1414	232	6	1.87E-10	0.98356	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
1415					LOSPNR12HR	*	P1	+					
1416	596	6	1.87E-10	0.98361	BAT-DEP-7HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
1417					IE-T1	*	LOSPNR14HR	+					
1418	601	6	1.87E-10	0.98366	BAT-DEP-7HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
1419					IE-T1	*	LOSPNR14HR	+					
1420	1187	8	1.87E-10	0.98371	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
1421					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
1422	1182	8	1.87E-10	0.98377	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
1423					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
1424	779	7	1.86E-10	0.98382	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGD	*	BAT-DEP-3HR	*	
1425					DGHWNR3HR	*	IE-T1	*	LOSPNR9HR	+			
1426	774	7	1.86E-10	0.98387	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	
1427					DGHWNR3HR	*	IE-T1	*	LOSPNR9HR	+			
1428	769	7	1.86E-10	0.98392	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGD	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	
1429					DGHWNR3HR	*	IE-T1	*	LOSPNR9HR	+			
1430	1153	7	1.85E-10	0.98397	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FR-20S37	*	
1431					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1432	1148	7	1.85E-10	0.98402	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FR-20S37	*	
1433					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1434	1143	6	1.85E-10	0.98407	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*	IE-T1	*	
1435					INJ-FAILS	*	LOSPNR13HR	+					
1436	95	6	1.82E-10	0.98412	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
1437					LOSPNR7HR	*	P1	+					
1438	90	6	1.82E-10	0.98417	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
1439					LOSPNR7HR	*	P1	+					
1440	124	6	1.82E-10	0.98422	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
1441					LOSPNR5HR	*	P1	+					
1442	119	6	1.82E-10	0.98427	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
1443					LOSPNR5HR	*	P1	+					
1444	646	6	1.81E-10	0.98432	ACP-DGN-RE-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515A	*	
1445					IE-T1	*	LOSPNR9HR	+					
1446	641	6	1.81E-10	0.98437	ACP-DGN-RE-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515B	*	

1447					IE-T1	*	LOSPNR9HR	+					
1448	807	7	1.79E-10	0.98442	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-MDP-FR-MDPA	*	
1449					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
1450	802	7	1.79E-10	0.98447	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-MDP-FR-MDPB	*	
1451					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
1452	747	5	1.78E-10	0.98452	BAT-DEP-9HR	*	ESW-AOV-MA-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
1453					LOSPNR12HR	+							
1454	742	5	1.78E-10	0.98457	BAT-DEP-9HR	*	ESW-AOV-MA-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
1455					LOSPNR12HR	+							
1456	1163	8	1.77E-10	0.98462	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
1457					HCI-TDP-MA-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+	
1458	1158	8	1.77E-10	0.98467	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
1459					HCI-TDP-MA-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+	
1460	1254	8	1.75E-10	0.98472	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
1461					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1462	1249	8	1.75E-10	0.98477	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
1463					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1464	1109	7	1.74E-10	0.98481	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*	
1465					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+			
1466	1104	7	1.74E-10	0.98486	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*	
1467					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+			
1468	1099	8	1.74E-10	0.98491	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
1469					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1470	1094	8	1.74E-10	0.98496	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
1471					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
1472	789	7	1.74E-10	0.98501	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-HW-C515A	*	
1473					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
1474	784	7	1.74E-10	0.98506	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-HW-C515B	*	
1475					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
1476	1034	6	1.74E-10	0.98510	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*	
1477					IE-T1	*	LOSPNR5HR	+					
1478	737	6	1.73E-10	0.98515	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
1479					IE-T1	*	LOSPNR17HR	+					
1480	732	6	1.73E-10	0.98520	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
1481					IE-T1	*	LOSPNR17HR	+					
1482	127	6	1.71E-10	0.98525	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
1483					LOSPNR12HR	*	P1	+					
1484	122	6	1.71E-10	0.98529	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
1485					LOSPNR12HR	*	P1	+					
1486	690	6	1.71E-10	0.98534	BAT-DEP-5HR	*	EHV-SRV-CC-RV2	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
1487					IE-T1	*	LOSPNR7HR	+					
1488	685	6	1.71E-10	0.98539	BAT-DEP-5HR	*	EHV-SRV-CC-RV3	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
1489					IE-T1	*	LOSPNR7HR	+					
1490	754	6	1.71E-10	0.98543	BAT-DEP-3HR	*	EHV-SRV-CC-RV3	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
1491					IE-T1	*	LOSPNR5HR	+					
1492	749	6	1.71E-10	0.98548	BAT-DEP-3HR	*	EHV-SRV-CC-RV2	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
1493					IE-T1	*	LOSPNR5HR	+					
1494	626	6	1.71E-10	0.98553	BAT-DEP-7HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
1495					IE-T1	*	LOSPNR14HR	+					
1496	616	6	1.71E-10	0.98558	BAT-DEP-7HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
1497					IE-T1	*	LOSPNR14HR	+					
1498	1046	8	1.71E-10	0.98562	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
1499					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+	
1500	1041	8	1.71E-10	0.98567	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
1501					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+	
1502	154	8	1.67E-10	0.98572	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241B	*	

1503					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
1504	149	8	1.67E-10	0.98576	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241C	*
1505					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
1506	995	7	1.66E-10	0.98581	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*
1507					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+		
1508	990	7	1.66E-10	0.98585	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*
1509					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+		
1510	1119	8	1.64E-10	0.98590	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*
1511					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
1512	1114	8	1.64E-10	0.98595	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*
1513					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
1514	734	8	1.63E-10	0.98599	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*
1515					IE-T1	*	LOSPNR9HR	+				
1516	729	6	1.63E-10	0.98604	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*
1517					IE-T1	*	LOSPNR9HR	+				
1518	981	6	1.63E-10	0.98608	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
1519					IE-T1	*	LOSPNR9HR	+				
1520	1037	6	1.63E-10	0.98613	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*
1521					IE-T1	*	LOSPNR12HR	+				
1522	757	6	1.60E-10	0.98617	BAT-DEP-9HR	*	EHV-SRV-CC-RV3	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*
1523					IE-T1	*	LOSPNR12HR	+				
1524	752	6	1.60E-10	0.98621	BAT-DEP-9HR	*	EHV-SRV-CC-RV2	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*
1525					IE-T1	*	LOSPNR12HR	+				
1526	1000	8	1.59E-10	0.98626	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
1527					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR12HR	+
1528	8	5	1.58E-10	0.98630	ESF-ASP-FC-PL52A	*	ESF-ASP-FC-PL52B	*	IE-T1	*	NR	*
1529					P2	+						
1530	9	5	1.58E-10	0.98635	ESF-ASP-FC-PL52C	*	ESF-ASP-FC-PL52D	*	IE-T1	*	NR	*
1531					P2	+						
1532	1129	8	1.57E-10	0.98639	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*
1533					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
1534	1124	8	1.57E-10	0.98643	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*
1535					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
1536	1139	8	1.57E-10	0.98648	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*
1537					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
1538	1134	8	1.57E-10	0.98652	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
1539					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
1540	681	7	1.57E-10	0.98656	ACP-DGN-TE-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-AOV-CC-0241C	*
1541					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
1542	676	7	1.57E-10	0.98661	ACP-DGN-TE-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-AOV-CC-0241B	*
1543					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
1544	1072	7	1.56E-10	0.98665	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*
1545					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+		
1546	1010	8	1.56E-10	0.98669	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGB	*
1547					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
1548	1005	8	1.56E-10	0.98673	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGC	*
1549					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
1550	1173	6	1.54E-10	0.98678	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	HCI-TDP-FR-20S37	*	IE-T1	*
1551					INJ-FAILS	*	LOSPNR13HR	+				
1552	1168	6	1.54E-10	0.98682	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	HCI-TDP-FR-20S37	*	IE-T1	*
1553					INJ-FAILS	*	LOSPNR13HR	+				
1554	147	8	1.54E-10	0.98686	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPB	*
1555					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
1556	142	8	1.54E-10	0.98691	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPA	*
1557					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
1558	656	7	1.54E-10	0.98695	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPA	*

1559					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
1560	651	7	1.54E-10	0.98699	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPB	*	
1561					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
1562	1185	8	1.54E-10	0.98703	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
1563					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+	
1564	1180	8	1.54E-10	0.98707	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
1565					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+	
1566	794	7	1.51E-10	0.98712	ACP-DGN-FR-EDGD	*	BAT-DEP-3HR	*	BETA-2SWPS	*	DGHWNR3HR	*	
1567					ESW-MDP-FS-CCF	*	IE-T1	*	LOSPNR9HR	+			
1568	86	8	1.51E-10	0.98716	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
1569					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1570	81	8	1.51E-10	0.98720	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
1571					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1572	1020	8	1.49E-10	0.98724	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
1573					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
1574	1015	8	1.49E-10	0.98728	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPB	*	
1575					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
1576	1030	8	1.49E-10	0.98732	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPA	*	
1577					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
1578	1025	8	1.49E-10	0.98736	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
1579					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
1580	1062	8	1.48E-10	0.98741	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPB	*	
1581					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
1582	1052	8	1.48E-10	0.98745	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPA	*	
1583					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
1584	137	7	1.48E-10	0.98749	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
1585					IE-T1	*	LOSPNR12HR	*	P1	+			
1586	1067	8	1.48E-10	0.98753	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*	
1587					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+	
1588	132	7	1.48E-10	0.98757	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
1589					IE-T1	*	LOSPNR12HR	*	P1	+			
1590	1057	8	1.48E-10	0.98761	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*	
1591					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+	
1592	183	6	1.48E-10	0.98765	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*	
1593					LOSPNR13HR	*	P1	+					
1594	178	6	1.48E-10	0.98769	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*	
1595					LOSPNR13HR	*	P1	+					
1596	1070	7	1.48E-10	0.98773	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*	
1597					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR7HR	+			
1598	986	7	1.48E-10	0.98777	ACP-DGN-LP-CCF	*	BAT-DEP-7HR	*	BETA-4DGNS	*	DGCCFNR7HR	*	
1599					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+			
1600	805	7	1.47E-10	0.98781	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-MDP-FR-MDPA	*	
1601					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1602	800	7	1.47E-10	0.98786	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-MDP-FR-MDPB	*	
1603					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1604	204	7	1.46E-10	0.98790	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
1605					IE-T1	*	LOSPNR5HR	*	P1	+			
1606	199	7	1.46E-10	0.98794	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
1607					IE-T1	*	LOSPNR5HR	*	P1	+			
1608	1087	8	1.46E-10	0.98798	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPB	*	
1609					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1610	1092	8	1.46E-10	0.98802	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPA	*	
1611					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1612	196	8	1.43E-10	0.98806	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPA	*	
1613					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1614	191	8	1.43E-10	0.98810	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPB	*	

1615					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1616	782	7	1.43E-10	0.98814	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGD	*	BAT-DEP-9HR	*	
1617					DGHWNR9HR	*	IE-T1	*	LOSPNR17HR	+			
1618	777	7	1.43E-10	0.98818	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	
1619					DGHWNR9HR	*	IE-T1	*	LOSPNR17HR	+			
1620	772	7	1.43E-10	0.98821	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGD	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	
1621					DGHWNR9HR	*	IE-T1	*	LOSPNR17HR	+			
1622	1079	6	1.42E-10	0.98825	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FR-20S37	*	
1623					IE-T1	*	LOSPNR5HR	+					
1624	1074	6	1.42E-10	0.98829	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FR-20S37	*	
1625					IE-T1	*	LOSPNR5HR	+					
1626	767	7	1.39E-10	0.98833	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	EHV-SRV-CC-RV2	*	
1627					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1628	762	7	1.39E-10	0.98837	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	EHV-SRV-CC-RV3	*	
1629					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
1630	1193	6	1.39E-10	0.98841	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FS-20S37	*	IE-T1	*	
1631					INJ-FAILS	*	LOSPNR13HR	+					
1632	1188	6	1.39E-10	0.98845	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FS-20S37	*	IE-T1	*	
1633					INJ-FAILS	*	LOSPNR13HR	+					
1634	814	7	1.37E-10	0.98848	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	EHV-SRV-CC-RV3	*	
1635					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
1636	809	7	1.37E-10	0.98852	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	EHV-SRV-CC-RV2	*	
1637					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
1638	701	7	1.36E-10	0.98856	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-MA-0241C	*	
1639					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
1640	696	7	1.36E-10	0.98860	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-MA-0241B	*	
1641					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
1642	176	6	1.36E-10	0.98864	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
1643					LOSPNR9HR	*	P1	+					
1644	171	6	1.36E-10	0.98867	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
1645					LOSPNR9HR	*	P1	+					
1646	671	5	1.36E-10	0.98871	BAT-DEP-7HR	*	EHV-SRV-CC-RV3	*	ESW-CKV-CB-C515B	*	IE-T1	*	
1647					LOSPNR9HR	+							
1648	666	5	1.36E-10	0.98875	BAT-DEP-7HR	*	EHV-SRV-CC-RV2	*	ESW-CKV-CB-C515A	*	IE-T1	*	
1649					LOSPNR9HR	+							
1650	661	6	1.36E-10	0.98879	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
1651					IE-T1	*	LOSPNR9HR	+					
1652	203	7	1.36E-10	0.98882	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
1653					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
1654	198	7	1.36E-10	0.98888	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
1655					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
1656	1203	7	1.36E-10	0.98890	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-MA-20S37	*	
1657					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1658	1198	7	1.36E-10	0.98894	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-MA-20S37	*	
1659					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1660	943	7	1.34E-10	0.98897	ACP-DGN-FR-EDGB	*	DGACTC	*	DGACTNR12HR	*	ESW-XHE-FO-EHS	*	
1661					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1662	938	7	1.34E-10	0.98901	ACP-DGN-FR-EDGC	*	DGACTB	*	DGACTNR12HR	*	ESW-XHE-FO-EHS	*	
1663					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
1664	1112	7	1.34E-10	0.98905	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
1665					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+			
1666	1107	7	1.34E-10	0.98908	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
1667					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+			
1668	1102	6	1.34E-10	0.98912	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*	
1669					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1670	1097	8	1.34E-10	0.98916	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*	

1671					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
1672	792	7	1.34E-10	0.98920	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-HW-C515A	*	
1673					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
1674	787	7	1.34E-10	0.98923	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-HW-C515B	*	
1675					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
1676	1082	6	1.33E-10	0.98927	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FR-20S37	*	
1677					IE-T1	*	LOSPNR12HR	+					
1678	1077	6	1.33E-10	0.98931	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FR-20S37	*	
1679					IE-T1	*	LOSPNR12HR	+					
1680	213	7	1.33E-10	0.98934	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
1681					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
1682	208	7	1.33E-10	0.98938	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
1683					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
1684	235	6	1.33E-10	0.98942	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
1685					LOSPNR7HR	*	P1	+					
1686	230	6	1.33E-10	0.98945	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
1687					LOSPNR7HR	*	P1	+					
1688	106	8	1.31E-10	0.98949	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPA	*	
1689					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1690	101	8	1.31E-10	0.98953	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPB	*	
1691					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
1692	116	7	1.31E-10	0.98956	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515A	*	
1693					IE-T1	*	LOSPNR9HR	*	P1	+			
1694	111	7	1.31E-10	0.98960	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515B	*	
1695					IE-T1	*	LOSPNR9HR	*	P1	+			
1696	96	6	1.31E-10	0.98963	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
1697					LOSPNR9HR	*	P1	+					
1698	91	6	1.31E-10	0.98967	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
1699					LOSPNR9HR	*	P1	+					
1700	157	8	1.28E-10	0.98971	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241B	*	
1701					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
1702	152	8	1.28E-10	0.98974	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241C	*	
1703					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
1704	705	6	1.28E-10	0.98978	BAT-DEP-5HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
1705					IE-T1	*	LOSPNR12HR	+					
1706	813	7	1.28E-10	0.98981	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	EHV-SRV-CC-RV3	*	ESW-XHE-FO-EHS	*	
1707					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1708	808	7	1.28E-10	0.98985	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	EHV-SRV-CC-RV2	*	ESW-XHE-FO-EHS	*	
1709					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1710	1065	8	1.27E-10	0.98988	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPB	*	
1711					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR7HR	+	
1712	1060	8	1.27E-10	0.98992	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPB	*	
1713					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR7HR	+	
1714	1055	8	1.27E-10	0.98995	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPA	*	
1715					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR7HR	+	
1716	1050	8	1.27E-10	0.98999	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPA	*	
1717					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR7HR	+	
1718	135	7	1.27E-10	0.99002	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
1719					IE-T1	*	LOSPNR7HR	*	P1	+			
1720	130	7	1.27E-10	0.99006	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
1721					IE-T1	*	LOSPNR7HR	*	P1	+			
1722	1213	7	1.27E-10	0.99009	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FR-20S37	*	
1723					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1724	1208	7	1.27E-10	0.99013	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FR-20S37	*	
1725					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
1726	745	5	1.26E-10	0.99016	BAT-DEP-5HR	*	ESW-AOV-MA-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	

SEQUENCE T1-BNU11

TOP EVENT T1-BNU11 CONTAINS 93 EVENTS IN 650 CUT SETS

THE FREQUENCY OF TOP EVENT T1-BNU11 IS 9.29E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T1-BNU11

N	1000
MEAN	1.64E-06
STD DEV	1.22E-05
LOWER 5%	3.05E-08
LOWER 25%	1.36E-07
MEDIAN	3.39E-07
UPPER 25%	9.07E-07
UPPER 5%	4.05E-06

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

   RISK REDUCTION = PD x EV(J)
   = TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

   RISK INCREASE = PD - RISK REDUCTION
   = PD x (1 - EV(J))
   = TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T1-BNU11
RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
ESW-XHE-FO-EHS	400	9.00E-01	(1.0)	5.37E-07	(1.0)	7.49E-09	2.61E-06
ACP-DGN-FR-EDGB	150	1.60E-02	(39.0)	3.12E-07	(2.0)	5.20E-10	2.10E-06
ACP-DGN-FR-EDGC	145	1.60E-02	(39.0)	3.11E-07	(3.0)	5.19E-10	2.10E-06
INJ-FAILS	130	5.00E-01	(12.0)	3.00E-07	(4.0)	0.00E+00	1.38E-06
BAT-DEP-3HR	130	8.33E-02	(20.0)	2.25E-07	(5.0)	0.00E+00	1.21E-06
BAT-DEP-9HR	130	2.50E-01	(18.0)	1.77E-07	(6.0)	0.00E+00	9.68E-07
LOSPNR18HR	72	7.30E-03	(46.0)	1.75E-07	(7.0)	0.00E+00	9.44E-07
LOSPNR9HR	130	2.30E-02	(34.0)	1.74E-07	(8.0)	0.00E+00	7.25E-07
LOSPNR12HR	130	1.50E-02	(41.0)	1.52E-07	(9.0)	0.00E+00	6.21E-07
DGHWNR12HR	55	5.50E-01	(10.0)	1.47E-07	(10.0)	0.00E+00	7.32E-07
BAT-DEP-5HR	130	8.33E-02	(20.0)	1.34E-07	(11.0)	0.00E+00	6.56E-07
LOSPNR13HR	58	1.30E-02	(42.5)	1.26E-07	(12.0)	0.00E+00	5.64E-07
DGHWNR3HR	55	8.00E-01	(2.0)	1.13E-07	(13.0)	0.00E+00	2.73E-07
ESW-CKV-CB-C515B	70	3.00E-03	(57.0)	1.09E-07	(14.5)	2.55E-09	4.02E-07
ESW-CKV-CB-C515A	70	3.00E-03	(57.0)	1.09E-07	(14.5)	2.55E-09	4.02E-07
LOSPNR17HR	72	8.10E-03	(45.0)	1.03E-07	(16.0)	0.00E+00	3.18E-07
BAT-DEP-7HR	130	8.33E-02	(20.0)	9.20E-08	(17.0)	0.00E+00	3.90E-07
LOSPNR5HR	58	4.80E-02	(23.0)	9.02E-08	(18.0)	0.00E+00	4.90E-07
DGHWNR9HR	55	5.80E-01	(9.0)	8.63E-08	(19.0)	0.00E+00	2.85E-07
ESW-AOV-CC-CCF	5	1.00E-03	(76.5)	8.18E-08	(20.5)	1.70E-09	3.54E-07
BETA-3AOVS	5	5.50E-02	(22.0)	8.18E-08	(20.5)	1.70E-09	3.54E-07
DGHWNR5HR	55	7.00E-01	(4.0)	6.48E-08	(22.0)	0.00E+00	1.11E-07
LOSPNR7HR	58	3.20E-02	(25.0)	5.72E-08	(23.0)	0.00E+00	3.26E-07
ACP-DGN-MA-EDGC	35	6.00E-03	(48.0)	5.66E-08	(24.5)	1.58E-10	2.11E-07
ACP-DGN-MA-EDGB	35	6.00E-03	(48.0)	5.66E-08	(24.5)	1.58E-10	2.11E-07
EHV-AOV-CC-CCF	5	1.00E-03	(76.5)	5.36E-08	(26.5)	1.23E-09	2.06E-07
BETA-6AOVS	5	3.60E-02	(24.0)	5.36E-08	(26.5)	1.23E-09	2.06E-07
LOSPNR14HR	72	1.20E-02	(44.0)	5.31E-08	(28.0)	0.00E+00	5.74E-08
DGHWNR7HR	55	6.00E-01	(7.0)	4.42E-08	(29.0)	0.00E+00	5.73E-08
ESW-PTF-RE-DGC	20	3.13E-03	(50.5)	4.26E-08	(30.5)	1.89E-10	1.66E-07
ESW-PTF-RE-DGB	20	3.13E-03	(50.5)	4.26E-08	(30.5)	1.89E-10	1.66E-07
ESW-MDP-FS-MDPB	30	3.00E-03	(57.0)	4.26E-08	(32.5)	2.45E-10	1.78E-07
ESW-MDP-FS-MDPA	30	3.00E-03	(57.0)	4.26E-08	(32.5)	2.45E-10	1.78E-07
DGMANR12HR	25	4.00E-01	(16.5)	4.02E-08	(34.0)	0.00E+00	1.24E-07
DGMANR3HR	25	7.00E-01	(4.0)	3.93E-08	(35.0)	0.00E+00	1.43E-07
ESW-AOV-CC-0241B	55	1.00E-03	(76.5)	3.57E-08	(36.5)	9.29E-10	1.46E-07
ESW-AOV-CC-0241C	55	1.00E-03	(76.5)	3.57E-08	(36.5)	9.29E-10	1.46E-07
ACP-DGN-LP-EDGC	30	3.00E-03	(57.0)	3.49E-08	(38.5)	4.97E-10	1.33E-07
ACP-DGN-LP-EDGB	30	3.00E-03	(57.0)	3.49E-08	(38.5)	4.97E-10	1.33E-07
ESW-PTF-RE-MDPA	20	2.19E-03	(65.5)	3.00E-08	(40.5)	1.31E-10	1.04E-07
ESW-PTF-RE-MDPB	20	2.19E-03	(65.5)	3.00E-08	(40.5)	1.31E-10	1.04E-07
ACP-DGN-LP-CCF	5	3.00E-03	(57.0)	2.97E-08	(42.5)	2.95E-10	1.08E-07
BETA-4DGNS	5	1.30E-02	(42.5)	2.97E-08	(42.5)	2.95E-10	1.08E-07
ESW-MDP-MA-MDPB	30	2.00E-03	(68.0)	2.84E-08	(44.5)	2.17E-10	1.11E-07
ESW-MDP-MA-MDPA	30	2.00E-03	(68.0)	2.84E-08	(44.5)	2.17E-10	1.11E-07
ESW-MDP-FR-MDPA	55	1.20E-03	(72.5)	2.69E-08	(46.5)	6.10E-11	1.08E-07
ESW-MDP-FR-MDPB	55	1.20E-03	(72.5)	2.69E-08	(46.5)	6.10E-11	1.08E-07

DGMANR9HR	25	4.50E-01	(	14.5)	2.55E-08	(	48.0)	0.00E+00	1.00E-07
ACP-DGN-TE-EDGC	25	2.30E-03	(	63.5)	2.45E-08	(	49.5)	3.83E-10	9.54E-08
ACP-DGN-TE-EDGB	25	2.30E-03	(	63.5)	2.45E-08	(	49.5)	3.83E-10	9.54E-08
DGMANR5HR	25	6.00E-01	(	7.0)	2.22E-08	(	51.0)	0.00E+00	5.48E-08
DGMANR7HR	25	5.00E-01	(	12.0)	1.42E-08	(	52.0)	0.00E+00	3.34E-08
DGCCFNR3HR	1	7.00E-01	(	4.0)	8.62E-09	(	53.0)	0.00E+00	3.14E-08
DGCCFNR12HR	1	4.00E-01	(	16.5)	8.01E-09	(	54.0)	0.00E+00	3.22E-08
EHV-SRV-CC-RV3	35	3.00E-04	(	81.5)	7.93E-09	(	55.5)	4.67E-11	3.40E-08
EHV-SRV-CC-RV2	35	3.00E-04	(	81.5)	7.93E-09	(	55.5)	4.67E-11	3.40E-08
ACP-DGN-RE-EDGC	10	7.98E-04	(	79.5)	6.33E-09	(	57.5)	1.36E-11	2.28E-08
ACP-DGN-RE-EDGB	10	7.98E-04	(	79.5)	6.33E-09	(	57.5)	1.36E-11	2.28E-08
ACP-DGN-FR-EDGD	50	1.60E-02	(	39.0)	6.12E-09	(	59.0)	1.27E-12	9.22E-08
DGCCFNR9HR	1	4.50E-01	(	14.5)	5.20E-09	(	60.0)	0.00E+00	2.35E-08
DGCCFNR5HR	1	6.00E-01	(	7.0)	4.93E-09	(	61.0)	0.00E+00	1.64E-08
DGCCFNR7HR	1	5.00E-01	(	12.0)	2.95E-09	(	62.0)	0.00E+00	7.84E-09
BETA-2SWPS	35	2.60E-02	(	31.0)	2.58E-09	(	63.5)	7.76E-12	1.24E-08
ESW-MDP-FS-CCF	35	3.00E-03	(	57.0)	2.58E-09	(	63.5)	7.76E-12	1.24E-08
ESW-AOV-MA-0241C	10	2.00E-04	(	83.5)	2.30E-09	(	65.5)	1.09E-11	8.55E-09
ESW-AOV-MA-0241B	10	2.00E-04	(	83.5)	2.30E-09	(	65.5)	1.09E-11	8.55E-09
ESW-CKV-HW-C515B	10	1.00E-04	(	85.5)	1.12E-09	(	67.5)	6.35E-12	4.48E-09
ESW-CKV-HW-C515A	10	1.00E-04	(	85.5)	1.12E-09	(	67.5)	6.35E-12	4.48E-09
ACP-DGN-MA-EDGD	10	6.00E-03	(	48.0)	1.11E-09	(	69.0)	8.40E-13	5.52E-09
ESW-MOV-CC-M0841	10	3.00E-03	(	57.0)	7.24E-10	(	70.5)	1.07E-12	4.47E-09
ESW-MDP-FS-ECW	10	3.00E-03	(	57.0)	7.24E-10	(	70.5)	5.71E-13	7.48E-09
ACP-DGN-LP-EDGD	10	3.00E-03	(	57.0)	5.97E-10	(	72.0)	1.94E-12	4.82E-09
DGACTC	5	1.61E-03	(	70.5)	4.37E-10	(	73.5)	1.79E-13	1.65E-09
DGACTB	5	1.61E-03	(	70.5)	4.37E-10	(	73.5)	1.79E-13	1.65E-09
DCP-BAT-LP-C3	5	1.08E-03	(	74.0)	2.99E-10	(	75.0)	1.47E-13	8.75E-10
ESW-XVM-PG-XV510	5	4.00E-05	(	89.5)	2.82E-10	(	78.5)	5.20E-13	1.06E-09
ESW-XVM-PG-XV509	5	4.00E-05	(	89.5)	2.82E-10	(	78.5)	5.20E-13	1.06E-09
ESW-XVM-PG-X507B	5	4.00E-05	(	89.5)	2.82E-10	(	78.5)	5.20E-13	1.06E-09
ESW-XVM-PG-X507A	5	4.00E-05	(	89.5)	2.82E-10	(	78.5)	5.20E-13	1.06E-09
ESW-XVM-PG-D505C	5	4.00E-05	(	89.5)	2.82E-10	(	78.5)	5.20E-13	1.06E-09
ESW-XVM-PG-D505B	5	4.00E-05	(	89.5)	2.82E-10	(	78.5)	5.20E-13	1.06E-09
DGACTNR12HR	2	2.00E-02	(	36.0)	2.67E-10	(	82.0)	0.00E+00	3.25E-10
ESW-MDP-MA-ECW	5	2.00E-03	(	66.0)	2.50E-10	(	83.0)	1.08E-14	1.70E-09
DGACTNR3HR	2	3.00E-02	(	28.0)	2.11E-10	(	84.0)	0.00E+00	2.84E-10
DGACTNR9HR	2	2.00E-02	(	36.0)	1.48E-10	(	85.0)	0.00E+00	2.71E-10
DGACTNR5HR	2	3.00E-02	(	28.0)	1.37E-10	(	86.0)	0.00E+00	7.18E-11
DGACTNR7HR	2	3.00E-02	(	28.0)	1.10E-10	(	87.0)	0.00E+00	7.27E-11
DCHWNR18HR	1	2.00E-02	(	36.0)	8.97E-11	(	88.0)	0.00E+00	1.44E-10
DCHWNR9HR	1	3.00E-02	(	28.0)	7.06E-11	(	89.0)	0.00E+00	1.24E-10
DCHWNR17HR	1	2.50E-02	(	32.5)	6.22E-11	(	90.0)	0.00E+00	1.93E-10
DCHWNR12HR	1	3.00E-02	(	28.0)	4.61E-11	(	91.0)	0.00E+00	4.49E-11
DCHWNR14HR	1	2.50E-02	(	32.5)	3.07E-11	(	92.0)	0.00E+00	3.42E-11

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	650	7.90E-02	(1.0)	9.29E-07	(1.0)	3.05E-08	4.05E-06

SEQUENCE T1-BNU11
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESW-AOV-CC-CCF	5	1.00E-03	(76.5)	8.17E-05	(1.0)	2.59E-06	3.11E-04
EHV-AOV-CC-CCF	5	1.00E-03	(76.5)	5.35E-05	(2.0)	1.81E-06	2.12E-04
ESW-CKV-CB-C515A	70	3.00E-03	(57.0)	3.61E-05	(3.5)	1.53E-06	1.28E-04
ESW-CKV-CB-C515B	70	3.00E-03	(57.0)	3.61E-05	(3.5)	1.53E-06	1.28E-04
ESW-AOV-CC-0241B	55	1.00E-03	(76.5)	3.57E-05	(5.5)	1.49E-06	1.28E-04
ESW-AOV-CC-0241C	55	1.00E-03	(76.5)	3.57E-05	(5.5)	1.49E-06	1.28E-04
EHV-SRV-CC-RV2	35	3.00E-04	(81.5)	2.64E-05	(7.5)	1.02E-06	9.76E-05
EHV-SRV-CC-RV3	35	3.00E-04	(81.5)	2.64E-05	(7.5)	1.02E-06	9.76E-05
LOSPNR18HR	72	7.30E-03	(46.0)	2.38E-05	(9.0)	0.00E+00	1.33E-04
ESW-MDP-FR-MDPA	55	1.20E-03	(72.5)	2.24E-05	(10.5)	3.45E-07	8.96E-05
ESW-MDP-FR-MDPB	55	1.20E-03	(72.5)	2.24E-05	(10.5)	3.45E-07	8.96E-05
ACP-DGN-FR-EDGB	150	1.60E-02	(39.0)	1.92E-05	(12.0)	2.00E-07	7.71E-05
ACP-DGN-FR-EDGC	145	1.60E-02	(39.0)	1.91E-05	(13.0)	1.99E-07	7.71E-05
ESW-MDP-MA-MDPA	30	2.00E-03	(68.0)	1.42E-05	(14.5)	6.57E-07	5.00E-05
ESW-MDP-MA-MDPB	30	2.00E-03	(68.0)	1.42E-05	(14.5)	6.57E-07	5.00E-05
ESW-MDP-FS-MDPA	30	3.00E-03	(57.0)	1.42E-05	(16.5)	6.57E-07	5.00E-05
ESW-MDP-FS-MDPB	30	3.00E-03	(57.0)	1.42E-05	(16.5)	6.57E-07	5.00E-05
ESW-PTF-RE-MDPB	20	2.19E-03	(65.5)	1.37E-05	(18.5)	6.24E-07	4.78E-05
ESW-PTF-RE-MDPA	20	2.19E-03	(65.5)	1.37E-05	(18.5)	6.24E-07	4.78E-05
ESW-PTF-RE-DGC	20	3.13E-03	(50.5)	1.36E-05	(20.5)	6.23E-07	4.76E-05
ESW-PTF-RE-DGB	20	3.13E-03	(50.5)	1.36E-05	(20.5)	6.23E-07	4.76E-05
LOSPNR17HR	72	8.10E-03	(45.0)	1.26E-05	(22.0)	0.00E+00	6.41E-05
ACP-DGN-LP-EDGC	30	3.00E-03	(57.0)	1.16E-05	(23.5)	2.89E-07	4.66E-05
ACP-DGN-LP-EDGB	30	3.00E-03	(57.0)	1.16E-05	(23.5)	2.89E-07	4.66E-05
ESW-AOV-MA-0241B	10	2.00E-04	(83.5)	1.15E-05	(25.5)	4.35E-07	4.37E-05
ESW-AOV-MA-0241C	10	2.00E-04	(83.5)	1.15E-05	(25.5)	4.35E-07	4.37E-05
ESW-CKV-HW-C515B	10	1.00E-04	(85.5)	1.12E-05	(27.5)	1.18E-07	4.45E-05
ESW-CKV-HW-C515A	10	1.00E-04	(85.5)	1.12E-05	(27.5)	1.18E-07	4.45E-05
ACP-DGN-TE-EDGC	25	2.30E-03	(63.5)	1.06E-05	(29.5)	2.51E-07	3.98E-05
ACP-DGN-TE-EDGB	25	2.30E-03	(63.5)	1.06E-05	(29.5)	2.51E-07	3.98E-05
LOSPNR12HR	130	1.50E-02	(41.0)	9.95E-06	(31.0)	0.00E+00	3.76E-05
ACP-DGN-LP-CCF	5	3.00E-03	(57.0)	9.87E-06	(32.0)	1.48E-07	3.90E-05
LOSPNR13HR	58	1.30E-02	(42.5)	9.54E-06	(33.0)	0.00E+00	4.17E-05
ACP-DGN-MA-EDGC	35	6.00E-03	(48.0)	9.38E-06	(34.5)	1.55E-07	3.67E-05
ACP-DGN-MA-EDGB	35	6.00E-03	(48.0)	9.38E-06	(34.5)	1.55E-07	3.67E-05
ACP-DGN-RE-EDGC	10	7.98E-04	(79.5)	7.92E-06	(36.5)	1.04E-07	3.09E-05
ACP-DGN-RE-EDGB	10	7.98E-04	(79.5)	7.92E-06	(36.5)	1.04E-07	3.09E-05
LOSPNR9HR	130	2.30E-02	(34.0)	7.39E-06	(38.0)	0.00E+00	3.41E-05
ESW-XVM-PG-D505C	5	4.00E-05	(89.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-D505B	5	4.00E-05	(89.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-X507A	5	4.00E-05	(89.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-XV509	5	4.00E-05	(89.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-X507B	5	4.00E-05	(89.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-XV510	5	4.00E-05	(89.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
LOSPNR14HR	72	1.20E-02	(44.0)	4.37E-06	(45.0)	0.00E+00	7.12E-06
BAT-DEP-3HR	130	8.33E-02	(20.0)	2.48E-06	(46.0)	0.00E+00	1.07E-05
BETA-4DGNS	5	1.30E-02	(42.5)	2.26E-06	(47.0)	3.29E-08	8.60E-06

LOSPNR5HR	58	4.80E-02	(	23.0)	1.79E-06	(	48.0)	0.00E+00	1.45E-05
LOSPNR7HR	58	3.20E-02	(	25.0)	1.73E-06	(	49.0)	0.00E+00	1.33E-05
BAT-DEP-5HR	130	8.33E-02	(	20.0)	1.48E-06	(	50.0)	0.00E+00	6.02E-06
BETA-6AOVS	5	3.60E-02	(	24.0)	1.43E-06	(	51.0)	4.48E-08	5.69E-06
BETA-3AOVS	5	5.50E-02	(	22.0)	1.41E-06	(	52.0)	4.54E-08	5.56E-06
BAT-DEP-7HR	130	8.33E-02	(	20.0)	1.01E-06	(	53.0)	0.00E+00	3.59E-06
ESW-MDP-FS-CCF	35	3.00E-03	(	57.0)	8.58E-07	(	54.0)	2.37E-08	3.15E-06
BAT-DEP-9HR	130	2.50E-01	(	18.0)	5.32E-07	(	55.0)	0.00E+00	2.45E-06
ACP-DGN-FR-EDGD	50	1.60E-02	(	39.0)	3.76E-07	(	56.0)	9.45E-10	2.33E-06
INJ-FAILS	130	5.00E-01	(	12.0)	3.00E-07	(	57.0)	0.00E+00	1.36E-06
DCP-BAT-LP-C3	5	1.08E-03	(	74.0)	2.77E-07	(	58.0)	1.98E-10	9.62E-07
DGACTC	5	1.61E-03	(	70.5)	2.71E-07	(	59.5)	2.31E-10	1.01E-06
DGACTB	5	1.61E-03	(	70.5)	2.71E-07	(	59.5)	2.31E-10	1.01E-06
ESW-MOV-CC-M0841	10	3.00E-03	(	57.0)	2.40E-07	(	61.5)	1.81E-09	2.03E-06
ESW-MDP-FS-ECW	10	3.00E-03	(	57.0)	2.40E-07	(	61.5)	1.82E-09	2.03E-06
ACP-DGN-LP-EDGD	10	3.00E-03	(	57.0)	1.98E-07	(	63.0)	8.36E-10	1.89E-06
ACP-DGN-MA-EDGD	10	6.00E-03	(	48.0)	1.83E-07	(	64.0)	7.21E-10	1.66E-06
ESW-MDP-MA-ECW	5	2.00E-03	(	68.0)	1.25E-07	(	65.0)	2.26E-11	1.23E-06
DGHWNR12HR	55	5.50E-01	(	10.0)	1.21E-07	(	66.0)	0.00E+00	5.30E-07
BETA-2SWPS	35	2.60E-02	(	31.0)	9.67E-08	(	67.0)	4.99E-10	4.97E-07
DGHWNR9HR	55	5.80E-01	(	9.0)	6.25E-08	(	68.0)	0.00E+00	2.25E-07
DGMANR12HR	25	4.00E-01	(	16.5)	6.03E-08	(	69.0)	0.00E+00	1.91E-07
ESW-XHE-FO-EHS	400	9.00E-01	(	1.0)	5.97E-08	(	70.0)	1.60E-10	2.70E-07
DGMANR9HR	25	4.50E-01	(	14.5)	3.11E-08	(	71.0)	0.00E+00	1.52E-07
DGHWNR7HR	55	6.00E-01	(	7.0)	2.94E-08	(	72.0)	0.00E+00	3.75E-08
DGHWNR3HR	55	8.00E-01	(	2.0)	2.83E-08	(	73.0)	0.00E+00	4.47E-08
DGHWNR5HR	55	7.00E-01	(	4.0)	2.78E-08	(	74.0)	0.00E+00	2.70E-08
DGMANR3HR	25	7.00E-01	(	4.0)	1.69E-08	(	75.0)	0.00E+00	4.99E-08
DGMANR5HR	25	6.00E-01	(	7.0)	1.48E-08	(	76.0)	0.00E+00	2.73E-08
DGMANR7HR	25	5.00E-01	(	12.0)	1.42E-08	(	77.0)	0.00E+00	1.96E-08
DGACTNR12HR	2	2.00E-02	(	36.0)	1.31E-08	(	78.0)	0.00E+00	3.58E-08
DGCCFNR12HR	1	4.00E-01	(	16.5)	1.20E-08	(	79.0)	0.00E+00	5.92E-08
DGACTNR9HR	2	2.00E-02	(	36.0)	7.27E-09	(	80.0)	0.00E+00	1.92E-08
DGACTNR3HR	2	3.00E-02	(	28.0)	6.81E-09	(	81.0)	0.00E+00	1.69E-08
DGCCFNR9HR	1	4.50E-01	(	14.5)	6.35E-09	(	82.0)	0.00E+00	3.28E-08
DGACTNR5HR	2	3.00E-02	(	28.0)	4.44E-09	(	83.0)	0.00E+00	4.04E-09
DCHWNR18HR	1	2.00E-02	(	36.0)	4.39E-09	(	84.0)	0.00E+00	1.39E-08
DGCCFNR3HR	1	7.00E-01	(	4.0)	3.70E-09	(	85.0)	0.00E+00	9.11E-09
DGACTNR7HR	2	3.00E-02	(	28.0)	3.55E-09	(	86.0)	0.00E+00	2.54E-09
DGCCFNR5HR	1	6.00E-01	(	7.0)	3.29E-09	(	87.0)	0.00E+00	6.62E-09
DGCCFNR7HR	1	5.00E-01	(	12.0)	2.95E-09	(	88.0)	0.00E+00	9.87E-09
DCHWNR17HR	1	2.50E-02	(	32.5)	2.43E-09	(	89.0)	0.00E+00	7.44E-09
DCHWNR9HR	1	3.00E-02	(	28.0)	2.28E-09	(	90.0)	0.00E+00	5.82E-09
DCHWNR12HR	1	3.00E-02	(	28.0)	1.49E-09	(	91.0)	0.00E+00	1.91E-09
DCHWNR14HR	1	2.50E-02	(	32.5)	1.20E-09	(	92.0)	0.00E+00	1.66E-09

