

Docket Nos: STN 50-454 and STN 50-455

DEC 19 1985

Mr. Dennis L. Farrar
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Dear Mr. Farrar:

SUBJECT: REVIEW OF BYRON LCO RELAXATION PROGRAM

By letter dated May 2, 1984, you proposed changes to the Byron Technical Specifications to revise the allowable of out-of-service times for several components. Included with your letter was a report entitled, "Byron Generation Station Limiting Condition for Operation Relaxation Program, WCAP-10526."

Enclosed are computer results generated by Brookhaven National Laboratory in its review of your submittal. The nomenclature on the print-out is consistent with that in your submittal.

Our final Safety Evaluation detailing the results of our review will be issued in the near future.

(2)
L. N. Olshan, Project Manager
PWR Project Directorate #5
Division of PWR Licensing-A

cc: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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Commonwealth Edison Company
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A handwritten signature in cursive script, appearing to read "L. N. Olshan", is positioned above the typed name.

L. N. Olshan, Project Manager
PWR Project Directorate #5
Division of PWR Licensing-A

cc: See next page

Mr. Dennis L. Farrar
Commonwealth Edison Company

Byron Station
Units 1 and 2

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EXECUTE SETS USER PROGRAM BYRONAOT

BLKSTAT.

THE BLOCK FILE IS EMPTY.

STATEMENT EXECUTION REQUIRED .003 SECONDS FOR BLKSTAT

ROVALBLK (BYRONAOT1).

VALUE BLOCK\$BYRON AOT1.

CHANGE VALUE BLOCK BYRONAOT1

9.0E-06 \$PUMPPERHOUR \$

6.0E-07 \$STRAINERPERHOUR \$

0.580E-02 \$FSX03CAFR,FSX03CBFR,FSX03CEFR,FSX03CFFR \$

3.269E-03 \$BUS1317D,BUS132ZD \$

3.566E-04 \$BUS1317DD,BUS132ZDD \$

2.313E-04 \$0XVSX138AC,1MVSX001AC,1XVSX143AC \$

2.313E-04 \$0XVSX138BC,1MVSX001BC,1XVSX143BC \$

1.901E-05 \$0XVSX138AO,0XVSX138BO,1XVSX143AO,1XVSX143BO \$

1.901E-05 \$1MVSX001AO,1MVSX001BO \$

4.320E-05 \$1CVSX002AO,1CVSX002BO \$

2.628E-03 \$1SSX01FAQ,1SSX01FBQ \$

2.160E-04 \$1SSX01FAQD,1SSX01FBQD \$

3.942E-02 \$1PSX01PAFR,1PSX01PBFR \$

3.800E-04 \$1SSX01FAM,1SSX01FBM \$

2.224E-03 \$FSX03CAM,FSX03CBM,FSX03CEM,FSX03CFM \$

8.964E-03 \$1PSX01PAM,1PSX01PBM \$

0.002 \$FSX03SWHE \$

1.55E-03 \$0MVSX143AO,0MVSX143BO,0MVSX143EO,0MVSX143FO \$

0.8675E-04 \$0MVSX143AC,0MVSX143BC,0MVSX143EC,0MVSX143FC \$

STATEMENT EXECUTION REQUIRED .087 SECONDS FOR ROVALBLK

1PSX01PRM
1CVSX002R0

5
2

THERE ARE 17 DIFFERENT LITERALS IN THE
EQUATION FOR IF-ET17

TERM
NUMBER

PROB.
OF TERM

IF-ET17 =

AOT1

Loss of PSWS
= 9.47×10^{-4} /ry

1	3.5336E-04	1PSX01PBFR * 1PSX01PAM *
2	3.5336E-04	1PSX01PAFR * 1PSX01PBM *
3	2.8422E-05	1PSX01PBFR * 1PSX01PAFS *
4	2.8422E-05	1PSX01PAFR * 1PSX01PBFS *
5	2.3557E-05	1SSX01FBQ * 1PSX01PAM *
6	2.3557E-05	1SSX01FAQ * 1PSX01PBM *
7	1.4980E-05	1PSX01PBFR * 1SSX01FAM *
8	1.4980E-05	1PSX01PAFR * 1SSX01FBM *
9	1.1600E-05	FSX03CEFR * FSX03SWHE *
10	1.1600E-05	FSX03CBFR * FSX03SWHE *
11	1.1600E-05	FSX03CFFR * FSX03SWHE *
12	1.1600E-05	FSX03CAFR * FSX03SWHE *
13	8.5147E-06	1PSX01PBFR * 1SSX01FAQD *
14	8.5147E-06	1PSX01PAFR * 1SSX01FBQD *
15	6.5380E-06	RUS131ZD * FSX03SWHE *
16	6.5380E-06	RUS132ZD * FSX03SWHE *
17	2.0734E-06	1MVSX001BC * 1PSX01PAM *
18	2.0734E-06	1XVSX143BC * 1PSX01PAM *
19	2.0734E-06	0XVSX138BC * 1PSX01PAM *
20	2.0734E-06	1MVSX001AC * 1PSX01PBM *

SETS(09/17/82) - 1

EXECUTE SETS USER PROGRAM BYRONAOT

BLKSTAT.

THE BLOCK FILE IS EMPTY.

STATEMENT EXECUTION REQUIRED .004 SECONDS FOR BLKSTAT

RDVALBLK (BYRONAOT2).