SEQUENCE T1-BNU11
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
ACP-DGN-FR-EDGB	150	1.60E-02	(39.0)	19.9	(2.0)	1.47	0.87
ACP-DGN-FR-EDGC	145	1.60E-02	(39.0)	19.9	(2.0)	1.47	0.87
ACP-DGN-FR-EDGD	50	1.60E-02	(39.0)	19.9	(2.0)	1.47	0.87
BAT-DEP-3HR	130	8.33E-02	(20.0)	9.2	(4.0)	1.64	0.97
INJ-FAILS	130	5.00E-01	(12.0)	5.2	(5.0)	0.69	1.06
LOSPNR13HR	58	1.30E-02	(42.5)	4.1	(6.0)	1.63	0.98
LOSPNR18HR	72	7.30E-03	(46.0)	3.1	(7.0)	1.33	1.03
ESW-AOV-CC-0241B	55	1.00E-03	(76.5)	2.6	(9.5)	1.16	1.02
ESW-AOV-CC-0241C	55	1.00E-03	(76.5)	2.6	(9.5)	1.16	1.02
ESW-AOV-CC-CCF	5	1.00E-03	(76.5)	2.6	(9.5)	1.16	1.02
EHV-AOV-CC-CCF	5	1.00E-03	(76.5)	2.6	(9.5)	1.16	1.02
BAT-DEP-5HR	130	8.33E-02	(20.0)	2.3	(12.0)	1.02	0.99
LOSPNR12HR	130	1.50E-02	(41.0)	2.3	(13.0)	1.27	0.99
ESW-MDP-FS-MDPB	30	3.00E-03	(57.0)	1.7	(15.5)	1.15	0.99
ESW-MDP-FS-ECW	10	3.00E-03	(57.0)	1.7	(15.5)	1.15	0.99
ESW-MDP-FS-MDPA	30	3.00E-03	(57.0)	1.7	(15.5)	1.15	0.99
ESW-MDP-FS-CCF	35	3.00E-03	(57.0)	1.7	(15.5)	1.15	0.99
DGHWNR12HR	55	5.50E-01	(10.0)	1.6	(18.0)	1.03	1.06
DGHWNR9HR	55	5.80E-01	(9.0)	1.5	(19.0)	1.00	1.03
DGHWNR3HR	55	8.00E-01	(2.0)	1.5	(20.0)	1.00	1.00
DGHWNR7HR	55	6.00E-01	(7.0)	1.5	(21.0)	1.02	0.99
DGHWNR5HR	55	7.00E-01	(4.0)	1.4	(22.0)	1.00	0.99
ESW-MDP-MA-MDPB	30	2.00E-03	(68.0)	1.4	(24.0)	1.04	0.99
ESW-MDP-MA-ECW	5	2.00E-03	(68.0)	1.4	(24.0)	1.04	0.99
ESW-MDP-MA-MDPA	30	2.00E-03	(68.0)	1.4	(24.0)	1.04	0.99
ESW-CKV-CB-C515A	70	3.00E-03	(57.0)	1.2	(26.5)	1.10	1.00
ESW-CKV-CB-C515B	70	3.00E-03	(57.0)	1.2	(26.5)	1.10	1.00
ESW-CKV-HW-C515B	10	1.00E-04	(85.5)	1.2	(28.5)	1.00	1.00
ESW-CKV-HW-C515A	10	1.00E-04	(85.5)	1.2	(28.5)	1.00	1.00
BETA-3AOVS	5	5.50E-02	(22.0)	1.1	(30.0)	1.05	1.02
ESW-PTF-RE-DGC	20	3.13E-03	(50.5)	1.1	(31.5)	1.06	1.02
ESW-PTF-RE-DGB	20	3.13E-03	(50.5)	1.1	(31.5)	1.06	1.02
ESW-XVM-PG-D505C	5	4.00E-05	(89.5)	0.8	(35.5)	1.00	1.00
ESW-XVM-PG-X507B	5	4.00E-05	(89.5)	0.8	(35.5)	1.00	1.00
ESW-XVM-PG-XV510	5	4.00E-05	(89.5)	0.8	(35.5)	1.00	1.00
ESW-XVM-PG-XV509	5	4.00E-05	(89.5)	0.8	(35.5)	1.00	1.00
ESW-XVM-PG-X507A	5	4.00E-05	(89.5)	0.8	(35.5)	1.00	1.00
ESW-XVM-PG-D505B	5	4.00E-05	(89.5)	0.8	(35.5)	1.00	1.00
DGACTC	5	1.61E-03	(70.5)	0.7	(39.5)	1.00	1.00
DGACTB	5	1.61E-03	(70.5)	0.7	(39.5)	1.00	1.00
ESW-PTF-RE-MDPA	20	2.19E-03	(65.5)	0.7	(41.5)	1.04	0.97
ESW-PTF-RE-MDPB	20	2.19E-03	(65.5)	0.7	(41.5)	1.04	0.97
BETA-6AOVS	5	3.60E-02	(24.0)	0.7	(43.0)	1.05	1.00
ACP-DGN-MA-EDGD	10	6.00E-03	(48.0)	0.7	(45.0)	1.06	0.99
ACP-DGN-MA-EDGC	35	6.00E-03	(48.0)	0.7	(45.0)	1.06	0.99
ACP-DGN-MA-EDGB	35	6.00E-03	(48.0)	0.7	(45.0)	1.06	0.99
DCHWNR14HR	1	2.50E-02	(32.5)	0.7	(47.0)	1.00	1.00

DCHWNR9HR	1	3.00E-02	(28.0)	0.7	(48.0)	1.00	1.00
ESW-MOV-CC-M0841	10	3.00E-03	(57.0)	0.7	(49.0)	1.01	1.00
ESW-MDP-FR-MDPA	55	1.20E-03	(72.5)	0.7	(50.5)	1.03	0.98
ESW-MDP-FR-MDPB	55	1.20E-03	(72.5)	0.7	(50.5)	1.03	0.98
DCHWNR18HR	1	2.00E-02	(36.0)	0.7	(52.0)	1.00	1.00
LOSPNR17HR	72	8.10E-03	(45.0)	0.7	(53.0)	1.11	1.00
DGMANR5HR	25	6.00E-01	(7.0)	0.6	(54.0)	1.00	0.98
LOSPNR7HR	58	3.20E-02	(25.0)	0.6	(55.0)	1.02	0.97
DCHWNR17HR	1	2.50E-02	(32.5)	0.6	(56.0)	1.00	1.00
BAT-DEP-9HR	130	2.50E-01	(18.0)	0.5	(57.0)	0.88	1.04
DGMANR9HR	25	4.50E-01	(14.5)	0.5	(58.0)	0.99	1.02
BAT-DEP-7HR	130	8.33E-02	(20.0)	0.5	(59.0)	0.94	0.94
DCHWNR12HR	1	3.00E-02	(28.0)	0.5	(60.0)	1.00	1.00
DGMANR7HR	25	5.00E-01	(12.0)	0.5	(61.0)	1.02	1.00
LOSPNR5HR	58	4.80E-02	(23.0)	0.5	(62.0)	1.00	0.99
DGMANR12HR	25	4.00E-01	(16.5)	0.4	(63.0)	1.04	1.00
BETA-2SWPS	35	2.60E-02	(31.0)	0.4	(64.0)	1.00	1.00
DCP-BAT-LP-C3	5	1.08E-03	(74.0)	0.4	(65.0)	1.00	1.00
DGMANR3HR	25	7.00E-01	(4.0)	0.4	(66.0)	1.00	1.02
LOSPNR14HR	72	1.20E-02	(44.0)	0.4	(67.0)	1.00	0.98
ACP-DGN-RE-EDGC	10	7.98E-04	(79.5)	0.4	(68.5)	1.01	1.00
ACP-DGN-RE-EDGB	10	7.98E-04	(79.5)	0.4	(68.5)	1.01	1.00
LOSPNR9HR	130	2.30E-02	(34.0)	0.4	(70.0)	1.02	1.05
ACP-DGN-TE-EDGC	25	2.30E-03	(63.5)	0.2	(71.5)	1.02	1.02
ACP-DGN-TE-EDGB	25	2.30E-03	(63.5)	0.2	(71.5)	1.02	1.02
DGACTNR12HR	2	2.00E-02	(36.0)	0.0	(82.5)		
ESW-AOV-MA-0241C	10	2.00E-04	(83.5)	0.0	(82.5)		
ESW-AOV-MA-0241B	10	2.00E-04	(83.5)	0.0	(82.5)		
ACP-DGN-LP-EDGD	10	3.00E-03	(57.0)	0.0	(82.5)		
EHV-SRV-CC-RV3	35	3.00E-04	(81.5)	0.0	(82.5)		
EHV-SRV-CC-RV2	35	3.00E-04	(81.5)	0.0	(82.5)		
ACP-DGN-LP-EDGC	30	3.00E-03	(57.0)	0.0	(82.5)		
BETA-4DGNS	5	1.30E-02	(42.5)	0.0	(82.5)		
DGCCFNR9HR	1	4.50E-01	(14.5)	0.0	(82.5)		
ACP-DGN-LP-EDGB	30	3.00E-03	(57.0)	0.0	(82.5)		
DGCCFNR7HR	1	5.00E-01	(12.0)	0.0	(82.5)		
ESW-XHE-FO-EHS	400	9.00E-01	(1.0)	0.0	(82.5)		
DGCCFNR5HR	1	6.00E-01	(7.0)	0.0	(82.5)		
DGCCFNR3HR	1	7.00E-01	(4.0)	0.0	(82.5)		
DGCCFNR12HR	1	4.00E-01	(16.5)	0.0	(82.5)		
DGACTNR9HR	2	2.00E-02	(36.0)	0.0	(82.5)		
DGACTNR7HR	2	3.00E-02	(28.0)	0.0	(82.5)		
DGACTNR5HR	2	3.00E-02	(28.0)	0.0	(82.5)		
DGACTNR3HR	2	3.00E-02	(28.0)	0.0	(82.5)		
ACP-DGN-LP-CCF	5	3.00E-03	(57.0)	0.0	(82.5)		

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	650	7.90E-02	(1.0)	24.7	(1.0)	1.67	0.86

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE

SEQUENCE T1-BNU11

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T1-BNU11 WITH TOP EVENT FREQUENCY 9.29E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	7	3.65E-08	0.03933	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
3					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
4	6	5	2.82E-08	0.06973	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*
5					LOSPNR13HR	+						
6	2	7	2.79E-08	0.09976	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
7					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
8	5	7	2.14E-08	0.12277	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
9					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+		
10	11	5	1.85E-08	0.14267	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*
11					LOSPNR13HR	+						
12	7	5	1.74E-08	0.16137	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
13					LOSPNR5HR	+						
14	10	5	1.63E-08	0.17891	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
15					LOSPNR12HR	+						
16	3	7	1.59E-08	0.19605	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
17					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
18	8	5	1.16E-08	0.20851	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
19					LOSPNR7HR	+						
20	12	5	1.14E-08	0.22075	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
21					LOSPNR5HR	+						
22	4	7	1.09E-08	0.23250	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
23					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
24	15	5	1.07E-08	0.24398	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
25					LOSPNR12HR	+						
26	61	7	9.97E-09	0.25471	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
27					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
28	66	7	9.97E-09	0.26544	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
29					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
30	62	7	9.15E-09	0.27529	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*
31					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
32	67	7	9.15E-09	0.28514	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*
33					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
34	17	6	8.62E-09	0.29442	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*
35					IE-T1	*	LOSPNR5HR	+				
36	9	5	8.32E-09	0.30339	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
37					LOSPNR9HR	+						
38	16	6	8.01E-09	0.31201	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	IE-T1	*
39					INJ-FAILS	*	LOSPNR13HR	+				
40	21	6	7.61E-09	0.32020	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*
41					INJ-FAILS	*	LOSPNR18HR	+				
42	26	6	7.61E-09	0.32840	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*
43					INJ-FAILS	*	LOSPNR18HR	+				
44	13	5	7.58E-09	0.33656	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
45					LOSPNR7HR	+						
46	36	7	7.15E-09	0.34425	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*

47					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
48	31	7	7.15E-09	0.35194	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
49					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
50	41	7	6.85E-09	0.35932	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
51					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
52	56	7	6.85E-09	0.36669	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
53					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
54	51	7	6.85E-09	0.37407	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
55					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
56	46	7	6.85E-09	0.38144	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
57					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
58	65	7	6.22E-09	0.38814	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
59					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
60	70	7	6.22E-09	0.39483	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
61					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
62	27	6	5.81E-09	0.40109	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*	
63					IE-T1	*	LOSPNR9HR	+					
64	22	6	5.81E-09	0.40735	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*	
65					IE-T1	*	LOSPNR9HR	+					
66	32	7	5.46E-09	0.41322	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*	
67					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
68	37	7	5.46E-09	0.41909	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*	
69					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
70	14	5	5.45E-09	0.42496	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
71					LOSPNR9HR	+							
72	86	7	5.25E-09	0.43061	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
73					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
74	81	7	5.25E-09	0.43627	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
75					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
76	57	7	5.23E-09	0.44190	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*	
77					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
78	42	7	5.23E-09	0.44753	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*	
79					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
80	47	7	5.23E-09	0.45316	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
81					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
82	52	7	5.23E-09	0.45879	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
83					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
84	20	6	5.20E-09	0.46439	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*	
85					IE-T1	*	LOSPNR12HR	+					
86	63	7	5.12E-09	0.46989	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
87					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
88	68	7	5.12E-09	0.47540	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
89					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
90	106	7	5.00E-09	0.48079	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
91					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
92	101	7	5.00E-09	0.48617	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
93					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
94	18	6	4.93E-09	0.49147	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*	
95					IE-T1	*	LOSPNR7HR	+					
96	71	5	4.82E-09	0.49666	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	INJ-FAILS	*	
97					LOSPNR13HR	+							
98	76	5	4.82E-09	0.50185	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	INJ-FAILS	*	
99					LOSPNR13HR	+							
100	96	5	4.82E-09	0.50683	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	INJ-FAILS	*	
101					LOSPNR13HR	+							
102	91	5	4.82E-09	0.51180	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	INJ-FAILS	*	

103					LOSPNR13HR	+							
104	116	7	4.57E-09	0.51672	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
105					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
106	111	7	4.57E-09	0.52163	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
107					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
108	30	6	4.45E-09	0.52643	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
109					IE-T1	*	LOSPNR17HR	+					
110	25	6	4.45E-09	0.53122	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
111					IE-T1	*	LOSPNR17HR	+					
112	40	7	4.18E-09	0.53572	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*	
113					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
114	35	7	4.18E-09	0.54023	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*	
115					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
116	82	7	4.01E-09	0.54454	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
117					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
118	87	7	4.01E-09	0.54886	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
119					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
120	45	7	4.01E-09	0.55317	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	
121					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
122	60	7	4.01E-09	0.55749	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*	
123					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
124	55	7	4.01E-09	0.56180	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
125					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
126	50	7	4.01E-09	0.56612	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
127					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
128	127	6	3.98E-09	0.57040	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
129					IE-T1	*	LOSPNR5HR	+					
130	122	6	3.98E-09	0.57469	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
131					IE-T1	*	LOSPNR5HR	+					
132	102	7	3.82E-09	0.57880	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPA	*	
133					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
134	107	7	3.82E-09	0.58291	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPB	*	
135					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
136	121	6	3.70E-09	0.58689	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
137					INJ-FAILS	*	LOSPNR13HR	+					
138	126	6	3.70E-09	0.59087	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
139					INJ-FAILS	*	LOSPNR13HR	+					
140	117	7	3.49E-09	0.59462	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
141					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
142	112	7	3.49E-09	0.59837	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
143					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
144	69	7	3.41E-09	0.60204	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
145					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
146	64	7	3.41E-09	0.60572	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
147					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
148	136	5	3.37E-09	0.60935	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	INJ-FAILS	*	
149					LOSPNR13HR	+							
150	131	5	3.37E-09	0.61298	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	INJ-FAILS	*	
151					LOSPNR13HR	+							
152	28	6	3.32E-09	0.61655	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
153					IE-T1	*	LOSPNR12HR	+					
154	23	6	3.32E-09	0.62012	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
155					IE-T1	*	LOSPNR12HR	+					
156	33	7	3.11E-09	0.62347	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGC	*	
157					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
158	38	7	3.11E-09	0.62682	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGB	*	

159					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
160	141	5	3.08E-09	0.63014	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	INJ-FAILS	*	
161					LOSPNR13HR	+							
162	146	5	3.08E-09	0.63346	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	INJ-FAILS	*	
163					LOSPNR13HR	+							
164	90	7	3.07E-09	0.63677	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
165					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
166	85	7	3.07E-09	0.64007	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
167					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
168	48	7	2.99E-09	0.64329	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
169					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
170	43	7	2.99E-09	0.64650	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPA	*	
171					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
172	58	7	2.99E-09	0.64971	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPB	*	
173					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
174	53	7	2.99E-09	0.65293	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
175					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
176	72	5	2.97E-09	0.65612	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
177					LOSPNR5HR	+							
178	77	5	2.97E-09	0.65931	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
179					LOSPNR5HR	+							
180	19	6	2.95E-09	0.66249	ACP-DGN-LP-CCF	*	BAT-DEP-7HR	*	BETA-4DGNS	*	DGCCFNR7HR	*	
181					IE-T1	*	LOSPNR9HR	+					
182	105	7	2.93E-09	0.66564	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPA	*	
183					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
184	110	7	2.93E-09	0.66879	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPB	*	
185					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
186	92	5	2.84E-09	0.67185	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
187					LOSPNR5HR	+							
188	97	5	2.84E-09	0.67491	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
189					LOSPNR5HR	+							
190	75	5	2.78E-09	0.67790	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
191					LOSPNR12HR	+							
192	80	5	2.78E-09	0.68090	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
193					LOSPNR12HR	+							
194	161	7	2.74E-09	0.68385	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
195					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
196	166	7	2.74E-09	0.68679	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
197					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
198	115	7	2.67E-09	0.68967	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*	
199					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
200	120	7	2.67E-09	0.69255	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*	
201					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
202	100	5	2.67E-09	0.69542	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
203					LOSPNR12HR	+							
204	95	5	2.67E-09	0.69829	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
205					LOSPNR12HR	+							
206	151	6	2.54E-09	0.70102	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
207					INJ-FAILS	*	LOSPNR13HR	+					
208	156	6	2.54E-09	0.70376	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
209					INJ-FAILS	*	LOSPNR13HR	+					
210	125	6	2.40E-09	0.70634	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
211					IE-T1	*	LOSPNR12HR	+					
212	130	6	2.40E-09	0.70893	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
213					IE-T1	*	LOSPNR12HR	+					
214	83	7	2.29E-09	0.71139	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	

215					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
216	88	7	2.29E-09	0.71385	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
217					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
218	171	7	2.28E-09	0.71631	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
219					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
220	176	7	2.28E-09	0.71877	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
221					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
222	24	6	2.27E-09	0.72122	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*	
223					IE-T1	*	LOSPNR14HR	+					
224	29	6	2.27E-09	0.72366	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*	
225					IE-T1	*	LOSPNR14HR	+					
226	157	6	2.27E-09	0.72611	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*	
227					IE-T1	*	LOSPNR5HR	+					
228	152	6	2.27E-09	0.72856	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*	
229					IE-T1	*	LOSPNR5HR	+					
230	123	6	2.27E-09	0.73101	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*	
231					IE-T1	*	LOSPNR7HR	+					
232	128	6	2.27E-09	0.73346	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*	
233					IE-T1	*	LOSPNR7HR	+					
234	103	7	2.18E-09	0.73580	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPA	*	
235					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
236	108	7	2.18E-09	0.73815	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPB	*	
237					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
238	34	7	2.14E-09	0.74045	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGC	*	
239					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
240	39	7	2.14E-09	0.74275	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGB	*	
241					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
242	162	7	2.09E-09	0.74500	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*	
243					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
244	167	7	2.09E-09	0.74725	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*	
245					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
246	137	5	2.08E-09	0.74948	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
247					LOSPNR5HR	+							
248	132	5	2.08E-09	0.75172	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
249					LOSPNR5HR	+							
250	44	7	2.05E-09	0.75392	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPA	*	
251					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
252	59	7	2.05E-09	0.75612	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPB	*	
253					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
254	49	7	2.05E-09	0.75833	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
255					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
256	54	7	2.05E-09	0.76053	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
257					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
258	113	7	1.99E-09	0.76267	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPA	*	
259					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
260	118	7	1.99E-09	0.76481	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPB	*	
261					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
262	73	5	1.98E-09	0.76694	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
263					LOSPNR7HR	+							
264	78	5	1.98E-09	0.76907	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
265					LOSPNR7HR	+							
266	140	5	1.95E-09	0.77117	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
267					LOSPNR12HR	+							
268	135	5	1.95E-09	0.77326	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
269					LOSPNR12HR	+							
270	98	5	1.90E-09	0.77530	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	

271					LOSPNR7HR	+									
272	93	5	1.90E-09	0.77734	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*			
273					LOSPNR7HR	+									
274	147	5	1.90E-09	0.77938	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*			
275					LOSPNR5HR	+									
276	142	5	1.90E-09	0.78142	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*			
277					LOSPNR5HR	+									
278	150	5	1.78E-09	0.78333	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*			
279					LOSPNR12HR	+									
280	145	5	1.78E-09	0.78525	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*			
281					LOSPNR12HR	+									
282	177	7	1.74E-09	0.78712	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241C	*			
283					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+					
284	172	7	1.74E-09	0.78900	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241B	*			
285					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+					
286	170	7	1.60E-09	0.79073	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPA	*			
287					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+					
288	165	7	1.60E-09	0.79245	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPB	*			
289					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+					
290	84	7	1.57E-09	0.79414	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*			
291					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+					
292	89	7	1.57E-09	0.79583	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*			
293					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+					
294	160	6	1.55E-09	0.79750	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*			
295					IE-T1	*	LOSPNR12HR	+							
296	155	6	1.55E-09	0.79916	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*			
297					IE-T1	*	LOSPNR12HR	+							
298	186	5	1.54E-09	0.80082	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*			
299					LOSPNR13HR	+									
300	181	5	1.54E-09	0.80248	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*			
301					LOSPNR13HR	+									
302	202	6	1.53E-09	0.80412	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*			
303					IE-T1	*	LOSPNR5HR	+							
304	207	6	1.53E-09	0.80576	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*			
305					IE-T1	*	LOSPNR5HR	+							
306	109	7	1.49E-09	0.80737	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPB	*			
307					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+					
308	104	7	1.49E-09	0.80898	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPA	*			
309					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+					
310	196	6	1.45E-09	0.81054	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	IE-T1	*			
311					INJ-FAILS	*	LOSPNR13HR	+							
312	191	6	1.45E-09	0.81209	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	IE-T1	*			
313					INJ-FAILS	*	LOSPNR13HR	+							
314	79	5	1.42E-09	0.81362	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*			
315					LOSPNR9HR	+									
316	74	5	1.42E-09	0.81515	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*			
317					LOSPNR9HR	+									
318	206	6	1.42E-09	0.81668	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*			
319					INJ-FAILS	*	LOSPNR13HR	+							
320	201	6	1.42E-09	0.81820	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*			
321					INJ-FAILS	*	LOSPNR13HR	+							
322	216	6	1.39E-09	0.81970	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*			
323					INJ-FAILS	*	LOSPNR13HR	+							
324	211	6	1.39E-09	0.82119	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*			
325					INJ-FAILS	*	LOSPNR13HR	+							
326	133	5	1.38E-09	0.82268	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*			

327					LOSPNR7HR	+							
328	138	5	1.38E-09	0.82417	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
329					LOSPNR7HR	+							
330	114	7	1.36E-09	0.82564	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPA	*	
331					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
332	119	7	1.36E-09	0.82710	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPB	*	
333					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
334	94	5	1.36E-09	0.82857	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
335					LOSPNR9HR	+							
336	129	6	1.36E-09	0.83004	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515A	*	
337					IE-T1	*	LOSPNR9HR	+					
338	124	6	1.36E-09	0.83150	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515B	*	
339					IE-T1	*	LOSPNR9HR	+					
340	99	5	1.36E-09	0.83297	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
341					LOSPNR9HR	+							
342	180	7	1.34E-09	0.83441	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241C	*	
343					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
344	175	7	1.34E-09	0.83585	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241B	*	
345					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
346	158	6	1.33E-09	0.83727	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
347					IE-T1	*	LOSPNR7HR	+					
348	153	6	1.33E-09	0.83870	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
349					IE-T1	*	LOSPNR7HR	+					
350	306	7	1.33E-09	0.84013	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
351					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
352	301	7	1.33E-09	0.84155	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
353					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
354	148	5	1.26E-09	0.84291	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
355					LOSPNR7HR	+							
356	143	5	1.26E-09	0.84427	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
357					LOSPNR7HR	+							
358	307	7	1.22E-09	0.84559	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
359					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
360	302	7	1.22E-09	0.84690	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
361					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
362	227	7	1.19E-09	0.84818	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241C	*	
363					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
364	222	7	1.19E-09	0.84947	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241B	*	
365					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
366	163	7	1.19E-09	0.85075	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPB	*	
367					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
368	168	7	1.19E-09	0.85204	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPA	*	
369					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
370	226	7	1.11E-09	0.85323	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
371					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
372	221	7	1.11E-09	0.85442	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
373					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
374	231	5	1.04E-09	0.85554	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	INJ-FAILS	*	
375					LOSPNR18HR	+							
376	236	5	1.04E-09	0.85666	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	INJ-FAILS	*	
377					LOSPNR18HR	+							
378	246	6	1.01E-09	0.85775	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
379					INJ-FAILS	*	LOSPNR13HR	+					
380	241	6	1.01E-09	0.85884	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
381					INJ-FAILS	*	LOSPNR13HR	+					
382	178	7	9.95E-10	0.85991	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241C	*	

383					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
384	173	7	9.95E-10	0.86098	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241B	*	
385					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
386	134	5	9.94E-10	0.86205	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
387					LOSPNR9HR	+							
388	139	5	9.94E-10	0.86312	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
389					LOSPNR9HR	+							
390	251	6	9.75E-10	0.86417	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	IE-T1	*	
391					INJ-FAILS	*	LOSPNR18HR	+					
392	256	6	9.75E-10	0.86522	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
393					INJ-FAILS	*	LOSPNR18HR	+					
394	187	5	9.48E-10	0.86624	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
395					LOSPNR5HR	+							
396	182	5	9.48E-10	0.86726	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
397					LOSPNR5HR	+							
398	261	6	9.34E-10	0.86827	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
399					INJ-FAILS	*	LOSPNR18HR	+					
400	266	6	9.34E-10	0.86927	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
401					INJ-FAILS	*	LOSPNR18HR	+					
402	276	6	9.24E-10	0.87027	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
403					INJ-FAILS	*	LOSPNR13HR	+					
404	271	6	9.24E-10	0.87126	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
405					INJ-FAILS	*	LOSPNR13HR	+					
406	205	6	9.20E-10	0.87225	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
407					IE-T1	*	LOSPNR12HR	+					
408	210	6	9.20E-10	0.87324	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
409					IE-T1	*	LOSPNR12HR	+					
410	144	5	9.08E-10	0.87422	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
411					LOSPNR9HR	+							
412	149	5	9.08E-10	0.87520	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
413					LOSPNR9HR	+							
414	197	6	8.90E-10	0.87615	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
415					IE-T1	*	LOSPNR5HR	+					
416	192	6	8.90E-10	0.87711	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
417					IE-T1	*	LOSPNR5HR	+					
418	190	5	8.89E-10	0.87807	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
419					LOSPNR12HR	+							
420	185	5	8.89E-10	0.87902	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
421					LOSPNR12HR	+							
422	208	6	8.72E-10	0.87996	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*	
423					IE-T1	*	LOSPNR7HR	+					
424	203	6	8.72E-10	0.88090	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*	
425					IE-T1	*	LOSPNR7HR	+					
426	217	6	8.53E-10	0.88182	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
427					IE-T1	*	LOSPNR5HR	+					
428	212	6	8.53E-10	0.88274	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
429					IE-T1	*	LOSPNR5HR	+					
430	200	6	8.35E-10	0.88364	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
431					IE-T1	*	LOSPNR12HR	+					
432	195	6	8.35E-10	0.88453	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
433					IE-T1	*	LOSPNR12HR	+					
434	305	7	8.27E-10	0.88542	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
435					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
436	310	7	8.27E-10	0.88632	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
437					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
438	169	7	8.19E-10	0.88720	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPA	*	

439					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
440	164	7	8.19E-10	0.88808	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPB	*	
441					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
442	159	6	8.17E-10	0.88896	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*	
443					IE-T1	*	LOSPNR9HR	+					
444	154	6	8.17E-10	0.88984	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*	
445					IE-T1	*	LOSPNR9HR	+					
446	215	6	8.00E-10	0.89070	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
447					IE-T1	*	LOSPNR12HR	+					
448	220	6	8.00E-10	0.89156	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
449					IE-T1	*	LOSPNR12HR	+					
450	286	7	7.63E-10	0.89238	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
451					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
452	281	7	7.63E-10	0.89320	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
453					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
454	406	7	7.47E-10	0.89401	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
455					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
456	411	7	7.47E-10	0.89481	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
457					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
458	230	7	7.20E-10	0.89558	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-AOV-CC-0241C	*	
459					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
460	225	7	7.20E-10	0.89636	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-AOV-CC-0241B	*	
461					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
462	412	7	6.87E-10	0.89710	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-MDP-FR-MDPB	*	
463					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
464	407	7	6.87E-10	0.89784	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-MDP-FR-MDPA	*	
465					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
466	326	7	6.85E-10	0.89858	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	EHV-SRV-CC-RV2	*	ESW-XHE-FO-EHS	*	
467					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
468	316	7	6.85E-10	0.89931	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	EHV-SRV-CC-RV3	*	ESW-XHE-FO-EHS	*	
469					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
470	228	7	6.82E-10	0.90005	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-AOV-CC-0241C	*	
471					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
472	223	7	6.82E-10	0.90078	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-AOV-CC-0241B	*	
473					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
474	179	7	6.82E-10	0.90152	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-CC-0241C	*	
475					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
476	174	7	6.82E-10	0.90225	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-CC-0241B	*	
477					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
478	282	7	6.82E-10	0.90298	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241B	*	
479					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
480	287	7	6.82E-10	0.90372	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241C	*	
481					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
482	291	6	6.82E-10	0.90445	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
483					INJ-FAILS	*	LOSPNR18HR	+					
484	296	6	6.82E-10	0.90519	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
485					INJ-FAILS	*	LOSPNR18HR	+					
486	308	7	6.81E-10	0.90592	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
487					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
488	303	7	6.81E-10	0.90665	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
489					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
490	331	7	6.50E-10	0.90735	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	DGHWNR12HR	*	
491					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
492	183	5	6.32E-10	0.90803	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
493					LOSPNR7HR	+							
494	188	5	6.32E-10	0.90871	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	

SEQUENCE T3A-C-SLC

TOP EVENT T3A-C-SLC CONTAINS 13 EVENTS IN 9 CUT SETS

THE FREQUENCY OF TOP EVENT T3A-C-SLC IS 1.01E-06

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T3A-C-SLC

N	1000
MEAN	1.40E-06
STD DEV	4.92E-06
LOWER 5%	1.71E-08
LOWER 25%	8.85E-08
MEDIAN	2.70E-07
UPPER 25%	9.76E-07
UPPER 5%	5.37E-06

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T3A-C-SLC
RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	9	1.00E+00	(1.0)	1.41E-06	(1.5)		
RPSM	9	1.00E-05	(12.0)	1.41E-06	(1.5)	1.71E-08	5.37E-06
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	7.97E-07	(3.0)	3.14E-09	3.20E-06
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	5.00E-07	(4.0)	3.34E-09	1.91E-06
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	8.50E-08	(5.0)	7.10E-10	3.01E-07
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	1.57E-08	(6.5)	3.23E-11	5.41E-08
BETA-2SIPUMPS	1	2.10E-01	(2.0)	1.57E-08	(6.5)	3.23E-11	5.41E-08
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	2.50E-09	(8.5)	3.60E-11	1.03E-08
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	2.50E-09	(8.5)	3.60E-11	1.03E-08
SLC-XVM-PG-XV18	1	4.00E-05	(10.0)	1.00E-09	(11.0)	1.44E-11	3.57E-09
SLC-XVM-PG-XV15	1	4.00E-05	(10.0)	1.00E-09	(11.0)	1.44E-11	3.57E-09
SLC-XVM-PG-XV11	1	4.00E-05	(10.0)	1.00E-09	(11.0)	1.44E-11	3.57E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3A	9	2.50E+00	(1.0)	1.41E-06	(1.0)	1.71E-08	5.37E-06

SEQUENCE T3A-C-SLC
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	9	1.00E-05	(12.0)	1.41E-01	(1.0)	1.58E-02	4.80E-01
SLC-XVM-PG-XV18	1	4.00E-05	(10.0)	2.50E-05	(3.0)	5.65E-07	9.37E-05
SLC-XVM-PG-XV11	1	4.00E-05	(10.0)	2.50E-05	(3.0)	5.65E-07	9.37E-05
SLC-XVM-PG-XV15	1	4.00E-05	(10.0)	2.50E-05	(3.0)	5.65E-07	9.37E-05
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	2.50E-05	(5.5)	5.65E-07	9.37E-05
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	2.50E-05	(5.5)	5.65E-07	9.37E-05
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	2.49E-05	(7.0)	5.63E-07	9.35E-05
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	2.45E-05	(8.0)	5.44E-07	9.17E-05
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	2.42E-05	(9.0)	5.28E-07	9.36E-05
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	5.23E-06	(10.0)	6.31E-08	2.05E-05
BETA-2SIPUMPS	1	2.10E-01	(2.0)	5.92E-08	(11.0)	1.75E-10	2.12E-07
NR	9	1.00E+00	(1.0)	0.00E+00	(12.0)		

SEQUENCE T3A-C-SLC
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	9	1.00E-05	(12.0)	64.9	(1.0)	9.20	0.89
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	14.2	(2.0)	1.71	0.94
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	7.4	(3.0)	1.29	1.01
BETA-2SIPUMPS	1	2.10E-01	(2.0)	0.6	(4.0)	1.01	1.00
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	0.3	(5.0)	0.99	1.00
SLC-XVM-PG-XV18	1	4.00E-05	(10.0)	0.0	(8.5)		
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	0.0	(8.5)		
SLC-XVM-PG-XV11	1	4.00E-05	(10.0)	0.0	(8.5)		
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	0.0	(8.5)		
SLC-XVM-PG-XV15	1	4.00E-05	(10.0)	0.0	(8.5)		
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	0.0	(8.5)		
NR	9	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3A	9	2.50E+00	(1.0)	14.7	(1.0)	1.66	0.98

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T3A-C-SLC

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T3A-C-SLC WITH TOP EVENT FREQUENCY 1.41E-06

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	7.97E-07	0.56711	IE-T3A	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	2	4	5.00E-07	0.92267	IE-T3A	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	3	4	8.50E-08	0.96311	IE-T3A	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
5	4	5	1.57E-08	0.99431	BETA-2SIPUMPS	*	IE-T3A	*	NR	*	RPSM	*
6					SLC-MDP-FS-CCF	+						
7	6	4	2.50E-09	0.99609	IE-T3A	*	NR	*	RPSM	*	SLC-CKV-HW-CV17	+
8	5	4	2.50E-09	0.99787	IE-T3A	*	NR	*	RPSM	*	SLC-CKV-HW-CV16	+
9	7	4	1.00E-09	0.99858	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV15	+
10	9	4	1.00E-09	0.99929	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV11	+
11	8	4	1.00E-09	1.00000	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV16	.

SEQUENCE T3A-CU11X

TOP EVENT T3A-CU11X CONTAINS 18 EVENTS IN 14 CUT SETS

THE FREQUENCY OF TOP EVENT T3A-CU11X IS 2.62E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T3A-CU11X

N	1000
MEAN	2.79E-07
STD DEV	1.26E-06
LOWER 5%	2.71E-09
LOWER 25%	1.55E-08
MEDIAN	5.32E-08
UPPER 25%	1.64E-07
UPPER 5%	1.02E-06

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T3A-CU11X

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
RPSM	14	1.00E-05	(17.0)	2.62E-07	(2.0)	2.71E-09	1.02E-06
NR	14	1.00E+00	(1.0)	2.62E-07	(2.0)		
ESF-XHE-FO-DATWS	14	2.00E-01	(2.0)	2.62E-07	(2.0)	2.71E-09	1.02E-06
HCI-TDP-FS-20S37	1	3.00E-02	(3.0)	1.50E-07	(4.0)	1.08E-09	5.89E-07
HCI-TDP-MA-20S37	1	1.00E-02	(4.0)	5.00E-08	(5.0)	3.39E-10	1.80E-07
HCI-TDP-FO-20S37	1	5.00E-03	(5.0)	2.50E-08	(6.0)	1.61E-10	8.78E-08
HCI-MOV-CC-MV19	1	3.00E-03	(6.5)	1.50E-08	(7.5)	3.14E-11	4.91E-08
HCI-MOV-CC-MV14	1	3.00E-03	(6.5)	1.50E-08	(7.5)	3.14E-11	4.91E-08
HCI-MOV-MA-MV14	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-MOV-MA-PCV50	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-MOV-MA-MV57	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-MOV-MA-MV20	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-MOV-MA-MV17	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-ICC-HW-FC108	1	1.25E-04	(13.0)	6.25E-10	(14.0)	5.75E-12	2.19E-09
HCI-TCV-HW-TCV18	1	1.00E-04	(15.0)	5.00E-10	(16.0)	4.42E-12	1.83E-09
HCI-CKV-HW-CV65	1	1.00E-04	(15.0)	5.00E-10	(16.0)	4.42E-12	1.83E-09
HCI-CKV-HW-CV32	1	1.00E-04	(15.0)	5.00E-10	(16.0)	4.42E-12	1.83E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3A	14	2.50E+00	(1.0)	2.62E-07	(1.0)	2.71E-09	1.02E-06

SEQUENCE T3A-CU11X
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	14	1.00E-05	(17.0)	2.62E-02	(1.0)	2.09E-03	8.56E-02
HCI-TCV-HW-TCV18	1	1.00E-04	(15.0)	5.00E-06	(3.0)	6.85E-08	1.88E-05
HCI-CKV-HW-CV32	1	1.00E-04	(15.0)	5.00E-06	(3.0)	6.85E-08	1.88E-05
HCI-CKV-HW-CV65	1	1.00E-04	(15.0)	5.00E-06	(3.0)	6.85E-08	1.88E-05
HCI-ICC-HW-FC108	1	1.25E-04	(13.0)	5.00E-06	(5.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV14	1	2.00E-04	(10.0)	5.00E-06	(8.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV57	1	2.00E-04	(10.0)	5.00E-06	(8.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV20	1	2.00E-04	(10.0)	5.00E-06	(8.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV17	1	2.00E-04	(10.0)	5.00E-06	(8.0)	6.85E-08	1.88E-05
HCI-MOV-MA-PCV50	1	2.00E-04	(10.0)	5.00E-06	(8.0)	6.85E-08	1.88E-05
HCI-MOV-CC-MV19	1	3.00E-03	(6.5)	4.99E-06	(11.5)	6.84E-08	1.87E-05
HCI-MOV-CC-MV14	1	3.00E-03	(6.5)	4.99E-06	(11.5)	6.84E-08	1.87E-05
HCI-TDP-FO-20S37	1	5.00E-03	(5.0)	4.97E-06	(13.0)	6.83E-08	1.87E-05
HCI-TDP-MA-20S37	1	1.00E-02	(4.0)	4.95E-06	(14.0)	6.75E-08	1.87E-05
HCI-TDP-FS-20S37	1	3.00E-02	(3.0)	4.85E-06	(15.0)	6.67E-08	1.82E-05
ESF-XHE-FO-DATWS	14	2.00E-01	(2.0)	1.05E-06	(16.0)	1.76E-08	4.15E-06
NR	14	1.00E+00	(1.0)	0.00E+00	(17.0)		

SEQUENCE T3A-CU11X
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	14	1.00E-05	(17.0)	60.7	(1.0)	7.73	0.84
ESF-XHE-FO-DATWS	14	2.00E-01	(2.0)	15.9	(2.0)	1.74	0.93
HCI-TDP-FS-20S37	1	3.00E-02	(3.0)	6.3	(3.0)	1.22	0.88
HCI-MOV-CC-MV14	1	3.00E-03	(6.5)	1.6	(4.5)	0.99	0.96
HCI-MOV-CC-MV19	1	3.00E-03	(6.5)	1.6	(4.5)	0.99	0.96
HCI-TDP-MA-20S37	1	1.00E-02	(4.0)	1.0	(6.0)	1.08	0.97
HCI-ICC-HW-FC108	1	1.25E-04	(13.0)	0.6	(7.0)	1.00	1.00
HCI-TDP-FO-20S37	1	5.00E-03	(5.0)	0.6	(8.0)	0.98	0.94
HCI-MOV-MA-MV14	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-TCV-HW-TCV18	1	1.00E-04	(15.0)	0.0	(12.5)		
HCI-CKV-HW-CV65	1	1.00E-04	(15.0)	0.0	(12.5)		
HCI-MOV-MA-PCV50	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-MOV-MA-MV57	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-MOV-MA-MV20	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-MOV-MA-MV17	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-CKV-HW-CV32	1	1.00E-04	(15.0)	0.0	(12.5)		
NR	14	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3A	14	2.50E+00	(1.0)	14.8	(1.0)	1.52	1.06

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T3A-CU11X

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T3A-CU11X WITH TOP EVENT FREQUENCY 2.62E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	5	1.50E-07	0.57225	ESF-XHE-FO-DATWS	*	HCI-TDP-FS-20S37	*	IE-T3A	*	NR	*
3					RPSM	+						
4	2	5	5.00E-08	0.76299	ESF-XHE-FO-DATWS	*	HCI-TDP-MA-20S37	*	IE-T3A	*	NR	*
5					RPSM	+						
6	3	5	2.50E-08	0.85837	ESF-XHE-FO-DATWS	*	HCI-TDP-FO-20S37	*	IE-T3A	*	NR	*
7					RPSM	+						
8	4	5	1.50E-08	0.91559	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV14	*	IE-T3A	*	NR	*
9					RPSM	+						
10	5	5	1.50E-08	0.97282	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV19	*	IE-T3A	*	NR	*
11					RPSM	+						
12	7	5	1.00E-09	0.97663	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-PCV50	*	IE-T3A	*	NR	*
13					RPSM	+						
14	6	5	1.00E-09	0.98045	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV14	*	IE-T3A	*	NR	*
15					RPSM	+						
16	10	5	1.00E-09	0.98426	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV17	*	IE-T3A	*	NR	*
17					RPSM	+						
18	9	5	1.00E-09	0.98808	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV57	*	IE-T3A	*	NR	*
19					RPSM	+						
20	8	5	1.00E-09	0.99189	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV20	*	IE-T3A	*	NR	*
21					RPSM	+						
22	11	5	6.25E-10	0.99428	ESF-XHE-FO-DATWS	*	HCI-ICC-HW-FC108	*	IE-T3A	*	NR	*
23					RPSM	+						
24	14	5	5.00E-10	0.99619	ESF-XHE-FO-DATWS	*	HCI-CKV-HW-CV65	*	IE-T3A	*	NR	*
25					RPSM	+						
26	13	5	5.00E-10	0.99809	ESF-XHE-FO-DATWS	*	HCI-CKV-HW-CV32	*	IE-T3A	*	NR	*
27					RPSM	+						
28	12	5	5.00E-10	1.00000	ESF-XHE-FO-DATWS	*	HCI-TCV-HW-TCV18	*	IE-T3A	*	NR	*
29					RPSM	.						