VALUE BLOCKS BYRONAOT2

CHANGE VALUE BLOCK BYRONAOT2

9.0E-06 \$PUMPPERHOUR \$

6.0E-07 \$STRAINERPERHOUR \$

0.580E-02 \$FSX03CAFR,FSX03CBFR,FSX03CEFR,FSX03CFFR \$

3.269E-03 \$BUS131ZD,BUS132ZD \$

3.566E-04 \$BUS131ZDD,BUS132ZDD \$

2.313E-04 \$OXVSX138AC,1MVSX001AC,1XVSX143AC \$

2.313E-04 \$OXVSX138BC,1MVSX001BC,1XVSX143BC \$

1.901E-05 \$OXVSX138AO,OXVSX138BO,1XVSX143AO,1XVSX143BO \$

1.901E-05 \$1MVSX001AO,1MVSX001BO \$

4.320E-05 \$1CVSX002AO,1CVSX002BO \$

2.628E-03 \$1SSX01FAQ,1SSX01FBQ \$

2.160E-04 \$1SSX01FAQD,1SSX01FBQD \$

3.942E-02 \$1PSX01PAFR,1PSX01PBFR \$

33.600E-04 \$1SSX01FAM,1SSX01FBM \$

19.66E-03 \$FSX03CAM,FSX03CBM,FSX03CEM,FSX03CFM \$

79.26E-03 \$1PSX01PAM,1PSX01PBMS \$

0.002 \$FSX03SWHE \$

1.55E-03 \$0MVSX163AO,0MVSX163BO,0MVSX163EO,0MVSX163FO \$

0.8675E-04 \$0MVSX163AC,0MVSX163BC,0MVSX163EC,0MVSX163FC \$

STATEMENT EXECUTION REQUIRED .003 SECONDS FOR RDVALBLK

1PSX01PRM
1CVSX002B0

5
2

THERE ARE 43 DIFFERENT LITERALS IN THE
EQUATION FOR IF-ET17

TERM
NUMBER PROB.
OF TERM

AOT2

Loss of ESWS
 $= 7.21 \times 10^{-3} / \text{ry}$

IF-ET17 =

1 3.1244E-03 1PSX01PBFR * 1PSX01PAM *

2 3.1244E-03 1PSX01PAFR * 1PSX01PBM *

3 2.0830E-04 1SSX01FBQ * 1PSX01PAM *

4 2.0830E-04 1SSX01FAQ * 1PSX01PBM *

5 1.3245E-04 1PSX01PBFR * 1SSX01FAM *

6 1.3245E-04 1PSX01PAFR * 1SSX01FBM *

7 2.8422E-05 1PSX01PBFR * 1PSX01PAFS *

8 2.8422E-05 1PSX01PAFR * 1PSX01PBFS *

9 1.8333E-05 1MVSX001BC * 1PSX01PAM *

10 1.8333E-05 1XVSX143BC * 1PSX01PAM *

11 1.8333E-05 0XVSX138BC * 1PSX01PAM *

12 1.8333E-05 1MVSX001AC * 1PSX01PBM *

13 1.8333E-05 1XVSX143AC * 1PSX01PBM *

14 1.8333E-05 0XVSX138AC * 1PSX01PBM *

15 1.1600E-05 FSX03CBFR * FSX03SWHE *

16 1.1600E-05 FSX03CAFR * FSX03SWHE *

17 1.1600E-05 FSX03CFFR * FSX03SWHE *

18 1.1600E-05 FSX03CEFR * FSX03SWHE *

19 8.8301E-06 1SSX01FBQ * 1SSX01FAM *

20 8.8301E-06 1SSX01FAQ * 1SSX01FBM *

SETS(09/17/82)

TERM PROB.

Table 4.5 Plant Damage State and Core Damage Frequencies for Mode 0 CASE 1

MODEL 0 CASE 1

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
REC		1.14E-08															1.14E-08
RE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08				9.53E-07		1.02E-06
SEF															3.32E-09		3.32E-09
SEC			8.08E-05								3.86E-06						8.47E-05
SE			1.68E-06								4.99E-05						5.16E-05
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			7.20E-09							2.94E-11	1.62E-09						8.85E-09
SLC			3.30E-12								3.04E-09	3.25E-10					3.37E-09
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF						1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				0.00E+00	4.38E-06
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				0.00E+00	3.72E-06
V2E			5.29E-07														5.29E-07
V2L	9.40E-09	9.40E-09	2.37E-06	9.40E-09	9.40E-09												2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.79E-06	1.01E-04	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	5.83E-05	5.88E-07	6.54E-06	7.80E-07	9.60E-07	0.00E+00	1.88E-04

Table 4.6 Plant Damage State and Core Damage Frequencies for Model 0 CASE 2

MODEL 0 CASE 2

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.68E-07	2.82E-07															9.50E-07
REF																	
REC		6.13E-08															6.13E-08
RE	9.15E-10	9.15E-10															1.82E-09
RLFC	1.62E-06	1.62E-06															3.24E-06
RLF	5.58E-10	5.58E-10															1.12E-09
RLC	6.13E-08																6.13E-08
RL																	
SEFC			5.40E-08								5.38E-08				9.53E-07		1.06E-06
SEF															9.18E-09		9.18E-09
SEC		4.16E-04									2.48E-05						4.41E-04
SE		7.01E-06									2.28E-04						2.35E-04
SLFC		2.35E-05		1.33E-09	1.33E-09	2.90E-06	5.79E-07	3.46E-07	3.86E-06	2.71E-06	4.45E-07	3.97E-06			4.55E-10		3.83E-05
SLF		1.03E-08							2.20E-10	2.16E-08							3.21E-08
SLC		2.28E-09								8.04E-08	9.30E-10						8.36E-08
SL												1.81E-09					1.81E-09
TEFC				4.44E-09	4.44E-09	8.58E-06	1.72E-06	1.02E-06	1.14E-05	2.08E-07	7.50E-07	1.18E-05			2.81E-09		3.55E-05
TEF						1.53E-09	3.06E-10	1.83E-10	4.16E-09			2.10E-09					8.28E-09
TEC				6.17E-10	6.17E-10	8.01E-06	1.60E-06	9.57E-07	1.08E-05	2.56E-06	4.24E-07	1.10E-05				0.00E+00	3.53E-05
TE						1.40E-07	2.81E-08	1.68E-08	1.88E-07	2.22E-05	7.03E-09	1.92E-07				0.00E+00	2.28E-05
V2E			2.64E-06														2.64E-06
V2L	9.40E-09	9.40E-09		6.48E-06	9.40E-09	9.40E-09											6.52E-06
V														7.80E-07			7.80E-07
TOTAL	2.36E-06	1.97E-06	4.47E-04	9.12E-06	1.58E-08	1.58E-08	1.96E-05	3.93E-06	2.34E-06	2.63E-05	2.81E-04	1.63E-06	2.69E-05	7.80E-07	9.65E-07	0.00E+00	8.24E-04