SEQUENCE S1-V2V3V4NU11

TOP EVENT S1-V2V3V4NU11 CONTAINS 7 EVENTS IN 3 CUT SETS

THE FREQUENCY OF TOP EVENT S1-V2V3V4NU11 IS 1.60E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT S1-V2V3V4NU11

N	1000
MEAN	2.12E-07
STD DEV	1.81E-06
LOWER 5%	9.66E-10
LOWER 25%	5.67E-09
MEDIAN	2.29E-08
UPPER 25%	8.55E-08
UPPER 5%	6.42E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE S1-V2V3V4NU11

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	3	1.00E+00	(1.0)	1.60E-07	(1.0)		
ESF-XHE-MC-PRES	1	5.32E-04	(6.0)	1.60E-07	(2.0)	8.38E-10	6.02E-07
ESF-ASP-FC-PL52C	1	1.00E-03	(3.5)	3.00E-10	(4.5)	7.77E-14	2.45E-09
ESF-ASP-FC-PL52D	1	1.00E-03	(3.5)	3.00E-10	(4.5)	7.77E-14	2.45E-09
ESF-ASP-FC-PL52B	1	1.00E-03	(3.5)	3.00E-10	(4.5)	7.77E-14	2.45E-09
ESF-ASP-FC-PL52A	1	1.00E-03	(3.5)	3.00E-10	(4.5)	7.77E-14	2.45E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-S1	3	3.00E-04	(1.0)	1.60E-07	(1.0)	9.66E-10	6.42E-07

SEQUENCE S1-V2V3V4NU11
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-MC-PRES	1	5.32E-04	(6.0)	3.00E-04	(1.0)	1.12E-05	1.13E-03
ESF-ASP-FC-PL52A	1	1.00E-03	(3.5)	3.00E-07	(3.5)	1.47E-09	1.14E-06
ESF-ASP-FC-PL52D	1	1.00E-03	(3.5)	3.00E-07	(3.5)	1.47E-09	1.14E-06
ESF-ASP-FC-PL52B	1	1.00E-03	(3.5)	3.00E-07	(3.5)	1.47E-09	1.14E-06
ESF-ASP-FC-PL52C	1	1.00E-03	(3.5)	3.00E-07	(3.5)	1.47E-09	1.14E-06
NR	3	1.00E+00	(1.0)	0.00E+00	(6.0)		

SEQUENCE S1-V2V3V4NU11

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
ESF-XHE-MC-PRES	1	5.32E-04	(6.0)	48.4	(1.0)	6.44	0.98
ESF-ASP-FC-PL52A	1	1.00E-03	(3.5)	1.8	(3.5)	0.98	0.94
ESF-ASP-FC-PL52D	1	1.00E-03	(3.5)	1.8	(3.5)	0.98	0.94
ESF-ASP-FC-PL52B	1	1.00E-03	(3.5)	1.8	(3.5)	0.98	0.94
ESF-ASP-FC-PL52C	1	1.00E-03	(3.5)	1.8	(3.5)	0.98	0.94
NR	3	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-S1	3	3.00E-04	(1.0)	51.6	(1.0)	7.14	0.95

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE S1-V2V3V4NU11

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT S1-V2V3V4NU11 WITH TOP EVENT FREQUENCY 1.60E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	3	1.60E-07	0.99625	ESF-XHE-MC-PRES	*	IE-S1	*	NR	+				
3	3	4	3.00E-10	0.99813	ESF-ASP-FC-PL52C	*	ESF-ASP-FC-PL52D	*	IE-S1	*	NR			+
4	2	4	3.00E-10	1.00000	ESF-ASP-FC-PL52A	*	ESF-ASP-FC-PL52B	*	IE-S1	*	NR			

SEQUENCE T1-BU11U21

TOP EVENT T1-BU11U21 CONTAINS 4 EVENTS IN 1 CUT SET

THE FREQUENCY OF TOP EVENT T1-BU11U21 IS 1.78E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T1-BU11U21

N	1000
MEAN	1.90E-07
STD DEV	6.19E-07
LOWER 5%	3.26E-09
LOWER 25%	1.47E-08
MEDIAN	4.55E-08
UPPER 25%	1.46E-07
UPPER 5%	6.45E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T1-BU11U21

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
BETA-5BAT	1	2.50E-03	(2.0)	1.78E-07	(2.0)	3.26E-09	6.45E-07
NR	1	1.00E+00	(1.0)	1.78E-07	(2.0)		
DCP-BAT-LF-CCF	1	9.00E-04	(3.0)	1.78E-07	(2.0)	3.26E-09	6.45E-07

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	1	7.90E-02	(1.0)	1.78E-07	(1.0)	3.26E-09	6.45E-07

SEQUENCE T1-BU11U21
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
DCP-BAT-LF-CCF	1	9.00E-04	(3.0)	1.97E-04	(1.0)	2.63E-05	5.42E-04
BETA-5BAT	1	2.50E-03	(2.0)	7.09E-05	(2.0)	1.78E-06	2.88E-04
NR	1	1.00E+00	(1.0)	0.00E+00	(3.0)		

SEQUENCE T1-BU11U21

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
DCP-BAT-LF-CCF	1	9.00E-04	(3.0)	65.4	(1.0)	7.25	0.76
BETA-5BAT	1	2.50E-03	(2.0)	15.6	(2.0)	1.37	1.12
NR	1	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	1	7.90E-02	(1.0)	20.2	(1.0)	1.33	0.94

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T1-BU11U21

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T1-BU11U21 WITH TOP EVENT FREQUENCY 1.78E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	1.78E-07	1.00000	BETA-5BAT	*	DCP-BAT-LF-CCF	*	IE-T1	*	NR

SEQUENCE T1-P1BNU11

TOP EVENT T1-P1BNU11 CONTAINS 62 EVENTS IN 285 CUT SETS

THE FREQUENCY OF TOP EVENT T1-P1BNU11 IS 8.12E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T1-P1BNU11

N	1000
MEAN	1.31E-07
STD DEV	7.29E-07
LOWER 5%	1.14E-09
LOWER 25%	6.93E-09
MEDIAN	2.07E-08
UPPER 25%	6.27E-08
UPPER 5%	3.51E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T1-P18NU11
RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
P1	285	9.60E-02	(19.0)	8.12E-08	(1.0)	1.14E-09	3.51E-07
ESW-XHE-FO-EHS	165	9.00E-01	(1.0)	4.52E-08	(2.0)	1.67E-10	2.16E-07
ACP-DGN-FR-EDGC	65	1.60E-02	(29.0)	2.88E-08	(3.5)	2.59E-11	1.55E-07
ACP-DGN-FR-EDGB	65	1.60E-02	(29.0)	2.88E-08	(3.5)	2.59E-11	1.55E-07
INJ-FAILS	57	5.00E-01	(12.0)	2.63E-08	(5.0)	0.00E+00	1.08E-07
BAT-DEP-3HR	57	8.33E-02	(21.0)	1.97E-08	(6.0)	0.00E+00	5.24E-08
BAT-DEP-9HR	57	2.50E-01	(18.0)	1.55E-08	(7.0)	0.00E+00	6.22E-08
LOSPNR18HR	30	7.30E-03	(36.0)	1.54E-08	(8.0)	0.00E+00	6.41E-08
LOSPNR9HR	57	2.30E-02	(27.0)	1.53E-08	(9.0)	0.00E+00	4.52E-08
DGHWNR12HR	26	5.50E-01	(10.0)	1.36E-08	(10.0)	0.00E+00	5.39E-08
LOSPNR12HR	57	1.50E-02	(31.0)	1.32E-08	(11.0)	0.00E+00	5.34E-08
BAT-DEP-5HR	57	8.33E-02	(21.0)	1.17E-08	(12.0)	0.00E+00	2.52E-08
LOSPNR13HR	27	1.30E-02	(32.5)	1.09E-08	(13.0)	0.00E+00	4.61E-08
DGHWNR3HR	26	8.00E-01	(2.0)	1.05E-08	(14.0)	0.00E+00	1.24E-08
ESW-CKV-CB-C515B	50	3.00E-03	(44.0)	1.00E-08	(15.5)	1.25E-10	3.82E-08
ESW-CKV-CB-C515A	50	3.00E-03	(44.0)	1.00E-08	(15.5)	1.25E-10	3.82E-08
LOSPNR17HR	30	8.10E-03	(35.0)	9.06E-09	(17.0)	0.00E+00	2.10E-08
BAT-DEP-7HR	57	8.33E-02	(21.0)	8.04E-09	(18.0)	0.00E+00	2.19E-08
DGHWNR9HR	26	5.80E-01	(9.0)	7.98E-09	(19.0)	0.00E+00	2.25E-08
ESW-AOV-CC-CCF	5	1.00E-03	(57.5)	7.85E-09	(20.5)	7.84E-11	3.12E-08
BETA-3AOVS	5	5.50E-02	(23.0)	7.85E-09	(20.5)	7.84E-11	3.12E-08
LOSPNR5HR	27	4.80E-02	(24.0)	7.77E-09	(22.0)	0.00E+00	2.69E-08
DGHWNR5HR	26	7.00E-01	(4.0)	5.99E-09	(23.0)	0.00E+00	6.51E-09
EHV-AOV-CC-CCF	5	1.00E-03	(57.5)	5.14E-09	(24.5)	4.93E-11	2.42E-08
BETA-6AOVS	5	3.60E-02	(25.0)	5.14E-09	(24.5)	4.93E-11	2.42E-08
ACP-DGN-MA-EDGB	15	6.00E-03	(37.5)	4.96E-09	(26.5)	6.88E-12	1.79E-08
ACP-DGN-MA-EDGC	15	6.00E-03	(37.5)	4.96E-09	(26.5)	6.88E-12	1.79E-08
LOSPNR7HR	27	3.20E-02	(26.0)	4.93E-09	(28.0)	0.00E+00	1.43E-08
LOSPNR14HR	30	1.20E-02	(34.0)	4.67E-09	(29.0)	0.00E+00	4.04E-09
DGHWNR7HR	26	6.00E-01	(7.0)	4.08E-09	(30.0)	0.00E+00	3.73E-09
ESW-MDP-FS-MDPB	20	3.00E-03	(44.0)	3.94E-09	(31.5)	1.31E-11	1.47E-08
ESW-MDP-FS-MDPA	20	3.00E-03	(44.0)	3.94E-09	(31.5)	1.31E-11	1.47E-08
ESW-PTF-RE-DGC	10	3.13E-03	(39.5)	3.46E-09	(33.5)	6.87E-12	1.06E-08
ESW-PTF-RE-DGB	10	3.13E-03	(39.5)	3.46E-09	(33.5)	6.87E-12	1.06E-08
DGMANR12HR	8	4.00E-01	(16.5)	3.11E-09	(35.0)	0.00E+00	7.21E-09
ACP-DGN-LP-EDGC	15	3.00E-03	(44.0)	3.09E-09	(36.5)	2.06E-11	1.04E-08
ACP-DGN-LP-EDGB	15	3.00E-03	(44.0)	3.09E-09	(36.5)	2.06E-11	1.04E-08
DGMANR3HR	8	7.00E-01	(4.0)	3.04E-09	(38.0)	0.00E+00	3.96E-09
BETA-4DGNS	5	1.30E-02	(32.5)	2.85E-09	(39.5)	1.39E-11	8.82E-09
ACP-DGN-LP-CCF	5	3.00E-03	(44.0)	2.85E-09	(39.5)	1.39E-11	8.82E-09
ESW-MDP-MA-MDPB	20	2.00E-03	(52.5)	2.63E-09	(41.5)	7.67E-12	8.95E-09
ESW-MDP-MA-MDPA	20	2.00E-03	(52.5)	2.63E-09	(41.5)	7.67E-12	8.95E-09
ESW-PTF-RE-MDPB	10	2.19E-03	(50.5)	2.42E-09	(43.5)	4.56E-12	7.59E-09
ESW-PTF-RE-MDPA	10	2.19E-03	(50.5)	2.42E-09	(43.5)	4.56E-12	7.59E-09
ESW-AOV-CC-0241C	30	1.00E-03	(57.5)	2.39E-09	(45.5)	2.90E-11	1.01E-08
ESW-AOV-CC-0241B	30	1.00E-03	(57.5)	2.39E-09	(45.5)	2.90E-11	1.01E-08
ACP-DGN-TE-EDGC	10	2.30E-03	(48.5)	2.06E-09	(47.5)	1.09E-11	6.45E-09

ACP-DGN-TE-EDGB	10	2.30E-03	(48.5)	2.06E-09	(47.5)	1.09E-11	6.45E-09
DGMANR9HR	8	4.50E-01	(14.5)	1.97E-09	(49.0)	0.00E+00	6.63E-09
DGMANR5HR	8	6.00E-01	(7.0)	1.72E-09	(50.0)	0.00E+00	2.34E-09
ESW-MDP-FR-MDPB	20	1.20E-03	(54.5)	1.48E-09	(51.5)	1.81E-12	5.04E-09
ESW-MDP-FR-MDPA	20	1.20E-03	(54.5)	1.48E-09	(51.5)	1.81E-12	5.04E-09
DGMANR7HR	8	5.00E-01	(12.0)	1.10E-09	(53.0)	0.00E+00	1.12E-09
DGCCFNR3HR	1	7.00E-01	(4.0)	8.28E-10	(54.0)	0.00E+00	1.45E-09
DGCCFNR12HR	1	4.00E-01	(16.5)	7.69E-10	(55.0)	0.00E+00	2.97E-09
DGCCFNR9HR	1	4.50E-01	(14.5)	4.99E-10	(56.0)	0.00E+00	1.90E-09
DGCCFNR5HR	1	6.00E-01	(7.0)	4.73E-10	(57.0)	0.00E+00	1.16E-09
DGCCFNR7HR	1	5.00E-01	(12.0)	2.83E-10	(58.0)	0.00E+00	5.79E-10
EHV-SRV-CC-RV3	5	3.00E-04	(60.5)	2.03E-10	(59.5)	5.81E-14	5.88E-10
EHV-SRV-CC-RV2	5	3.00E-04	(60.5)	2.03E-10	(59.5)	5.81E-14	5.88E-10
ACP-DGN-FR-EDGD	5	1.60E-02	(29.0)	1.92E-10	(61.0)	9.38E-16	3.87E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	285	7.90E-02	(1.0)	8.12E-08	(1.0)	1.14E-09	3.51E-07

SEQUENCE T1-P1BNU11
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESW-AOV-CC-CCF	5	1.00E-03	(57.5)	7.85E-06	(1.0)	1.27E-07	2.94E-05
EHV-AOV-CC-CCF	5	1.00E-03	(57.5)	5.14E-06	(2.0)	7.78E-08	1.90E-05
ESW-CKV-CB-C515A	50	3.00E-03	(44.0)	3.33E-06	(3.5)	6.22E-08	1.44E-05
ESW-CKV-CB-C515B	50	3.00E-03	(44.0)	3.33E-06	(3.5)	6.22E-08	1.44E-05
ESW-AOV-CC-0241B	30	1.00E-03	(57.5)	2.38E-06	(5.5)	4.88E-08	1.04E-05
ESW-AOV-CC-0241C	30	1.00E-03	(57.5)	2.38E-06	(5.5)	4.88E-08	1.04E-05
LOSPNR18HR	30	7.30E-03	(36.0)	2.09E-06	(7.0)	0.00E+00	1.06E-05
ACP-DGN-FR-EDGC	65	1.60E-02	(29.0)	1.77E-06	(8.5)	1.04E-08	6.95E-06
ACP-DGN-FR-EDGB	65	1.60E-02	(29.0)	1.77E-06	(8.5)	1.04E-08	6.95E-06
ESW-MDP-MA-MDPA	20	2.00E-03	(52.5)	1.31E-06	(10.5)	2.50E-08	4.62E-06
ESW-MDP-MA-MDPB	20	2.00E-03	(52.5)	1.31E-06	(10.5)	2.50E-08	4.62E-06
ESW-MDP-FS-MDPB	20	3.00E-03	(44.0)	1.31E-06	(12.5)	2.49E-08	4.62E-06
ESW-MDP-FS-MDPA	20	3.00E-03	(44.0)	1.31E-06	(12.5)	2.49E-08	4.62E-06
ESW-MDP-FR-MDPA	20	1.20E-03	(54.5)	1.23E-06	(14.5)	6.90E-09	5.35E-06
ESW-MDP-FR-MDPB	20	1.20E-03	(54.5)	1.23E-06	(14.5)	6.90E-09	5.35E-06
LOSPNR17HR	30	8.10E-03	(35.0)	1.11E-06	(16.0)	0.00E+00	3.81E-06
ESW-PTF-RE-MDPB	10	2.19E-03	(50.5)	1.10E-06	(17.5)	1.53E-08	3.67E-06
ESW-PTF-RE-MDPA	10	2.19E-03	(50.5)	1.10E-06	(17.5)	1.53E-08	3.67E-06
ESW-PTF-RE-DGC	10	3.13E-03	(39.5)	1.10E-06	(19.5)	1.52E-08	3.67E-06
ESW-PTF-RE-DGB	10	3.13E-03	(39.5)	1.10E-06	(19.5)	1.52E-08	3.67E-06
ACP-DGN-LP-EDGC	15	3.00E-03	(44.0)	1.03E-06	(21.5)	1.12E-08	3.54E-06
ACP-DGN-LP-EDGB	15	3.00E-03	(44.0)	1.03E-06	(21.5)	1.12E-08	3.54E-06
ACP-DGN-LP-CCF	5	3.00E-03	(44.0)	9.48E-07	(23.0)	6.59E-09	3.27E-06
ACP-DGN-TE-EDGC	10	2.30E-03	(48.5)	8.93E-07	(24.5)	7.63E-09	3.08E-06
ACP-DGN-TE-EDGB	10	2.30E-03	(48.5)	8.93E-07	(24.5)	7.63E-09	3.08E-06
LOSPNR12HR	57	1.50E-02	(31.0)	8.70E-07	(26.0)	0.00E+00	3.38E-06
LOSPNR13HR	27	1.30E-02	(32.5)	8.26E-07	(27.0)	0.00E+00	3.77E-06
ACP-DGN-MA-EDGB	15	6.00E-03	(37.5)	8.22E-07	(28.5)	6.65E-09	3.28E-06
ACP-DGN-MA-EDGC	15	6.00E-03	(37.5)	8.22E-07	(28.5)	6.65E-09	3.28E-06
P1	285	9.60E-02	(19.0)	7.65E-07	(30.0)	2.42E-08	3.54E-06
EHV-SRV-CC-RV3	5	3.00E-04	(60.5)	6.76E-07	(31.5)	9.64E-10	2.42E-06
EHV-SRV-CC-RV2	5	3.00E-04	(60.5)	6.76E-07	(31.5)	9.64E-10	2.42E-06
LOSPNR9HR	57	2.30E-02	(27.0)	6.50E-07	(33.0)	0.00E+00	2.38E-06
LOSPNR14HR	30	1.20E-02	(34.0)	3.84E-07	(34.0)	0.00E+00	4.86E-07
BAT-DEP-3HR	57	8.33E-02	(21.0)	2.17E-07	(35.0)	0.00E+00	1.05E-06
BETA-4DGNS	5	1.30E-02	(32.5)	2.17E-07	(36.0)	1.53E-09	7.41E-07
LOSPNR5HR	27	4.80E-02	(24.0)	1.54E-07	(37.0)	0.00E+00	6.77E-07
LOSPNR7HR	27	3.20E-02	(26.0)	1.49E-07	(38.0)	0.00E+00	5.64E-07
BETA-6AOVS	5	3.60E-02	(25.0)	1.38E-07	(39.0)	2.14E-09	5.36E-07
BETA-3AOVS	5	5.50E-02	(23.0)	1.35E-07	(40.0)	2.06E-09	5.07E-07
BAT-DEP-5HR	57	8.33E-02	(21.0)	1.29E-07	(41.0)	0.00E+00	6.38E-07
BAT-DEP-7HR	57	8.33E-02	(21.0)	8.84E-08	(42.0)	0.00E+00	3.58E-07
BAT-DEP-9HR	57	2.50E-01	(18.0)	4.65E-08	(43.0)	0.00E+00	2.27E-07
INJ-FAILS	57	5.00E-01	(12.0)	2.63E-08	(44.0)	0.00E+00	1.15E-07
ACP-DGN-FR-EDGD	5	1.60E-02	(29.0)	1.18E-08	(45.0)	1.14E-12	8.39E-08
DGHWNR12HR	26	5.50E-01	(10.0)	1.11E-08	(46.0)	0.00E+00	4.46E-08
DGHWNR9HR	26	5.80E-01	(9.0)	5.78E-09	(47.0)	0.00E+00	1.39E-08

ESW-XHE-FO-EHS	165	9.00E-01	(1.0)	5.02E-09	(48.0)	4.87E-12	2.17E-08
DGMANR12HR	8	4.00E-01	(16.5)	4.66E-09	(49.0)	0.00E+00	1.03E-08
DGHWNR7HR	26	6.00E-01	(7.0)	2.72E-09	(50.0)	0.00E+00	2.19E-09
DGHWNR3HR	26	8.00E-01	(2.0)	2.62E-09	(51.0)	0.00E+00	2.32E-09
DGHWNR5HR	26	7.00E-01	(4.0)	2.57E-09	(52.0)	0.00E+00	1.23E-09
DGMANR9HR	8	4.50E-01	(14.5)	2.41E-09	(53.0)	0.00E+00	9.57E-09
DGMANR3HR	8	7.00E-01	(4.0)	1.30E-09	(54.0)	0.00E+00	1.74E-09
DGCCFNR12HR	1	4.00E-01	(16.5)	1.15E-09	(55.0)	0.00E+00	5.46E-09
DGMANR5HR	8	6.00E-01	(7.0)	1.15E-09	(56.0)	0.00E+00	1.11E-09
DGMANR7HR	8	5.00E-01	(12.0)	1.10E-09	(57.0)	0.00E+00	7.36E-10
DGCCFNR9HR	1	4.50E-01	(14.5)	6.10E-10	(58.0)	0.00E+00	2.47E-09
DGCCFNR3HR	1	7.00E-01	(4.0)	3.55E-10	(59.0)	0.00E+00	5.39E-10
DGCCFNR5HR	1	6.00E-01	(7.0)	3.15E-10	(60.0)	0.00E+00	5.01E-10
DGCCFNR7HR	1	5.00E-01	(12.0)	2.83E-10	(61.0)	0.00E+00	7.79E-10

SEQUENCE T1-P1BNU11
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
P1	285	9.60E-02	(19.0)	22.3	(1.0)	2.31	0.99
ACP-DGN-FR-EDGC	65	1.60E-02	(29.0)	16.8	(3.0)	1.68	0.88
ACP-DGN-FR-EDGD	5	1.60E-02	(29.0)	16.8	(3.0)	1.68	0.88
ACP-DGN-FR-EDGB	65	1.60E-02	(29.0)	16.8	(3.0)	1.68	0.88
BAT-DEP-3HR	57	8.33E-02	(21.0)	5.8	(5.0)	1.60	1.04
INJ-FAILS	57	5.00E-01	(12.0)	3.8	(6.0)	0.74	1.08
LOSPNR13HR	27	1.30E-02	(32.5)	3.0	(7.0)	1.49	1.02
LOSPNR18HR	30	7.30E-03	(36.0)	2.4	(8.0)	1.20	1.04
LOSPNR12HR	57	1.50E-02	(31.0)	2.1	(9.0)	1.09	1.04
ESW-AOV-CC-0241C	30	1.00E-03	(57.5)	2.0	(11.5)	1.18	0.89
ESW-AOV-CC-0241B	30	1.00E-03	(57.5)	2.0	(11.5)	1.18	0.89
ESW-AOV-CC-CCF	5	1.00E-03	(57.5)	2.0	(11.5)	1.18	0.89
EHV-AOV-CC-CCF	5	1.00E-03	(57.5)	2.0	(11.5)	1.18	0.89
BAT-DEP-5HR	57	8.33E-02	(21.0)	1.7	(14.0)	1.03	1.03
DGHWNR12HR	26	5.50E-01	(10.0)	1.6	(15.0)	0.98	1.04
DGHWNR9HR	26	5.80E-01	(9.0)	1.6	(16.0)	1.02	1.05
DGHWNR5HR	26	7.00E-01	(4.0)	1.5	(17.0)	1.00	1.00
DGHWNR7HR	26	6.00E-01	(7.0)	1.5	(18.0)	1.00	1.00
DGHWNR3HR	26	8.00E-01	(2.0)	1.4	(19.0)	0.99	1.00
ESW-MDP-FS-MDPB	20	3.00E-03	(44.0)	1.3	(20.5)	1.06	1.06
ESW-MDP-FS-MDPA	20	3.00E-03	(44.0)	1.3	(20.5)	1.06	1.06
ESW-MDP-MA-MDPB	20	2.00E-03	(52.5)	1.3	(22.5)	1.04	1.03
ESW-MDP-MA-MDPA	20	2.00E-03	(52.5)	1.3	(22.5)	1.04	1.03
ACP-DGN-MA-EDGB	15	6.00E-03	(37.5)	1.3	(24.5)	1.04	0.96
ACP-DGN-MA-EDGC	15	6.00E-03	(37.5)	1.3	(24.5)	1.04	0.96
ESW-CKV-CB-C515B	50	3.00E-03	(44.0)	1.0	(26.5)	1.05	1.08
ESW-CKV-CB-C515A	50	3.00E-03	(44.0)	1.0	(26.5)	1.05	1.08
LOSPNR5HR	27	4.80E-02	(24.0)	1.0	(28.0)	1.02	0.99
BETA-3AOVS	5	5.50E-02	(23.0)	0.9	(29.0)	1.03	1.02
BETA-6AOVS	5	3.60E-02	(25.0)	0.8	(30.0)	1.04	0.97
ESW-PTF-RE-MDPB	10	2.19E-03	(50.5)	0.7	(31.5)	1.05	1.01
ESW-PTF-RE-MDPA	10	2.19E-03	(50.5)	0.7	(31.5)	1.05	1.01
LOSPNR17HR	30	8.10E-03	(35.0)	0.7	(33.0)	1.18	1.03
BAT-DEP-7HR	57	8.33E-02	(21.0)	0.6	(34.0)	0.92	1.01
DGCCFNR3HR	1	7.00E-01	(4.0)	0.6	(35.0)	0.99	1.02
LOSPNR14HR	30	1.20E-02	(34.0)	0.6	(36.0)	1.00	1.00
ESW-PTF-RE-DGC	10	3.13E-03	(39.5)	0.5	(37.5)	1.08	1.02
ESW-PTF-RE-DGB	10	3.13E-03	(39.5)	0.5	(37.5)	1.08	1.02
ESW-MDP-FR-MDPB	20	1.20E-03	(54.5)	0.4	(39.5)	1.01	1.00
ESW-MDP-FR-MDPA	20	1.20E-03	(54.5)	0.4	(39.5)	1.01	1.00
BAT-DEP-9HR	57	2.50E-01	(18.0)	0.4	(41.0)	0.68	1.05
LOSPNR9HR	57	2.30E-02	(27.0)	0.3	(42.0)	1.02	0.96
DGMANR12HR	8	4.00E-01	(16.5)	0.3	(43.0)	1.00	1.00
DGMANR3HR	8	7.00E-01	(4.0)	0.3	(44.0)	0.99	0.99
DGMANR5HR	8	6.00E-01	(7.0)	0.3	(45.0)	1.00	1.00
DGMANR9HR	8	4.50E-01	(14.5)	0.3	(46.0)	0.99	0.99
DGMANR7HR	8	5.00E-01	(12.0)	0.2	(47.0)	1.00	1.00

LOSPNR7HR	27	3.20E-02	(26.0)	0.2	(48.0)	1.00	0.99
ESW-XHE-FO-EHS	165	9.00E-01	(1.0)	0.0	(55.0)		
ACP-DGN-LP-EDGC	15	3.00E-03	(44.0)	0.0	(55.0)		
DGCCFNR9HR	1	4.50E-01	(14.5)	0.0	(55.0)		
DGCCFNR7HR	1	5.00E-01	(12.0)	0.0	(55.0)		
DGCCFNR5HR	1	6.00E-01	(7.0)	0.0	(55.0)		
ACP-DGN-TE-EDGC	10	2.30E-03	(48.5)	0.0	(55.0)		
ACP-DGN-LP-EDGB	15	3.00E-03	(44.0)	0.0	(55.0)		
DGCCFNR12HR	1	4.00E-01	(16.5)	0.0	(55.0)		
ACP-DGN-TE-EDGB	10	2.30E-03	(48.5)	0.0	(55.0)		
EHV-SRV-CC-RV3	5	3.00E-04	(60.5)	0.0	(55.0)		
EHV-SRV-CC-RV2	5	3.00E-04	(60.5)	0.0	(55.0)		
BETA-4DGNS	5	1.30E-02	(32.5)	0.0	(55.0)		
ACP-DGN-LP-CCF	5	3.00E-03	(44.0)	0.0	(55.0)		

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	285	7.90E-02	(1.0)	17.8	(1.0)	1.91	0.85

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T1-P1BNU11

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T1-P1BNU11 WITH TOP EVENT FREQUENCY 8.12E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	8	3.51E-09	0.04318	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
3					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+
4	6	6	2.71E-09	0.07655	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*
5					LOSPNR13HR	*	P1	+				
6	2	8	2.68E-09	0.10952	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
7					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
8	5	8	2.05E-09	0.13478	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
9					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
10	11	6	1.77E-09	0.15662	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*
11					LOSPNR13HR	*	P1	+				
12	7	6	1.67E-09	0.17715	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
13					LOSPNR5HR	*	P1	+				
14	10	6	1.56E-09	0.19640	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
15					LOSPNR12HR	*	P1	+				
16	3	8	1.53E-09	0.21522	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
17					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
18	8	6	1.11E-09	0.22890	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
19					LOSPNR7HR	*	P1	+				
20	12	6	1.09E-09	0.24234	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
21					LOSPNR5HR	*	P1	+				
22	4	8	1.05E-09	0.25524	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
23					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+
24	15	6	1.02E-09	0.26784	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
25					LOSPNR12HR	*	P1	+				
26	56	8	9.57E-10	0.27962	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
27					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+
28	51	8	9.57E-10	0.29139	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
29					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+
30	52	8	8.79E-10	0.30221	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*
31					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
32	57	8	8.79E-10	0.31303	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*
33					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
34	17	7	8.28E-10	0.32322	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*
35					IE-T1	*	LOSPNR5HR	*	P1	+		
36	9	6	7.99E-10	0.33305	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*
37					LOSPNR9HR	*	P1	+				
38	16	7	7.69E-10	0.34252	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	IE-T1	*
39					INJ-FAILS	*	LOSPNR13HR	*	P1	+		
40	21	7	7.31E-10	0.35151	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*
41					INJ-FAILS	*	LOSPNR18HR	*	P1	+		
42	26	7	7.31E-10	0.36051	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*
43					INJ-FAILS	*	LOSPNR18HR	*	P1	+		
44	13	6	7.28E-10	0.36947	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
45					LOSPNR7HR	*	P1	+				
46	146	8	6.86E-10	0.37792	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*

47					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
48	141	8	6.86E-10	0.38636	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*		
49					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
50	31	8	6.58E-10	0.39446	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*		
51					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
52	36	8	6.58E-10	0.40255	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*		
53					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
54	46	8	6.58E-10	0.41065	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*		
55					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
56	41	8	6.58E-10	0.41874	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*		
57					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
58	55	8	5.97E-10	0.42609	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*		
59					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+		
60	60	8	5.97E-10	0.43344	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*		
61					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+		
62	27	7	5.58E-10	0.44031	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*		
63					IE-T1	*	LOSPNR9HR	*	P1	+				
64	22	7	5.58E-10	0.44718	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*		
65					IE-T1	*	LOSPNR9HR	*	P1	+				
66	142	8	5.24E-10	0.45363	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*		
67					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+		
68	147	8	5.24E-10	0.46008	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*		
69					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+		
70	14	6	5.23E-10	0.46652	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*		
71					LOSPNR9HR	*	P1	+						
72	61	8	5.04E-10	0.47272	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*		
73					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
74	66	8	5.04E-10	0.47893	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*		
75					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
76	37	8	5.02E-10	0.48511	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*		
77					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+		
78	32	8	5.02E-10	0.49129	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*		
79					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+		
80	47	8	5.02E-10	0.49747	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*		
81					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+		
82	42	8	5.02E-10	0.50365	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*		
83					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+		
84	20	7	4.99E-10	0.50980	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*		
85					IE-T1	*	LOSPNR12HR	*	P1	+				
86	56	8	4.91E-10	0.51584	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*		
87					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+		
88	53	8	4.91E-10	0.52189	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*		
89					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+		
90	176	8	4.80E-10	0.52780	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*		
91					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
92	171	8	4.80E-10	0.53371	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*		
93					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+		
94	18	7	4.73E-10	0.53953	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*		
95					IE-T1	*	LOSPNR7HR	*	P1	+				
96	151	6	4.63E-10	0.54523	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	INJ-FAILS	*		
97					LOSPNR13HR	*	P1	+						
98	156	6	4.63E-10	0.55093	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	INJ-FAILS	*		
99					LOSPNR13HR	*	P1	+						
100	76	6	4.44E-10	0.55639	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	INJ-FAILS	*		
101					LOSPNR13HR	*	P1	+						
102	71	6	4.44E-10	0.56185	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	INJ-FAILS	*		

103					LOSPNR13HR	*	P1	+					
104	86	8	4.38E-10	0.56725	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
105					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
106	81	8	4.38E-10	0.57265	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
107					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
108	30	7	4.28E-10	0.57791	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
109					IE-T1	*	LOSPNR17HR	*	P1	+			
110	25	7	4.28E-10	0.58317	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
111					IE-T1	*	LOSPNR17HR	*	P1	+			
112	150	8	4.01E-10	0.58811	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*	
113					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
114	145	8	4.01E-10	0.59306	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*	
115					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
116	62	8	3.85E-10	0.59779	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
117					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
118	67	8	3.85E-10	0.60253	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
119					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
120	50	8	3.85E-10	0.60727	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
121					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
122	45	8	3.85E-10	0.61201	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
123					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
124	40	8	3.85E-10	0.61674	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	
125					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
126	35	8	3.85E-10	0.62148	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*	
127					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
128	97	7	3.82E-10	0.62618	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
129					IE-T1	*	LOSPNR5HR	*	P1	+			
130	92	7	3.82E-10	0.63088	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
131					IE-T1	*	LOSPNR5HR	*	P1	+			
132	177	8	3.67E-10	0.63540	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPA	*	
133					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
134	172	8	3.67E-10	0.63991	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPB	*	
135					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
136	91	7	3.55E-10	0.64428	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
137					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
138	96	7	3.55E-10	0.64865	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
139					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
140	87	8	3.35E-10	0.65277	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
141					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
142	82	8	3.35E-10	0.65689	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
143					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
144	59	8	3.27E-10	0.66092	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
145					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
146	54	8	3.27E-10	0.66495	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
147					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
148	216	6	3.24E-10	0.66894	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	INJ-FAILS	*	
149					LOSPNR13HR	*	P1	+					
150	211	6	3.24E-10	0.67292	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	INJ-FAILS	*	
151					LOSPNR13HR	*	P1	+					
152	23	7	3.18E-10	0.67684	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
153					IE-T1	*	LOSPNR12HR	*	P1	+			
154	28	7	3.18E-10	0.68076	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
155					IE-T1	*	LOSPNR12HR	*	P1	+			
156	148	8	2.99E-10	0.68444	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGB	*	
157					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
158	143	8	2.99E-10	0.68812	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGC	*	

159					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
160	101	6	2.96E-10	0.69176	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	INJ-FAILS	*
161					LOSPNR13HR	*	P1	+				
162	106	6	2.96E-10	0.69540	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	INJ-FAILS	*
163					LOSPNR13HR	*	P1	+				
164	65	8	2.95E-10	0.69904	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*
165					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
166	70	8	2.95E-10	0.70267	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
167					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
168	43	8	2.87E-10	0.70619	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
169					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
170	48	8	2.87E-10	0.70972	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*
171					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
172	38	8	2.87E-10	0.71325	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPA	*
173					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
174	33	8	2.87E-10	0.71678	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPB	*
175					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
176	157	6	2.85E-10	0.72028	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*
177					LOSPNR5HR	*	P1	+				
178	152	6	2.85E-10	0.72379	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*
179					LOSPNR5HR	*	P1	+				
180	19	7	2.83E-10	0.72727	ACP-DGN-LP-CCF	*	BAT-DEP-7HR	*	BETA-4DGNS	*	DGCCFNR7HR	*
181					IE-T1	*	LOSPNR9HR	*	P1	+		
182	180	8	2.81E-10	0.73073	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPA	*
183					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
184	175	8	2.81E-10	0.73419	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPB	*
185					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
186	77	6	2.73E-10	0.73755	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*
187					LOSPNR5HR	*	P1	+				
188	72	6	2.73E-10	0.74091	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*
189					LOSPNR5HR	*	P1	+				
190	160	6	2.67E-10	0.74419	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*
191					LOSPNR12HR	*	P1	+				
192	155	6	2.67E-10	0.74748	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*
193					LOSPNR12HR	*	P1	+				
194	126	8	2.63E-10	0.75072	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*
195					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+
196	121	8	2.63E-10	0.75396	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*
197					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+
198	90	8	2.57E-10	0.75712	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*
199					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
200	85	8	2.57E-10	0.76027	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*
201					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
202	80	6	2.56E-10	0.76342	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*
203					LOSPNR12HR	*	P1	+				
204	75	6	2.56E-10	0.76657	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*
205					LOSPNR12HR	*	P1	+				
206	116	7	2.44E-10	0.76958	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*
207					INJ-FAILS	*	LOSPNR13HR	*	P1	+		
208	111	7	2.44E-10	0.77258	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*
209					INJ-FAILS	*	LOSPNR13HR	*	P1	+		
210	100	7	2.30E-10	0.77542	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*
211					IE-T1	*	LOSPNR12HR	*	P1	+		
212	95	7	2.30E-10	0.77825	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*
213					IE-T1	*	LOSPNR12HR	*	P1	+		
214	68	8	2.20E-10	0.78096	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*

215					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
216	63	8	2.20E-10	0.78366	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*
217					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
218	136	8	2.19E-10	0.78636	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*
219					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+
220	131	8	2.19E-10	0.78906	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*
221					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+
222	117	7	2.18E-10	0.79175	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*
223					IE-T1	*	LOSPNR5HR	*	P1	+		
224	29	7	2.18E-10	0.79443	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*
225					IE-T1	*	LOSPNR14HR	*	P1	+		
226	112	7	2.18E-10	0.79712	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*
227					IE-T1	*	LOSPNR5HR	*	P1	+		
228	24	7	2.18E-10	0.79981	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*
229					IE-T1	*	LOSPNR14HR	*	P1	+		
230	93	7	2.18E-10	0.80250	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*
231					IE-T1	*	LOSPNR7HR	*	P1	+		
232	98	7	2.18E-10	0.80518	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*
233					IE-T1	*	LOSPNR7HR	*	P1	+		
234	173	8	2.09E-10	0.80776	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPB	*
235					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
236	176	8	2.09E-10	0.81033	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPA	*
237					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
238	149	8	2.05E-10	0.81286	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGB	*
239					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+
240	144	8	2.05E-10	0.81538	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGC	*
241					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+
242	127	8	2.01E-10	0.81785	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*
243					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
244	122	8	2.01E-10	0.82032	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*
245					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
246	212	6	1.99E-10	0.82278	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*
247					LOSPNR5HR	*	P1	+				
248	217	6	1.99E-10	0.82523	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*
249					LOSPNR5HR	*	P1	+				
250	34	8	1.96E-10	0.82765	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPB	*
251					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+
252	39	8	1.96E-10	0.83007	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPA	*
253					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+
254	49	8	1.96E-10	0.83249	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*
255					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+
256	44	8	1.96E-10	0.83490	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
257					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+
258	88	8	1.91E-10	0.83726	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPA	*
259					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
260	83	8	1.91E-10	0.83961	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPB	*
261					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+
262	158	6	1.90E-10	0.84194	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*
263					LOSPNR7HR	*	P1	+				
264	153	6	1.90E-10	0.84428	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*
265					LOSPNR7HR	*	P1	+				
266	220	6	1.87E-10	0.84658	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*
267					LOSPNR12HR	*	P1	+				
268	215	6	1.87E-10	0.84888	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*
269					LOSPNR12HR	*	P1	+				
270	78	6	1.82E-10	0.85112	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*

271					LOSPNR7HR	*	P1	+					
272	73	6	1.82E-10	0.85336	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
273					LOSPNR7HR	*	P1	+					
274	107	6	1.82E-10	0.85560	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
275					LOSPNR5HR	*	P1	+					
276	102	6	1.82E-10	0.85784	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
277					LOSPNR5HR	*	P1	+					
278	110	6	1.71E-10	0.85994	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
279					LOSPNR12HR	*	P1	+					
280	105	6	1.71E-10	0.86204	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
281					LOSPNR12HR	*	P1	+					
282	137	8	1.67E-10	0.86410	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241B	*	
283					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
284	132	8	1.67E-10	0.86616	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241C	*	
285					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
286	125	8	1.54E-10	0.86805	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPA	*	
287					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
288	130	8	1.54E-10	0.86995	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPB	*	
289					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
290	69	8	1.51E-10	0.87180	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
291					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
292	64	8	1.51E-10	0.87366	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
293					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
294	120	7	1.48E-10	0.87549	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
295					IE-T1	*	LOSPNR12HR	*	P1	+			
296	115	7	1.48E-10	0.87731	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
297					IE-T1	*	LOSPNR12HR	*	P1	+			
298	166	6	1.48E-10	0.87913	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*	
299					LOSPNR13HR	*	P1	+					
300	161	6	1.48E-10	0.88095	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*	
301					LOSPNR13HR	*	P1	+					
302	187	7	1.46E-10	0.88276	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
303					IE-T1	*	LOSPNR5HR	*	P1	+			
304	182	7	1.46E-10	0.88456	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
305					IE-T1	*	LOSPNR5HR	*	P1	+			
306	179	8	1.43E-10	0.88632	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPA	*	
307					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
308	174	8	1.43E-10	0.88809	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPB	*	
309					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
310	159	6	1.36E-10	0.88977	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
311					LOSPNR9HR	*	P1	+					
312	154	6	1.36E-10	0.89145	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
313					LOSPNR9HR	*	P1	+					
314	166	7	1.36E-10	0.89312	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
315					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
316	161	7	1.36E-10	0.89480	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
317					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
318	196	7	1.33E-10	0.89644	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
319					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
320	191	7	1.33E-10	0.89807	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
321					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
322	218	6	1.33E-10	0.89971	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
323					LOSPNR7HR	*	P1	+					
324	213	6	1.33E-10	0.90134	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
325					LOSPNR7HR	*	P1	+					
326	89	8	1.31E-10	0.90296	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPA	*	

SEQUENCE T1-BU11NU21

TOP EVENT T1-BU11NU21 CONTAINS 69 EVENTS IN 395 CUT SETS

THE FREQUENCY OF TOP EVENT T1-BU11NU21 IS 6.60E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T1-BU11NU21

N	1000
MEAN	1.25E-07
STD DEV	1.06E-06
LOWER 5%	1.19E-09
LOWER 25%	6.70E-09
MEDIAN	1.68E-08
UPPER 25%	5.74E-08
UPPER 5%	3.03E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T1-BU11NU21
RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
ESW-XHE-FO-EHS	230	9.00E-01	(1.0)	3.89E-08	(1.0)	8.56E-11	1.93E-07
HCI-TDP-FR-20S37	170	5.00E-02	(23.0)	3.76E-08	(2.0)	4.96E-10	1.91E-07
ACP-DGN-FR-EDGC	145	1.60E-02	(34.5)	2.73E-08	(3.0)	8.22E-11	1.53E-07
ACP-DGN-FR-EDGB	140	1.60E-02	(34.5)	2.70E-08	(4.0)	5.95E-11	1.53E-07
HCI-TDP-FS-20S37	140	3.00E-02	(28.0)	2.11E-08	(5.0)	2.70E-10	9.64E-08
INJ-FAILS	79	5.00E-01	(12.0)	2.10E-08	(6.0)	0.00E+00	1.00E-07
BAT-DEP-3HR	79	8.33E-02	(20.0)	1.64E-08	(7.0)	0.00E+00	7.95E-08
BAT-DEP-9HR	79	2.50E-01	(18.0)	1.25E-08	(8.0)	0.00E+00	5.80E-08
LOSPNR9HR	79	2.30E-02	(32.0)	1.24E-08	(9.0)	0.00E+00	4.52E-08
LOSPNR18HR	44	7.30E-03	(42.0)	1.21E-08	(10.0)	0.00E+00	5.13E-08
DGHWNR12HR	45	5.50E-01	(10.0)	1.15E-08	(11.0)	0.00E+00	4.73E-08
LOSPNR12HR	79	1.50E-02	(36.0)	1.08E-08	(12.0)	0.00E+00	3.52E-08
BAT-DEP-5HR	79	8.33E-02	(20.0)	9.66E-09	(13.0)	0.00E+00	2.80E-08
DGHWNR3HR	45	8.00E-01	(2.0)	8.98E-09	(14.0)	0.00E+00	1.87E-08
LOSPNR13HR	35	1.30E-02	(37.5)	8.89E-09	(15.0)	0.00E+00	3.94E-08
ESW-AOV-CC-CCF	25	1.00E-03	(66.5)	7.85E-09	(16.5)	1.19E-10	3.40E-08
BETA-3AOVS	25	5.50E-02	(22.0)	7.85E-09	(16.5)	1.19E-10	3.40E-08
LOSPNR17HR	44	8.10E-03	(41.0)	7.19E-09	(18.0)	0.00E+00	1.86E-08
LOSPNR5HR	35	4.80E-02	(24.0)	6.76E-09	(19.0)	0.00E+00	4.02E-08
DGHWNR9HR	45	5.80E-01	(9.0)	6.75E-09	(20.0)	0.00E+00	2.12E-08
BAT-DEP-7HR	79	8.33E-02	(20.0)	6.52E-09	(21.0)	0.00E+00	1.99E-08
ESW-CKV-CB-C515B	55	3.00E-03	(51.0)	5.89E-09	(22.5)	7.95E-11	2.22E-08
ESW-CKV-CB-C515A	55	3.00E-03	(51.0)	5.89E-09	(22.5)	7.95E-11	2.22E-08
HCI-TDP-MA-20S37	60	1.00E-02	(40.0)	5.85E-09	(24.0)	5.70E-11	2.79E-08
DGHWNR5HR	45	7.00E-01	(4.0)	5.14E-09	(25.0)	0.00E+00	6.13E-09
EHV-AOV-CC-CCF	15	1.00E-03	(86.5)	4.82E-09	(26.5)	5.90E-11	2.15E-08
BETA-6AOVS	15	3.60E-02	(25.0)	4.82E-09	(26.5)	5.90E-11	2.15E-08
ACP-DGN-MA-EDGC	25	6.00E-03	(43.5)	4.46E-09	(28.5)	6.91E-12	1.56E-08
ACP-DGN-MA-EDGB	25	6.00E-03	(43.5)	4.46E-09	(28.5)	6.91E-12	1.56E-08
LOSPNR7HR	35	3.20E-02	(26.0)	4.20E-09	(30.0)	0.00E+00	2.01E-08
LOSPNR14HR	44	1.20E-02	(39.0)	3.72E-09	(31.0)	0.00E+00	3.31E-09
DGHWNR7HR	45	6.00E-01	(7.0)	3.47E-09	(32.0)	0.00E+00	4.34E-09
DGMANR12HR	16	4.00E-01	(16.5)	3.29E-09	(33.0)	0.00E+00	8.31E-09
DGMANR3HR	16	7.00E-01	(4.0)	3.20E-09	(34.0)	0.00E+00	8.34E-09
ESW-MDP-FS-MDPB	25	3.00E-03	(51.0)	2.97E-09	(35.5)	9.52E-12	1.14E-08
ESW-MDP-FS-MDPA	25	3.00E-03	(51.0)	2.97E-09	(35.5)	9.52E-12	1.14E-08
ACP-DGN-LP-CCF	15	3.00E-03	(51.0)	2.67E-09	(37.5)	1.86E-11	1.02E-08
BETA-4DGNS	15	1.30E-02	(37.5)	2.67E-09	(37.5)	1.86E-11	1.02E-08
ACP-DGN-LP-EDGC	25	3.00E-03	(51.0)	2.58E-09	(39.5)	2.52E-11	9.05E-09
ACP-DGN-LP-EDGB	25	3.00E-03	(51.0)	2.58E-09	(39.5)	2.52E-11	9.05E-09
DGMANR9HR	16	4.50E-01	(14.5)	2.08E-09	(41.0)	0.00E+00	6.63E-09
ESW-MDP-MA-MDPB	15	2.00E-03	(60.5)	1.97E-09	(42.5)	4.71E-12	7.95E-09
ESW-MDP-MA-MDPA	15	2.00E-03	(60.5)	1.97E-09	(42.5)	4.71E-12	7.95E-09
DGMANR5HR	16	6.00E-01	(7.0)	1.80E-09	(44.0)	0.00E+00	1.91E-09
ESW-PTF-RE-DGC	10	3.13E-03	(45.5)	1.76E-09	(45.5)	5.37E-13	6.03E-09
ESW-PTF-RE-DGB	10	3.13E-03	(45.5)	1.76E-09	(45.5)	5.37E-13	6.03E-09
ACP-DGN-TE-EDGC	15	2.30E-03	(56.5)	1.30E-09	(47.5)	6.19E-12	5.63E-09

ACP-DGN-TE-EDGB	15	2.30E-03	(56.5)	1.30E-09	(47.5)	6.19E-12	5.63E-09
DGMANR7HR	16	5.00E-01	(12.0)	1.16E-09	(49.0)	0.00E+00	1.65E-09
ESW-MDP-FR-MDPB	10	1.20E-03	(62.5)	1.07E-09	(50.5)	8.94E-13	3.32E-09
ESW-MDP-FR-MDPA	10	1.20E-03	(62.5)	1.07E-09	(50.5)	8.94E-13	3.32E-09
DGCCFNR3HR	3	7.00E-01	(4.0)	7.76E-10	(52.0)	0.00E+00	2.96E-09
ESW-PTF-RE-MDPB	5	2.19E-03	(58.5)	7.71E-10	(53.5)	1.61E-13	2.14E-09
ESW-PTF-RE-MDPA	5	2.19E-03	(58.5)	7.71E-10	(53.5)	1.61E-13	2.14E-09
DGCCFNR12HR	3	4.00E-01	(18.5)	7.21E-10	(55.0)	0.00E+00	3.17E-09
HCI-MOV-CC-MV19	10	3.00E-03	(51.0)	5.83E-10	(56.5)	1.94E-12	3.27E-09
HCI-MOV-CC-MV14	10	3.00E-03	(51.0)	5.83E-10	(56.5)	1.94E-12	3.27E-09
ESW-AOV-CC-0241C	10	1.00E-03	(66.5)	5.63E-10	(58.5)	6.33E-13	2.35E-09
ESW-AOV-CC-0241B	10	1.00E-03	(66.5)	5.63E-10	(58.5)	6.33E-13	2.35E-09
DGCCFNR9HR	3	4.50E-01	(14.5)	4.68E-10	(60.0)	0.00E+00	1.92E-09
DGCCFNR5HR	3	6.00E-01	(7.0)	4.43E-10	(61.0)	0.00E+00	1.32E-09
DCP-BAT-LP-B2	5	1.08E-03	(64.0)	2.99E-10	(62.0)	1.47E-13	8.75E-10
DGCCFNR7HR	3	5.00E-01	(12.0)	2.66E-10	(63.0)	0.00E+00	7.19E-10
DCHWNR18HR	1	2.00E-02	(33.0)	8.97E-11	(64.0)	0.00E+00	1.44E-10
DCHWNR9HR	1	3.00E-02	(28.0)	7.06E-11	(65.0)	0.00E+00	1.24E-10
DCHWNR17HR	1	2.50E-02	(30.5)	6.22E-11	(66.0)	0.00E+00	1.93E-10
DCHWNR12HR	1	3.00E-02	(28.0)	4.61E-11	(67.0)	0.00E+00	4.49E-11
DCHWNR14HR	1	2.50E-02	(30.5)	3.07E-11	(68.0)	0.00E+00	3.42E-11

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	395	7.90E-02	(1.0)	6.60E-08	(1.0)	1.19E-09	3.03E-07

SEQUENCE T1-BU11NU21
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESW-AOV-CC-CCF	25	1.00E-03	(66.5)	7.85E-06	(1.0)	1.81E-07	3.22E-05
EHV-AOV-CC-CCF	15	1.00E-03	(66.5)	4.81E-06	(2.0)	9.21E-08	2.01E-05
ESW-CKV-CB-C515A	55	3.00E-03	(51.0)	1.96E-06	(3.5)	4.04E-08	8.95E-06
ESW-CKV-CB-C515B	55	3.00E-03	(51.0)	1.96E-06	(3.5)	4.04E-08	8.95E-06
ACP-DGN-FR-EDGC	145	1.60E-02	(34.5)	1.68E-06	(5.0)	2.57E-08	7.17E-06
ACP-DGN-FR-EDGB	140	1.60E-02	(34.5)	1.66E-06	(6.0)	2.43E-08	7.08E-06
LOSPNR18HR	44	7.30E-03	(42.0)	1.65E-06	(7.0)	0.00E+00	7.61E-06
ESW-MDP-FS-MDPA	25	3.00E-03	(51.0)	9.88E-07	(8.5)	2.25E-08	4.13E-06
ESW-MDP-FS-MDPB	25	3.00E-03	(51.0)	9.88E-07	(8.5)	2.25E-08	4.13E-06
ESW-MDP-MA-MDPB	15	2.00E-03	(60.5)	9.82E-07	(10.5)	1.52E-08	3.68E-06
ESW-MDP-MA-MDPA	15	2.00E-03	(60.5)	9.82E-07	(10.5)	1.52E-08	3.68E-06
ESW-MDP-FR-MDPA	10	1.20E-03	(62.5)	8.91E-07	(12.5)	3.85E-09	3.77E-06
ESW-MDP-FR-MDPB	10	1.20E-03	(62.5)	8.91E-07	(12.5)	3.85E-09	3.77E-06
ACP-DGN-LP-CCF	15	3.00E-03	(51.0)	8.89E-07	(14.0)	7.96E-09	3.63E-06
LOSPNR17HR	44	8.10E-03	(41.0)	8.80E-07	(15.0)	0.00E+00	3.95E-06
ACP-DGN-LP-EDGC	25	3.00E-03	(51.0)	8.58E-07	(16.5)	1.02E-08	3.57E-06
ACP-DGN-LP-EDGB	25	3.00E-03	(51.0)	8.58E-07	(16.5)	1.02E-08	3.57E-06
ACP-DGN-MA-EDGB	25	6.00E-03	(43.5)	7.40E-07	(18.5)	7.04E-09	2.79E-06
ACP-DGN-MA-EDGC	25	6.00E-03	(43.5)	7.40E-07	(18.5)	7.04E-09	2.79E-06
HCI-TDP-FR-20S37	170	5.00E-02	(23.0)	7.15E-07	(20.0)	2.08E-08	3.20E-06
LOSPNR12HR	79	1.50E-02	(36.0)	7.07E-07	(21.0)	0.00E+00	2.50E-06
HCI-TDP-FS-20S37	140	3.00E-02	(28.0)	6.82E-07	(22.0)	1.92E-08	3.08E-06
LOSPNR13HR	35	1.30E-02	(37.5)	6.75E-07	(23.0)	0.00E+00	2.90E-06
HCI-TDP-MA-20S37	60	1.00E-02	(40.0)	5.79E-07	(24.0)	1.37E-08	2.92E-06
ACP-DGN-TE-EDGC	15	2.30E-03	(56.5)	5.65E-07	(25.5)	3.79E-09	2.09E-06
ACP-DGN-TE-EDGB	15	2.30E-03	(56.5)	5.65E-07	(25.5)	3.79E-09	2.09E-06
ESW-AOV-CC-0241C	10	1.00E-03	(66.5)	5.63E-07	(27.5)	9.12E-10	2.47E-06
ESW-AOV-CC-0241B	10	1.00E-03	(66.5)	5.63E-07	(27.5)	9.12E-10	2.47E-06
ESW-PTF-RE-DGB	10	3.13E-03	(45.5)	5.61E-07	(29.5)	9.04E-10	2.47E-06
ESW-PTF-RE-DGC	10	3.13E-03	(45.5)	5.61E-07	(29.5)	9.04E-10	2.47E-06
LOSPNR9HR	79	2.30E-02	(32.0)	5.26E-07	(31.0)	0.00E+00	2.12E-06
ESW-PTF-RE-MDPB	5	2.19E-03	(58.5)	3.51E-07	(32.5)	4.48E-10	1.47E-06
ESW-PTF-RE-MDPA	5	2.19E-03	(58.5)	3.51E-07	(32.5)	4.48E-10	1.47E-06
LOSPNR14HR	44	1.20E-02	(39.0)	3.06E-07	(34.0)	0.00E+00	3.83E-07
DCP-BAT-LP-B2	5	1.08E-03	(64.0)	2.77E-07	(35.0)	1.98E-10	9.62E-07
BETA-4DGNS	15	1.30E-02	(37.5)	2.03E-07	(36.0)	2.19E-09	8.00E-07
HCI-MOV-CC-MV19	10	3.00E-03	(51.0)	1.94E-07	(37.5)	3.65E-09	1.42E-06
HCI-MOV-CC-MV14	10	3.00E-03	(51.0)	1.94E-07	(37.5)	3.65E-09	1.42E-06
BAT-DEP-3HR	79	8.33E-02	(20.0)	1.80E-07	(39.0)	0.00E+00	7.59E-07
BETA-3AOVS	25	5.50E-02	(22.0)	1.35E-07	(40.0)	3.19E-09	5.30E-07
LOSPNR5HR	35	4.80E-02	(24.0)	1.34E-07	(41.0)	0.00E+00	9.97E-07
BETA-6AOVS	15	3.60E-02	(25.0)	1.29E-07	(42.0)	2.96E-09	5.12E-07
LOSPNR7HR	35	3.20E-02	(26.0)	1.27E-07	(43.0)	0.00E+00	6.85E-07
BAT-DEP-5HR	79	8.33E-02	(20.0)	1.06E-07	(44.0)	0.00E+00	4.06E-07
BAT-DEP-7HR	79	8.33E-02	(20.0)	7.17E-08	(45.0)	0.00E+00	3.01E-07
BAT-DEP-9HR	79	2.50E-01	(18.0)	3.75E-08	(46.0)	0.00E+00	1.70E-07
INJ-FAILS	79	5.00E-01	(12.0)	2.10E-08	(47.0)	0.00E+00	1.03E-07

DGHWNR12HR	45	5.50E-01	(	10.0)	9.39E-09	(	48.0)	0.00E+00	4.40E-08
DGMANR12HR	16	4.00E-01	(	16.5)	4.94E-09	(	49.0)	0.00E+00	1.34E-08
DGHWNR9HR	45	5.80E-01	(	9.0)	4.89E-09	(	50.0)	0.00E+00	1.36E-08
DCHWNR18HR	1	2.00E-02	(	33.0)	4.39E-09	(	51.0)	0.00E+00	1.39E-08
ESW-XHE-FO-EHS	230	9.00E-01	(	1.0)	4.32E-09	(	52.0)	3.00E-12	2.27E-08
DGMANR9HR	16	4.50E-01	(	14.5)	2.55E-09	(	53.0)	0.00E+00	1.11E-08
DCHWNR17HR	1	2.50E-02	(	30.5)	2.43E-09	(	54.0)	0.00E+00	7.44E-09
DGHWNR7HR	45	6.00E-01	(	7.0)	2.31E-09	(	55.0)	0.00E+00	2.12E-09
DCHWNR9HR	1	3.00E-02	(	28.0)	2.28E-09	(	56.0)	0.00E+00	5.82E-09
DGHWNR3HR	45	8.00E-01	(	2.0)	2.24E-09	(	57.0)	0.00E+00	3.96E-09
DGHWNR5HR	45	7.00E-01	(	4.0)	2.20E-09	(	58.0)	0.00E+00	1.14E-09
DCHWNR12HR	1	3.00E-02	(	28.0)	1.49E-09	(	59.0)	0.00E+00	1.91E-09
DGMANR3HR	16	7.00E-01	(	4.0)	1.37E-09	(	60.0)	0.00E+00	2.17E-09
DGMANR5HR	16	6.00E-01	(	7.0)	1.20E-09	(	61.0)	0.00E+00	1.50E-09
DCHWNR14HR	1	2.50E-02	(	30.5)	1.20E-09	(	62.0)	0.00E+00	1.66E-09
DGMANR7HR	16	5.00E-01	(	12.0)	1.16E-09	(	63.0)	0.00E+00	1.04E-09
DGCCFNR12HR	3	4.00E-01	(	16.5)	1.08E-09	(	64.0)	0.00E+00	5.36E-09
DGCCFNR9HR	3	4.50E-01	(	14.5)	5.72E-10	(	65.0)	0.00E+00	2.82E-09
DGCCFNR3HR	3	7.00E-01	(	4.0)	3.33E-10	(	66.0)	0.00E+00	6.70E-10
DGCCFNR5HR	3	6.00E-01	(	7.0)	2.96E-10	(	67.0)	0.00E+00	6.33E-10
DGCCFNR7HR	3	5.00E-01	(	12.0)	2.66E-10	(	68.0)	0.00E+00	7.06E-10

SEQUENCE T1-BU11NU21
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
ACP-DGN-FR-EDGB	140	1.60E-02	(34.5)	22.8	(1.5)	1.94	0.88
ACP-DGN-FR-EDGC	145	1.60E-02	(34.5)	22.8	(1.5)	1.94	0.88
HCI-TDP-FR-20S37	170	5.00E-02	(23.0)	9.1	(3.0)	1.48	1.00
BAT-DEP-3HR	79	8.33E-02	(20.0)	8.5	(4.0)	1.63	0.90
HCI-TDP-FS-20S37	140	3.00E-02	(28.0)	4.6	(5.0)	1.21	1.03
INJ-FAILS	79	5.00E-01	(12.0)	4.4	(6.0)	0.65	1.06
LOSPNR13HR	35	1.30E-02	(37.5)	3.9	(7.0)	1.75	1.00
LOSPNR18HR	44	7.30E-03	(42.0)	2.5	(8.0)	1.20	1.00
ESW-AOV-CC-CCF	25	1.00E-03	(66.5)	2.2	(10.5)	1.18	1.05
ESW-AOV-CC-0241C	10	1.00E-03	(66.5)	2.2	(10.5)	1.18	1.05
EHV-AOV-CC-CCF	15	1.00E-03	(66.5)	2.2	(10.5)	1.18	1.05
ESW-AOV-CC-0241B	10	1.00E-03	(66.5)	2.2	(10.5)	1.18	1.05
BAT-DEP-5HR	79	8.33E-02	(20.0)	1.9	(13.0)	1.12	0.97
ESW-MDP-FS-MDPB	25	3.00E-03	(51.0)	1.7	(14.5)	1.06	1.04
ESW-MDP-FS-MDPA	25	3.00E-03	(51.0)	1.7	(14.5)	1.06	1.04
LOSPNR12HR	79	1.50E-02	(36.0)	1.6	(16.0)	1.17	1.04
DGHWNR12HR	45	5.50E-01	(10.0)	1.5	(17.0)	1.07	1.11
DGHWNR5HR	45	7.00E-01	(4.0)	1.5	(18.0)	1.00	1.00
DGHWNR3HR	45	8.00E-01	(2.0)	1.5	(19.0)	1.00	1.00
DGHWNR9HR	45	5.80E-01	(9.0)	1.5	(20.0)	1.05	1.00
DGHWNR7HR	45	6.00E-01	(7.0)	1.4	(21.0)	1.00	1.00
BETA-3AOVS	25	5.50E-02	(22.0)	1.3	(22.0)	1.12	1.00
ESW-MDP-MA-MDPB	15	2.00E-03	(60.5)	1.2	(23.5)	1.04	1.02
ESW-MDP-MA-MDPA	15	2.00E-03	(60.5)	1.2	(23.5)	1.04	1.02
ACP-DGN-MA-EDGC	25	6.00E-03	(43.5)	1.1	(25.5)	1.07	1.01
ACP-DGN-MA-EDGB	25	6.00E-03	(43.5)	1.1	(25.5)	1.07	1.01
HCI-TDP-MA-20S37	60	1.00E-02	(40.0)	0.8	(27.0)	1.06	1.00
BETA-6AOVS	15	3.60E-02	(25.0)	0.7	(28.0)	1.01	0.98
HCI-MOV-CC-MV19	10	3.00E-03	(51.0)	0.6	(29.5)	1.03	1.03
HCI-MOV-CC-MV14	10	3.00E-03	(51.0)	0.6	(29.5)	1.03	1.03
ESW-CKV-CB-C515B	55	3.00E-03	(51.0)	0.6	(31.5)	0.96	1.04
ESW-CKV-CB-C515A	55	3.00E-03	(51.0)	0.6	(31.5)	0.96	1.04
BAT-DEP-9HR	79	2.50E-01	(18.0)	0.6	(33.0)	0.63	1.05
LOSPNR9HR	79	2.30E-02	(32.0)	0.6	(34.0)	1.00	1.10
BAT-DEP-7HR	79	8.33E-02	(20.0)	0.6	(35.0)	0.91	1.00
ACP-DGN-TE-EDGC	15	2.30E-03	(56.5)	0.5	(36.5)	1.00	1.03
ACP-DGN-TE-EDGB	15	2.30E-03	(56.5)	0.5	(36.5)	1.00	1.03
LOSPNR5HR	35	4.80E-02	(24.0)	0.5	(38.0)	1.00	1.04
DCHWNR9HR	1	3.00E-02	(28.0)	0.5	(39.0)	1.00	1.00
DCHWNR14HR	1	2.50E-02	(30.5)	0.5	(40.0)	1.00	1.00
DGMANR5HR	16	6.00E-01	(7.0)	0.5	(41.0)	1.00	1.01
DCHWNR18HR	1	2.00E-02	(33.0)	0.4	(42.0)	1.00	1.00
LOSPNR17HR	44	8.10E-03	(41.0)	0.4	(43.0)	1.10	1.06
ESW-PTF-RE-DGC	10	3.13E-03	(45.5)	0.4	(44.5)	1.04	1.05
ESW-PTF-RE-DGB	10	3.13E-03	(45.5)	0.4	(44.5)	1.04	1.05
LOSPNR14HR	44	1.20E-02	(39.0)	0.4	(46.0)	1.00	1.06
DCHWNR17HR	1	2.50E-02	(30.5)	0.4	(47.0)	1.00	1.00

DCHWNR12HR	1	3.00E-02	(28.0)	0.4	(48.0)	1.00	1.00
LOSPNR7HR	35	3.20E-02	(26.0)	0.3	(49.0)	1.02	1.02
DGMANR12HR	16	4.00E-01	(16.5)	0.3	(50.0)	1.02	1.00
DGMANR9HR	16	4.50E-01	(14.5)	0.3	(51.0)	1.02	1.06
DGMANR7HR	16	5.00E-01	(12.0)	0.3	(52.0)	1.00	1.00
DGMANR3HR	16	7.00E-01	(4.0)	0.3	(53.0)	1.00	1.04
BETA-4DGNS	15	1.30E-02	(37.5)	0.0	(61.0)		
ESW-XHE-FO-EHS	230	9.00E-01	(1.0)	0.0	(61.0)		
DGCCFNR9HR	3	4.50E-01	(14.5)	0.0	(61.0)		
ESW-PTF-RE-MDPB	5	2.19E-03	(58.5)	0.0	(61.0)		
ESW-PTF-RE-MDPA	5	2.19E-03	(58.5)	0.0	(61.0)		
DGCCFNR7HR	3	5.00E-01	(12.0)	0.0	(61.0)		
DGCCFNR5HR	3	6.00E-01	(7.0)	0.0	(61.0)		
DGCCFNR3HR	3	7.00E-01	(4.0)	0.0	(61.0)		
ACP-DGN-LP-CCF	15	3.00E-03	(51.0)	0.0	(61.0)		
DGCCFNR12HR	3	4.00E-01	(16.5)	0.0	(61.0)		
ESW-MDP-FR-MDPB	10	1.20E-03	(62.5)	0.0	(61.0)		
ESW-MDP-FR-MDPA	10	1.20E-03	(62.5)	0.0	(61.0)		
DCP-BAT-LP-B2	5	1.08E-03	(64.0)	0.0	(61.0)		
ACP-DGN-LP-EDGC	25	3.00E-03	(51.0)	0.0	(61.0)		
ACP-DGN-LP-EDGB	25	3.00E-03	(51.0)	0.0	(61.0)		

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	395	7.90E-02	(1.0)	20.1	(1.0)	1.69	0.89

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T1-BU11NU21

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T1-BU11NU21 WITH TOP EVENT FREQUENCY 6.60E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	8	1.83E-09	0.02767	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
3					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
4	6	6	1.41E-09	0.04905	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	IE-T1	*
5					INJ-FAILS	*	LOSPNR13HR	+				
6	2	8	1.39E-09	0.07018	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
7					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
8	11	8	1.10E-09	0.08678	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
9					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
10	5	8	1.07E-09	0.10297	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
11					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+
12	16	6	9.24E-10	0.11696	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	IE-T1	*
13					INJ-FAILS	*	LOSPNR13HR	+				
14	7	6	8.69E-10	0.13012	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
15					IE-T1	*	LOSPNR5HR	+				
16	21	6	8.47E-10	0.14295	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	IE-T1	*
17					INJ-FAILS	*	LOSPNR13HR	+				
18	12	8	8.37E-10	0.15562	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
19					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
20	10	6	8.15E-10	0.16796	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
21					IE-T1	*	LOSPNR12HR	+				
22	3	8	7.96E-10	0.18002	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
23					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
24	15	8	6.41E-10	0.18973	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
25					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+
26	8	6	5.79E-10	0.19850	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
27					IE-T1	*	LOSPNR7HR	+				
28	17	6	5.69E-10	0.20711	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
29					IE-T1	*	LOSPNR5HR	+				
30	26	6	5.55E-10	0.21551	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	IE-T1	*
31					INJ-FAILS	*	LOSPNR13HR	+				
32	4	8	5.46E-10	0.22377	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
33					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
34	20	6	5.33E-10	0.23185	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
35					IE-T1	*	LOSPNR12HR	+				
36	22	6	5.21E-10	0.23974	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
37					IE-T1	*	LOSPNR5HR	+				
38	86	8	4.98E-10	0.24729	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
39					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
40	91	8	4.98E-10	0.25483	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
41					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
42	25	6	4.89E-10	0.26224	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
43					IE-T1	*	LOSPNR12HR	+				
44	13	8	4.78E-10	0.26947	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
45					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+
46	92	8	4.58E-10	0.27640	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*

47					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
48	87	8	4.58E-10	0.28333	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*
49					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
50	32	7	4.31E-10	0.28986	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*
51					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+		
52	9	6	4.16E-10	0.29617	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
53					IE-T1	*	LOSPNR9HR	+				
54	31	7	4.01E-10	0.30223	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	HCI-TDP-FR-20S37	*
55					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
56	41	7	3.81E-10	0.30800	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FR-20S37	*
57					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
58	36	7	3.81E-10	0.31376	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FR-20S37	*
59					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
60	18	6	3.79E-10	0.31950	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
61					IE-T1	*	LOSPNR7HR	+				
62	46	8	3.65E-10	0.32503	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
63					HCI-TDP-MA-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
64	51	8	3.57E-10	0.33045	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*
65					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
66	56	8	3.57E-10	0.33586	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*
67					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
68	23	6	3.47E-10	0.34112	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
69					IE-T1	*	LOSPNR7HR	+				
70	66	8	3.43E-10	0.34631	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
71					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
72	76	8	3.43E-10	0.35150	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*
73					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
74	61	8	3.43E-10	0.35668	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*
75					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
76	71	8	3.43E-10	0.36187	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
77					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
78	27	6	3.41E-10	0.36704	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
79					IE-T1	*	LOSPNR5HR	+				
80	14	8	3.27E-10	0.37200	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
81					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR14HR	+
82	30	6	3.20E-10	0.37684	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
83					IE-T1	*	LOSPNR12HR	+				
84	95	8	3.11E-10	0.38155	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*
85					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+
86	90	8	3.11E-10	0.38626	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*
87					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+
88	226	8	2.99E-10	0.39079	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
89					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
90	231	8	2.99E-10	0.39532	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*
91					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
92	42	7	2.91E-10	0.39972	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*
93					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+		
94	37	7	2.91E-10	0.40412	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*
95					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+		
96	81	6	2.82E-10	0.40840	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*	IE-T1	*
97					INJ-FAILS	*	LOSPNR13HR	+				
98	47	8	2.79E-10	0.41262	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
99					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR9HR	+
100	232	8	2.75E-10	0.41678	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*
101					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
102	227	8	2.75E-10	0.42094	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*

103					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
104	52	8	2.73E-10	0.42507	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*
105					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
106	57	8	2.73E-10	0.42920	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*
107					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
108	19	6	2.72E-10	0.43333	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
109					IE-T1	*	LOSPNR9HR	+				
110	62	8	2.62E-10	0.43729	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*
111					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
112	77	8	2.62E-10	0.44125	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*
113					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
114	67	8	2.62E-10	0.44521	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*
115					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
116	72	8	2.62E-10	0.44917	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
117					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
118	35	7	2.60E-10	0.45311	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*
119					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+		
120	117	7	2.59E-10	0.45703	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*
121					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR5HR	+		
122	88	8	2.56E-10	0.46090	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*
123					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
124	93	8	2.56E-10	0.46478	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*
125					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
126	131	8	2.50E-10	0.46856	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*
127					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
128	136	8	2.50E-10	0.47235	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*
129					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
130	24	6	2.50E-10	0.47613	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
131					IE-T1	*	LOSPNR9HR	+				
132	33	7	2.46E-10	0.47986	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*
133					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR7HR	+		
134	106	8	2.44E-10	0.48356	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*
135					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+
136	96	8	2.44E-10	0.48725	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*
137					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+
138	111	8	2.44E-10	0.49095	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*
139					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+
140	101	8	2.44E-10	0.49465	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*
141					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+
142	116	7	2.40E-10	0.49828	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	HCI-TDP-FS-20S37	*
143					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
144	121	6	2.31E-10	0.50178	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FR-20S37	*	IE-T1	*
145					INJ-FAILS	*	LOSPNR13HR	+				
146	126	6	2.31E-10	0.50528	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FR-20S37	*	IE-T1	*
147					INJ-FAILS	*	LOSPNR13HR	+				
148	141	8	2.28E-10	0.50874	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*
149					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
150	146	8	2.28E-10	0.51220	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*
151					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
152	151	7	2.28E-10	0.51566	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FS-20S37	*
153					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
154	156	7	2.28E-10	0.51912	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FS-20S37	*
155					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
156	28	6	2.27E-10	0.52256	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
157					IE-T1	*	LOSPNR7HR	+				
158	45	7	2.23E-10	0.52593	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*

159					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+			
160	40	7	2.23E-10	0.52931	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
161					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+			
162	112	8	2.18E-10	0.53261	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
163					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR5HR	+	
164	102	8	2.18E-10	0.53592	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
165					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR5HR	+	
166	97	8	2.18E-10	0.53923	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*	
167					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+	
168	107	8	2.18E-10	0.54253	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*	
169					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+	
170	166	8	2.14E-10	0.54578	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
171					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
172	161	8	2.14E-10	0.54903	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
173					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
174	50	8	2.14E-10	0.55226	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
175					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR17HR	+	
176	60	8	2.09E-10	0.55543	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*	
177					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
178	55	8	2.09E-10	0.55860	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*	
179					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
180	176	8	2.06E-10	0.56171	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
181					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
182	171	8	2.06E-10	0.56482	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
183					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
184	181	8	2.06E-10	0.56794	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
185					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
186	186	8	2.06E-10	0.57105	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
187					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
188	80	8	2.00E-10	0.57408	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	
189					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
190	75	8	2.00E-10	0.57712	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
191					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
192	70	8	2.00E-10	0.58015	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
193					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
194	65	8	2.00E-10	0.58319	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*	
195					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
196	202	7	1.99E-10	0.58620	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
197					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+			
198	197	7	1.99E-10	0.58922	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
199					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+			
200	212	8	1.91E-10	0.59211	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
201					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR5HR	+	
202	207	8	1.91E-10	0.59500	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
203					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR5HR	+	
204	296	8	1.91E-10	0.59790	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
205					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
206	301	8	1.91E-10	0.60079	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
207					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
208	137	8	1.91E-10	0.60368	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPA	*	
209					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
210	132	8	1.91E-10	0.60657	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPB	*	
211					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
212	230	8	1.87E-10	0.60940	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
213					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
214	235	8	1.87E-10	0.61222	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	

215					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
216	201	7	1.85E-10	0.61502	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FR-20S37	*	
217					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
218	196	7	1.85E-10	0.61782	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FR-20S37	*	
219					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
220	191	6	1.85E-10	0.62062	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*	IE-T1	*	
221					INJ-FAILS	*	LOSPNR13HR	+					
222	211	8	1.77E-10	0.62331	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
223					HCI-TDP-MA-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+	
224	206	8	1.77E-10	0.62600	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
225					HCI-TDP-MA-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+	
226	297	8	1.75E-10	0.62865	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
227					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
228	302	8	1.75E-10	0.63131	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
229					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
230	157	7	1.74E-10	0.63395	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*	
231					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+			
232	152	7	1.74E-10	0.63659	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*	
233					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+			
234	147	8	1.74E-10	0.63923	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
235					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
236	142	8	1.74E-10	0.64187	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
237					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
238	82	6	1.74E-10	0.64450	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*	
239					IE-T1	*	LOSPNR5HR	+					
240	94	8	1.71E-10	0.64709	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
241					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+	
242	89	8	1.71E-10	0.64967	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
243					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+	
244	43	7	1.66E-10	0.65218	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
245					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+			
246	38	7	1.66E-10	0.65469	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
247					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+			
248	167	8	1.64E-10	0.65717	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*	
249					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
250	162	8	1.64E-10	0.65965	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*	
251					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
252	29	6	1.63E-10	0.66213	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
253					IE-T1	*	LOSPNR9HR	+					
254	85	6	1.63E-10	0.66459	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*	
255					IE-T1	*	LOSPNR12HR	+					
256	48	8	1.59E-10	0.66701	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
257					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR12HR	+	
258	177	8	1.57E-10	0.66938	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*	
259					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
260	172	8	1.57E-10	0.67176	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*	
261					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
262	187	8	1.57E-10	0.67413	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
263					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
264	182	8	1.57E-10	0.67651	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
265					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
266	120	7	1.56E-10	0.67887	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*	
267					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+			
268	58	8	1.56E-10	0.68123	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGB	*	
269					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
270	53	8	1.56E-10	0.68359	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGC	*	

271					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
272	221	6	1.54E-10	0.68592	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	HCI-TDP-FR-20S37	*	IE-T1	*
273					INJ-FAILS	*	LOSPNR13HR	+				
274	216	6	1.54E-10	0.68826	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	HCI-TDP-FR-20S37	*	IE-T1	*
275					INJ-FAILS	*	LOSPNR13HR	+				
276	233	8	1.54E-10	0.69058	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*
277					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+
278	228	8	1.54E-10	0.69291	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*
279					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+
280	63	8	1.49E-10	0.69517	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPB	*
281					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
282	78	8	1.49E-10	0.69743	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPA	*
283					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
284	73	8	1.49E-10	0.69969	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
285					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
286	68	8	1.49E-10	0.70195	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*
287					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
288	110	8	1.48E-10	0.70419	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPB	*
289					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
290	100	8	1.48E-10	0.70644	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPA	*
291					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
292	115	8	1.48E-10	0.70869	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*
293					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+
294	105	8	1.48E-10	0.71094	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*
295					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+
296	118	7	1.48E-10	0.71318	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*
297					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR7HR	+		
298	34	7	1.48E-10	0.71541	ACP-DGN-LP-CCF	*	BAT-DEP-7HR	*	BETA-4DGNS	*	DGCCFNR7HR	*
299					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+		
300	140	8	1.46E-10	0.71763	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPA	*
301					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+
302	135	8	1.46E-10	0.71984	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPB	*
303					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+
304	127	6	1.42E-10	0.72200	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FR-20S37	*
305					IE-T1	*	LOSPNR5HR	+				
306	122	6	1.42E-10	0.72415	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FR-20S37	*
307					IE-T1	*	LOSPNR5HR	+				
308	241	6	1.39E-10	0.72625	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FS-20S37	*	IE-T1	*
309					INJ-FAILS	*	LOSPNR13HR	+				
310	236	6	1.39E-10	0.72835	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FS-20S37	*	IE-T1	*
311					INJ-FAILS	*	LOSPNR13HR	+				
312	251	7	1.36E-10	0.73040	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-MA-20S37	*
313					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
314	246	7	1.36E-10	0.73245	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-MA-20S37	*
315					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
316	150	8	1.34E-10	0.73448	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*
317					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+
318	155	7	1.34E-10	0.73650	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*
319					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+		
320	160	7	1.34E-10	0.73852	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*
321					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+		
322	145	8	1.34E-10	0.74055	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*
323					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+
324	125	6	1.33E-10	0.74257	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FR-20S37	*
325					IE-T1	*	LOSPNR12HR	+				
326	130	6	1.33E-10	0.74459	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FR-20S37	*

327					IE-T1	*	LOSPNR12HR	+					
328	113	8	1.27E-10	0.74651	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPB	*	
329					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR7HR	+	
330	108	8	1.27E-10	0.74844	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPB	*	
331					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR7HR	+	
332	103	8	1.27E-10	0.75037	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPA	*	
333					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR7HR	+	
334	98	8	1.27E-10	0.75230	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPA	*	
335					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR7HR	+	
336	261	7	1.27E-10	0.75423	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FR-20S37	*	
337					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
338	256	7	1.27E-10	0.75615	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FR-20S37	*	
339					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
340	170	8	1.25E-10	0.75805	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*	
341					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
342	165	8	1.25E-10	0.75995	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*	
343					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
344	252	7	1.21E-10	0.76179	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*	
345					HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR5HR	+			
346	247	7	1.21E-10	0.76362	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*	
347					HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR5HR	+			
348	190	8	1.20E-10	0.76545	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
349					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
350	180	8	1.20E-10	0.76727	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	
351					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
352	175	8	1.20E-10	0.76909	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*	
353					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
354	185	8	1.20E-10	0.77091	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
355					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
356	205	7	1.20E-10	0.77273	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
357					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+			
358	200	7	1.20E-10	0.77454	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
359					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+			
360	272	7	1.19E-10	0.77635	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
361					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR5HR	+			
362	267	7	1.19E-10	0.77816	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
363					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR5HR	+			
364	305	8	1.19E-10	0.77996	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
365					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
366	300	8	1.19E-10	0.78177	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
367					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
368	83	6	1.16E-10	0.78352	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*	
369					IE-T1	*	LOSPNR7HR	+					
370	215	8	1.15E-10	0.78527	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
371					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR12HR	+	
372	210	8	1.15E-10	0.78701	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
373					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR12HR	+	
374	391	8	1.15E-10	0.78875	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
375					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
376	386	8	1.15E-10	0.79048	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
377					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
378	276	8	1.14E-10	0.79221	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
379					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
380	281	8	1.14E-10	0.79394	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
381					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
382	44	7	1.14E-10	0.79566	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*	

383					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+		
384	39	7	1.14E-10	0.79739	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*
385					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+		
386	262	7	1.14E-10	0.79911	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*
387					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+		
388	257	7	1.14E-10	0.80083	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*
389					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+		
390	203	7	1.14E-10	0.80255	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*
391					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR7HR	+		
392	198	7	1.14E-10	0.80427	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*
393					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR7HR	+		
394	192	6	1.14E-10	0.80600	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*
395					IE-T1	*	LOSPNR5HR	+				
396	271	7	1.11E-10	0.80768	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FS-20S37	*
397					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
398	266	7	1.11E-10	0.80936	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FS-20S37	*
399					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
400	291	8	1.10E-10	0.81102	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
401					HCI-MOV-CC-MV14	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
402	286	8	1.10E-10	0.81268	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
403					HCI-MOV-CC-MV19	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
404	49	8	1.09E-10	0.81433	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
405					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR14HR	+
406	213	8	1.09E-10	0.81598	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*
407					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR7HR	+
408	208	8	1.09E-10	0.81764	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*
409					ESW-XHE-FO-EHS	*	HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR7HR	+
410	138	8	1.09E-10	0.81929	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPA	*
411					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
412	133	8	1.09E-10	0.82094	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPB	*
413					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
414	59	8	1.07E-10	0.82255	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGB	*
415					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
416	54	8	1.07E-10	0.82417	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGC	*
417					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
418	195	6	1.07E-10	0.82578	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*
419					IE-T1	*	LOSPNR12HR	+				
420	392	8	1.05E-10	0.82738	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*
421					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
422	387	8	1.05E-10	0.82897	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*
423					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
424	79	8	1.02E-10	0.83052	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPA	*
425					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
426	74	8	1.02E-10	0.83207	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
427					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
428	69	8	1.02E-10	0.83362	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*
429					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
430	64	8	1.02E-10	0.83517	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPB	*
431					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
432	234	8	1.02E-10	0.83672	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*
433					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR14HR	+
434	229	8	1.02E-10	0.83827	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*
435					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR14HR	+
436	148	8	9.95E-11	0.83978	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPB	*
437					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+
438	143	8	9.95E-11	0.84129	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPA	*