Table 4.7 Plant Damage State and Core Damage Frequencies for Model 0 Case 3

MODEL 0 CASE 3

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
AEC		1.14E-08															1.14E-08
AE	9.15E-10	9.15E-10															1.83E-09
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			2.05E-08								5.38E-08				9.53E-07		1.03E-06
SEF															3.32E-09		3.32E-09
SEC		8.08E-05									6.56E-06						8.74E-05
SE		7.00E-06									1.75E-04						1.82E-04
SLFC		1.84E-05		1.19E-09	1.19E-09	7.77E-07	1.55E-07	9.27E-08	1.04E-06	1.78E-06	2.74E-07	1.06E-06		4.55E-10			2.32E-05
SLF		7.20E-09							2.94E-11	1.14E-08							1.86E-08
SLC		3.30E-12									9.46E-09	3.25E-10					9.79E-09
SL												2.04E-10					2.04E-10
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.55E-07	3.96E-06	1.46E-07	2.59E-07	4.07E-06		2.81E-09			1.24E-05
TEF					1.73E-10	3.46E-11	2.07E-11	9.60E-10				2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	4.38E-07	5.36E-08	1.39E-06					4.56E-06
TE					1.05E-07	2.10E-08	1.25E-08	1.40E-07	1.24E-05	5.18E-09	1.44E-07				0.00E+00		1.26E-05
V2E			5.62E-07														5.62E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V													7.80E-07				7.80E-07
TOTAL	2.20E-06	1.79E-06	1.06E-04	2.93E-06	1.24E-08	1.24E-08	4.87E-06	9.72E-07	5.80E-07	6.48E-06	1.96E-04	5.92E-07	6.67E-06	7.80E-07	9.60E-07	0.00E+00	3.32E-04

Table 4.8 Plant Damage State and Core Damage Frequencies for Model 0 Case 4

MODEL 0 CASE 4

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
REC		6.13E-08															6.13E-08
RE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	6.13E-08																6.13E-08
AL																	
SEFC			2.03E-08								4.88E-08				9.53E-07		1.02E-06
SEF															3.32E-09		3.32E-09
SEC		4.16E-04									2.21E-05						4.39E-04
SE		1.68E-06									1.03E-04						1.05E-04
SLFC		1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06			4.55E-10		2.24E-05
SLF		7.20E-09							2.94E-11	1.62E-09							8.85E-09
SLC		3.30E-12								3.04E-09	9.30E-10						3.97E-09
SL											4.41E-11						4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF						1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10					1.43E-09
TEC				5.33E-10	5.33E-10	4.95E-06	9.91E-07	5.91E-07	6.64E-06	1.51E-06	2.62E-07	6.78E-06				0.00E+00	2.17E-05
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	7.25E-06	1.05E-09	3.21E-08				0.00E+00	7.35E-06
V2E			2.61E-06														2.61E-06
V2L	9.40E-09	9.40E-09	2.37E-06	9.40E-09	9.40E-09												2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.25E-06	1.84E-06	4.37E-04	4.98E-06	1.27E-09	1.27E-08	8.71E-06	1.74E-06	1.04E-06	1.17E-05	1.35E-04	7.97E-07	1.19E-05	7.80E-07	9.60E-07	0.00E+00	6.18E-04