439					ESW-XHE-FO-EHS *	HCI-TDP-FR-20S37 *	IE-T1 *	LOSPNR12HR +
440	153	7	9.95E-11	0.84279	ACP-DGN-FR-EDGC *	BAT-DEP-5HR *	DGHWNR5HR *	ESW-CKV-CB-C515B *
441					HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR12HR +	
442	158	7	9.95E-11	0.84430	ACP-DGN-FR-EDGB *	BAT-DEP-5HR *	DGHWNR5HR *	ESW-CKV-CB-C515A *
443					HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR12HR +	
444	303	8	9.81E-11	0.84579	ACP-DGN-FR-EDGB *	ACP-DGN-TE-EDGC *	BAT-DEP-5HR *	DGMANR5HR *
445					ESW-XHE-FO-EHS *	HCI-TDP-FR-20S37 *	IE-T1 *	LOSPNR12HR +
446	298	8	9.81E-11	0.84727	ACP-DGN-FR-EDGC *	ACP-DGN-TE-EDGB *	BAT-DEP-5HR *	DGMANR5HR *
447					ESW-XHE-FO-EHS *	HCI-TDP-FR-20S37 *	IE-T1 *	LOSPNR12HR +
448	123	6	9.46E-11	0.84871	BAT-DEP-5HR *	ESW-CKV-CB-C515B *	ESW-MDP-FS-MDPB *	HCI-TDP-FR-20S37 *
449					IE-T1 *	LOSPNR7HR +		
450	128	6	9.48E-11	0.85014	BAT-DEP-5HR *	ESW-CKV-CB-C515A *	ESW-MDP-FS-MDPA *	HCI-TDP-FR-20S37 *
451					IE-T1 *	LOSPNR7HR +		
452	222	6	9.48E-11	0.85158	BAT-DEP-3HR *	ESW-CKV-CB-C515A *	ESW-MDP-MA-MDPA *	HCI-TDP-FR-20S37 *
453					IE-T1 *	LOSPNR5HR +		
454	217	6	9.48E-11	0.85301	BAT-DEP-3HR *	ESW-CKV-CB-C515B *	ESW-MDP-MA-MDPB *	HCI-TDP-FR-20S37 *
455					IE-T1 *	LOSPNR5HR +		
456	163	8	9.34E-11	0.85443	ACP-DGN-FR-EDGB *	BAT-DEP-5HR *	DGHWNR5HR *	ESW-PTF-RE-DGC *
457					ESW-XHE-FO-EHS *	HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR12HR +
458	168	8	9.34E-11	0.85584	ACP-DGN-FR-EDGC *	BAT-DEP-5HR *	DGHWNR5HR *	ESW-PTF-RE-DGB *
459					ESW-XHE-FO-EHS *	HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR12HR +
460	306	7	8.97E-11	0.85720	ACP-DGN-FR-EDGC *	DCHWNR18HR *	DCP-BAT-LP-B2 *	ESW-XHE-FO-EHS *
461					IE-T1 *	INJ-FAILS *	LOSPNR18HR +	
462	178	8	8.96E-11	0.85856	ACP-DGN-FR-EDGC *	BAT-DEP-5HR *	DGHWNR5HR *	ESW-MDP-FS-MDPA *
463					ESW-XHE-FO-EHS *	HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR12HR +
464	173	8	8.96E-11	0.85991	ACP-DGN-FR-EDGB *	BAT-DEP-5HR *	DGHWNR5HR *	ESW-MDP-FS-MDPB *
465					ESW-XHE-FO-EHS *	HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR12HR +
466	183	8	8.96E-11	0.86127	ACP-DGN-FR-EDGB *	ACP-DGN-LP-EDGC *	BAT-DEP-5HR *	DGHWNR5HR *
467					ESW-XHE-FO-EHS *	HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR12HR +
468	188	8	8.96E-11	0.86262	ACP-DGN-FR-EDGC *	ACP-DGN-LP-EDGB *	BAT-DEP-5HR *	DGHWNR5HR *
469					ESW-XHE-FO-EHS *	HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR12HR +
470	225	6	8.89E-11	0.86397	BAT-DEP-9HR *	ESW-CKV-CB-C515A *	ESW-MDP-MA-MDPA *	HCI-TDP-FR-20S37 *
471					IE-T1 *	LOSPNR12HR +		
472	220	6	8.89E-11	0.86532	BAT-DEP-9HR *	ESW-CKV-CB-C515B *	ESW-MDP-MA-MDPB *	HCI-TDP-FR-20S37 *
473					IE-T1 *	LOSPNR12HR +		
474	119	7	8.85E-11	0.86666	ACP-DGN-LP-CCF *	BAT-DEP-7HR *	BETA-4DGNS *	DGCCFNR7HR *
475					HCI-TDP-FS-20S37 *	IE-T1 *	LOSPNR9HR +	
476	282	8	8.72E-11	0.86798	ACP-DGN-FR-EDGB *	BAT-DEP-3HR *	DGHWNR3HR *	ESW-AOV-CC-0241C *
477					ESW-XHE-FO-EHS *	HCI-TDP-FR-20S37 *	IE-T1 *	LOSPNR9HR +
478	277	8	8.72E-11	0.86930	ACP-DGN-FR-EDGC *	BAT-DEP-3HR *	DGHWNR3HR *	ESW-AOV-CC-0241B *
479					ESW-XHE-FO-EHS *	HCI-TDP-FR-20S37 *	IE-T1 *	LOSPNR9HR +
480	322	7	8.62E-11	0.87060	ACP-DGN-LP-CCF *	BAT-DEP-3HR *	BETA-4DGNS *	DGCCFNR3HR *
481					HCI-TDP-MA-20S37 *	IE-T1 *	LOSPNR5HR +	
482	242	6	8.53E-11	0.87189	BAT-DEP-3HR *	ESW-CKV-CB-C515A *	ESW-MDP-FS-MDPA *	HCI-TDP-FS-20S37 *
483					IE-T1 *	LOSPNR5HR +		
484	237	6	8.53E-11	0.87319	BAT-DEP-3HR *	ESW-CKV-CB-C515B *	ESW-MDP-FS-MDPB *	HCI-TDP-FS-20S37 *
485					IE-T1 *	LOSPNR5HR +		
486	316	6	8.47E-11	0.87447	BETA-3AOVS *	ESW-AOV-CC-CCF *	HCI-MOV-CC-MV14 *	IE-T1 *
487					INJ-FAILS *	LOSPNR13HR +		
488	311	6	8.47E-11	0.87575	BETA-3AOVS *	ESW-AOV-CC-CCF *	HCI-MOV-CC-MV19 *	IE-T1 *
489					INJ-FAILS *	LOSPNR13HR +		
490	292	8	8.37E-11	0.87702	ACP-DGN-FR-EDGB *	ACP-DGN-FR-EDGC *	BAT-DEP-3HR *	DGHWNR3HR *
491					ESW-XHE-FO-EHS *	HCI-MOV-CC-MV14 *	IE-T1 *	LOSPNR9HR +
492	287	8	8.37E-11	0.87829	ACP-DGN-FR-EDGB *	ACP-DGN-FR-EDGC *	BAT-DEP-3HR *	DGHWNR3HR *
493					ESW-XHE-FO-EHS *	HCI-MOV-CC-MV19 *	IE-T1 *	LOSPNR9HR +
494	84	6	8.32E-11	0.87955	BAT-DEP-7HR *	BETA-3AOVS *	ESW-AOV-CC-CCF *	HCI-TDP-MA-20S37 *

495					IE-T1	*	LOSPNR9HR	+				
496	255	7	8.25E-11	0.88080	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*
497					HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR12HR	+		
498	250	7	8.25E-11	0.88205	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*
499					HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR12HR	+		
500	341	8	8.22E-11	0.88329	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*
501					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
502	336	8	8.22E-11	0.88454	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*
503					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+
504	321	7	8.01E-11	0.88575	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	HCI-TDP-MA-20S37	*
505					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
506	245	6	8.00E-11	0.88696	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	HCI-TDP-FS-20S37	*
507					IE-T1	*	LOSPNR12HR	+				
508	240	6	8.00E-11	0.88817	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	HCI-TDP-FS-20S37	*
509					IE-T1	*	LOSPNR12HR	+				
510	109	8	7.85E-11	0.88936	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPB	*
511					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
512	99	8	7.85E-11	0.89055	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPA	*
513					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+
514	114	8	7.85E-11	0.89174	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPB	*
515					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
516	104	8	7.85E-11	0.89292	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPA	*
517					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+
518	265	7	7.73E-11	0.89410	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*
519					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+		
520	260	7	7.73E-11	0.89527	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*
521					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+		
522	352	7	7.63E-11	0.89642	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*
523					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+		
524	347	7	7.63E-11	0.89758	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*
525					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+		
526	331	7	7.63E-11	0.89873	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FS-20S37	*
527					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
528	326	7	7.63E-11	0.89989	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FS-20S37	*
529					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
530	193	6	7.58E-11	0.90103	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-MA-20S37	*
531					IE-T1	*	LOSPNR7HR	+				
532	139	8	7.47E-11	0.90217	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPA	*
533					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
534	134	8	7.47E-11	0.90330	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPB	*
535					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
536	275	7	7.20E-11	0.90439	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*
537					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+		
538	270	7	7.20E-11	0.90548	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*
539					HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+		
540	395	8	7.15E-11	0.90656	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*
541					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+
542	390	8	7.15E-11	0.90764	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*
543					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+
544	351	7	7.09E-11	0.90872	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FR-20S37	*
545					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
546	346	7	7.09E-11	0.90979	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FR-20S37	*
547					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+		
548	253	7	7.08E-11	0.91086	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*
549					HCI-TDP-MA-20S37	*	IE-T1	*	LOSPNR7HR	+		
550	248	7	7.08E-11	0.91193	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*

SEQUENCE T3C-C-SLC

TOP EVENT T3C-C-SLC CONTAINS 10 EVENTS IN 6 CUT SETS

THE FREQUENCY OF TOP EVENT T3C-C-SLC IS 1.07E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T3C-C-SLC

N	1000
MEAN	1.14E-07
STD DEV	4.66E-07
LOWER 5%	1.23E-09
LOWER 25%	7.06E-09
MEDIAN	2.26E-08
UPPER 25%	7.04E-08
UPPER 5%	3.83E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T3C-C-SLC

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	6	1.00E+00	(1.0)	1.07E-07	(1.5)		
RPSM	6	1.00E-05	(9.0)	1.07E-07	(1.5)	1.23E-09	3.83E-07
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	6.06E-08	(3.0)	2.34E-10	2.24E-07
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	3.80E-08	(4.0)	2.39E-10	1.49E-07
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	6.46E-09	(5.0)	6.42E-11	2.65E-08
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	1.20E-09	(6.5)	2.45E-12	4.07E-09
BETA-2SIPUMPS	1	2.10E-01	(2.0)	1.20E-09	(6.5)	2.45E-12	4.07E-09
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	1.90E-10	(8.5)	2.95E-12	7.48E-10
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	1.90E-10	(8.5)	2.95E-12	7.48E-10

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3C	6	1.90E-01	(1.0)	1.07E-07	(1.0)	1.23E-09	3.83E-07

SEQUENCE T3C-C-SLC
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	6	1.00E-05	(9.0)	1.07E-02	(1.0)	1.08E-03	3.61E-02
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	1.90E-06	(2.5)	4.53E-08	7.68E-06
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	1.90E-06	(2.5)	4.53E-08	7.68E-06
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	1.89E-06	(4.0)	4.53E-08	7.66E-06
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	1.86E-06	(5.0)	4.49E-08	7.56E-06
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	1.84E-06	(6.0)	4.17E-08	7.14E-06
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	3.98E-07	(7.0)	5.06E-09	1.51E-06
BETA-2SIPUMPS	1	2.10E-01	(2.0)	4.50E-09	(8.0)	1.59E-11	1.52E-08
NR	6	1.00E+00	(1.0)	0.00E+00	(9.0)		

SEQUENCE T3C-C-SLC

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	6	1.00E-05	(9.0)	64.6	(1.0)	6.74	0.94
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	14.0	(2.0)	1.82	1.04
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	7.0	(3.0)	1.38	0.95
BETA-2SIPUMPS	1	2.10E-01	(2.0)	0.8	(4.0)	1.03	1.03
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	0.6	(5.0)	1.01	1.01
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	0.3	(6.0)	1.07	1.01
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	0.0	(7.5)		
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	0.0	(7.5)		
NR	6	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3C	6	1.90E-01	(1.0)	14.7	(1.0)	1.75	1.04

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T3C-C-SLC

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T3C-C-SLC WITH TOP EVENT FREQUENCY 1.07E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	6.08E-08	0.56832	IE-T3C	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	2	4	3.80E-08	0.92464	IE-T3C	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	3	4	6.46E-09	0.98521	IE-T3C	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
5	4	5	1.20E-09	0.99644	BETA-2SIPUMPS	*	IE-T3C	*	NR	*	RPSM	*
6					SLC-MDP-FS-CCF	+						
7	6	4	1.90E-10	0.99822	IE-T3C	*	NR	*	RPSM	*	SLC-CKV-HW-CV16	+
8	5	4	1.90E-10	1.00000	IE-T3C	*	NR	*	RPSM	*	SLC-CKV-HW-CV17	.

SEQUENCE T1-P2V234NU11B

TOP EVENT T1-P2V234NU11B CONTAINS 11 EVENTS IN 5 CUT SETS

THE FREQUENCY OF TOP EVENT T1-P2V234NU11B IS 8.99E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T1-P2V234NU11B

N	1000
MEAN	8.73E-08
STD DEV	3.46E-07
LOWER 5%	5.56E-10
LOWER 25%	3.71E-09
MEDIAN	1.36E-08
UPPER 25%	4.94E-08
UPPER 5%	3.45E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T1-P2V234NU11B

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	5	1.00E+00	(1.0)	8.99E-08	(1.5)		
P2	5	2.00E-03	(3.0)	8.99E-08	(1.5)	5.56E-10	3.45E-07
ESF-XHE-MC-PRES	1	5.32E-04	(8.0)	8.41E-08	(3.0)	2.98E-10	3.15E-07
ESF-XHE-FO-HSWIN	2	2.50E-01	(2.0)	5.53E-09	(4.0)	5.17E-11	2.61E-08
ESW-CKV-HW-CV513	1	1.00E-04	(9.0)	3.95E-09	(5.0)	2.87E-11	1.79E-08
ESW-XVM-PG-XV502	1	4.00E-05	(10.0)	1.58E-09	(6.0)	1.16E-11	6.11E-09
ESF-ASP-FC-PL52C	1	1.00E-03	(5.5)	1.58E-10	(8.5)	3.06E-14	1.55E-09
ESF-ASP-FC-PL52D	1	1.00E-03	(5.5)	1.58E-10	(8.5)	3.06E-14	1.55E-09
ESF-ASP-FC-PL52B	1	1.00E-03	(5.5)	1.58E-10	(8.5)	3.06E-14	1.55E-09
ESF-ASP-FC-PL52A	1	1.00E-03	(5.5)	1.58E-10	(8.5)	3.06E-14	1.55E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	5	7.90E-02	(1.0)	8.99E-08	(1.0)	5.56E-10	3.45E-07

SEQUENCE T1-P2V234NU11B
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-MC-PRES	1	5.32E-04	(8.0)	1.58E-04	(1.0)	3.56E-06	6.45E-04
P2	5	2.00E-03	(3.0)	4.49E-05	(2.0)	1.89E-06	1.70E-04
ESW-XVM-PG-XV502	1	4.00E-05	(10.0)	3.95E-05	(3.0)	4.23E-07	1.83E-04
ESW-CKV-HW-CV513	1	1.00E-04	(9.0)	3.95E-05	(4.0)	4.23E-07	1.83E-04
ESF-ASP-FC-PL52C	1	1.00E-03	(5.5)	1.58E-07	(6.5)	5.62E-10	5.67E-07
ESF-ASP-FC-PL52A	1	1.00E-03	(5.5)	1.58E-07	(6.5)	5.62E-10	5.67E-07
ESF-ASP-FC-PL52D	1	1.00E-03	(5.5)	1.58E-07	(6.5)	5.62E-10	5.67E-07
ESF-ASP-FC-PL52B	1	1.00E-03	(5.5)	1.58E-07	(6.5)	5.62E-10	5.67E-07
ESF-XHE-FO-HSWIN	2	2.50E-01	(2.0)	1.66E-08	(9.0)	2.75E-10	6.99E-08
NR	5	1.00E+00	(1.0)	0.00E+00	(10.0)		

SEQUENCE T1-P2V234NU11B

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
P2	5	2.00E-03	(3.0)	50.7	(1.0)	6.80	0.99
ESF-XHE-MC-PRES	1	5.32E-04	(8.0)	32.4	(2.0)	3.62	1.11
ESF-ASP-FC-PL52D	1	1.00E-03	(5.5)	1.2	(4.5)	1.01	0.98
ESF-ASP-FC-PL52A	1	1.00E-03	(5.5)	1.2	(4.5)	1.01	0.98
ESF-ASP-FC-PL52B	1	1.00E-03	(5.5)	1.2	(4.5)	1.01	0.98
ESF-ASP-FC-PL52C	1	1.00E-03	(5.5)	1.2	(4.5)	1.01	0.98
ESF-XHE-FO-HSWIN	2	2.50E-01	(2.0)	1.1	(7.0)	1.08	1.00
ESW-CKV-HW-CV513	1	1.00E-04	(9.0)	0.7	(8.0)	0.99	1.02
ESW-XVM-PG-XV502	1	4.00E-05	(10.0)	0.0	(9.0)		
NR	5	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	5	7.90E-02	(1.0)	14.4	(1.0)	1.56	0.89

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T1-P2V234NU11B

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T1-P2V234NU11B WITH TOP EVENT FREQUENCY 8.99E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	8.41E-08	0.93497	ESF-XHE-MC-PRES	*	IE-T1	*	NR	*	P2	+
3	2	5	3.95E-09	0.97891	ESF-XHE-FO-HSWIN	*	ESW-CKV-HW-CV513	*	IE-T1	*	NR	*
4					P2	+						
5	3	5	1.58E-09	0.99648	ESF-XHE-FO-HSWIN	*	ESW-XVM-PG-XV502	*	IE-T1	*	NR	*
6					P2	+						
7	5	5	1.58E-10	0.99824	ESF-ASP-FC-PL52C	*	ESF-ASP-FC-PL52D	*	IE-T1	*	NR	*
8					P2	+						
9	4	5	1.58E-10	1.00000	ESF-ASP-FC-PL52A	*	ESF-ASP-FC-PL52B	*	IE-T1	*	NR	*
10					P2							

SEQUENCE T2-P2V234NU11

TOP EVENT T2-P2V234NU11 CONTAINS 4 EVENTS IN 1 CUT SET

THE FREQUENCY OF TOP EVENT T2-P2V234NU11 IS 5.32E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T2-P2V234NU11

N	1000
MEAN	5.72E-08
STD DEV	4.66E-07
LOWER 5%	2.07E-10
LOWER 25%	1.43E-09
MEDIAN	5.85E-09
UPPER 25%	2.76E-08
UPPER 5%	1.78E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T2-P2V234NU11

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	1	1.00E+00	(1.0)	5.32E-08	(2.0)		
P2	1	2.00E-03	(2.0)	5.32E-08	(2.0)	2.07E-10	1.78E-07
ESF-XHE-MC-PRES	1	5.32E-04	(3.0)	5.32E-08	(2.0)	2.07E-10	1.78E-07

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T2	1	5.00E-02	(1.0)	5.32E-08	(1.0)	2.07E-10	1.78E-07

SEQUENCE T2-P2V234NU11
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-MC-PRES	1	5.32E-04	(3.0)	9.99E-05	(1.0)	2.42E-06	3.96E-04
P2	1	2.00E-03	(2.0)	2.65E-05	(2.0)	6.33E-07	9.69E-05
NR	1	1.00E+00	(1.0)	0.00E+00	(3.0)		

SEQUENCE T2-P2V234NU11
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
ESF-XHE-MC-PRES	1	5.32E-04	(3.0)	45.4	(1.0)	6.23	1.19
P2	1	2.00E-03	(2.0)	45.4	(2.0)	6.13	1.09
NR	1	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T2	1	5.00E-02	(1.0)	10.6	(1.0)	1.26	1.01

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T2-P2V234NU11

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T2-P2V234NU11 WITH TOP EVENT FREQUENCY 5.32E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	5.32E-08	1.00000	ESF-XHE-MC-PRES	*	IE-T2	*	NR	*	P2

SEQUENCE T3B-P2V234NU11

TOP EVENT T3B-P2V234NU11 CONTAINS 7 EVENTS IN 2 CUT SETS

THE FREQUENCY OF TOP EVENT T3B-P2V234NU11 IS 6.41E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T3B-P2V234NU11

N	1000
MEAN	5.63E-08
STD DEV	2.30E-07
LOWER 5%	2.31E-10
LOWER 25%	1.76E-09
MEDIAN	7.50E-09
UPPER 25%	3.17E-08
UPPER 5%	2.17E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T3B-P2V234NU11

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	2	1.00E+00	(1.0)	6.41E-08	(1.5)		
P2	2	2.00E-03	(4.0)	6.41E-08	(1.5)	2.31E-10	2.17E-07
ESF-XHE-MC-PRES	1	5.32E-04	(5.0)	6.38E-08	(3.0)	2.28E-10	2.17E-07
ESW-CKV-HW-CV513	1	1.00E-04	(6.0)	3.00E-10	(5.0)	9.97E-13	9.69E-10
NSW-SYS-FO-NSW-1	1	1.00E-01	(3.0)	3.00E-10	(5.0)	9.97E-13	9.69E-10
ESF-XHE-FO-HSWIN	1	2.50E-01	(2.0)	3.00E-10	(5.0)	9.97E-13	9.69E-10

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3B	2	6.00E-02	(1.0)	6.41E-08	(1.0)	2.31E-10	2.17E-07

SEQUENCE T3B-P2V234NU11
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-MC-PRES	1	5.32E-04	(5.0)	1.20E-04	(1.0)	2.85E-06	4.55E-04
P2	2	2.00E-03	(4.0)	3.20E-05	(2.0)	7.69E-07	1.28E-04
ESW-CKV-HW-CV513	1	1.00E-04	(6.0)	3.00E-06	(3.0)	1.66E-08	1.11E-05
NSW-SYS-FO-NSW-1	1	1.00E-01	(3.0)	2.70E-09	(4.0)	1.92E-11	1.01E-08
ESF-XHE-FO-HSWIN	1	2.50E-01	(2.0)	9.00E-10	(5.0)	5.70E-12	3.61E-09
NR	2	1.00E+00	(1.0)	0.00E+00	(6.0)		

SEQUENCE T3B-P2V234NU11
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
P2	2	2.00E-03	(4.0)	45.8	(1.0)	6.66	1.18
ESF-XHE-MC-PRES	1	5.32E-04	(5.0)	44.1	(2.0)	6.58	1.12
NSW-SYS-FO-NSW-1	1	1.00E-01	(3.0)	0.8	(3.0)	1.03	1.00
ESF-XHE-FO-HSWIN	1	2.50E-01	(2.0)	0.6	(4.0)	1.04	1.00
ESW-CKV-HW-CV513	1	1.00E-04	(6.0)	0.5	(5.0)	1.02	1.00
NR	2	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3B	2	6.00E-02	(1.0)	10.9	(1.0)	1.40	0.99

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T3B-P2V234NU11

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T3B-P2V234NU11 WITH TOP EVENT FREQUENCY 6.41E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	6.38E-08	0.99532	ESF-XHE-MC-PRES	*	IE-T3B	*	NR	*	P2		+
3	2	6	3.00E-10	1.00000	ESF-XHE-FO-HSWIN	*	ESW-CKV-HW-CV513	*	IE-T3B	*	NR		*
4					NSW-SYS-FO-NSW-1	*	P2						

SEQUENCE A-V2V3

TOP EVENT A-V2V3 CONTAINS 7 EVENTS IN 3 CUT SETS

THE FREQUENCY OF TOP EVENT A-V2V3 IS 5.34E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT A-V2V3

N	1000
MEAN	4.63E-08
STD DEV	1.58E-07
LOWER 5%	3.26E-10
LOWER 25%	2.02E-09
MEDIAN	7.84E-09
UPPER 25%	3.12E-08
UPPER 5%	1.93E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE A-V2V3

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	3	1.00E+00	(1.0)	5.34E-08	(1.0)		
ESF-XHE-MC-PRES	1	5.32E-04	(6.0)	5.32E-08	(2.0)	2.92E-10	1.87E-07
ESF-ASP-FC-PL52C	1	1.00E-03	(3.5)	1.00E-10	(4.5)	3.53E-14	9.36E-10
ESF-ASP-FC-PL52D	1	1.00E-03	(3.5)	1.00E-10	(4.5)	3.53E-14	9.36E-10
ESF-ASP-FC-PL52B	1	1.00E-03	(3.5)	1.00E-10	(4.5)	3.53E-14	9.36E-10
ESF-ASP-FC-PL52A	1	1.00E-03	(3.5)	1.00E-10	(4.5)	3.53E-14	9.36E-10

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-A	3	1.00E-04	(1.0)	5.34E-08	(1.0)	3.26E-10	1.93E-07

SEQUENCE A-V2V3
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-MC-PRES	1	5.32E-04	(6.0)	9.99E-05	(1.0)	3.75E-06	3.75E-04
ESF-ASP-FC-PL52A	1	1.00E-03	(3.5)	9.99E-08	(3.5)	5.54E-10	3.60E-07
ESF-ASP-FC-PL52D	1	1.00E-03	(3.5)	9.99E-08	(3.5)	5.54E-10	3.60E-07
ESF-ASP-FC-PL52B	1	1.00E-03	(3.5)	9.99E-08	(3.5)	5.54E-10	3.60E-07
ESF-ASP-FC-PL52C	1	1.00E-03	(3.5)	9.99E-08	(3.5)	5.54E-10	3.60E-07
NR	3	1.00E+00	(1.0)	0.00E+00	(6.0)		

SEQUENCE A-V2V3

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
ESF-XHE-MC-PRES	1	5.32E-04	(6.0)	47.9	(1.0)	6.13	1.05
ESF-ASP-FC-PL52A	1	1.00E-03	(3.5)	0.9	(3.5)	0.95	0.97
ESF-ASP-FC-PL52D	1	1.00E-03	(3.5)	0.9	(3.5)	0.95	0.97
ESF-ASP-FC-PL52B	1	1.00E-03	(3.5)	0.9	(3.5)	0.95	0.97
ESF-ASP-FC-PL52C	1	1.00E-03	(3.5)	0.9	(3.5)	0.95	0.97
NR	3	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-A	3	1.00E-04	(1.0)	51.3	(1.0)	7.05	1.05

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE A-V2V3

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT A-V2V3 WITH TOP EVENT FREQUENCY 5.34E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	3	5.32E-08	0.99625	ESF-XHE-MC-PRES	*	IE-A	*	NR	+				
3	3	4	1.00E-10	0.99813	ESF-ASP-FC-PL52C	*	ESF-ASP-FC-PL52D	*	IE-A	*	NR	+		
4	2	4	1.00E-10	1.00000	ESF-ASP-FC-PL52A	*	ESF-ASP-FC-PL52B	*	IE-A	*	NR	.		

SEQUENCE T1-C-SLC

TOP EVENT T1-C-SLC CONTAINS 8 EVENTS IN 4 CUT SETS

THE FREQUENCY OF TOP EVENT T1-C-SLC IS 4.42E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T1-C-SLC

N	1000
MEAN	4.37E-08
STD DEV	1.42E-07
LOWER 5%	4.33E-10
LOWER 25%	3.05E-09
MEDIAN	1.01E-08
UPPER 25%	3.58E-08
UPPER 5%	1.58E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T1-C-SLC

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	4	1.00E+00	(1.0)	4.42E-08	(1.5)		
RPSM	4	1.00E-05	(7.0)	4.42E-08	(1.5)	4.33E-10	1.58E-07
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	2.52E-08	(3.0)	7.86E-11	8.15E-08
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	1.58E-08	(4.0)	1.03E-10	6.35E-08
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	2.69E-09	(5.0)	2.10E-11	1.10E-08
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	4.98E-10	(6.5)	8.34E-13	1.64E-09
BETA-2SIPUMPS	1	2.10E-01	(2.0)	4.98E-10	(6.5)	8.34E-13	1.64E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	4	7.90E-02	(1.0)	4.42E-08	(1.0)	4.33E-10	1.58E-07

SEQUENCE T1-C-SLC
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	4	1.00E-05	(7.0)	4.42E-03	(1.0)	3.90E-04	1.25E-02
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	7.87E-07	(2.0)	1.73E-08	3.18E-06
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	7.74E-07	(3.0)	1.72E-08	3.13E-06
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	7.65E-07	(4.0)	1.68E-08	3.07E-06
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	1.65E-07	(5.0)	1.63E-09	6.08E-07
BETA-2SIPUMPS	1	2.10E-01	(2.0)	1.87E-09	(6.0)	5.04E-12	6.41E-09
NR	4	1.00E+00	(1.0)	0.00E+00	(7.0)		

SEQUENCE T1-C-SLC
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	4	1.00E-05	(7.0)	61.6	(1.0)	9.00	0.79
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	13.4	(2.0)	2.07	1.07
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	6.4	(3.0)	1.34	1.00
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	0.5	(4.0)	1.01	0.99
BETA-2SIPUMPS	1	2.10E-01	(2.0)	0.5	(5.0)	1.03	1.00
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	0.3	(6.0)	1.08	0.98
NR	4	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	4	7.90E-02	(1.0)	19.2	(1.0)	2.05	1.04

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T1-C-SLC

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T1-C-SLC WITH TOP EVENT FREQUENCY 4.42E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	2.52E-08	0.57036	IE-T1	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	2	4	1.58E-08	0.92795	IE-T1	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	3	4	2.69E-09	0.98874	IE-T1	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
5	4	5	4.98E-10	1.00000	BETA-2SIPUMPS	*	IE-T1	*	NR	*	RPSM	*
6					SLC-MDP-FS-CCF	.						

SEQUENCE T3B-C-SLC

TOP EVENT T3B-C-SLC CONTAINS 8 EVENTS IN 4 CUT SETS

THE FREQUENCY OF TOP EVENT T3B-C-SLC IS 3.36E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T3B-C-SLC

N	1000
MEAN	3.29E-08
STD DEV	1.14E-07
LOWER 5%	4.16E-10
LOWER 25%	2.02E-09
MEDIAN	6.73E-09
UPPER 25%	2.26E-08
UPPER 5%	1.39E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T3B-C-SLC

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	4	1.00E+00	(1.0)	3.36E-08	(1.5)		
RPSM	4	1.00E-05	(7.0)	3.36E-08	(1.5)	4.16E-10	1.39E-07
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	1.91E-08	(3.0)	7.02E-11	6.70E-08
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	1.20E-08	(4.0)	6.56E-11	4.68E-08
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	2.04E-09	(5.0)	1.63E-11	7.95E-09
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	3.78E-10	(6.5)	7.28E-13	1.33E-09
BETA-2SIPUMPS	1	2.10E-01	(2.0)	3.78E-10	(6.5)	7.28E-13	1.33E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3B	4	6.00E-02	(1.0)	3.36E-08	(1.0)	4.16E-10	1.39E-07

SEQUENCE T3B-C-SLC
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	4	1.00E-05	(7.0)	3.36E-03	(1.0)	3.63E-04	1.08E-02
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	5.98E-07	(2.0)	1.39E-08	2.35E-06
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	5.88E-07	(3.0)	1.38E-08	2.26E-06
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	5.81E-07	(4.0)	1.38E-08	2.24E-06
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	1.26E-07	(5.0)	1.71E-09	4.84E-07
BETA-2SIPUMPS	1	2.10E-01	(2.0)	1.42E-09	(6.0)	4.01E-12	4.17E-09
NR	4	1.00E+00	(1.0)	0.00E+00	(7.0)		

SEQUENCE T3B-C-SLC
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	4	1.00E-05	(7.0)	64.6	(1.0)	8.73	0.78
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	14.4	(2.0)	1.71	1.02
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	7.0	(3.0)	1.26	0.92
BETA-2SIPUMPS	1	2.10E-01	(2.0)	1.3	(4.0)	1.02	1.00
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	0.2	(5.0)	1.02	1.02
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	0.0	(6.0)		
NR	4	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3B	4	6.00E-02	(1.0)	15.0	(1.0)	1.62	0.90

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T3B-C-SLC

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T3B-C-SLC WITH TOP EVENT FREQUENCY 3.36E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	1.91E-08	0.57036	IE-T3B	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	2	4	1.20E-08	0.92795	IE-T3B	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	3	4	2.04E-09	0.98874	IE-T3B	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
5	4	5	3.78E-10	1.00000	BETA-2SIPUMPS	*	IE-T3B	*	NR	*	RPSM	*
6					SLC-MDP-FS-CCF	.						

SEQUENCE T2-C-SLC

TOP EVENT T2-C-SLC CONTAINS 8 EVENTS IN 4 CUT SETS

THE FREQUENCY OF TOP EVENT T2-C-SLC IS 2.80E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T2-C-SLC

N	1000
MEAN	2.69E-08
STD DEV	7.77E-08
LOWER 5%	3.72E-10
LOWER 25%	1.57E-09
MEDIAN	5.64E-09
UPPER 25%	1.91E-08
UPPER 5%	1.09E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T2-C-SLC
RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	4	1.00E+00	(1.0)	2.80E-08	(1.5)		
RPSM	4	1.00E-05	(7.0)	2.80E-08	(1.5)	3.72E-10	1.09E-07
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	1.60E-08	(3.0)	5.40E-11	5.57E-08
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	1.00E-08	(4.0)	7.22E-11	4.53E-08
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	1.70E-09	(5.0)	1.58E-11	6.93E-09
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	3.15E-10	(6.5)	6.86E-13	1.00E-09
BETA-2SIPUMPS	1	2.10E-01	(2.0)	3.15E-10	(6.5)	6.86E-13	1.00E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T2	4	5.00E-02	(1.0)	2.80E-08	(1.0)	3.72E-10	1.09E-07

SEQUENCE T2-C-SLC
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	4	1.00E-05	(7.0)	2.80E-03	(1.0)	2.92E-04	8.98E-03
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	4.98E-07	(2.0)	1.19E-08	1.86E-06
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	4.90E-07	(3.0)	1.16E-08	1.85E-06
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	4.84E-07	(4.0)	1.15E-08	1.84E-06
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	1.05E-07	(5.0)	1.18E-09	3.93E-07
BETA-2SIPUMPS	1	2.10E-01	(2.0)	1.18E-09	(6.0)	4.26E-12	4.39E-09
NR	4	1.00E+00	(1.0)	0.00E+00	(7.0)		

SEQUENCE T2-C-SLC
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	4	1.00E-05	(7.0)	64.5	(1.0)	7.86	0.83
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	14.7	(2.0)	1.74	0.97
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	7.1	(3.0)	1.20	1.01
BETA-2SIPUMPS	1	2.10E-01	(2.0)	0.8	(4.0)	1.01	0.98
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	0.3	(5.0)	1.01	1.00
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	0.0	(6.0)		
NR	4	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T2	4	5.00E-02	(1.0)	14.8	(1.0)	1.51	0.96

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T2-C-SLC

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T2-C-SLC WITH TOP EVENT FREQUENCY 2.80E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	1.60E-08	0.57038	IE-T2	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	2	4	1.00E-08	0.92795	IE-T2	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	3	4	1.70E-09	0.98874	IE-T2	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
5	4	5	3.15E-10	1.00000	BETA-2SIPUMPS	*	IE-T2	*	NR	*	RPSM	*
6					SLC-MDP-FS-CCF	.						

SEQUENCE T3A-P2V234NU11

TOP EVENT T3A-P2V234NU11 CONTAINS 5 EVENTS IN 1 CUT SET

THE FREQUENCY OF TOP EVENT T3A-P2V234NU11 IS 2.66E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T3A-P2V234NU11

N	1000
MEAN	2.45E-08
STD DEV	9.92E-08
LOWER 5%	6.40E-11
LOWER 25%	5.11E-10
MEDIAN	2.40E-09
UPPER 25%	1.10E-08
UPPER 5%	9.56E-08

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T3A-P2V234NU11

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	1	1.00E+00	(1.0)	2.66E-08	(2.5)		
P2	1	2.00E-03	(3.0)	2.66E-08	(2.5)	6.40E-11	9.56E-08
Q	1	1.00E-02	(2.0)	2.66E-08	(2.5)	6.40E-11	9.56E-08
ESF-XHE-MC-PRES	1	5.32E-04	(4.0)	2.66E-08	(2.5)	6.40E-11	9.56E-08

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3A	1	2.50E+00	(1.0)	2.66E-08	(1.0)	6.40E-11	9.56E-08

SEQUENCE T3A-P2V234NU11
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-MC-PRES	1	5.32E-04	(4.0)	5.00E-05	(1.0)	7.21E-07	1.95E-04
P2	1	2.00E-03	(3.0)	1.33E-05	(2.0)	1.93E-07	5.72E-05
Q	1	1.00E-02	(2.0)	2.63E-06	(3.0)	9.34E-09	9.40E-06
NR	1	1.00E+00	(1.0)	0.00E+00	(4.0)		

SEQUENCE T3A-P2V234NU11

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
P2	1	2.00E-03	(3.0)	41.1	(1.0)	6.04	1.20
ESF-XHE-MC-PRES	1	5.32E-04	(4.0)	40.8	(2.0)	6.00	1.08
Q	1	1.00E-02	(2.0)	9.7	(3.0)	1.47	0.99
NR	1	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3A	1	2.50E+00	(1.0)	10.2	(1.0)	1.33	0.96

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T3A-P2V234NU11

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T3A-P2V234NU11 WITH TOP EVENT FREQUENCY 2.66E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

```
2        1   5  2.66E-08   1.00000       ESF-XHE-MC-PRES  *  IE-T3A          *  NR              *  P2              *
3                                        Q                 .
```

SEQUENCE T3C-CU11X

TOP EVENT T3C-CU11X CONTAINS 9 EVENTS IN 5 CUT SETS

THE FREQUENCY OF TOP EVENT T3C-CU11X IS 1.94E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T3C-CU11X

N	1000
MEAN	2.20E-08
STD DEV	1.08E-07
LOWER 5%	1.67E-10
LOWER 25%	1.26E-09
MEDIAN	3.46E-09
UPPER 25%	1.24E-08
UPPER 5%	7.23E-08

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T3C-CU11X

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	5	1.00E+00	(1.0)	1.94E-08	(2.0)		
RPSM	5	1.00E-05	(8.0)	1.94E-08	(2.0)	1.67E-10	7.23E-08
ESF-XHE-FO-DATWS	5	2.00E-01	(2.0)	1.94E-08	(2.0)	1.67E-10	7.23E-08
HCI-TDP-FS-20S37	1	3.00E-02	(3.0)	1.14E-08	(4.0)	7.77E-11	4.86E-08
HCI-TDP-MA-20S37	1	1.00E-02	(4.0)	3.80E-09	(5.0)	2.62E-11	1.24E-08
HCI-TDP-FO-20S37	1	5.00E-03	(5.0)	1.90E-09	(6.0)	1.24E-11	6.48E-09
HCI-MOV-CC-MV19	1	3.00E-03	(6.5)	1.14E-09	(7.5)	2.98E-12	3.45E-09
HCI-MOV-CC-MV14	1	3.00E-03	(6.5)	1.14E-09	(7.5)	2.98E-12	3.45E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3C	5	1.90E-01	(1.0)	1.94E-08	(1.0)	1.67E-10	7.23E-08

SEQUENCE T3C-CU11X
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	5	1.00E-05	(8.0)	1.94E-03	(1.0)	1.57E-04	6.31E-03
HCI-MOV-CC-MV14	1	3.00E-03	(6.5)	3.79E-07	(2.5)	5.76E-09	1.36E-06
HCI-MOV-CC-MV19	1	3.00E-03	(6.5)	3.79E-07	(2.5)	5.76E-09	1.36E-06
HCI-TDP-FO-20S37	1	5.00E-03	(5.0)	3.78E-07	(4.0)	5.76E-09	1.36E-06
HCI-TDP-MA-20S37	1	1.00E-02	(4.0)	3.76E-07	(5.0)	5.76E-09	1.35E-06
HCI-TDP-FS-20S37	1	3.00E-02	(3.0)	3.69E-07	(6.0)	5.55E-09	1.29E-06
ESF-XHE-FO-DATWS	5	2.00E-01	(2.0)	7.75E-08	(7.0)	1.21E-09	2.90E-07
NR	5	1.00E+00	(1.0)	0.00E+00	(8.0)		

SEQUENCE T3C-CU11X

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	5	1.00E-05	(8.0)	60.0	(1.0)	9.44	0.87
ESF-XHE-FO-DATWS	5	2.00E-01	(2.0)	16.1	(2.0)	1.82	1.01
HCI-TDP-FS-20S37	1	3.00E-02	(3.0)	7.1	(3.0)	1.59	1.01
HCI-MOV-CC-MV19	1	3.00E-03	(6.5)	1.4	(4.5)	1.13	1.01
HCI-MOV-CC-MV14	1	3.00E-03	(6.5)	1.4	(4.5)	1.13	1.01
HCI-TDP-MA-20S37	1	1.00E-02	(4.0)	1.3	(6.0)	1.17	1.08
HCI-TDP-FO-20S37	1	5.00E-03	(5.0)	0.3	(7.0)	1.06	1.01
NR	5	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3C	5	1.90E-01	(1.0)	13.9	(1.0)	1.79	1.10

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T3C-CU11X

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T3C-CU11X WITH TOP EVENT FREQUENCY 1.94E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	5	1.14E-08	0.58824	ESF-XHE-FO-DATWS	*	HCI-TDP-FS-20S37	*	IE-T3C	*	NR	*
3					RPSM	+						
4	2	5	3.80E-09	0.78431	ESF-XHE-FO-DATWS	*	HCI-TDP-MA-20S37	*	IE-T3C	*	NR	*
5					RPSM	+						
6	3	5	1.90E-09	0.88235	ESF-XHE-FO-DATWS	*	HCI-TDP-FO-20S37	*	IE-T3C	*	NR	*
7					RPSM	+						
8	5	5	1.14E-09	0.94118	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV14	*	IE-T3C	*	NR	*
9					RPSM	+						
10	4	5	1.14E-09	1.00000	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV19	*	IE-T3C	*	NR	*
11					RPSM							

SEQUENCE T1-P1BU11U21

TOP EVENT T1-P1BU11U21 CONTAINS 5 EVENTS IN 1 CUT SETS

THE FREQUENCY OF TOP EVENT T1-P1BU11U21 IS 1.71E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT T1-P1BU11U21

N	1000
MEAN	1.70E-08
STD DEV	6.18E-08
LOWER 5%	1.27E-10
LOWER 25%	7.65E-10
MEDIAN	3.30E-09
UPPER 25%	1.16E-08
UPPER 5%	6.82E-08

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

SEQUENCE T1-P1BU11U21

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
DCP-BAT-LF-CCF	1	9.00E-04	(4.0)	1.71E-08	(2.5)	1.27E-10	6.82E-08
NR	1	1.00E+00	(1.0)	1.71E-08	(2.5)		
P1	1	9.60E-02	(2.0)	1.71E-08	(2.5)	1.27E-10	6.82E-08
BETA-5BAT	1	2.50E-03	(3.0)	1.71E-08	(2.5)	1.27E-10	6.82E-08

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	1	7.90E-02	(1.0)	1.71E-08	(1.0)	1.27E-10	6.82E-08

SEQUENCE T1-P1BU11U21
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
DCP-BAT-LF-CCF	1	9.00E-04	(4.0)	1.89E-05	(1.0)	9.99E-07	7.49E-05
BETA-5BAT	1	2.50E-03	(3.0)	6.81E-06	(2.0)	7.28E-08	2.67E-05
P1	1	9.60E-02	(2.0)	1.61E-07	(3.0)	2.97E-09	5.84E-07
NR	1	1.00E+00	(1.0)	0.00E+00	(4.0)		

SEQUENCE T1-P1BU11U21

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
DCP-BAT-LF-CCF	1	9.00E-04	(4.0)	52.7	(1.0)	7.09	0.99
P1	1	9.60E-02	(2.0)	20.2	(2.0)	2.47	0.91
BETA-5BAT	1	2.50E-03	(3.0)	12.4	(3.0)	1.44	0.98
NR	1	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	1	7.90E-02	(1.0)	15.0	(1.0)	1.51	0.98

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

SEQUENCE T1-P1BU11U21

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT T1-P1BU11U21 WITH TOP EVENT FREQUENCY 1.71E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	5	1.71E-08	1.00000	BETA-5BAT	*	DCP-BAT-LF-CCF	*	IE-T1	*	NR	*
3					P1	.						