Table 4.9 Plant Damage State and Core Damage Frequencies for Model 0 Case 5

MODEL 0 CASE 5

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
REC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08						1.02E-06
SEF															9.53E-07		3.32E-09
SEC			8.08E-05								3.86E-05						8.47E-05
SE			1.79E-06								4.99E-05						5.17E-05
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			9.12E-09							2.94E-11	2.72E-09						1.19E-08
SLC			2.28E-09								2.08E-08	3.25E-10					2.34E-08
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF							1.73E-10	3.46E-11	2.07E-11	1.02E-09		2.37E-10					1.49E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.58E-07	5.36E-08	1.39E-06				0.00E+00	4.38E-06
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				0.00E+00	3.72E-06
V2E			5.29E-07														5.29E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.79E-06	1.01E-04	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	5.84E-05	5.88E-07	6.54E-05	7.80E-07	9.60E-07	0.00E+00	1.88E-04

Table 4.10 Plant Damage State and Core Damage Frequencies for Modde 0 CASE 6

MODEL 0 CASE 6

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.50E-07															8.86E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08				9.53E-07		1.02E-06
SEF															3.32E-09		3.32E-09
SEC			8.08E-05								3.86E-06						8.47E-05
SE			1.68E-06								4.99E-05						5.16E-05
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.84E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			7.20E-09							2.94E-11	1.62E-09						8.85E-09
SLC			3.30E-12								3.04E-09	3.25E-10					3.37E-09
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.25E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF							1.73E-10	3.46E-11	2.07E-11	9.60E-10		2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				0.00E+00	4.38E-06
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				0.00E+00	3.72E-06
V2E			5.29E-07														5.29E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.81E-06	1.01E-04	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	5.83E-05	5.88E-07	6.54E-06	7.80E-07	9.60E-07	0.00E+00	1.88E-04

Table 4.11 Plant Damage State and Core Damage Frequencies for Model 0 Case 7

MODEL 0 CASE 7

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.66E-07	2.63E-07															9.31E-07
REF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.62E-06	1.62E-06															3.24E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08				9.53E-07		1.02E-06
SEF															3.32E-09		3.32E-09
SEC			8.08E-05								3.86E-06						8.47E-05
SE			1.68E-06								4.99E-05						5.16E-05
SLFC			2.35E-05		1.19E-09	1.19E-09	9.84E-07	1.97E-07	1.17E-07	1.31E-06	9.25E-07	3.49E-07	1.35E-06		4.55E-10		2.87E-05
SLF			8.39E-09							2.94E-11	3.80E-09						1.22E-08
SLC			3.30E-12								5.87E-09	3.25E-10					6.20E-09
SL												3.92E-10					3.92E-10
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF						1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				0.00E+00	4.38E-06
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				0.00E+00	3.72E-06
V2E			5.29E-07														5.29E-07
V2L	9.40E-09	9.40E-09		2.44E-06	9.40E-09	9.40E-09											2.48E-06
V														7.80E-07			7.80E-07
TOTAL	2.31E-06	1.90E-06	1.06E-04	2.97E-06	1.24E-08	1.24E-08	4.99E-06	9.98E-07	5.94E-07	6.65E-06	5.87E-05	6.63E-07	6.83E-06	7.80E-07	9.60E-07	0.00E+00	1.94E-04

Table 4.12 Plant Damage State and Core Damage Frequencies for Model 0 Case 8

MODEL 0 CASE 8

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
PEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			5.08E-08								4.88E-08				9.53E-07		1.05E-06
SEF															9.18E-09		9.18E-09
SEC			8.08E-05								3.86E-06						8.47E-05
SE			1.68E-06								4.99E-05						5.16E-05
SLFC			1.84E-05		1.33E-09	1.33E-09	2.26E-06	4.52E-07	2.70E-07	3.01E-06	8.55E-07	3.49E-07	3.09E-06		4.55E-10		2.87E-05
SLF			7.20E-09							2.60E-10	1.85E-09						9.31E-09
SLC			3.30E-12								4.48E-09	3.25E-10					4.81E-09
SL												4.41E-11					4.41E-11
TEFC				4.44E-09	4.44E-09	8.58E-06	1.72E-06	1.02E-06	1.14E-05	1.20E-07	7.50E-07	1.18E-05			2.81E-09		3.54E-05
TEF						1.53E-09	3.06E-10	1.83E-10	3.57E-09			2.10E-09					7.68E-09
TEC				2.47E-10	2.47E-10	1.60E-06	3.19E-07	1.91E-07	2.14E-06	3.92E-07	8.46E-08	2.19E-06				0.00E+00	6.91E-06
TE						3.48E-08	6.93E-09	4.14E-09	4.64E-08	5.35E-06	1.61E-09	4.77E-08				0.00E+00	5.49E-06
V2E			5.29E-07														5.29E-07
V2L	9.40E-09	9.40E-09		6.41E-06	9.40E-09	9.40E-09											6.45E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.79E-06	1.01E-04	6.94E-06	1.54E-08	1.54E-08	1.25E-05	2.50E-06	1.49E-06	1.66E-05	6.05E-05	1.19E-06	1.71E-05	7.80E-07	9.65E-07	0.00E+00	2.26E-04