PLANT DAMAGE STATE 1

TOP EVENT PDS-01 CONTAINS 8 EVENTS IN 6 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-01 IS 2.14E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-01

N	1000
MEAN	2.58E-07
STD DEV	1.84E-06
LOWER 5%	2.47E-09
LOWER 25%	1.25E-08
MEDIAN	4.37E-08
UPPER 25%	1.37E-07
UPPER 5%	7.79E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 1

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	6	1.00E+00	(1.0)	2.14E-07	(1.0)		
ESF-XHE-MC-PRES	2	5.32E-04	(6.0)	2.13E-07	(2.0)	2.26E-09	7.47E-07
ESF-ASP-FC-PL52C	2	1.00E-03	(3.5)	4.00E-10	(4.5)	1.89E-13	4.66E-09
ESF-ASP-FC-PL52D	2	1.00E-03	(3.5)	4.00E-10	(4.5)	1.89E-13	4.66E-09
ESF-ASP-FC-PL52B	2	1.00E-03	(3.5)	4.00E-10	(4.5)	1.89E-13	4.66E-09
ESF-ASP-FC-PL52A	2	1.00E-03	(3.5)	4.00E-10	(4.5)	1.89E-13	4.66E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-S1	3	3.00E-04	(1.0)	1.60E-07	(1.0)	9.66E-10	6.42E-07
IE-A	3	1.00E-04	(2.0)	5.34E-08	(2.0)	3.26E-10	1.93E-07

PLANT DAMAGE STATE 1
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-MC-PRES	2	5.32E-04	(6.0)	4.00E-04	(1.0)	3.62E-05	1.36E-03
ESF-ASP-FC-PL52A	2	1.00E-03	(3.5)	4.00E-07	(3.5)	4.27E-09	1.50E-06
ESF-ASP-FC-PL52D	2	1.00E-03	(3.5)	4.00E-07	(3.5)	4.27E-09	1.50E-06
ESF-ASP-FC-PL52B	2	1.00E-03	(3.5)	4.00E-07	(3.5)	4.27E-09	1.50E-06
ESF-ASP-FC-PL52C	2	1.00E-03	(3.5)	4.00E-07	(3.5)	4.27E-09	1.50E-06
NR	6	1.00E+00	(1.0)	0.00E+00	(6.0)		

PLANT DAMAGE STATE 1

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
ESF-XHE-MC-PRES	2	5.32E-04	(6.0)	59.5	(1.0)	7.80	0.95
ESF-ASP-FC-PL52A	2	1.00E-03	(3.5)	2.0	(3.5)	0.97	0.96
ESF-ASP-FC-PL52D	2	1.00E-03	(3.5)	2.0	(3.5)	0.97	0.96
ESF-ASP-FC-PL52B	2	1.00E-03	(3.5)	2.0	(3.5)	0.97	0.96
ESF-ASP-FC-PL52C	2	1.00E-03	(3.5)	2.0	(3.5)	0.97	0.96
NR	6	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-S1	3	3.00E-04	(1.0)	29.0	(1.0)	3.17	1.05
IE-A	3	1.00E-04	(2.0)	8.2	(2.0)	1.91	1.01

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 1

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-01 WITH TOP EVENT FREQUENCY 2.14E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	3	1.60E-07	0.74719	ESF-XHE-MC-PRES	*	IE-S1	*	NR	+				
3	4	3	5.32E-08	0.99625	ESF-XHE-MC-PRES	*	IE-A	*	NR	+				
4	3	4	3.00E-10	0.99766	ESF-ASP-FC-PL52C	*	ESF-ASP-FC-PL52D	*	IE-S1	*	NR	+		
5	2	4	3.00E-10	0.99906	ESF-ASP-FC-PL52A	*	ESF-ASP-FC-PL52B	*	IE-S1	*	NR	+		
6	6	4	1.00E-10	0.99953	ESF-ASP-FC-PL52C	*	ESF-ASP-FC-PL52D	*	IE-A	*	NR	+		
7	5	4	1.00E-10	1.00000	ESF-ASP-FC-PL52A	*	ESF-ASP-FC-PL52B	*	IE-A	*	NR	.		

PLANT DAMAGE STATE 2

TOP EVENT PDS-02 CONTAINS 12 EVENTS IN 8 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-02 IS 2.28E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-02

N	1000
MEAN	2.19E-07
STD DEV	1.02E-06
LOWER 5%	1.10E-09
LOWER 25%	7.79E-09
MEDIAN	3.02E-08
UPPER 25%	1.28E-07
UPPER 5%	8.12E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 2

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
P2	6	2.00E-03	(3.0)	2.28E-07	(1.5)	1.10E-09	8.12E-07
NR	6	1.00E+00	(1.0)	2.28E-07	(1.5)		
ESF-XHE-MC-PRES	4	5.32E-04	(8.0)	2.28E-07	(3.0)	1.08E-09	8.11E-07
Q	1	1.00E-02	(2.0)	2.66E-08	(4.0)	6.40E-11	9.56E-08
ESF-ASP-FC-PL52C	1	1.00E-03	(5.5)	1.58E-10	(6.5)	3.06E-14	1.55E-09
ESF-ASP-FC-PL52D	1	1.00E-03	(5.5)	1.58E-10	(6.5)	3.06E-14	1.55E-09
ESF-ASP-FC-PL52B	1	1.00E-03	(5.5)	1.58E-10	(6.5)	3.06E-14	1.55E-09
ESF-ASP-FC-PL52A	1	1.00E-03	(5.5)	1.58E-10	(6.5)	3.06E-14	1.55E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	3	7.90E-02	(2.0)	8.44E-08	(1.0)	3.51E-10	3.39E-07
IE-T3B	1	6.00E-02	(3.0)	6.38E-08	(2.0)	2.28E-10	2.17E-07
IE-T2	1	5.00E-02	(4.0)	5.32E-08	(3.0)	2.07E-10	1.78E-07
IE-T3A	1	2.50E+00	(1.0)	2.66E-08	(4.0)	6.40E-11	9.56E-08

PLANT DAMAGE STATE 2
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-MC-PRES	4	5.32E-04	(8.0)	4.28E-04	(1.0)	1.41E-05	1.70E-03
P2	6	2.00E-03	(3.0)	1.14E-04	(2.0)	3.99E-06	4.33E-04
Q	1	1.00E-02	(2.0)	2.63E-06	(3.0)	9.34E-09	9.40E-06
ESF-ASP-FC-PL52A	1	1.00E-03	(5.5)	1.58E-07	(5.5)	5.62E-10	5.67E-07
ESF-ASP-FC-PL52C	1	1.00E-03	(5.5)	1.58E-07	(5.5)	5.62E-10	5.67E-07
ESF-ASP-FC-PL52D	1	1.00E-03	(5.5)	1.58E-07	(5.5)	5.62E-10	5.67E-07
ESF-ASP-FC-PL52B	1	1.00E-03	(5.5)	1.58E-07	(5.5)	5.62E-10	5.67E-07
NR	6	1.00E+00	(1.0)	0.00E+00	(8.0)		

PLANT DAMAGE STATE 2
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
P2	6	2.00E-03	(3.0)	49.8	(1.0)	7.28	1.07
ESF-XHE-MC-PRES	4	5.32E-04	(8.0)	47.4	(2.0)	6.83	1.12
ESF-ASP-FC-PL52A	1	1.00E-03	(5.5)	0.8	(4.5)	1.04	1.00
ESF-ASP-FC-PL52B	1	1.00E-03	(5.5)	0.8	(4.5)	1.04	1.00
ESF-ASP-FC-PL52C	1	1.00E-03	(5.5)	0.8	(4.5)	1.04	1.00
ESF-ASP-FC-PL52D	1	1.00E-03	(5.5)	0.8	(4.5)	1.04	1.00
Q	1	1.00E-02	(2.0)	0.6	(7.0)	0.98	1.01
NR	6	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T2	1	5.00E-02	(4.0)	1.5	(1.0)	0.99	1.05
IE-T3B	1	6.00E-02	(3.0)	1.4	(2.0)	1.04	0.91
IE-T3A	1	2.50E+00	(1.0)	1.0	(3.0)	0.99	1.01
IE-T1	3	7.90E-02	(2.0)	0.8	(4.0)	0.95	0.97

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 2

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-02 WITH TOP EVENT FREQUENCY 2.28E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	8.41E-08	0.36865	ESF-XHE-MC-PRES	*	IE-T1		*	NR		*	P2	+
3	4	4	6.38E-08	0.64863	ESF-XHE-MC-PRES	*	IE-T3B		*	NR		*	P2	+
4	5	4	5.32E-08	0.88195	ESF-XHE-MC-PRES	*	IE-T2		*	NR		*	P2	+
5	6	5	2.66E-08	0.99861	ESF-XHE-MC-PRES	*	IE-T3A		*	NR		*	P2	*
6					Q	+								
7	3	5	1.58E-10	0.99931	ESF-ASP-FC-PL52C	*	ESF-ASP-FC-PL52D	*	IE-T1			*	NR	*
8					P2	+								
9	2	5	1.58E-10	1.00000	ESF-ASP-FC-PL52A	*	ESF-ASP-FC-PL52B	*	IE-T1			*	NR	*
10					P2									

PLANT DAMAGE STATE 3

TOP EVENT PDS-03 CONTAINS 8 EVENTS IN 3 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-03 IS 5.83E-09

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-03

N	1000
MEAN	6.05E-09
STD DEV	1.79E-08
LOWER 5%	5.86E-11
LOWER 25%	3.59E-10
MEDIAN	1.20E-09
UPPER 25%	3.88E-09
UPPER 5%	2.67E-08

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 3

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
ESF-XHE-FO-HSWIN	3	2.50E-01	(2.0)	5.83E-09	(2.0)	5.86E-11	2.67E-08
P2	3	2.00E-03	(4.0)	5.83E-09	(2.0)	5.86E-11	2.67E-08
NR	3	1.00E+00	(1.0)	5.83E-09	(2.0)		
ESW-CKV-HW-CV513	2	1.00E-04	(5.0)	4.25E-09	(4.0)	3.55E-11	1.90E-08
ESW-XVM-PG-XV502	1	4.00E-05	(6.0)	1.58E-09	(5.0)	1.16E-11	6.11E-09
NSW-SYS-FO-NSW-1	1	1.00E-01	(3.0)	3.00E-10	(6.0)	9.97E-13	9.69E-10

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	2	7.90E-02	(1.0)	5.53E-09	(1.0)	5.17E-11	2.61E-08
IE-T3B	1	6.00E-02	(2.0)	3.00E-10	(2.0)	9.97E-13	9.69E-10

PLANT DAMAGE STATE 3
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESW-CKV-HW-CV513	2	1.00E-04	(5.0)	4.25E-05	(1.0)	5.17E-07	1.97E-04
ESW-XVM-PG-XV502	1	4.00E-05	(6.0)	3.95E-05	(2.0)	4.23E-07	1.83E-04
P2	3	2.00E-03	(4.0)	2.91E-06	(3.0)	2.06E-07	9.99E-06
ESF-XHE-FO-HSWIN	3	2.50E-01	(2.0)	1.75E-08	(4.0)	3.17E-10	7.55E-08
NSW-SYS-FO-NSW-1	1	1.00E-01	(3.0)	2.70E-09	(5.0)	1.92E-11	1.01E-08
NR	3	1.00E+00	(1.0)	0.00E+00	(6.0)		

PLANT DAMAGE STATE 3

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
P2	3	2.00E-03	(4.0)	57.3	(1.0)	7.03	0.75
ESF-XHE-FO-HSWIN	3	2.50E-01	(2.0)	23.1	(2.0)	2.26	1.00
ESW-CKV-HW-CV513	2	1.00E-04	(5.0)	6.7	(3.0)	1.17	0.95
ESW-XVM-PG-XV502	1	4.00E-05	(6.0)	1.0	(4.0)	1.04	0.98
NSW-SYS-FO-NSW-1	1	1.00E-01	(3.0)	0.5	(5.0)	1.06	1.02
NR	3	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	2	7.90E-02	(1.0)	12.6	(1.0)	1.48	0.94
IE-T3B	1	6.00E-02	(2.0)	0.0	(2.0)		

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 3

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-03 WITH TOP EVENT FREQUENCY 5.83E-09

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	5	3.95E-09	0.67753	ESF-XHE-FO-HSWIN	*	ESW-CKV-HW-CV513	*	IE-T1	*	NR	*
3					P2	+						
4	2	5	1.58E-09	0.94854	ESF-XHE-FO-HSWIN	*	ESW-XVM-PG-XV502	*	IE-T1	*	NR	*
5					P2	+						
6	3	6	3.00E-10	1.00000	ESF-XHE-FO-HSWIN	*	ESW-CKV-HW-CV513	*	IE-T3B	*	NR	*
7					NSW-SYS-FO-NSW-1	*	P2					

PLANT DAMAGE STATE 4

TOP EVENT PDS-04 CONTAINS 5 EVENTS IN 2 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-04 IS 1.95E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-04

N	1000
MEAN	2.07E-07
STD DEV	6.72E-07
LOWER 5%	3.49E-09
LOWER 25%	1.60E-08
MEDIAN	5.01E-08
UPPER 25%	1.61E-07
UPPER 5%	7.06E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 4

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
BETA-5BAT	2	2.50E-03	(3.0)	1.95E-07	(2.0)	3.49E-09	7.06E-07
NR	2	1.00E+00	(1.0)	1.95E-07	(2.0)		
DCP-BAT-LF-CCF	2	9.00E-04	(4.0)	1.95E-07	(2.0)	3.49E-09	7.06E-07
P1	1	9.60E-02	(2.0)	1.71E-08	(4.0)	1.27E-10	6.82E-08

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	2	7.90E-02	(1.0)	1.95E-07	(1.0)	3.49E-09	7.06E-07

PLANT DAMAGE STATE 4
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
DCP-BAT-LF-CCF	2	9.00E-04	(4.0)	2.16E-04	(1.0)	2.88E-05	5.91E-04
BETA-5BAT	2	2.50E-03	(3.0)	7.77E-05	(2.0)	1.93E-06	3.09E-04
P1	1	9.60E-02	(2.0)	1.61E-07	(3.0)	2.97E-09	5.84E-07
NR	2	1.00E+00	(1.0)	0.00E+00	(4.0)		

PLANT DAMAGE STATE 4

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
DCP-BAT-LF-CCF	2	9.00E-04	(4.0)	65.3	(1.0)	7.44	0.75
BETA-5BAT	2	2.50E-03	(3.0)	15.6	(2.0)	1.39	1.10
P1	1	9.60E-02	(2.0)	0.0	(3.0)		
NR	2	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	2	7.90E-02	(1.0)	20.0	(1.0)	1.38	0.90

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 4

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-04 WITH TOP EVENT FREQUENCY 1.95E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	1.78E-07	0.91241	BETA-5BAT	*	DCP-BAT-LF-CCF	*	IE-T1	*	NR	+
3	2	5	1.71E-08	1.00000	BETA-5BAT	*	DCP-BAT-LF-CCF	*	IE-T1	*	NR	*
4					P1	.						

PLANT DAMAGE STATE 5

TOP EVENT PDS-05 CONTAINS 100 EVENTS IN 1330 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-05 IS 1.08E-06

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-05

N	1000
MEAN	1.90E-06
STD DEV	1.37E-05
LOWER 5%	3.49E-08
LOWER 25%	1.55E-07
MEDIAN	3.97E-07
UPPER 25%	1.04E-06
UPPER 5%	4.77E-06

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 5
RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
ESW-XHE-FO-EHS	795	9.00E-01	(1.0)	6.21E-07	(1.0)	8.04E-09	2.89E-06
ACP-DGN-FR-EDGC	355	1.60E-02	(42.0)	3.67E-07	(2.5)	7.30E-10	2.55E-06
ACP-DGN-FR-EDGB	355	1.60E-02	(42.0)	3.67E-07	(2.5)	7.30E-10	2.55E-06
INJ-FAILS	266	5.00E-01	(12.0)	3.46E-07	(4.0)	0.00E+00	1.63E-06
BAT-DEP-3HR	266	8.33E-02	(21.0)	2.61E-07	(5.0)	0.00E+00	1.38E-06
BAT-DEP-9HR	266	2.50E-01	(18.0)	2.05E-07	(6.0)	0.00E+00	1.10E-06
LOSPNR18HR	146	7.30E-03	(50.0)	2.02E-07	(7.0)	0.00E+00	1.05E-06
LOSPNR9HR	266	2.30E-02	(37.0)	2.02E-07	(8.0)	0.00E+00	8.52E-07
LOSPNR12HR	266	1.50E-02	(44.0)	1.76E-07	(9.0)	0.00E+00	7.03E-07
DGHWNR12HR	126	5.50E-01	(10.0)	1.72E-07	(10.0)	0.00E+00	8.25E-07
BAT-DEP-5HR	266	8.33E-02	(21.0)	1.56E-07	(11.0)	0.00E+00	7.65E-07
LOSPNR13HR	120	1.30E-02	(45.5)	1.45E-07	(12.0)	0.00E+00	6.42E-07
DGHWNR3HR	126	8.00E-01	(2.0)	1.33E-07	(13.0)	0.00E+00	3.02E-07
ESW-CKV-CB-C515B	175	3.00E-03	(62.0)	1.25E-07	(14.5)	2.80E-09	4.49E-07
ESW-CKV-CB-C515A	175	3.00E-03	(62.0)	1.25E-07	(14.5)	2.80E-09	4.49E-07
LOSPNR17HR	146	8.10E-03	(49.0)	1.19E-07	(16.0)	0.00E+00	3.66E-07
BAT-DEP-7HR	266	8.33E-02	(21.0)	1.07E-07	(17.0)	0.00E+00	4.71E-07
LOSPNR5HR	120	4.80E-02	(25.0)	1.05E-07	(18.0)	0.00E+00	5.82E-07
DGHWNR9HR	126	5.80E-01	(9.0)	1.01E-07	(19.0)	0.00E+00	3.46E-07
BETA-3AOVS	35	5.50E-02	(23.0)	9.75E-08	(20.5)	2.10E-09	4.32E-07
ESW-AOV-CC-CCF	35	1.00E-03	(83.5)	9.75E-08	(20.5)	2.10E-09	4.32E-07
P1	285	9.60E-02	(19.0)	8.12E-08	(22.0)	1.14E-09	3.51E-07
DGHWNR5HR	126	7.00E-01	(4.0)	7.59E-08	(23.0)	0.00E+00	1.23E-07
LOSPNR7HR	120	3.20E-02	(27.0)	6.63E-08	(24.0)	0.00E+00	3.91E-07
ACP-DGN-MA-EDGC	75	6.00E-03	(52.0)	6.61E-08	(25.5)	1.86E-10	2.37E-07
ACP-DGN-MA-EDGB	75	6.00E-03	(52.0)	6.61E-08	(25.5)	1.86E-10	2.37E-07
EHV-AOV-CC-CCF	25	1.00E-03	(83.5)	6.35E-08	(27.5)	1.42E-09	2.46E-07
BETA-6AOVS	25	3.60E-02	(26.0)	6.35E-08	(27.5)	1.42E-09	2.46E-07
LOSPNR14HR	146	1.20E-02	(47.0)	6.14E-08	(29.0)	0.00E+00	6.64E-08
DGHWNR7HR	126	6.00E-01	(7.0)	5.17E-08	(30.0)	0.00E+00	6.56E-08
ESW-MDP-FS-MDPB	75	3.00E-03	(62.0)	4.95E-08	(31.5)	2.95E-10	2.02E-07
ESW-MDP-FS-MDPA	75	3.00E-03	(62.0)	4.95E-08	(31.5)	2.95E-10	2.02E-07
ESW-PTF-RE-DGC	40	3.13E-03	(54.5)	4.80E-08	(33.5)	2.00E-10	1.81E-07
ESW-PTF-RE-DGB	40	3.13E-03	(54.5)	4.80E-08	(33.5)	2.00E-10	1.81E-07
DGMANR12HR	49	4.00E-01	(16.5)	4.66E-08	(35.0)	0.00E+00	1.41E-07
DGMANR3HR	49	7.00E-01	(4.0)	4.56E-08	(36.0)	0.00E+00	1.52E-07
ACP-DGN-LP-EDGC	70	3.00E-03	(62.0)	4.06E-08	(37.5)	5.48E-10	1.51E-07
ACP-DGN-LP-EDGB	70	3.00E-03	(62.0)	4.06E-08	(37.5)	5.48E-10	1.51E-07
ESW-AOV-CC-0241C	95	1.00E-03	(83.5)	3.87E-08	(39.5)	1.02E-09	1.58E-07
ESW-AOV-CC-0241B	95	1.00E-03	(83.5)	3.87E-08	(39.5)	1.02E-09	1.58E-07
HCI-TDP-FR-20837	170	5.00E-02	(24.0)	3.76E-08	(41.0)	4.96E-10	1.91E-07
ACP-DGN-LP-CCF	25	3.00E-03	(62.0)	3.52E-08	(42.5)	3.26E-10	1.31E-07
BETA-4DGNS	25	1.30E-02	(45.5)	3.52E-08	(42.5)	3.26E-10	1.31E-07
ESW-PTF-RE-MDPB	35	2.19E-03	(71.5)	3.32E-08	(44.5)	1.44E-10	1.10E-07
ESW-PTF-RE-MDPA	35	2.19E-03	(71.5)	3.32E-08	(44.5)	1.44E-10	1.10E-07
ESW-MDP-MA-MDPB	65	2.00E-03	(74.0)	3.30E-08	(46.5)	2.35E-10	1.34E-07
ESW-MDP-MA-MDPA	65	2.00E-03	(74.0)	3.30E-08	(46.5)	2.35E-10	1.34E-07

DGMANR9HR	49	4.50E-01	(	14.5)	2.95E-08	(	48.0)	0.00E+00	1.11E-07
ESW-MDP-FR-MDPB	85	1.20E-03	(	78.5)	2.94E-08	(	49.5)	7.63E-11	1.18E-07
ESW-MDP-FR-MDPA	85	1.20E-03	(	78.5)	2.94E-08	(	49.5)	7.63E-11	1.18E-07
ACP-DGN-TE-EDGC	50	2.30E-03	(	69.5)	2.78E-08	(	51.5)	4.35E-10	1.05E-07
ACP-DGN-TE-EDGB	50	2.30E-03	(	69.5)	2.78E-08	(	51.5)	4.35E-10	1.05E-07
DGMANR5HR	49	6.00E-01	(	7.0)	2.57E-08	(	53.0)	0.00E+00	5.86E-08
HCI-TDP-FS-20837	140	3.00E-02	(	30.5)	2.11E-08	(	54.0)	2.70E-10	9.64E-08
DGMANR7HR	49	5.00E-01	(	12.0)	1.64E-08	(	55.0)	0.00E+00	3.81E-08
DGCCFNR3HR	5	7.00E-01	(	4.0)	1.02E-08	(	56.0)	0.00E+00	3.78E-08
DGCCFNR12HR	5	4.00E-01	(	16.5)	9.50E-09	(	57.0)	0.00E+00	3.70E-08
EHV-SRV-CC-RV3	40	3.00E-04	(	88.5)	8.13E-09	(	58.5)	4.72E-11	3.53E-08
EHV-SRV-CC-RV2	40	3.00E-04	(	88.5)	8.13E-09	(	58.5)	4.72E-11	3.53E-08
ACP-DGN-RE-EDGC	10	7.98E-04	(	86.5)	6.33E-09	(	60.5)	1.36E-11	2.28E-08
ACP-DGN-RE-EDGB	10	7.98E-04	(	86.5)	6.33E-09	(	60.5)	1.36E-11	2.28E-08
ACP-DGN-FR-EDGD	55	1.60E-02	(	42.0)	6.31E-09	(	62.0)	1.28E-12	9.48E-08
DGCCFNR9HR	5	4.50E-01	(	14.5)	6.17E-09	(	63.0)	0.00E+00	2.70E-08
HCI-TDP-MA-20837	60	1.00E-02	(	48.0)	5.85E-09	(	64.0)	5.70E-11	2.79E-08
DGCCFNR5HR	5	6.00E-01	(	7.0)	5.84E-09	(	65.0)	0.00E+00	1.98E-08
DGCCFNR7HR	5	5.00E-01	(	12.0)	3.50E-09	(	66.0)	0.00E+00	9.67E-09
BETA-2SWPS	35	2.60E-02	(	34.0)	2.58E-09	(	67.5)	7.76E-12	1.24E-08
ESW-MDP-FS-CCF	35	3.00E-03	(	62.0)	2.58E-09	(	67.5)	7.76E-12	1.24E-08
ESW-AOV-MA-0241C	10	2.00E-04	(	90.5)	2.30E-09	(	69.5)	1.09E-11	8.55E-09
ESW-AOV-MA-0241B	10	2.00E-04	(	90.5)	2.30E-09	(	69.5)	1.09E-11	8.55E-09
ESW-CKV-HW-C515B	10	1.00E-04	(	92.5)	1.12E-09	(	71.5)	6.35E-12	4.48E-09
ESW-CKV-HW-C515A	10	1.00E-04	(	92.5)	1.12E-09	(	71.5)	6.35E-12	4.48E-09
ACP-DGN-MA-EDGD	10	6.00E-03	(	52.0)	1.11E-09	(	73.0)	8.40E-13	5.52E-09
ESW-MOV-CC-M0841	10	3.00E-03	(	62.0)	7.24E-10	(	74.5)	1.07E-12	4.47E-09
ESW-MDP-FS-ECW	10	3.00E-03	(	62.0)	7.24E-10	(	74.5)	5.71E-13	7.48E-09
ACP-DGN-LP-EDGD	10	3.00E-03	(	62.0)	5.97E-10	(	76.0)	1.94E-12	4.82E-09
HCI-MOV-CC-MV19	10	3.00E-03	(	62.0)	5.83E-10	(	77.5)	1.94E-12	3.27E-09
HCI-MOV-CC-MV14	10	3.00E-03	(	62.0)	5.83E-10	(	77.5)	1.94E-12	3.27E-09
DGACTC	5	1.61E-03	(	76.5)	4.37E-10	(	79.5)	1.79E-13	1.65E-09
DGACTB	5	1.61E-03	(	76.5)	4.37E-10	(	79.5)	1.79E-13	1.65E-09
DCP-BAT-LP-C3	5	1.08E-03	(	80.5)	2.99E-10	(	81.5)	1.47E-13	8.75E-10
DCP-BAT-LP-B2	5	1.08E-03	(	80.5)	2.99E-10	(	81.5)	1.47E-13	8.75E-10
ESW-XVM-PG-XV510	5	4.00E-05	(	96.5)	2.82E-10	(	85.5)	5.20E-13	1.06E-09
ESW-XVM-PG-XV509	5	4.00E-05	(	96.5)	2.82E-10	(	85.5)	5.20E-13	1.06E-09
ESW-XVM-PG-X507B	5	4.00E-05	(	96.5)	2.82E-10	(	85.5)	5.20E-13	1.06E-09
ESW-XVM-PG-X507A	5	4.00E-05	(	96.5)	2.82E-10	(	85.5)	5.20E-13	1.06E-09
ESW-XVM-PG-D505C	5	4.00E-05	(	96.5)	2.82E-10	(	85.5)	5.20E-13	1.06E-09
ESW-XVM-PG-D505B	5	4.00E-05	(	96.5)	2.82E-10	(	85.5)	5.20E-13	1.06E-09
DGACTNR12HR	2	2.00E-02	(	39.0)	2.67E-10	(	89.0)	0.00E+00	3.25E-10
ESW-MDP-MA-ECW	5	2.00E-03	(	74.0)	2.50E-10	(	90.0)	1.08E-14	1.70E-09
DGACTNR3HR	2	3.00E-02	(	30.5)	2.11E-10	(	91.0)	0.00E+00	2.84E-10
DCHWNR18HR	2	2.00E-02	(	39.0)	1.79E-10	(	92.0)	0.00E+00	2.89E-10
DGACTNR9HR	2	2.00E-02	(	39.0)	1.48E-10	(	93.0)	0.00E+00	2.71E-10
DCHWNR9HR	2	3.00E-02	(	30.5)	1.41E-10	(	94.0)	0.00E+00	2.48E-10
DGACTNR5HR	2	3.00E-02	(	30.5)	1.37E-10	(	95.0)	0.00E+00	7.18E-11
DCHWNR17HR	2	2.50E-02	(	35.5)	1.24E-10	(	96.0)	0.00E+00	3.86E-10
DGACTNR7HR	2	3.00E-02	(	30.5)	1.10E-10	(	97.0)	0.00E+00	7.27E-11
DCHWNR12HR	2	3.00E-02	(	30.5)	9.21E-11	(	98.0)	0.00E+00	8.97E-11
DCHWNR14HR	2	2.50E-02	(	35.5)	6.14E-11	(	99.0)	0.00E+00	6.84E-11

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	1330	7.90E-02	(1.0)	1.08E-06	(1.0)	3.49E-08	4.77E-06

PLANT DAMAGE STATE 5
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
ESW-AOV-CC-CCF	35	1.00E-03	(83.5)	9.74E-05	(1.0)	3.13E-06	3.76E-04
EHV-AOV-CC-CCF	25	1.00E-03	(83.5)	6.34E-05	(2.0)	2.06E-06	2.57E-04
ESW-CKV-CB-C515A	175	3.00E-03	(62.0)	4.14E-05	(3.5)	1.72E-06	1.47E-04
ESW-CKV-CB-C515B	175	3.00E-03	(62.0)	4.14E-05	(3.5)	1.72E-06	1.47E-04
ESW-AOV-CC-0241B	95	1.00E-03	(83.5)	3.87E-05	(5.5)	1.66E-06	1.34E-04
ESW-AOV-CC-0241C	95	1.00E-03	(83.5)	3.87E-05	(5.5)	1.66E-06	1.34E-04
LOSPNR18HR	146	7.30E-03	(50.0)	2.75E-05	(7.0)	0.00E+00	1.55E-04
EHV-SRV-CC-RV3	40	3.00E-04	(88.5)	2.71E-05	(8.5)	1.09E-06	9.88E-05
EHV-SRV-CC-RV2	40	3.00E-04	(88.5)	2.71E-05	(8.5)	1.09E-06	9.88E-05
ESW-MDP-FR-MDPB	85	1.20E-03	(78.5)	2.45E-05	(10.5)	4.56E-07	1.04E-04
ESW-MDP-FR-MDPA	85	1.20E-03	(78.5)	2.45E-05	(10.5)	4.56E-07	1.04E-04
ACP-DGN-FR-EDGC	355	1.60E-02	(42.0)	2.26E-05	(12.5)	2.83E-07	9.17E-05
ACP-DGN-FR-EDGB	355	1.60E-02	(42.0)	2.26E-05	(12.5)	2.83E-07	9.17E-05
ESW-MDP-MA-MDPB	65	2.00E-03	(74.0)	1.65E-05	(14.5)	7.69E-07	5.94E-05
ESW-MDP-MA-MDPA	65	2.00E-03	(74.0)	1.65E-05	(14.5)	7.69E-07	5.94E-05
ESW-MDP-FS-MDPB	75	3.00E-03	(62.0)	1.65E-05	(16.5)	7.72E-07	5.83E-05
ESW-MDP-FS-MDPA	75	3.00E-03	(62.0)	1.65E-05	(16.5)	7.72E-07	5.83E-05
ESW-PTF-RE-DGC	40	3.13E-03	(54.5)	1.53E-05	(18.5)	7.14E-07	5.47E-05
ESW-PTF-RE-DGB	40	3.13E-03	(54.5)	1.53E-05	(18.5)	7.14E-07	5.47E-05
ESW-PTF-RE-MDPB	35	2.19E-03	(71.5)	1.51E-05	(20.5)	7.16E-07	5.40E-05
ESW-PTF-RE-MDPA	35	2.19E-03	(71.5)	1.51E-05	(20.5)	7.16E-07	5.40E-05
LOSPNR17HR	146	8.10E-03	(49.0)	1.46E-05	(22.0)	0.00E+00	7.01E-05
ACP-DGN-LP-EDGB	70	3.00E-03	(62.0)	1.35E-05	(23.5)	3.17E-07	5.26E-05
ACP-DGN-LP-EDGC	70	3.00E-03	(62.0)	1.35E-05	(23.5)	3.17E-07	5.26E-05
ACP-DGN-TE-EDGC	50	2.30E-03	(69.5)	1.21E-05	(25.5)	2.63E-07	4.32E-05
ACP-DGN-TE-EDGB	50	2.30E-03	(69.5)	1.21E-05	(25.5)	2.63E-07	4.32E-05
ACP-DGN-LP-CCF	25	3.00E-03	(62.0)	1.17E-05	(27.0)	1.74E-07	4.63E-05
LOSPNR12HR	266	1.50E-02	(44.0)	1.15E-05	(28.0)	0.00E+00	4.22E-05
ESW-AOV-MA-0241C	10	2.00E-04	(90.5)	1.15E-05	(29.5)	4.35E-07	4.37E-05
ESW-AOV-MA-0241B	10	2.00E-04	(90.5)	1.15E-05	(29.5)	4.35E-07	4.37E-05
ESW-CKV-HW-C515A	10	1.00E-04	(92.5)	1.12E-05	(31.5)	1.18E-07	4.45E-05
ESW-CKV-HW-C515B	10	1.00E-04	(92.5)	1.12E-05	(31.5)	1.18E-07	4.45E-05
LOSPNR13HR	120	1.30E-02	(45.5)	1.10E-05	(33.0)	0.00E+00	4.72E-05
ACP-DGN-MA-EDGC	75	6.00E-03	(52.0)	1.09E-05	(34.5)	1.79E-07	4.22E-05
ACP-DGN-MA-EDGB	75	6.00E-03	(52.0)	1.09E-05	(34.5)	1.79E-07	4.22E-05
LOSPNR9HR	266	2.30E-02	(37.0)	8.56E-06	(36.0)	0.00E+00	3.85E-05
ACP-DGN-RE-EDGC	10	7.98E-04	(86.5)	7.92E-06	(37.5)	1.04E-07	3.09E-05
ACP-DGN-RE-EDGB	10	7.98E-04	(86.5)	7.92E-06	(37.5)	1.04E-07	3.09E-05
ESW-XVM-PG-D505B	5	4.00E-05	(96.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-XV509	5	4.00E-05	(96.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-XV510	5	4.00E-05	(96.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-X507A	5	4.00E-05	(96.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-X507B	5	4.00E-05	(96.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
ESW-XVM-PG-D505C	5	4.00E-05	(96.5)	7.04E-06	(41.5)	1.85E-08	3.06E-05
LOSPNR14HR	146	1.20E-02	(47.0)	5.06E-06	(45.0)	0.00E+00	8.17E-06
BAT-DEP-3HR	266	8.33E-02	(21.0)	2.87E-06	(46.0)	0.00E+00	1.24E-05
BETA-4DGNS	25	1.30E-02	(45.5)	2.66E-06	(47.0)	3.70E-08	1.01E-05

LOSPNR5HR	120	4.80E-02	(	25.0)	2.08E-06	(	48.0)	0.00E+00	1.74E-05
LOSPNR7HR	120	3.20E-02	(	27.0)	2.01E-06	(	49.0)	0.00E+00	1.49E-05
BAT-DEP-5HR	266	8.33E-02	(	21.0)	1.71E-06	(	50.0)	0.00E+00	7.14E-06
BETA-6AOVS	25	3.60E-02	(	26.0)	1.70E-06	(	51.0)	5.38E-08	6.84E-06
BETA-3AOVS	35	5.50E-02	(	23.0)	1.68E-06	(	52.0)	5.24E-08	6.85E-06
BAT-DEP-7HR	266	8.33E-02	(	21.0)	1.17E-06	(	53.0)	0.00E+00	4.17E-06
ESW-MDP-FS-CCF	35	3.00E-03	(	62.0)	8.58E-07	(	54.0)	2.37E-08	3.15E-06
P1	285	9.60E-02	(	19.0)	7.65E-07	(	55.0)	2.42E-08	3.54E-06
HCI-TDP-FR-20S37	170	5.00E-02	(	24.0)	7.15E-07	(	56.0)	2.08E-08	3.20E-06
HCI-TDP-FS-20S37	140	3.00E-02	(	30.5)	6.82E-07	(	57.0)	1.92E-08	3.08E-06
BAT-DEP-9HR	266	2.50E-01	(	18.0)	6.16E-07	(	58.0)	0.00E+00	2.94E-06
HCI-TDP-MA-20S37	60	1.00E-02	(	48.0)	5.79E-07	(	59.0)	1.37E-08	2.92E-06
ACP-DGN-FR-EDGD	55	1.60E-02	(	42.0)	3.88E-07	(	60.0)	9.46E-10	2.44E-06
INJ-FAILS	266	5.00E-01	(	12.0)	3.48E-07	(	61.0)	0.00E+00	1.54E-06
DCP-BAT-LP-C3	5	1.08E-03	(	80.5)	2.77E-07	(	62.5)	1.98E-10	9.62E-07
DCP-BAT-LP-B2	5	1.08E-03	(	80.5)	2.77E-07	(	62.5)	1.98E-10	9.62E-07
DGACTC	5	1.61E-03	(	76.5)	2.71E-07	(	64.5)	2.31E-10	1.01E-06
DGACTB	5	1.61E-03	(	76.5)	2.71E-07	(	64.5)	2.31E-10	1.01E-06
ESW-MOV-CC-M0841	10	3.00E-03	(	62.0)	2.40E-07	(	66.5)	1.81E-09	2.03E-06
ESW-MDP-FS-ECW	10	3.00E-03	(	62.0)	2.40E-07	(	66.5)	1.82E-09	2.03E-06
ACP-DGN-LP-EDGD	10	3.00E-03	(	62.0)	1.98E-07	(	68.0)	8.36E-10	1.89E-06
HCI-MOV-CC-MV19	10	3.00E-03	(	62.0)	1.94E-07	(	69.5)	3.65E-09	1.42E-06
HCI-MOV-CC-MV14	10	3.00E-03	(	62.0)	1.94E-07	(	69.5)	3.65E-09	1.42E-06
ACP-DGN-MA-EDGD	10	6.00E-03	(	52.0)	1.83E-07	(	71.0)	7.21E-10	1.66E-06
DGHWNR12HR	126	5.50E-01	(	10.0)	1.41E-07	(	72.0)	0.00E+00	6.05E-07
ESW-MDP-MA-ECW	5	2.00E-03	(	74.0)	1.25E-07	(	73.0)	2.26E-11	1.23E-06
BETA-2SWPS	35	2.60E-02	(	34.0)	9.67E-08	(	74.0)	4.99E-10	4.97E-07
DGHWNR9HR	126	5.80E-01	(	9.0)	7.32E-08	(	75.0)	0.00E+00	2.54E-07
DGMANR12HR	49	4.00E-01	(	16.5)	6.99E-08	(	76.0)	0.00E+00	2.18E-07
ESW-XHE-FO-EHS	795	9.00E-01	(	1.0)	6.90E-08	(	77.0)	1.73E-10	3.19E-07
DGMANR9HR	49	4.50E-01	(	14.5)	3.61E-08	(	78.0)	0.00E+00	1.70E-07
DGHWNR7HR	126	6.00E-01	(	7.0)	3.45E-08	(	79.0)	0.00E+00	4.60E-08
DGHWNR3HR	126	8.00E-01	(	2.0)	3.32E-08	(	80.0)	0.00E+00	5.54E-08
DGHWNR5HR	126	7.00E-01	(	4.0)	3.25E-08	(	81.0)	0.00E+00	3.07E-08
DGMANR3HR	49	7.00E-01	(	4.0)	1.95E-08	(	82.0)	0.00E+00	5.45E-08
DGMANR5HR	49	6.00E-01	(	7.0)	1.71E-08	(	83.0)	0.00E+00	3.19E-08
DGMANR7HR	49	5.00E-01	(	12.0)	1.64E-08	(	84.0)	0.00E+00	2.30E-08
DGCCFNR12HR	5	4.00E-01	(	16.5)	1.43E-08	(	85.0)	0.00E+00	6.94E-08
DGACTNR12HR	2	2.00E-02	(	39.0)	1.31E-08	(	86.0)	0.00E+00	3.58E-08
DCHWNR18HR	2	2.00E-02	(	39.0)	8.79E-09	(	87.0)	0.00E+00	2.79E-08
DGCCFNR9HR	5	4.50E-01	(	14.5)	7.54E-09	(	88.0)	0.00E+00	3.79E-08
DGACTNR9HR	2	2.00E-02	(	39.0)	7.27E-09	(	89.0)	0.00E+00	1.92E-08
DGACTNR3HR	2	3.00E-02	(	30.5)	6.81E-09	(	90.0)	0.00E+00	1.69E-08
DCHWNR17HR	2	2.50E-02	(	35.5)	4.85E-09	(	91.0)	0.00E+00	1.49E-08
DCHWNR9HR	2	3.00E-02	(	30.5)	4.57E-09	(	92.0)	0.00E+00	1.16E-08
DGACTNR5HR	2	3.00E-02	(	30.5)	4.44E-09	(	93.0)	0.00E+00	4.04E-09
DGCCFNR3HR	5	7.00E-01	(	4.0)	4.38E-09	(	94.0)	0.00E+00	1.07E-08
DGCCFNR5HR	5	6.00E-01	(	7.0)	3.90E-09	(	95.0)	0.00E+00	8.36E-09
DGACTNR7HR	2	3.00E-02	(	30.5)	3.55E-09	(	96.0)	0.00E+00	2.54E-09
DGCCFNR7HR	5	5.00E-01	(	12.0)	3.50E-09	(	97.0)	0.00E+00	1.21E-08
DCHWNR12HR	2	3.00E-02	(	30.5)	2.98E-09	(	98.0)	0.00E+00	3.83E-09
DCHWNR14HR	2	2.50E-02	(	35.5)	2.39E-09	(	99.0)	0.00E+00	3.33E-09

PLANT DAMAGE STATE 5
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
ACP-DGN-FR-EDGB	355	1.60E-02	(42.0)	20.3	(2.0)	1.48	0.85
ACP-DGN-FR-EDGD	55	1.60E-02	(42.0)	20.3	(2.0)	1.48	0.85
ACP-DGN-FR-EDGC	355	1.60E-02	(42.0)	20.3	(2.0)	1.48	0.85
BAT-DEP-3HR	266	8.33E-02	(21.0)	9.1	(4.0)	1.62	0.93
INJ-FAILS	266	5.00E-01	(12.0)	5.2	(5.0)	0.70	1.04
LOSPNR13HR	120	1.30E-02	(45.5)	4.1	(6.0)	1.61	1.00
LOSPNR18HR	146	7.30E-03	(50.0)	3.1	(7.0)	1.35	1.03
ESW-AOV-CC-CCF	35	1.00E-03	(83.5)	2.6	(9.5)	1.16	0.98
EHV-AOV-CC-CCF	25	1.00E-03	(83.5)	2.6	(9.5)	1.16	0.98
ESW-AOV-CC-0241B	95	1.00E-03	(83.5)	2.6	(9.5)	1.16	0.98
ESW-AOV-CC-0241C	95	1.00E-03	(83.5)	2.6	(9.5)	1.16	0.98
BAT-DEP-5HR	266	8.33E-02	(21.0)	2.3	(12.0)	1.03	1.01
LOSPNR12HR	266	1.50E-02	(44.0)	2.3	(13.0)	1.27	1.01
ESW-MDP-FS-CCF	35	3.00E-03	(62.0)	1.7	(15.5)	1.11	0.99
ESW-MDP-FS-MDPB	75	3.00E-03	(62.0)	1.7	(15.5)	1.11	0.99
ESW-MDP-FS-ECW	10	3.00E-03	(62.0)	1.7	(15.5)	1.11	0.99
ESW-MDP-FS-MDPA	75	3.00E-03	(62.0)	1.7	(15.5)	1.11	0.99
DGHWNR12HR	126	5.50E-01	(10.0)	1.6	(18.0)	1.06	1.06
DGHWNR9HR	126	5.80E-01	(9.0)	1.6	(19.0)	1.00	1.00
DGHWNR3HR	126	8.00E-01	(2.0)	1.5	(20.0)	1.00	1.00
DGHWNR7HR	126	6.00E-01	(7.0)	1.5	(21.0)	1.00	0.98
DGHWNR5HR	126	7.00E-01	(4.0)	1.5	(22.0)	1.00	0.97
ESW-MDP-MA-MDPB	65	2.00E-03	(74.0)	1.4	(24.0)	1.05	0.96
ESW-MDP-MA-MDPA	65	2.00E-03	(74.0)	1.4	(24.0)	1.05	0.96
ESW-MDP-MA-ECW	5	2.00E-03	(74.0)	1.4	(24.0)	1.05	0.96
ESW-CKV-HW-C515B	10	1.00E-04	(92.5)	1.2	(26.5)	1.00	1.00
ESW-CKV-HW-C515A	10	1.00E-04	(92.5)	1.2	(26.5)	1.00	1.00
ESW-CKV-CB-C515A	175	3.00E-03	(62.0)	1.2	(28.5)	1.09	0.98
ESW-CKV-CB-C515B	175	3.00E-03	(62.0)	1.2	(28.5)	1.09	0.98
BETA-3AOVS	35	5.50E-02	(23.0)	1.1	(30.0)	1.05	0.99
HCI-TDP-FS-20S37	140	3.00E-02	(30.5)	1.1	(31.0)	0.98	1.00
ESW-XVM-PG-XV509	5	4.00E-05	(96.5)	0.8	(34.5)	1.00	1.00
ESW-XVM-PG-X507A	5	4.00E-05	(96.5)	0.8	(34.5)	1.00	1.00
ESW-XVM-PG-XV510	5	4.00E-05	(96.5)	0.8	(34.5)	1.00	1.00
ESW-XVM-PG-X507B	5	4.00E-05	(96.5)	0.8	(34.5)	1.00	1.00
ESW-XVM-PG-D505C	5	4.00E-05	(96.5)	0.8	(34.5)	1.00	1.00
ESW-XVM-PG-D505B	5	4.00E-05	(96.5)	0.8	(34.5)	1.00	1.00
DGACTC	5	1.61E-03	(76.5)	0.8	(38.5)	1.00	1.00
DGACTB	5	1.61E-03	(76.5)	0.8	(38.5)	1.00	1.00
BETA-6AOVS	25	3.60E-02	(26.0)	0.7	(40.0)	1.03	0.98
ESW-PTF-RE-DGC	40	3.13E-03	(54.5)	0.7	(41.5)	1.04	1.02
ESW-PTF-RE-DGB	40	3.13E-03	(54.5)	0.7	(41.5)	1.04	1.02
ACP-DGN-MA-EDGD	10	6.00E-03	(52.0)	0.7	(44.0)	1.03	0.97
ACP-DGN-MA-EDGC	75	6.00E-03	(52.0)	0.7	(44.0)	1.03	0.97
ACP-DGN-MA-EDGB	75	6.00E-03	(52.0)	0.7	(44.0)	1.03	0.97
ESW-PTF-RE-MDPB	35	2.19E-03	(71.5)	0.7	(46.5)	1.04	0.94
ESW-PTF-RE-MDPA	35	2.19E-03	(71.5)	0.7	(46.5)	1.04	0.94

ESW-MOV-CC-M0841	10	3.00E-03	(62.0)	0.7	(49.0)	1.00	1.00
HCI-MOV-CC-MV19	10	3.00E-03	(62.0)	0.7	(49.0)	1.00	1.00
HCI-MOV-CC-MV14	10	3.00E-03	(62.0)	0.7	(49.0)	1.00	1.00
DCHWNR14HR	2	2.50E-02	(35.5)	0.7	(51.0)	1.00	1.00
LOSPNR17HR	146	8.10E-03	(49.0)	0.7	(52.0)	1.11	1.00
DCHWNR9HR	2	3.00E-02	(30.5)	0.6	(53.0)	1.00	1.00
P1	285	9.60E-02	(19.0)	0.6	(54.0)	1.03	0.97
DCHWNR18HR	2	2.00E-02	(39.0)	0.6	(55.0)	1.00	1.00
HCI-TDP-MA-20S37	60	1.00E-02	(48.0)	0.6	(56.0)	1.00	0.98
ESW-MDP-FR-MDPB	85	1.20E-03	(78.5)	0.6	(57.5)	1.01	0.95
ESW-MDP-FR-MDPA	85	1.20E-03	(78.5)	0.6	(57.5)	1.01	0.95
LOSPNR7HR	120	3.20E-02	(27.0)	0.6	(59.0)	1.00	0.97
BAT-DEP-7HR	266	8.33E-02	(21.0)	0.6	(60.0)	0.93	0.95
BAT-DEP-9HR	266	2.50E-01	(18.0)	0.5	(61.0)	0.64	1.02
DGMANR9HR	49	4.50E-01	(14.5)	0.5	(62.0)	1.00	1.01
DCHWNR17HR	2	2.50E-02	(35.5)	0.5	(63.0)	1.00	1.00
DCHWNR12HR	2	3.00E-02	(30.5)	0.5	(64.0)	1.00	1.00
LOSPNR5HR	120	4.80E-02	(25.0)	0.5	(65.0)	1.00	0.97
BETA-2SWPS	35	2.60E-02	(34.0)	0.5	(66.0)	0.99	1.00
DGMANR12HR	49	4.00E-01	(16.5)	0.4	(67.0)	1.02	0.98
DGMANR3HR	49	7.00E-01	(4.0)	0.4	(68.0)	1.00	1.01
DGMANR5HR	49	6.00E-01	(7.0)	0.4	(69.0)	1.00	1.00
LOSPNR14HR	146	1.20E-02	(47.0)	0.4	(70.0)	1.00	1.01
DGMANR7HR	49	5.00E-01	(12.0)	0.4	(71.0)	1.00	0.99
ACP-DGN-RE-EDGC	10	7.98E-04	(86.5)	0.4	(72.5)	1.01	0.98
ACP-DGN-RE-EDGB	10	7.98E-04	(86.5)	0.4	(72.5)	1.01	0.98
LOSPNR9HR	266	2.30E-02	(37.0)	0.3	(74.0)	1.00	1.01
ACP-DGN-TE-EDGC	50	2.30E-03	(69.5)	0.2	(75.5)	1.02	0.99
ACP-DGN-TE-EDGB	50	2.30E-03	(69.5)	0.2	(75.5)	1.02	0.99
ESW-AOV-MA-0241C	10	2.00E-04	(90.5)	0.0	(88.0)		
ESW-AOV-MA-0241B	10	2.00E-04	(90.5)	0.0	(88.0)		
DCP-BAT-LP-C3	5	1.08E-03	(80.5)	0.0	(88.0)		
DCP-BAT-LP-B2	5	1.08E-03	(80.5)	0.0	(88.0)		
ACP-DGN-LP-EDGD	10	3.00E-03	(62.0)	0.0	(88.0)		
EHV-SRV-CC-RV3	40	3.00E-04	(88.5)	0.0	(88.0)		
EHV-SRV-CC-RV2	40	3.00E-04	(88.5)	0.0	(88.0)		
ACP-DGN-LP-EDGC	70	3.00E-03	(62.0)	0.0	(88.0)		
HCI-TDP-FR-20S37	170	5.00E-02	(24.0)	0.0	(88.0)		
BETA-4DGNS	25	1.30E-02	(45.5)	0.0	(88.0)		
DGCCFNR9HR	5	4.50E-01	(14.5)	0.0	(88.0)		
DGCCFNR7HR	5	5.00E-01	(12.0)	0.0	(88.0)		
ACP-DGN-LP-EDGB	70	3.00E-03	(62.0)	0.0	(88.0)		
ESW-XHE-FO-EHS	795	9.00E-01	(1.0)	0.0	(88.0)		
DGCCFNR5HR	5	6.00E-01	(7.0)	0.0	(88.0)		
DGCCFNR3HR	5	7.00E-01	(4.0)	0.0	(88.0)		
DGCCFNR12HR	5	4.00E-01	(16.5)	0.0	(88.0)		
DGACTNR9HR	2	2.00E-02	(39.0)	0.0	(88.0)		
DGACTNR7HR	2	3.00E-02	(30.5)	0.0	(88.0)		
DGACTNR5HR	2	3.00E-02	(30.5)	0.0	(88.0)		
DGACTNR3HR	2	3.00E-02	(30.5)	0.0	(88.0)		
DGACTNR12HR	2	2.00E-02	(39.0)	0.0	(88.0)		
ACP-DGN-LP-CCF	25	3.00E-03	(62.0)	0.0	(88.0)		

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	1330	7.90E-02	(1.0)	24.5	(1.0)	1.70	0.87

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 5

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-05 WITH TOP EVENT FREQUENCY 1.08E-06

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	286	7	3.65E-08	0.03395	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
3					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
4	291	5	2.82E-08	0.06019	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*	
5					LOSPNR13HR	+							
6	287	7	2.79E-08	0.08811	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
7					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
8	290	7	2.14E-08	0.10597	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
9					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
10	296	5	1.85E-08	0.12315	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*	
11					LOSPNR13HR	+							
12	292	5	1.74E-08	0.13929	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
13					LOSPNR5HR	+							
14	295	5	1.63E-08	0.15443	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
15					LOSPNR12HR	+							
16	288	7	1.59E-08	0.16922	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
17					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
18	293	5	1.16E-08	0.17998	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
19					LOSPNR7HR	+							
20	297	5	1.14E-08	0.19055	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
21					LOSPNR5HR	+							
22	289	7	1.09E-08	0.20069	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
23					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
24	300	5	1.07E-08	0.21060	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
25					LOSPNR12HR	+							
26	351	7	9.97E-09	0.21986	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
27					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
28	346	7	9.97E-09	0.22912	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
29					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
30	352	7	9.15E-09	0.23762	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
31					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
32	347	7	9.15E-09	0.24613	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
33					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
34	302	6	8.62E-09	0.25414	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*	
35					IE-T1	*	LOSPNR5HR	+					
36	294	5	8.32E-09	0.26187	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
37					LOSPNR9HR	+							
38	301	6	8.01E-09	0.26932	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	IE-T1	*	
39					INJ-FAILS	*	LOSPNR13HR	+					
40	306	6	7.61E-09	0.27639	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
41					INJ-FAILS	*	LOSPNR18HR	+					
42	311	6	7.61E-09	0.28346	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
43					INJ-FAILS	*	LOSPNR18HR	+					
44	298	5	7.58E-09	0.29050	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
45					LOSPNR7HR	+							
46	316	7	7.15E-09	0.29715	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	

47					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
48	321	7	7.15E-09	0.30379	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*
49					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
50	341	7	6.85E-09	0.31015	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*
51					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
52	326	7	6.85E-09	0.31652	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*
53					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
54	331	7	6.85E-09	0.32288	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
55					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
56	336	7	6.85E-09	0.32925	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
57					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
58	355	7	6.22E-09	0.33503	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*
59					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
60	350	7	6.22E-09	0.34081	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*
61					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
62	312	6	5.81E-09	0.34621	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*
63					IE-T1	*	LOSPNR9HR	+				
64	307	6	5.81E-09	0.35161	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*
65					IE-T1	*	LOSPNR9HR	+				
66	317	7	5.46E-09	0.35668	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*
67					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
68	322	7	5.46E-09	0.36175	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*
69					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
70	299	5	5.45E-09	0.36681	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
71					LOSPNR9HR	+						
72	366	7	5.25E-09	0.37169	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
73					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
74	371	7	5.25E-09	0.37657	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*
75					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
76	342	7	5.23E-09	0.38143	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*
77					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
78	327	7	5.23E-09	0.38629	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*
79					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
80	332	7	5.23E-09	0.39115	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*
81					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
82	337	7	5.23E-09	0.39601	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*
83					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
84	305	6	5.20E-09	0.40084	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*
85					IE-T1	*	LOSPNR12HR	+				
86	346	7	5.12E-09	0.40560	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*
87					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
88	353	7	5.12E-09	0.41035	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*
89					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
90	366	7	5.00E-09	0.41500	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*
91					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
92	391	7	5.00E-09	0.41965	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*
93					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
94	303	6	4.93E-09	0.42422	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*
95					IE-T1	*	LOSPNR7HR	+				
96	361	5	4.62E-09	0.42870	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	INJ-FAILS	*
97					LOSPNR13HR	+						
98	356	5	4.62E-09	0.43318	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	INJ-FAILS	*
99					LOSPNR13HR	+						
100	376	5	4.62E-09	0.43746	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	INJ-FAILS	*
101					LOSPNR13HR	+						
102	381	5	4.62E-09	0.44177	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	INJ-FAILS	*

103					LOSPNR13HR	+							
104	401	7	4.57E-09	0.44601	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
105					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
106	396	7	4.57E-09	0.45026	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
107					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
108	310	6	4.45E-09	0.45440	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
109					IE-T1	*	LOSPNR17HR	+					
110	315	6	4.45E-09	0.45853	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
111					IE-T1	*	LOSPNR17HR	+					
112	325	7	4.18E-09	0.46242	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*	
113					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
114	320	7	4.18E-09	0.46631	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*	
115					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
116	367	7	4.01E-09	0.47003	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
117					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
118	372	7	4.01E-09	0.47376	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
119					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
120	340	7	0.01E-09	0.47748	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
121					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
122	330	7	4.01E-09	0.48121	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	
123					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
124	335	7	4.01E-09	0.48493	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
125					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
126	345	7	4.01E-09	0.48865	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*	
127					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
128	407	6	3.98E-09	0.49235	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
129					IE-T1	*	LOSPNR5HR	+					
130	412	6	3.98E-09	0.49605	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
131					IE-T1	*	LOSPNR5HR	+					
132	392	7	3.82E-09	0.49960	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPB	*	
133					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
134	387	7	3.82E-09	0.50315	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPA	*	
135					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
136	406	6	3.70E-09	0.50658	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
137					INJ-FAILS	*	LOSPNR13HR	+					
138	411	6	3.70E-09	0.51002	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
139					INJ-FAILS	*	LOSPNR13HR	+					
140	1	8	3.51E-09	0.51328	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
141					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
142	402	7	3.49E-09	0.51652	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
143					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
144	397	7	3.49E-09	0.51976	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
145					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
146	354	7	3.41E-09	0.52292	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
147					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
148	349	7	3.41E-09	0.52609	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
149					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
150	416	5	3.37E-09	0.52923	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	INJ-FAILS	*	
151					LOSPNR13HR	+							
152	421	5	3.37E-09	0.53236	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	INJ-FAILS	*	
153					LOSPNR13HR	+							
154	308	6	3.32E-09	0.53545	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
155					IE-T1	*	LOSPNR12HR	+					
156	313	6	3.32E-09	0.53853	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
157					IE-T1	*	LOSPNR12HR	+					
158	323	7	3.11E-09	0.54142	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGB	*	

159					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
160	318	7	3.11E-09	0.54431	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-DGC	*	
161					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
162	431	5	3.08E-09	0.54718	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	INJ-FAILS	*	
163					LOSPNR13HR	+							
164	426	5	3.08E-09	0.55004	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	INJ-FAILS	*	
165					LOSPNR13HR	+							
166	370	7	3.07E-09	0.55289	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
167					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
168	375	7	3.07E-09	0.55575	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
169					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
170	343	7	2.99E-09	0.55852	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPB	*	
171					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
172	338	7	2.99E-09	0.56130	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
173					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
174	333	7	2.99E-09	0.56407	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
175					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
176	328	7	2.99E-09	0.56684	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FS-MDPA	*	
177					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
178	357	5	2.97E-09	0.56960	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
179					LOSPNR5HR	+							
180	362	5	2.97E-09	0.57235	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
181					LOSPNR5HR	+							
182	304	6	2.95E-09	0.57510	ACP-DGN-LP-CCF	*	BAT-DEP-7HR	*	BETA-4DGNS	*	DGCCFNR7HR	*	
183					IE-T1	*	LOSPNR9HR	+					
184	390	7	2.93E-09	0.57782	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPA	*	
185					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
186	395	7	2.93E-09	0.58053	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-MDPB	*	
187					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
188	382	5	2.84E-09	0.58318	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
189					LOSPNR5HR	+							
190	377	5	2.84E-09	0.58582	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
191					LOSPNR5HR	+							
192	365	5	2.78E-09	0.58840	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
193					LOSPNR12HR	+							
194	360	5	2.78E-09	0.59099	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
195					LOSPNR12HR	+							
196	446	7	2.74E-09	0.59353	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
197					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
198	451	7	2.74E-09	0.59608	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
199					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
200	6	6	2.71E-09	0.59860	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*	
201					LOSPNR13HR	*	P1	+					
202	2	8	2.68E-09	0.60109	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
203					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
204	400	7	2.67E-09	0.60357	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPA	*	
205					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
206	405	7	2.67E-09	0.60605	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-MA-MDPB	*	
207					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
208	385	5	2.67E-09	0.60853	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
209					LOSPNR12HR	+							
210	380	5	2.67E-09	0.61101	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
211					LOSPNR12HR	+							
212	441	6	2.54E-09	0.61337	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
213					INJ-FAILS	*	LOSPNR13HR	+					
214	436	6	2.54E-09	0.61573	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	

215					INJ-FAILS	*	LOSPNR13HR	+				
216	410	6	2.40E-09	0.61796	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*
217					IE-T1	*	LOSPNR12HR	+				
218	415	6	2.40E-09	0.62019	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*
219					IE-T1	*	LOSPNR12HR	+				
220	368	7	2.29E-09	0.62231	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*
221					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
222	373	7	2.29E-09	0.62444	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*
223					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
224	456	7	2.28E-09	0.62656	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*
225					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
226	461	7	2.28E-09	0.62868	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*
227					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
228	314	6	2.27E-09	0.63080	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*
229					IE-T1	*	LOSPNR14HR	+				
230	309	6	2.27E-09	0.63291	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*
231					IE-T1	*	LOSPNR14HR	+				
232	437	6	2.27E-09	0.63502	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*
233					IE-T1	*	LOSPNR5HR	+				
234	442	6	2.27E-09	0.63714	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*
235					IE-T1	*	LOSPNR5HR	+				
236	413	6	2.27E-09	0.63925	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*
237					IE-T1	*	LOSPNR7HR	+				
238	408	6	2.27E-09	0.64136	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*
239					IE-T1	*	LOSPNR7HR	+				
240	388	7	2.18E-09	0.64339	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPA	*
241					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
242	393	7	2.18E-09	0.64541	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-PTF-RE-MDPB	*
243					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
244	319	7	2.14E-09	0.64740	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGC	*
245					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
246	324	7	2.14E-09	0.64938	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-DGB	*
247					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
248	447	7	2.09E-09	0.65132	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*
249					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
250	452	7	2.09E-09	0.65327	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*
251					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
252	422	5	2.08E-09	0.65520	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*
253					LOSPNR5HR	+						
254	417	5	2.08E-09	0.65712	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*
255					LOSPNR5HR	+						
256	5	8	2.05E-09	0.65903	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*
257					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+
258	344	7	2.05E-09	0.66093	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPB	*
259					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
260	329	7	2.05E-09	0.66283	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FS-MDPA	*
261					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
262	334	7	2.05E-09	0.66474	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
263					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
264	339	7	2.05E-09	0.66664	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*
265					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+		
266	398	7	1.99E-09	0.66849	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPA	*
267					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
268	403	7	1.99E-09	0.67034	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-MA-MDPB	*
269					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+		
270	363	5	1.98E-09	0.67217	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*

271					LOSPNR7HR	+							
272	358	5	1.98E-09	0.67401	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
273					LOSPNR7HR	+							
274	420	5	1.95E-09	0.67582	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
275					LOSPNR12HR	+							
276	425	5	1.95E-09	0.67763	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
277					LOSPNR12HR	+							
278	383	5	1.90E-09	0.67939	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
279					LOSPNR7HR	+							
280	378	5	1.90E-09	0.68115	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
281					LOSPNR7HR	+							
282	427	5	1.90E-09	0.68291	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
283					LOSPNR5HR	+							
284	432	5	1.90E-09	0.68467	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
285					LOSPNR5HR	+							
286	936	8	1.83E-09	0.68637	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
287					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
288	435	5	1.78E-09	0.68802	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
289					LOSPNR12HR	+							
290	430	5	1.78E-09	0.68967	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
291					LOSPNR12HR	+							
292	11	6	1.77E-09	0.69132	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	INJ-FAILS	*	
293					LOSPNR13HR	*	P1	+					
294	457	7	1.74E-09	0.69294	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241B	*	
295					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
296	462	7	1.74E-09	0.69456	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241C	*	
297					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
298	7	6	1.67E-09	0.69611	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
299					LOSPNR5HR	*	P1	+					
300	450	7	1.60E-09	0.69760	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPB	*	
301					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
302	455	7	1.60E-09	0.69909	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FR-MDPA	*	
303					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
304	369	7	1.57E-09	0.70055	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
305					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
306	374	7	1.57E-09	0.70201	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
307					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
308	10	6	1.56E-09	0.70346	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
309					LOSPNR12HR	*	P1	+					
310	445	6	1.55E-09	0.70490	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
311					IE-T1	*	LOSPNR12HR	+					
312	440	6	1.55E-09	0.70633	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
313					IE-T1	*	LOSPNR12HR	+					
314	471	5	1.54E-09	0.70776	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*	
315					LOSPNR13HR	+							
316	466	5	1.54E-09	0.70920	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*	
317					LOSPNR13HR	+							
318	3	8	1.53E-09	0.71061	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
319					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
320	492	6	1.53E-09	0.71203	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
321					IE-T1	*	LOSPNR5HR	+					
322	487	6	1.53E-09	0.71345	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
323					IE-T1	*	LOSPNR5HR	+					
324	389	7	1.49E-09	0.71484	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPA	*	
325					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
326	394	7	1.49E-09	0.71623	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-PTF-RE-MDPB	*	

327					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
328	481	6	1.45E-09	0.71757	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
329					INJ-FAILS	*	LOSPNR13HR	+					
330	476	6	1.45E-09	0.71891	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	IE-T1	*	
331					INJ-FAILS	*	LOSPNR13HR	+					
332	364	5	1.42E-09	0.72024	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	
333					LOSPNR9HR	+							
334	359	5	1.42E-09	0.72156	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	
335					LOSPNR9HR	+							
336	486	6	1.42E-09	0.72287	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
337					INJ-FAILS	*	LOSPNR13HR	+					
338	491	6	1.42E-09	0.72419	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
339					INJ-FAILS	*	LOSPNR13HR	+					
340	941	6	1.41E-09	0.72550	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	IE-T1	*	
341					INJ-FAILS	*	LOSPNR13HR	+					
342	937	8	1.39E-09	0.72680	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
343					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
344	496	6	1.39E-09	0.72809	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
345					INJ-FAILS	*	LOSPNR13HR	+					
346	501	6	1.39E-09	0.72937	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
347					INJ-FAILS	*	LOSPNR13HR	+					
348	423	5	1.38E-09	0.73066	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
349					LOSPNR7HR	+							
350	418	5	1.38E-09	0.73194	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
351					LOSPNR7HR	+							
352	399	7	1.36E-09	0.73321	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPA	*	
353					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
354	404	7	1.36E-09	0.73448	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-MA-MDPB	*	
355					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
356	409	6	1.36E-09	0.73575	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515B	*	
357					IE-T1	*	LOSPNR9HR	+					
358	379	5	1.36E-09	0.73701	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	
359					LOSPNR9HR	+							
360	414	6	1.36E-09	0.73828	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515A	*	
361					IE-T1	*	LOSPNR9HR	+					
362	384	5	1.36E-09	0.73954	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	
363					LOSPNR9HR	+							
364	465	7	1.34E-09	0.74078	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241C	*	
365					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
366	460	7	1.34E-09	0.74203	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241B	*	
367					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
368	443	6	1.33E-09	0.74326	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
369					IE-T1	*	LOSPNR7HR	+					
370	438	6	1.33E-09	0.74449	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
371					IE-T1	*	LOSPNR7HR	+					
372	586	7	1.33E-09	0.74572	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
373					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
374	591	7	1.33E-09	0.74695	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
375					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
376	433	5	1.26E-09	0.74813	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
377					LOSPNR7HR	+							
378	428	5	1.26E-09	0.74930	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
379					LOSPNR7HR	+							
380	592	7	1.22E-09	0.75043	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
381					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
382	587	7	1.22E-09	0.75156	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	

383					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
384	453	7	1.19E-09	0.75267	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPA	*	
385					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
386	512	7	1.19E-09	0.75378	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241C	*	
387					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
388	448	7	1.19E-09	0.75489	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-MDP-FR-MDPB	*	
389					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
390	507	7	1.19E-09	0.75600	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241B	*	
391					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
392	8	6	1.11E-09	0.75703	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
393					LOSPNR7HR	*	P1	+					
394	511	7	1.11E-09	0.75806	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
395					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
396	506	7	1.11E-09	0.75910	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
397					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
398	946	8	1.10E-09	0.76011	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
399					HCI-TDP-FS-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
400	12	6	1.09E-09	0.76113	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
401					LOSPNR5HR	*	P1	+					
402	940	8	1.07E-09	0.76212	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
403					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
404	4	8	1.05E-09	0.76309	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
405					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
406	516	5	1.04E-09	0.76406	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	INJ-FAILS	*	
407					LOSPNR18HR	+							
408	521	5	1.04E-09	0.76502	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	INJ-FAILS	*	
409					LOSPNR18HR	+							
410	15	6	1.02E-09	0.76598	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
411					LOSPNR12HR	*	P1	+					
412	526	6	1.01E-09	0.76692	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
413					INJ-FAILS	*	LOSPNR13HR	+					
414	531	6	1.01E-09	0.76786	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
415					INJ-FAILS	*	LOSPNR13HR	+					
416	463	7	9.95E-10	0.76878	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241C	*	
417					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
418	458	7	9.95E-10	0.76970	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241B	*	
419					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
420	424	5	9.94E-10	0.77063	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	
421					LOSPNR9HR	+							
422	419	5	9.94E-10	0.77155	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	
423					LOSPNR9HR	+							
424	536	6	9.75E-10	0.77246	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	IE-T1	*	
425					INJ-FAILS	*	LOSPNR18HR	+					
426	541	6	9.75E-10	0.77336	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
427					INJ-FAILS	*	LOSPNR18HR	+					
428	56	8	9.57E-10	0.77425	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
429					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
430	51	8	9.57E-10	0.77514	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
431					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
432	467	5	9.48E-10	0.77602	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
433					LOSPNR5HR	+							
434	472	5	9.48E-10	0.77690	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
435					LOSPNR5HR	+							
436	546	6	9.34E-10	0.77777	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
437					INJ-FAILS	*	LOSPNR18HR	+					
438	551	6	9.34E-10	0.77864	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	

439					INJ-FAILS	*	LOSPNR18HR	+					
440	556	6	9.24E-10	0.77950	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
441					INJ-FAILS	*	LOSPNR13HR	+					
442	561	6	9.24E-10	0.78036	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
443					INJ-FAILS	*	LOSPNR13HR	+					
444	951	6	9.24E-10	0.78121	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	IE-T1	*	
445					INJ-FAILS	*	LOSPNR13HR	+					
446	495	6	9.20E-10	0.78207	ACP-DGN-TE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
447					IE-T1	*	LOSPNR12HR	+					
448	490	6	9.20E-10	0.78292	ACP-DGN-TE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
449					IE-T1	*	LOSPNR12HR	+					
450	429	5	9.08E-10	0.78377	BAT-DEP-7HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-MA-MDPA	*	IE-T1	*	
451					LOSPNR9HR	+							
452	434	5	9.08E-10	0.78461	BAT-DEP-7HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-MA-MDPB	*	IE-T1	*	
453					LOSPNR9HR	+							
454	482	6	8.90E-10	0.78544	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
455					IE-T1	*	LOSPNR5HR	+					
456	477	6	8.90E-10	0.78627	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
457					IE-T1	*	LOSPNR5HR	+					
458	470	5	8.89E-10	0.78709	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
459					LOSPNR12HR	+							
460	475	5	8.89E-10	0.78792	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
461					LOSPNR12HR	+							
462	57	8	8.79E-10	0.78873	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
463					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
464	52	8	8.79E-10	0.78955	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
465					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
466	493	6	8.72E-10	0.79036	ACP-DGN-TE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*	
467					IE-T1	*	LOSPNR7HR	+					
468	488	6	8.72E-10	0.79117	ACP-DGN-TE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*	
469					IE-T1	*	LOSPNR7HR	+					
470	942	6	8.69E-10	0.79198	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
471					IE-T1	*	LOSPNR5HR	+					
472	502	6	8.53E-10	0.79277	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
473					IE-T1	*	LOSPNR5HR	+					
474	497	6	8.53E-10	0.79356	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
475					IE-T1	*	LOSPNR5HR	+					
476	956	6	8.47E-10	0.79435	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	IE-T1	*	
477					INJ-FAILS	*	LOSPNR13HR	+					
478	947	8	8.37E-10	0.79513	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
479					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR9HR	+	
480	480	6	8.35E-10	0.79590	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
481					IE-T1	*	LOSPNR12HR	+					
482	485	6	8.35E-10	0.79668	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
483					IE-T1	*	LOSPNR12HR	+					
484	17	7	8.28E-10	0.79745	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*	
485					IE-T1	*	LOSPNR5HR	*	P1	+			
486	590	7	8.27E-10	0.79821	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
487					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
488	595	7	8.27E-10	0.79898	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
489					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
490	454	7	8.19E-10	0.79974	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPA	*	
491					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
492	449	7	8.19E-10	0.80050	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-MDP-FR-MDPB	*	
493					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
494	439	6	8.17E-10	0.80126	ACP-DGN-LP-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515B	*	

495					IE-T1	*	LOSPNR9HR	+					
496	444	6	8.17E-10	0.80202	ACP-DGN-LP-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-CKV-CB-C515A	*	
497					IE-T1	*	LOSPNR9HR	+					
498	945	6	8.15E-10	0.80278	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
499					IE-T1	*	LOSPNR12HR	+					
500	500	6	8.00E-10	0.80352	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
501					IE-T1	*	LOSPNR12HR	+					
502	505	6	8.00E-10	0.80427	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
503					IE-T1	*	LOSPNR12HR	+					
504	9	6	7.99E-10	0.80501	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	IE-T1	*	
505					LOSPNR9HR	*	P1	+					
506	938	8	7.96E-10	0.80575	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
507					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR12HR	+	
508	16	7	7.69E-10	0.80646	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	IE-T1	*	
509					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
510	571	7	7.63E-10	0.80717	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
511					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
512	566	7	7.63E-10	0.80788	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
513					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
514	696	7	7.47E-10	0.80857	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	
515					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
516	691	7	7.47E-10	0.80927	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	
517					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
518	26	7	7.31E-10	0.80995	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
519					INJ-FAILS	*	LOSPNR18HR	*	P1	+			
520	21	7	7.31E-10	0.81063	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
521					INJ-FAILS	*	LOSPNR18HR	*	P1	+			
522	13	6	7.28E-10	0.81130	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*	
523					LOSPNR7HR	*	P1	+					
524	510	7	7.20E-10	0.81197	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-AOV-CC-0241B	*	
525					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
526	515	7	7.20E-10	0.81264	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-AOV-CC-0241C	*	
527					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
528	697	7	6.87E-10	0.81328	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-MDP-FR-MDPB	*	
529					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
530	692	7	6.87E-10	0.81392	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-MDP-FR-MDPA	*	
531					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
532	146	8	6.86E-10	0.81455	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
533					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
534	141	8	6.86E-10	0.81519	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
535					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
536	601	7	6.85E-10	0.81583	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	EHV-SRV-CC-RV3	*	ESW-XHE-FO-EHS	*	
537					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
538	611	7	6.85E-10	0.81647	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	EHV-SRV-CC-RV2	*	ESW-XHE-FO-EHS	*	
539					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
540	513	7	6.82E-10	0.81710	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-AOV-CC-0241C	*	
541					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
542	508	7	6.82E-10	0.81773	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-AOV-CC-0241B	*	
543					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
544	459	7	6.82E-10	0.81837	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-CC-0241B	*	
545					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
546	572	7	6.82E-10	0.81900	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241C	*	
547					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
548	567	7	6.82E-10	0.81963	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-CC-0241B	*	
549					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
550	464	7	6.82E-10	0.82027	ACP-DGN-FR-EDGB	*	BAT-DEP-7HR	*	DGHWNR7HR	*	ESW-AOV-CC-0241C	*	

551					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
552	576	6	6.82E-10	0.82090	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
553					INJ-FAILS	*	LOSPNR18HR	+					
554	581	6	6.82E-10	0.82154	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
555					INJ-FAILS	*	LOSPNR18HR	+					
556	593	7	6.81E-10	0.82217	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
557					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
558	588	7	6.81E-10	0.82280	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
559					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
560	36	8	6.58E-10	0.82341	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
561					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
562	31	8	6.58E-10	0.82402	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
563					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
564	46	8	6.58E-10	0.82463	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
565					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
566	41	8	6.58E-10	0.82524	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
567					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
568	618	7	6.50E-10	0.82585	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	DGHWNR12HR	*	
569					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
570	950	8	6.41E-10	0.82644	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
571					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR17HR	+	
572	473	5	6.32E-10	0.82703	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
573					LOSPNR7HR	+							
574	468	5	6.32E-10	0.82762	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
575					LOSPNR7HR	+							
576	596	6	6.23E-10	0.82820	ESW-MDP-FR-MDPB	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
577					INJ-FAILS	*	LOSPNR18HR	+					
578	606	6	6.23E-10	0.82878	ESW-MDP-FR-MDPA	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
579					INJ-FAILS	*	LOSPNR18HR	+					
580	532	6	6.23E-10	0.82935	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
581					IE-T1	*	LOSPNR5HR	+					
582	527	6	6.23E-10	0.82993	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
583					IE-T1	*	LOSPNR5HR	+					
584	55	8	5.97E-10	0.83049	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
585					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
586	60	8	5.97E-10	0.83104	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
587					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
588	483	6	5.93E-10	0.83159	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
589					IE-T1	*	LOSPNR7HR	+					
590	478	6	5.93E-10	0.83214	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
591					IE-T1	*	LOSPNR7HR	+					
592	535	6	5.84E-10	0.83269	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
593					IE-T1	*	LOSPNR12HR	+					
594	530	6	5.84E-10	0.83323	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
595					IE-T1	*	LOSPNR12HR	+					
596	943	6	5.79E-10	0.83377	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
597					IE-T1	*	LOSPNR7HR	+					
598	520	5	5.76E-10	0.83430	BAT-DEP-9HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	
599					LOSPNR17HR	+							
600	525	5	5.76E-10	0.83484	BAT-DEP-9HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	
601					LOSPNR17HR	+							
602	582	6	5.69E-10	0.83537	BAT-DEP-3HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
603					IE-T1	*	LOSPNR5HR	+					
604	557	6	5.69E-10	0.83589	BAT-DEP-3HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
605					IE-T1	*	LOSPNR5HR	+					
606	952	6	5.69E-10	0.83642	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	

607					IE-T1	*	LOSPNR5HR	+					
608	498	6	5.69E-10	0.83695	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*
609					IE-T1	*	LOSPNR7HR	+					
610	503	6	5.69E-10	0.83748	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*
611					IE-T1	*	LOSPNR7HR	+					
612	27	7	5.58E-10	0.83800	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515A	*
613					IE-T1	*	LOSPNR9HR	*	P1	+		
614	22	7	5.58E-10	0.83852	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-CKV-CB-C515B	*
615					IE-T1	*	LOSPNR9HR	*	P1	+		
616	961	6	5.55E-10	0.83903	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	IE-T1	*
617					INJ-FAILS	*	LOSPNR13HR	+					
618	939	8	5.46E-10	0.83954	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*
619					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR14HR	+
620	517	5	5.45E-10	0.84004	BAT-DEP-3HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*
621					LOSPNR9HR	+						
622	522	5	5.45E-10	0.84055	BAT-DEP-3HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*
623					LOSPNR9HR	+						
624	560	6	5.41E-10	0.84105	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*
625					IE-T1	*	LOSPNR17HR	+					
626	545	6	5.41E-10	0.84156	BAT-DEP-9HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*
627					IE-T1	*	LOSPNR17HR	+					
628	565	6	5.33E-10	0.84205	BAT-DEP-9HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*
629					IE-T1	*	LOSPNR12HR	+					
630	560	6	5.33E-10	0.84255	BAT-DEP-9HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*
631					IE-T1	*	LOSPNR12HR	+					
632	955	6	5.33E-10	0.84304	BAT-DEP-9HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*
633					IE-T1	*	LOSPNR12HR	+					
634	622	6	5.29E-10	0.84353	ACP-DGN-RE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*
635					IE-T1	*	LOSPNR5HR	+					
636	627	6	5.29E-10	0.84403	ACP-DGN-RE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*
637					IE-T1	*	LOSPNR5HR	+					
638	142	8	5.24E-10	0.84451	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGC	*
639					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
640	147	8	5.24E-10	0.84500	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-DGB	*
641					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+
642	14	6	5.23E-10	0.84549	BAT-DEP-7HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	IE-T1	*
643					LOSPNR9HR	*	P1	+					
644	812	7	5.23E-10	0.84597	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	EHV-SRV-CC-RV2	*
645					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
646	602	7	5.23E-10	0.84646	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	EHV-SRV-CC-RV3	*
647					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+		
648	489	6	5.22E-10	0.84694	ACP-DGN-TE-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515A	*
649					IE-T1	*	LOSPNR9HR	+					
650	494	6	5.22E-10	0.84743	ACP-DGN-TE-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-CKV-CB-C515B	*
651					IE-T1	*	LOSPNR9HR	+					
652	957	6	5.21E-10	0.84791	BAT-DEP-3HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*
653					IE-T1	*	LOSPNR5HR	+					
654	550	6	5.18E-10	0.84839	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*
655					IE-T1	*	LOSPNR17HR	+					
656	555	6	5.18E-10	0.84888	BAT-DEP-9HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*
657					IE-T1	*	LOSPNR17HR	+					
658	631	7	5.14E-10	0.84935	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*
659					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
660	636	7	5.14E-10	0.84983	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*
661					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+		
662	537	6	5.12E-10	0.85031	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*

663					IE-T1	*	LOSPNR9HR	+					
664	542	6	5.12E-10	0.85078	BAT-DEP-3HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
665					IE-T1	*	LOSPNR9HR	+					
666	66	8	5.04E-10	0.85125	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
667					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
668	61	8	5.04E-10	0.85172	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
669					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
670	37	8	5.02E-10	0.85218	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPA	*	
671					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
672	32	8	5.02E-10	0.85265	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FS-MDPB	*	
673					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
674	47	8	5.02E-10	0.85312	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
675					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
676	42	8	5.02E-10	0.85358	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
677					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
678	20	7	4.99E-10	0.85405	ACP-DGN-LP-CCF	*	BAT-DEP-9HR	*	BETA-4DGNS	*	DGCCFNR9HR	*	
679					IE-T1	*	LOSPNR12HR	*	P1	+			
680	1021	8	4.98E-10	0.85451	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
681					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
682	1026	8	4.98E-10	0.85497	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-XHE-FO-EHS	*	
683					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
684	817	7	4.98E-10	0.85543	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	BAT-DEP-3HR	*	
685					DGHWNR3HR	*	IE-T1	*	LOSPNR9HR	+			
686	626	6	4.92E-10	0.85589	ACP-DGN-RE-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
687					INJ-FAILS	*	LOSPNR13HR	+					
688	621	6	4.92E-10	0.85635	ACP-DGN-RE-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
689					INJ-FAILS	*	LOSPNR13HR	+					
690	58	8	4.91E-10	0.85680	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	
691					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
692	53	8	4.91E-10	0.85726	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	
693					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	*	P1	+	
694	552	6	4.90E-10	0.85772	BAT-DEP-3HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
695					IE-T1	*	LOSPNR9HR	+					
696	547	6	4.90E-10	0.85817	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
697					IE-T1	*	LOSPNR9HR	+					
698	960	6	4.89E-10	0.85863	BAT-DEP-9HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
699					IE-T1	*	LOSPNR12HR	+					
700	176	8	4.80E-10	0.85907	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
701					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
702	171	8	4.80E-10	0.85952	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
703					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
704	948	8	4.78E-10	0.85996	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	
705					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR12HR	+	
706	18	7	4.73E-10	0.86040	ACP-DGN-LP-CCF	*	BAT-DEP-5HR	*	BETA-4DGNS	*	DGCCFNR5HR	*	
707					IE-T1	*	LOSPNR7HR	*	P1	+			
708	695	7	4.66E-10	0.86084	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-MDP-FR-MDPA	*	
709					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
710	700	7	4.66E-10	0.86127	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-MDP-FR-MDPB	*	
711					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
712	575	7	4.64E-10	0.86170	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241C	*	
713					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
714	570	7	4.64E-10	0.86213	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-AOV-CC-0241B	*	
715					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
716	151	6	4.63E-10	0.86256	ESW-CKV-CB-C515B	*	ESW-PTF-RE-DGC	*	IE-T1	*	INJ-FAILS	*	
717					LOSPNR13HR	*	P1	+					
718	156	6	4.63E-10	0.86299	ESW-CKV-CB-C515A	*	ESW-PTF-RE-DGB	*	IE-T1	*	INJ-FAILS	*	