Table 4.13 Plant Damage State and Core Damage Frequencies for Model 0 Case 9

MODEL 0 CASE 9

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08				9.53E-07		1.02E-05
SEF															3.32E-09		3.32E-09
SEC		8.08E-05									3.86E-06						8.47E-05
SE		1.68E-06									4.99E-05						5.16E-05
SLFC		1.84E-05		1.19E-09	1.19E-09	7.74E-07	1.55E-07	9.22E-08	1.03E-06	6.39E-07	2.74E-07	1.06E-06			4.55E-10		2.24E-05
SLF		7.20E-09							2.94E-11	1.65E-09							8.86E-09
SLC		3.30E-12									3.39E-09	3.25E-10					3.72E-09
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF						1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				0.00E+00	4.38E-06
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				0.00E+00	3.72E-06
V2E			5.29E-07														5.29E-07
V2L	9.40E-09	9.40E-09	2.37E-06	9.40E-09	9.40E-09												2.41E-06
V													7.80E-07				7.80E-07
TOTAL	2.20E-06	1.79E-06	1.01E-04	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.56E-07	5.69E-07	5.37E-06	5.84E-05	5.88E-07	6.55E-06	7.80E-07	9.60E-07	0.00E+00	1.85E-04

Table 4.14 Plant Damage State and Core Damage Frequencies for Model 1 Case 1

MODEL 1 CASE 1

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08														
SEF											4.88E-08				9.53E-07		1.02E-06
SEC			5.54E-04												3.32E-09		3.32E-09
SE			1.78E-05								3.86E-06						5.58E-04
SLFC			1.84E-05								4.99E-05						5.17E-05
SLF			7.20E-09			1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06	4.55E-10		2.24E-05
SLC			3.30E-12								2.94E-11	1.62E-09					8.85E-09
SL											3.04E-09	3.25E-10					3.37E-09
TEFC												4.41E-11					4.41E-11
TEF						1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06	2.81E-09		1.23E-05
TEC								1.73E-10	3.46E-11	2.07E-11	9.60E-10		2.37E-10				1.43E-09
TE						1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06		3.37E-05	3.81E-05
V2E								2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08		2.00E-08	3.74E-06
V2L	9.40E-09	9.40E-09	5.29E-07														5.29E-07
V			2.37E-05	9.40E-09	9.40E-09												2.41E-06
TOTAL	2.20E-06	1.79E-06	5.75E-04	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	5.83E-05	5.88E-07	6.54E-06	7.80E-07	9.60E-07	3.37E-05	6.95E-04