719					LOSPNR13HR	*	P1	+					
720	641	6	4.62E-10	0.86342	ESW-AOV-CC-0241B	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	IE-T1	*	
721					INJ-FAILS	*	LOSPNR13HR	+					
722	646	5	4.62E-10	0.86385	EHV-SRV-CC-RV2	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*	
723					LOSPNR13HR	+							
724	651	5	4.62E-10	0.86428	EHV-SRV-CC-RV3	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*	
725					LOSPNR13HR	+							
726	662	7	4.58E-10	0.86470	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241C	*	
727					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
728	657	7	4.58E-10	0.86513	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-AOV-CC-0241B	*	
729					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
730	1022	8	4.58E-10	0.86556	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	
731					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
732	1027	8	4.58E-10	0.86598	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	
733					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR9HR	+	
734	681	7	4.57E-10	0.86640	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-AOV-MA-0241C	*	ESW-XHE-FO-EHS	*	
735					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
736	676	7	4.57E-10	0.86683	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-AOV-MA-0241B	*	ESW-XHE-FO-EHS	*	
737					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
738	474	5	4.54E-10	0.86725	BAT-DEP-7HR	*	ESW-AOV-CC-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	
739					LOSPNR9HR	+							
740	469	5	4.54E-10	0.86767	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	
741					LOSPNR9HR	+							
742	594	7	4.54E-10	0.86809	ACP-DGN-FR-EDGB	*	ACP-DGN-RE-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
743					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
744	589	7	4.54E-10	0.86852	ACP-DGN-FR-EDGC	*	ACP-DGN-RE-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
745					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	+			
746	71	6	4.44E-10	0.86893	ESW-CKV-CB-C515A	*	ESW-MDP-FS-MDPA	*	IE-T1	*	INJ-FAILS	*	
747					LOSPNR13HR	*	P1	+					
748	76	6	4.44E-10	0.86934	ESW-CKV-CB-C515B	*	ESW-MDP-FS-MDPB	*	IE-T1	*	INJ-FAILS	*	
749					LOSPNR13HR	*	P1	+					
750	81	8	4.38E-10	0.86975	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
751					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
752	86	8	4.38E-10	0.87016	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
753					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	*	P1	+	
754	967	7	4.31E-10	0.87056	ACP-DGN-LP-CCF	*	BAT-DEP-3HR	*	BETA-4DGNS	*	DGCCFNR3HR	*	
755					HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR5HR	+			
756	25	7	4.28E-10	0.87095	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515B	*	
757					IE-T1	*	LOSPNR17HR	*	P1	+			
758	30	7	4.28E-10	0.87135	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-CKV-CB-C515A	*	
759					IE-T1	*	LOSPNR17HR	*	P1	+			
760	484	6	4.26E-10	0.87175	BAT-DEP-7HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
761					IE-T1	*	LOSPNR9HR	+					
762	479	6	4.26E-10	0.87214	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
763					IE-T1	*	LOSPNR9HR	+					
764	656	7	4.25E-10	0.87254	ACP-DGN-TE-EDGC	*	DGMANR12HR	*	ESW-AOV-CC-0241B	*	ESW-XHE-FO-EHS	*	
765					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
766	661	7	4.25E-10	0.87293	ACP-DGN-TE-EDGB	*	DGMANR12HR	*	ESW-AOV-CC-0241C	*	ESW-XHE-FO-EHS	*	
767					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
768	944	6	4.16E-10	0.87332	BAT-DEP-7HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	
769					IE-T1	*	LOSPNR9HR	+					
770	671	6	4.16E-10	0.87371	EHV-SRV-CC-RV2	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
771					INJ-FAILS	*	LOSPNR13HR	+					
772	666	6	4.16E-10	0.87409	EHV-SRV-CC-RV3	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
773					INJ-FAILS	*	LOSPNR13HR	+					
774	526	6	4.15E-10	0.87448	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	

775					IE-T1	*	LOSPNR7HR	+					
776	533	6	4.15E-10	0.87486	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
777					IE-T1	*	LOSPNR7HR	+					
778	504	6	4.09E-10	0.87524	BAT-DEP-7HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
779					IE-T1	*	LOSPNR9HR	+					
780	499	6	4.09E-10	0.87562	BAT-DEP-7HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
781					IE-T1	*	LOSPNR9HR	+					
782	514	7	4.09E-10	0.87600	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-AOV-CC-0241C	*	
783					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
784	509	7	4.09E-10	0.87638	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	ESW-AOV-CC-0241B	*	
785					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
786	145	8	4.01E-10	0.87676	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGC	*	
787					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
788	150	8	4.01E-10	0.87713	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-PTF-RE-DGB	*	
789					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
790	615	7	4.01E-10	0.87750	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	EHV-SRV-CC-RV2	*	
791					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
792	605	7	4.01E-10	0.87787	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	EHV-SRV-CC-RV3	*	
793					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	+			
794	966	7	4.01E-10	0.87825	ACP-DGN-LP-CCF	*	BETA-4DGNS	*	DGCCFNR12HR	*	HCI-TDP-FR-20S37	*	
795					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
796	588	7	3.98E-10	0.87862	ACP-DGN-LP-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241B	*	
797					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
798	573	7	3.98E-10	0.87899	ACP-DGN-LP-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-AOV-CC-0241C	*	
799					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR7HR	+			
800	637	7	3.92E-10	0.87935	ACP-DGN-LP-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPA	*	
801					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
802	632	7	3.92E-10	0.87971	ACP-DGN-LP-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-FR-MDPB	*	
803					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
804	62	8	3.85E-10	0.88007	ACP-DGN-FR-EDGC	*	ACP-DGN-TE-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
805					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
806	67	8	3.85E-10	0.88043	ACP-DGN-FR-EDGB	*	ACP-DGN-TE-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	
807					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
808	35	8	3.85E-10	0.88079	ACP-DGN-FR-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPB	*	
809					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
810	40	8	3.85E-10	0.88114	ACP-DGN-FR-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	ESW-MDP-FS-MDPA	*	
811					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
812	50	8	3.85E-10	0.88150	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
813					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
814	45	8	3.85E-10	0.88186	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	BAT-DEP-9HR	*	DGHWNR9HR	*	
815					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR17HR	*	P1	+	
816	698	7	3.84E-10	0.88222	ACP-DGN-MA-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-MDP-FR-MDPB	*	
817					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
818	693	7	3.84E-10	0.88257	ACP-DGN-MA-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-MDP-FR-MDPA	*	
819					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR12HR	+			
820	97	7	3.82E-10	0.88293	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515A	*	
821					IE-T1	*	LOSPNR5HR	*	P1	+			
822	92	7	3.82E-10	0.88328	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	ESW-CKV-CB-C515B	*	
823					IE-T1	*	LOSPNR5HR	*	P1	+			
824	971	7	3.81E-10	0.88364	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-CKV-CB-C515B	*	HCI-TDP-FR-20S37	*	
825					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
826	976	7	3.81E-10	0.88399	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-CKV-CB-C515A	*	HCI-TDP-FR-20S37	*	
827					IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+			
828	620	7	3.80E-10	0.88434	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	ACP-DGN-FR-EDGD	*	BAT-DEP-9HR	*	
829					DGHWNR9HR	*	IE-T1	*	LOSPNR17HR	+			
830	953	6	3.79E-10	0.88470	BAT-DEP-5HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FR-20S37	*	

831					IE-T1	*	LOSPNR7HR	+					
832	558	6	3.79E-10	0.88505	BAT-DEP-5HR	*	ESW-AOV-CC-0241C	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
833					IE-T1	*	LOSPNR7HR	+					
834	563	6	3.79E-10	0.88540	BAT-DEP-5HR	*	ESW-AOV-CC-0241B	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
835					IE-T1	*	LOSPNR7HR	+					
836	585	6	3.78E-10	0.88575	BAT-DEP-9HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
837					IE-T1	*	LOSPNR17HR	+					
838	580	6	3.78E-10	0.88610	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
839					IE-T1	*	LOSPNR17HR	+					
840	686	6	3.74E-10	0.88645	ESW-MDP-FR-MDPA	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
841					INJ-FAILS	*	LOSPNR18HR	+					
842	177	8	3.67E-10	0.88679	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPA	*	
843					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
844	172	8	3.67E-10	0.88713	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-PTF-RE-MDPB	*	
845					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
846	981	8	3.65E-10	0.88747	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
847					HCI-TDP-MA-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
848	702	7	3.58E-10	0.88780	ACP-DGN-MA-EDGB	*	BAT-DEP-3HR	*	DGMANR3HR	*	EHV-SRV-CC-RV3	*	
849					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
850	707	7	3.58E-10	0.88814	ACP-DGN-MA-EDGC	*	BAT-DEP-3HR	*	DGMANR3HR	*	EHV-SRV-CC-RV2	*	
851					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR5HR	+			
852	577	6	3.58E-10	0.88847	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-MDPB	*	ESW-XHE-FO-EHS	*	
853					IE-T1	*	LOSPNR9HR	+					
854	582	6	3.58E-10	0.88880	BAT-DEP-3HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-MDPA	*	ESW-XHE-FO-EHS	*	
855					IE-T1	*	LOSPNR9HR	+					
856	986	8	3.57E-10	0.88913	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
857					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
858	991	8	3.57E-10	0.88947	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
859					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
860	523	5	3.55E-10	0.88980	BAT-DEP-5HR	*	ESW-CKV-CB-C515A	*	ESW-MDP-FR-MDPA	*	IE-T1	*	
861					LOSPNR12HR	+							
862	518	5	3.55E-10	0.89013	BAT-DEP-5HR	*	ESW-CKV-CB-C515B	*	ESW-MDP-FR-MDPB	*	IE-T1	*	
863					LOSPNR12HR	+							
864	96	7	3.55E-10	0.89046	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	ESW-CKV-CB-C515A	*	IE-T1	*	
865					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
866	91	7	3.55E-10	0.89079	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	ESW-CKV-CB-C515B	*	IE-T1	*	
867					INJ-FAILS	*	LOSPNR13HR	*	P1	+			
868	682	7	3.49E-10	0.89111	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-MA-0241C	*	
869					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
870	677	7	3.49E-10	0.89143	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-AOV-MA-0241B	*	
871					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	+			
872	958	6	3.47E-10	0.89176	BAT-DEP-5HR	*	BETA-3AOVS	*	ESW-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
873					IE-T1	*	LOSPNR7HR	+					
874	610	6	3.46E-10	0.89208	BAT-DEP-9HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
875					IE-T1	*	LOSPNR17HR	+					
876	600	6	3.46E-10	0.89240	BAT-DEP-9HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
877					IE-T1	*	LOSPNR17HR	+					
878	1001	8	3.43E-10	0.89272	ACP-DGN-FR-EDGC	*	ACP-DGN-LP-EDGB	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
879					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
880	1011	8	3.43E-10	0.89303	ACP-DGN-FR-EDGC	*	DGHWNR12HR	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
881					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
882	1006	8	3.43E-10	0.89335	ACP-DGN-FR-EDGB	*	ACP-DGN-LP-EDGC	*	DGHWNR12HR	*	ESW-XHE-FO-EHS	*	
883					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
884	996	8	3.43E-10	0.89367	ACP-DGN-FR-EDGB	*	DGHWNR12HR	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
885					HCI-TDP-FR-20S37	*	IE-T1	*	INJ-FAILS	*	LOSPNR18HR	+	
886	962	6	3.41E-10	0.89399	BAT-DEP-3HR	*	BETA-6AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	

887					IE-T1	*	LOSPNR5HR	+					
888	87	8	3.35E-10	0.89430	ACP-DGN-FR-EDGC	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPA	*	
889					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
890	82	8	3.35E-10	0.89461	ACP-DGN-FR-EDGB	*	BAT-DEP-3HR	*	DGHWNR3HR	*	ESW-MDP-MA-MDPB	*	
891					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR9HR	*	P1	+	
892	538	6	3.34E-10	0.89492	BAT-DEP-5HR	*	ESW-MDP-FR-MDPA	*	ESW-PTF-RE-DGC	*	ESW-XHE-FO-EHS	*	
893					IE-T1	*	LOSPNR12HR	+					
894	563	6	3.34E-10	0.89523	BAT-DEP-5HR	*	ESW-MDP-FR-MDPB	*	ESW-PTF-RE-DGB	*	ESW-XHE-FO-EHS	*	
895					IE-T1	*	LOSPNR12HR	+					
896	706	7	3.33E-10	0.89554	ACP-DGN-MA-EDGC	*	DGMANR12HR	*	EHV-SRV-CC-RV2	*	ESW-XHE-FO-EHS	*	
897					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
898	701	7	3.33E-10	0.89585	ACP-DGN-MA-EDGB	*	DGMANR12HR	*	EHV-SRV-CC-RV3	*	ESW-XHE-FO-EHS	*	
899					IE-T1	*	INJ-FAILS	*	LOSPNR13HR	+			
900	59	8	3.27E-10	0.89615	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-7HR	*	DGMANR7HR	*	
901					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
902	949	8	3.27E-10	0.89646	ACP-DGN-FR-EDGB	*	ACP-DGN-FR-EDGC	*	BAT-DEP-7HR	*	DGHWNR7HR	*	
903					ESW-XHE-FO-EHS	*	HCI-TDP-FS-20S37	*	IE-T1	*	LOSPNR14HR	+	
904	54	8	3.27E-10	0.89676	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-7HR	*	DGMANR7HR	*	
905					ESW-XHE-FO-EHS	*	IE-T1	*	LOSPNR14HR	*	P1	+	
906	607	6	3.27E-10	0.89707	BAT-DEP-3HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-MA-MDPB	*	ESW-XHE-FO-EHS	*	
907					IE-T1	*	LOSPNR9HR	+					
908	597	6	3.27E-10	0.89737	BAT-DEP-3HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-MA-MDPA	*	ESW-XHE-FO-EHS	*	
909					IE-T1	*	LOSPNR9HR	+					
910	216	6	3.24E-10	0.89767	ESW-CKV-CB-C515B	*	ESW-PTF-RE-MDPB	*	IE-T1	*	INJ-FAILS	*	
911					LOSPNR13HR	*	P1	+					
912	211	6	3.24E-10	0.89797	ESW-CKV-CB-C515A	*	ESW-PTF-RE-MDPA	*	IE-T1	*	INJ-FAILS	*	
913					LOSPNR13HR	*	P1	+					
914	965	6	3.20E-10	0.89827	BAT-DEP-9HR	*	BETA-8AOVS	*	EHV-AOV-CC-CCF	*	HCI-TDP-FS-20S37	*	
915					IE-T1	*	LOSPNR12HR	+					
916	553	6	3.20E-10	0.89857	BAT-DEP-5HR	*	ESW-MDP-FR-MDPB	*	ESW-MDP-FS-MDPA	*	ESW-XHE-FO-EHS	*	
917					IE-T1	*	LOSPNR12HR	+					
918	548	6	3.20E-10	0.89886	BAT-DEP-5HR	*	ESW-MDP-FR-MDPA	*	ESW-MDP-FS-MDPB	*	ESW-XHE-FO-EHS	*	
919					IE-T1	*	LOSPNR12HR	+					
920	630	6	3.19E-10	0.89916	ACP-DGN-RE-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515A	*	
921					IE-T1	*	LOSPNR12HR	+					
922	625	6	3.19E-10	0.89946	ACP-DGN-RE-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	ESW-CKV-CB-C515B	*	
923					IE-T1	*	LOSPNR12HR	+					
924	28	7	3.18E-10	0.89975	ACP-DGN-FR-EDGB	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515A	*	
925					IE-T1	*	LOSPNR12HR	*	P1	+			
926	23	7	3.18E-10	0.90005	ACP-DGN-FR-EDGC	*	BAT-DEP-5HR	*	DGHWNR5HR	*	ESW-CKV-CB-C515B	*	
927					IE-T1	*	LOSPNR12HR	*	P1	+			
928	716	6	3.11E-10	0.90034	ESW-AOV-CC-0241C	*	ESW-MDP-FR-MDPA	*	ESW-XHE-FO-EHS	*	IE-T1	*	
929					INJ-FAILS	*	LOSPNR18HR	+					
930	711	6	3.11E-10	0.90063	ESW-AOV-CC-0241B	*	ESW-MDP-FR-MDPB	*	ESW-XHE-FO-EHS	*	IE-T1	*	
931					INJ-FAILS	*	LOSPNR18HR	+					
932	1030	8	3.11E-10	0.90091	ACP-DGN-FR-EDGB	*	ACP-DGN-MA-EDGC	*	BAT-DEP-9HR	*	DGMANR9HR	*	
933					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
934	1025	8	3.11E-10	0.90120	ACP-DGN-FR-EDGC	*	ACP-DGN-MA-EDGB	*	BAT-DEP-9HR	*	DGMANR9HR	*	
935					ESW-XHE-FO-EHS	*	HCI-TDP-FR-20S37	*	IE-T1	*	LOSPNR17HR	+	
936	726	5	3.08E-10	0.90149	ESW-AOV-MA-0241B	*	ESW-CKV-CB-C515A	*	IE-T1	*	INJ-FAILS	*	
937					LOSPNR13HR	+							
938	721	5	3.08E-10	0.90178	ESW-AOV-MA-0241C	*	ESW-CKV-CB-C515B	*	IE-T1	*	INJ-FAILS	*	
939					LOSPNR13HR	+							
940	623	6	3.02E-10	0.90206	ACP-DGN-RE-EDGC	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515B	*	
941					IE-T1	*	LOSPNR7HR	+					
942	628	6	3.02E-10	0.90234	ACP-DGN-RE-EDGB	*	BAT-DEP-5HR	*	DGMANR5HR	*	ESW-CKV-CB-C515A	*	

PLANT DAMAGE STATE 6

TOP EVENT PDS-06 CONTAINS 19 EVENTS IN 19 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-06 IS 2.82E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-06

N	1000
MEAN	3.00E-07
STD DEV	1.35E-06
LOWER 5%	3.24E-09
LOWER 25%	1.76E-08
MEDIAN	5.86E-08
UPPER 25%	1.80E-07
UPPER 5%	1.09E-06

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 6

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
RPSM	19	1.00E-05	(17.0)	2.82E-07	(2.0)	3.24E-09	1.09E-06
NR	19	1.00E+00	(1.0)	2.82E-07	(2.0)		
ESF-XHE-FO-DATWS	19	2.00E-01	(2.0)	2.82E-07	(2.0)	3.24E-09	1.09E-06
HCI-TDP-FS-20S37	2	3.00E-02	(3.0)	1.61E-07	(4.0)	1.22E-09	6.51E-07
HCI-TDP-MA-20S37	2	1.00E-02	(4.0)	5.38E-08	(5.0)	3.66E-10	1.88E-07
HCI-TDP-FO-20S37	2	5.00E-03	(5.0)	2.69E-08	(6.0)	1.86E-10	9.34E-08
HCI-MOV-CC-MV19	2	3.00E-03	(6.5)	1.61E-08	(7.5)	3.66E-11	5.24E-08
HCI-MOV-CC-MV14	2	3.00E-03	(6.5)	1.61E-08	(7.5)	3.66E-11	5.24E-08
HCI-MOV-MA-MV14	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-MOV-MA-PCV50	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-MOV-MA-MV57	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-MOV-MA-MV20	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-MOV-MA-MV17	1	2.00E-04	(10.0)	1.00E-09	(11.0)	2.13E-12	3.35E-09
HCI-ICC-HW-FC108	1	1.25E-04	(13.0)	6.25E-10	(14.0)	5.75E-12	2.19E-09
HCI-TCV-HW-TCV18	1	1.00E-04	(15.0)	5.00E-10	(16.0)	4.42E-12	1.83E-09
HCI-CKV-HW-CV65	1	1.00E-04	(15.0)	5.00E-10	(16.0)	4.42E-12	1.83E-09
HCI-CKV-HW-CV32	1	1.00E-04	(15.0)	5.00E-10	(16.0)	4.42E-12	1.83E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3A	14	2.50E+00	(1.0)	2.82E-07	(1.0)	2.71E-09	1.02E-06
IE-T3C	5	1.90E-01	(2.0)	1.94E-08	(2.0)	1.67E-10	7.23E-08

PLANT DAMAGE STATE 6
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	19	1.00E-05	(17.0)	2.82E-02	(1.0)	2.51E-03	9.15E-02
HCI-MOV-CC-MV14	2	3.00E-03	(6.5)	5.36E-06	(2.5)	8.02E-08	2.00E-05
HCI-MOV-CC-MV19	2	3.00E-03	(6.5)	5.36E-06	(2.5)	8.02E-08	2.00E-05
HCI-TDP-FO-20S37	2	5.00E-03	(5.0)	5.35E-06	(4.0)	7.99E-08	2.00E-05
HCI-TDP-MA-20S37	2	1.00E-02	(4.0)	5.33E-06	(5.0)	8.00E-08	1.99E-05
HCI-TDP-FS-20S37	2	3.00E-02	(3.0)	5.22E-06	(6.0)	7.90E-08	1.91E-05
HCI-CKV-HW-CV65	1	1.00E-04	(15.0)	5.00E-06	(8.0)	6.85E-08	1.88E-05
HCI-TCV-HW-TCV18	1	1.00E-04	(15.0)	5.00E-06	(8.0)	6.85E-08	1.88E-05
HCI-CKV-HW-CV32	1	1.00E-04	(15.0)	5.00E-06	(8.0)	6.85E-08	1.88E-05
HCI-ICC-HW-FC108	1	1.25E-04	(13.0)	5.00E-06	(10.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV14	1	2.00E-04	(10.0)	5.00E-06	(13.0)	6.85E-08	1.88E-05
HCI-MOV-MA-PCV50	1	2.00E-04	(10.0)	5.00E-06	(13.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV57	1	2.00E-04	(10.0)	5.00E-06	(13.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV20	1	2.00E-04	(10.0)	5.00E-06	(13.0)	6.85E-08	1.88E-05
HCI-MOV-MA-MV17	1	2.00E-04	(10.0)	5.00E-06	(13.0)	6.85E-08	1.88E-05
ESF-XHE-FO-DATWS	19	2.00E-01	(2.0)	1.13E-06	(16.0)	2.04E-08	4.33E-06
NR	19	1.00E+00	(1.0)	0.00E+00	(17.0)		

PLANT DAMAGE STATE 6
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	19	1.00E-05	(17.0)	62.0	(1.0)	7.74	0.84
ESF-XHE-FO-DATWS	19	2.00E-01	(2.0)	16.3	(2.0)	1.65	0.94
HCI-TDP-FS-20S37	2	3.00E-02	(3.0)	6.6	(3.0)	1.22	0.91
HCI-MOV-CC-MV14	2	3.00E-03	(6.5)	1.6	(4.5)	1.02	1.01
HCI-MOV-CC-MV19	2	3.00E-03	(6.5)	1.6	(4.5)	1.02	1.01
HCI-TDP-MA-20S37	2	1.00E-02	(4.0)	1.0	(6.0)	1.05	0.98
HCI-ICC-HW-FC108	1	1.25E-04	(13.0)	0.6	(7.0)	1.00	1.00
HCI-TDP-FO-20S37	2	5.00E-03	(5.0)	0.6	(8.0)	1.00	0.99
HCI-MOV-MA-MV14	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-TCV-HW-TCV18	1	1.00E-04	(15.0)	0.0	(12.5)		
HCI-CKV-HW-CV65	1	1.00E-04	(15.0)	0.0	(12.5)		
HCI-MOV-MA-PCV50	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-MOV-MA-MV57	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-MOV-MA-MV20	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-MOV-MA-MV17	1	2.00E-04	(10.0)	0.0	(12.5)		
HCI-CKV-HW-CV32	1	1.00E-04	(15.0)	0.0	(12.5)		
NR	19	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3A	14	2.50E+00	(1.0)	12.8	(1.0)	1.33	1.07
IE-T3C	5	1.90E-01	(2.0)	0.6	(2.0)	1.02	0.99

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 6

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-06 WITH TOP EVENT FREQUENCY 2.82E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	5	1.50E-07	0.53285	ESF-XHE-FO-DATWS	*	HCI-TDP-FS-20S37	*	IE-T3A	*	NR	*
3					RPSM	+						
4	2	5	5.00E-08	0.71047	ESF-XHE-FO-DATWS	*	HCI-TDP-MA-20S37	*	IE-T3A	*	NR	*
5					RPSM	+						
6	3	5	2.50E-08	0.79928	ESF-XHE-FO-DATWS	*	HCI-TDP-FO-20S37	*	IE-T3A	*	NR	*
7					RPSM	+						
8	5	5	1.50E-08	0.85256	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV19	*	IE-T3A	*	NR	*
9					RPSM	+						
10	4	5	1.50E-08	0.90585	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV14	*	IE-T3A	*	NR	*
11					RPSM	+						
12	15	5	1.14E-08	0.94634	ESF-XHE-FO-DATWS	*	HCI-TDP-FS-20S37	*	IE-T3C	*	NR	*
13					RPSM	+						
14	16	5	3.80E-09	0.95984	ESF-XHE-FO-DATWS	*	HCI-TDP-MA-20S37	*	IE-T3C	*	NR	*
15					RPSM	+						
16	17	5	1.90E-09	0.96659	ESF-XHE-FO-DATWS	*	HCI-TDP-FO-20S37	*	IE-T3C	*	NR	*
17					RPSM	+						
18	18	5	1.14E-09	0.97064	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV19	*	IE-T3C	*	NR	*
19					RPSM	+						
20	19	5	1.14E-09	0.97469	ESF-XHE-FO-DATWS	*	HCI-MOV-CC-MV14	*	IE-T3C	*	NR	*
21					RPSM	+						
22	7	5	1.00E-09	0.97824	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-PCV50	*	IE-T3A	*	NR	*
23					RPSM	+						
24	6	5	1.00E-09	0.98179	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV14	*	IE-T3A	*	NR	*
25					RPSM	+						
26	10	5	1.00E-09	0.98535	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV17	*	IE-T3A	*	NR	*
27					RPSM	+						
28	9	5	1.00E-09	0.98890	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV57	*	IE-T3A	*	NR	*
29					RPSM	+						
30	8	5	1.00E-09	0.99245	ESF-XHE-FO-DATWS	*	HCI-MOV-MA-MV20	*	IE-T3A	*	NR	*
31					RPSM	+						
32	11	5	6.25E-10	0.99467	ESF-XHE-FO-DATWS	*	HCI-ICC-HW-FC108	*	IE-T3A	*	NR	*
33					RPSM	+						
34	14	5	5.00E-10	0.99645	ESF-XHE-FO-DATWS	*	HCI-CKV-HW-CV65	*	IE-T3A	*	NR	*
35					RPSM	+						
36	13	5	5.00E-10	0.99822	ESF-XHE-FO-DATWS	*	HCI-CKV-HW-CV32	*	IE-T3A	*	NR	*
37					RPSM	+						
38	12	5	5.00E-10	1.00000	ESF-XHE-FO-DATWS	*	HCI-TCV-HW-TCV18	*	IE-T3A	*	NR	*
39					RPSM							

PLANT DAMAGE STATE 7

TOP EVENT PDS-07 CONTAINS 10 EVENTS IN 6 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-07 IS 1.07E-07

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-07

N	1000
MEAN	1.14E-07
STD DEV	4.66E-07
LOWER 5%	1.23E-09
LOWER 25%	7.06E-09
MEDIAN	2.26E-08
UPPER 25%	7.04E-08
UPPER 5%	3.83E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 7

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	6	1.00E+00	(1.0)	1.07E-07	(1.5)		
RPSM	6	1.00E-05	(9.0)	1.07E-07	(1.5)	1.23E-09	3.83E-07
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	6.06E-08	(3.0)	2.34E-10	2.24E-07
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	3.80E-08	(4.0)	2.39E-10	1.49E-07
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	6.46E-09	(5.0)	6.42E-11	2.65E-08
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	1.20E-09	(6.5)	2.45E-12	4.07E-09
BETA-2SIPUMPS	1	2.10E-01	(2.0)	1.20E-09	(6.5)	2.45E-12	4.07E-09
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	1.90E-10	(8.5)	2.95E-12	7.48E-10
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	1.90E-10	(8.5)	2.95E-12	7.48E-10

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3C	6	1.90E-01	(1.0)	1.07E-07	(1.0)	1.23E-09	3.83E-07

PLANT DAMAGE STATE 7
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	6	1.00E-05	(9.0)	1.07E-02	(1.0)	1.08E-03	3.61E-02
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	1.90E-06	(2.5)	4.53E-08	7.68E-06
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	1.90E-06	(2.5)	4.53E-08	7.68E-06
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	1.89E-06	(4.0)	4.53E-08	7.66E-06
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	1.86E-06	(5.0)	4.49E-08	7.56E-06
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	1.84E-06	(6.0)	4.17E-08	7.14E-06
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	3.98E-07	(7.0)	5.06E-09	1.51E-06
BETA-2SIPUMPS	1	2.10E-01	(2.0)	4.50E-09	(8.0)	1.59E-11	1.52E-08
NR	6	1.00E+00	(1.0)	0.00E+00	(9.0)		

PLANT DAMAGE STATE 7

UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	6	1.00E-05	(9.0)	64.6	(1.0)	6.74	0.94
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	14.0	(2.0)	1.82	1.04
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	7.0	(3.0)	1.38	0.95
BETA-2SIPUMPS	1	2.10E-01	(2.0)	0.8	(4.0)	1.03	1.03
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	0.6	(5.0)	1.01	1.01
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	0.3	(6.0)	1.07	1.01
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	0.0	(7.5)		
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	0.0	(7.5)		
NR	6	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3C	6	1.90E-01	(1.0)	14.7	(1.0)	1.75	1.04

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE

TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 7

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-07 WITH TOP EVENT FREQUENCY 1.07E-07

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	6.06E-08	0.56832	IE-T3C	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	2	4	3.80E-08	0.92464	IE-T3C	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	3	4	6.46E-09	0.98521	IE-T3C	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
5	4	5	1.20E-09	0.99644	BETA-2SIPUMPS	*	IE-T3C	*	NR	*	RPSM	*
6					SLC-MDP-FS-CCF	+						
7	6	4	1.90E-10	0.99822	IE-T3C	*	NR	*	RPSM	*	SLC-CKV-HW-CV16	+
8	5	4	1.90E-10	1.00000	IE-T3C	*	NR	*	RPSM	*	SLC-CKV-HW-CV17	.

PLANT DAMAGE STATE 8

TOP EVENT PDS-08 CONTAINS 15 EVENTS IN 17 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-08 IS 1.47E-06

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-08

N	1000
MEAN	1.46E-06
STD DEV	5.05E-06
LOWER 5%	1.81E-08
LOWER 25%	9.38E-08
MEDIAN	2.91E-07
UPPER 25%	1.03E-06
UPPER 5%	5.57E-06

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 8
RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
RPSM	17	1.00E-05	(12.0)	1.47E-06	(1.5)	1.81E-08	5.57E-06
NR	17	1.00E+00	(1.0)	1.47E-06	(1.5)		
SLC-XHE-RE-DIVER	3	3.19E-02	(3.0)	8.33E-07	(3.0)	3.50E-09	3.35E-06
SLC-XHE-FO-SLC	3	2.00E-02	(4.0)	5.22E-07	(4.0)	3.74E-09	2.00E-06
SLC-SYS-TE-SLC	3	3.40E-03	(5.0)	8.87E-08	(5.0)	7.93E-10	3.17E-07
SLC-MDP-FS-CCF	3	3.00E-03	(6.0)	1.64E-08	(6.5)	3.47E-11	5.86E-08
BETA-2SIPUMPS	3	2.10E-01	(2.0)	1.64E-08	(6.5)	3.47E-11	5.86E-08
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	2.50E-09	(8.5)	3.60E-11	1.03E-08
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	2.50E-09	(8.5)	3.60E-11	1.03E-08
SLC-XVM-PG-XV18	1	4.00E-05	(10.0)	1.00E-09	(11.0)	1.44E-11	3.57E-09
SLC-XVM-PG-XV15	1	4.00E-05	(10.0)	1.00E-09	(11.0)	1.44E-11	3.57E-09
SLC-XVM-PG-XV11	1	4.00E-05	(10.0)	1.00E-09	(11.0)	1.44E-11	3.57E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T3A	9	2.50E+00	(1.0)	1.41E-06	(1.0)	1.71E-08	5.37E-06
IE-T3B	4	6.00E-02	(2.0)	3.36E-08	(2.0)	4.16E-10	1.39E-07
IE-T2	4	5.00E-02	(3.0)	2.80E-08	(3.0)	3.72E-10	1.09E-07

PLANT DAMAGE STATE 8
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	17	1.00E-05	(12.0)	1.47E-01	(1.0)	1.66E-02	4.95E-01
SLC-SYS-TE-SLC	3	3.40E-03	(5.0)	2.60E-05	(2.0)	5.97E-07	9.81E-05
SLC-XHE-FO-SLC	3	2.00E-02	(4.0)	2.56E-05	(3.0)	5.82E-07	9.50E-05
SLC-XHE-RE-DIVER	3	3.19E-02	(3.0)	2.53E-05	(4.0)	5.53E-07	9.76E-05
SLC-XVM-PG-XV18	1	4.00E-05	(10.0)	2.50E-05	(6.0)	5.65E-07	9.37E-05
SLC-XVM-PG-XV15	1	4.00E-05	(10.0)	2.50E-05	(6.0)	5.65E-07	9.37E-05
SLC-XVM-PG-XV11	1	4.00E-05	(10.0)	2.50E-05	(6.0)	5.65E-07	9.37E-05
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	2.50E-05	(8.5)	5.65E-07	9.37E-05
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	2.50E-05	(8.5)	5.65E-07	9.37E-05
SLC-MDP-FS-CCF	3	3.00E-03	(6.0)	5.46E-06	(10.0)	6.58E-08	2.11E-05
BETA-2SIPUMPS	3	2.10E-01	(2.0)	6.19E-08	(11.0)	1.85E-10	2.19E-07
NR	17	1.00E+00	(1.0)	0.00E+00	(12.0)		

PLANT DAMAGE STATE 8
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	17	1.00E-05	(12.0)	65.9	(1.0)	9.18	0.89
SLC-XHE-RE-DIVER	3	3.19E-02	(3.0)	14.5	(2.0)	1.75	0.95
SLC-XHE-FO-SLC	3	2.00E-02	(4.0)	7.5	(3.0)	1.34	1.00
BETA-2SIPUMPS	3	2.10E-01	(2.0)	0.6	(4.0)	1.01	1.00
SLC-SYS-TE-SLC	3	3.40E-03	(5.0)	0.3	(5.0)	0.98	1.01
SLC-XVM-PG-XV18	1	4.00E-05	(10.0)	0.0	(8.5)		
SLC-MDP-FS-CCF	3	3.00E-03	(6.0)	0.0	(8.5)		
SLC-XVM-PG-XV11	1	4.00E-05	(10.0)	0.0	(8.5)		
SLC-CKV-HW-CV17	1	1.00E-04	(7.5)	0.0	(8.5)		
SLC-XVM-PG-XV15	1	4.00E-05	(10.0)	0.0	(8.5)		
SLC-CKV-HW-CV16	1	1.00E-04	(7.5)	0.0	(8.5)		
NR	17	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T3A	9	2.50E+00	(1.0)	13.4	(1.0)	1.62	0.99
IE-T3B	4	6.00E-02	(2.0)	1.1	(2.0)	1.01	1.02
IE-T2	4	5.00E-02	(3.0)	0.5	(3.0)	1.01	0.99

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 8

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-08 WITH TOP EVENT FREQUENCY 1.47E-06

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	7.97E-07	0.54334	IE-T3A	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	2	4	5.00E-07	0.88399	IE-T3A	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	3	4	8.50E-08	0.94190	IE-T3A	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
5	10	4	1.91E-08	0.95494	IE-T3B	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
6	14	4	1.60E-08	0.96581	IE-T2	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
7	4	5	1.57E-08	0.97654	BETA-2SIPUMPS	*	IE-T3A	*	NR	*	RPSM	*
8					SLC-MDP-FS-CCF	+						
9	11	4	1.20E-08	0.98472	IE-T3B	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
10	15	4	1.00E-08	0.99153	IE-T2	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
11	6	4	2.50E-09	0.99323	IE-T3A	*	NR	*	RPSM	*	SLC-CKV-HW-CV17	+
12	5	4	2.50E-09	0.99494	IE-T3A	*	NR	*	RPSM	*	SLC-CKV-HW-CV16	+
13	12	4	2.04E-09	0.99633	IE-T3B	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
14	16	4	1.70E-09	0.99748	IE-T2	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
15	7	4	1.00E-09	0.99817	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV15	+
16	9	4	1.00E-09	0.99885	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV11	+
17	8	4	1.00E-09	0.99953	IE-T3A	*	NR	*	RPSM	*	SLC-XVM-PG-XV18	+
18	13	5	3.78E-10	0.99979	BETA-2SIPUMPS	*	IE-T3B	*	NR	*	RPSM	*
19					SLC-MDP-FS-CCF	+						
20	17	5	3.15E-10	1.00000	BETA-2SIPUMPS	*	IE-T2	*	NR	*	RPSM	*
21					SLC-MDP-FS-CCF	.						

PLANT DAMAGE STATE 9

TOP EVENT PDS-09 CONTAINS 8 EVENTS IN 4 CUT SETS

THE FREQUENCY OF TOP EVENT PDS-09 IS 4.42E-08

DESCRIPTIVE STATISTICS FOR THE FREQUENCY OF TOP EVENT PDS-09

N	1000
MEAN	4.37E-08
STD DEV	1.42E-07
LOWER 5%	4.33E-10
LOWER 25%	3.05E-09
MEDIAN	1.01E-08
UPPER 25%	3.58E-08
UPPER 5%	1.58E-07

90% UNCERTAINTY INTERVAL FOR TOP EVENT FREQUENCY (INNERMOST BRACKETS DENOTE INTERQUARTILE RANGE, ASTERISK DENOTES MEDIAN, N DENOTES NOMINAL VALUE AND M DENOTES MEAN)

NOMENCLATURE:

PD = PARTIAL DERIVATIVE

TEF = FREQUENCY OF THE TOP EVENT

EV(J) = PROBABILITY OF EVENT J FOR BASE EVENTS
= FREQUENCY OF EVENT J FOR INITIATING EVENTS

MEASURES:

1. FOR BASE EVENTS AND INITIATING EVENTS:

RISK REDUCTION = PD x EV(J)
= TEF - TEF(EVALUATED WITH EV(J) = 0)

2. FOR BASE EVENTS ONLY:

RISK INCREASE = PD - RISK REDUCTION
= PD x (1 - EV(J))
= TEF(EVALUATED WITH EV(J) = 1) - TEF

PLANT DAMAGE STATE 9

RISK REDUCTION BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
NR	4	1.00E+00	(1.0)	4.42E-08	(1.5)		
RPSM	4	1.00E-05	(7.0)	4.42E-08	(1.5)	4.33E-10	1.58E-07
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	2.52E-08	(3.0)	7.86E-11	8.15E-08
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	1.58E-08	(4.0)	1.03E-10	6.35E-08
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	2.69E-09	(5.0)	2.10E-11	1.10E-08
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	4.98E-10	(6.5)	8.34E-13	1.64E-09
BETA-2SIPUMPS	1	2.10E-01	(2.0)	4.98E-10	(6.5)	8.34E-13	1.64E-09

RISK REDUCTION BY INITIATING EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

INIT EVENT	OCCUR	FREQ	(RANK)	RISK REDUCTION	(RANK)	LOWER 5%	UPPER 5%
IE-T1	4	7.90E-02	(1.0)	4.42E-08	(1.0)	4.33E-10	1.58E-07

PLANT DAMAGE STATE 9
RISK INCREASE BY BASE EVENT (WITH ASSOCIATED UNCERTAINTY INTERVALS)

BASE EVENT	OCCUR	PROB	(RANK)	RISK INCREASE	(RANK)	LOWER 5%	UPPER 5%
RPSM	4	1.00E-05	(7.0)	4.42E-03	(1.0)	3.90E-04	1.25E-02
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	7.87E-07	(2.0)	1.73E-08	3.16E-06
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	7.74E-07	(3.0)	1.72E-08	3.13E-06
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	7.65E-07	(4.0)	1.68E-08	3.07E-06
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	1.65E-07	(5.0)	1.63E-09	6.08E-07
BETA-2SIPUMPS	1	2.10E-01	(2.0)	1.87E-09	(6.0)	5.04E-12	6.41E-09
NR	4	1.00E+00	(1.0)	0.00E+00	(7.0)		

PLANT DAMAGE STATE 9
UNCERTAINTY IMPORTANCE BY BASE EVENT

BASE EVENT	OCCUR	PROB	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
RPSM	4	1.00E-05	(7.0)	61.6	(1.0)	9.00	0.79
SLC-XHE-RE-DIVER	1	3.19E-02	(3.0)	13.4	(2.0)	2.07	1.07
SLC-XHE-FO-SLC	1	2.00E-02	(4.0)	6.4	(3.0)	1.34	1.00
SLC-MDP-FS-CCF	1	3.00E-03	(6.0)	0.5	(4.0)	1.01	0.99
BETA-2SIPUMPS	1	2.10E-01	(2.0)	0.5	(5.0)	1.03	1.00
SLC-SYS-TE-SLC	1	3.40E-03	(5.0)	0.3	(6.0)	1.08	0.98
NR	4	1.00E+00	(1.0)				

UNCERTAINTY IMPORTANCE BY INITIATING EVENT

INIT EVENT	OCCUR	FREQ	(RANK)	% REDUCTION IN THE UNCERTAINTY OF LOG RISK	(RANK)	Y.05/TE.05*	Y.95/TE.95*
IE-T1	4	7.90E-02	(1.0)	19.2	(1.0)	2.05	1.04

* Y.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS HELD CONSTANT AT ITS MEAN VALUE
TE.xx IS THE .xx QUANTILE OF THE TOP EVENT FREQUENCY WHEN THE EVENT IS NOT HELD CONSTANT

PLANT DAMAGE STATE 9

CUT SET NUMBERS, CUT SET ORDERS, CUT SET FREQUENCIES,
CUMULATIVE NORMALIZED CUT SET FREQUENCIES AND CUT SETS
FOR TOP EVENT PDS-09 WITH TOP EVENT FREQUENCY 4.42E-08

(THE FIRST COLUMN OF NUMBERS IS THE LINE NUMBERS FOR THE FILE TEMACSETS.DNF)

2	1	4	2.52E-08	0.57036	IE-T1	*	NR	*	RPSM	*	SLC-XHE-RE-DIVER	+
3	2	4	1.58E-08	0.92795	IE-T1	*	NR	*	RPSM	*	SLC-XHE-FO-SLC	+
4	3	4	2.69E-09	0.98874	IE-T1	*	NR	*	RPSM	*	SLC-SYS-TE-SLC	+
5	4	5	4.98E-10	1.00000	BETA-2SIPUMPS	*	IE-T1	*	NR	*	RPSM	*
6					SLC-MDP-FS-CCF							

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11. ABSTRACT *(200 words or less)*

This document contains the appendices for the accident sequence analysis of internally initiated events for the Peach Bottom, Unit 2 Nuclear Power Plant. This is one of the five plant analyses conducted as part of the NUREG-1150 effort for the Nuclear Regulatory Commission. The work performed and described here is an extensive reanalysis of that published in October 1986 as NUREG/CR-4550, Volume 4. It addresses comments from numerous reviewers and significant changes to the plant systems and procedures made since the first report. The uncertainty analysis and presentation of results are also much improved, and considerable effort was expended on an improved analysis of loss of offsite power. The content and detail of this report is directed toward PRA practitioners who need to know how the work was done and the details for use in further studies.

The mean core damage frequency is 4.5E-6 with 5% and 95% uncertainty bounds of 3.5E-7 and 1.3E-5, respectively. Station blackout type accidents (loss of all AC power) contributed about 46% of the core damage frequency with Anticipated Transient Without Scram (ATWS) accidents contributing another 42%. The numerical results are driven by loss of offsite power, transients with the power conversion system initially available, operator errors, and mechanical failure to scram. External events were also analyzed using the internal event fault tree and event tree models as a basis, and are reported separately in Part 3 of NUREG/CR-4550, Volume 4, Revision 1.

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