Table 4.16 Plant Damage State and Core Damage Frequencies for Model 1 Case 3

MODEL 1 CASE 3

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
PEC		1.14E-08															1.14E-08
AE	9.15E-10	9.15E-10															1.83E-09
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			2.05E-08								5.38E-08						1.03E-06
SEF															9.53E-07		1.03E-06
SEC			5.54E-04								6.56E-06				3.32E-09		3.32E-09
SE			7.10E-06								1.75E-04						5.61E-04
SLFC			1.84E-05			1.19E-09	1.19E-09	7.77E-07	1.55E-07	9.27E-08	1.04E-06	1.78E-06	2.74E-07	1.06E-06		4.55E-10	1.82E-04
SLF			7.20E-09								2.94E-11	1.14E-08					2.36E-05
SLC			3.30E-12								9.46E-09	3.25E-10					1.86E-08
SL												2.04E-10					9.79E-09
TEFC						1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.55E-07	3.96E-06	1.46E-07	2.59E-07	4.07E-06		2.81E-09	2.04E-10
TEF								1.73E-10	3.46E-11	2.07E-11	9.60E-10						1.24E-05
TEC						1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	4.38E-07	5.36E-08	1.39E-06			1.43E-09
TE								1.05E-07	2.10E-08	1.25E-08	1.40E-07	1.24E-05	5.18E-09	1.44E-07		3.37E-05	3.83E-05
V2E			5.62E-07													2.00E-08	1.28E-05
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											5.62E-07
V																	2.41E-06
TOTAL	2.20E-06	1.79E-06	5.80E-04	2.93E-06	1.24E-08	1.24E-08	4.87E-06	9.72E-07	5.80E-07	6.48E-06	1.96E-04	5.92E-07	6.67E-06	7.80E-07	7.80E-07	3.37E-05	8.39E-04

Table 4.17 Plant Damage State and Core Damage Frequencies for Model 1 Case 4

MODEL 1 CASE 4

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
AEC		6.13E-08															6.13E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	6.13E-08																6.13E-08
AL																	
SEFC			2.03E-08								4.88E-08						1.02E-06
SEF															9.53E-07		3.32E-09
SEC			4.02E-03								2.21E-05						4.04E-03
SE			2.48E-06								1.03E-04						1.05E-04
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			7.20E-09							2.94E-11	1.62E-09						8.85E-09
SLC			3.30E-12								3.04E-09	9.30E-10					3.97E-09
SL												4.41E-11					4.41E-11
TEFC					1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06		2.81E-09		1.23E-05
TEF							1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10				1.43E-09
TEC					5.33E-10	5.33E-10	4.95E-06	9.91E-07	5.91E-07	6.64E-06	1.51E-06	2.62E-07	6.78E-06			2.57E-04	2.78E-04
TE							2.34E-08	4.68E-09	2.79E-09	3.14E-08	7.25E-06	1.05E-09	3.21E-08			1.52E-07	7.50E-06
V2E			2.61E-06														2.61E-06
V2L	9.40E-09	9.40E-09	2.37E-06	9.40E-09	9.40E-09												2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.25E-06	1.84E-06	4.04E-03	4.98E-06	1.27E-08	1.27E-08	8.71E-06	1.74E-06	1.04E-06	1.17E-05	1.35E-04	7.97E-07	1.19E-05	7.80E-07	9.60E-07	2.57E-04	4.48E-03

Table 4.18 Plant Damage State and Core Damage Frequencies for Model 1 Case 5

MODEL 1 CASE 5

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08														
SEF											4.88E-08				9.53E-07		1.02E-06
SEC															3.32E-09		3.32E-09
SE			5.54E-04														5.58E-04
SLFC			1.79E-06														5.17E-05
SLF			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLC			9.12E-09							2.94E-11	2.72E-09						1.19E-08
SL			2.28E-09														2.34E-08
TEFC																	
TEF					1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06		2.81E-09		1.23E-05
TEC							1.73E-10	3.46E-11	2.07E-11	1.02E-09			2.37E-10				1.49E-09
TE					1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.58E-07	5.36E-08	1.39E-06			3.37E-05	3.81E-05
V2E							2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08			2.48E-08	3.74E-06
V2L				5.29E-07													5.29E-07
V	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
TOTAL	2.20E-06	1.79E-06	5.75E-04	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	5.84E-05	5.88E-07	6.54E-06	7.80E-07	9.60E-07	3.37E-05	6.95E-04

Table 4.19 Plant Damage State and Core Damage Frequencies for Model 1 Case 6

MODEL 1 CASE 6

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.50E-07															8.86E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08						1.02E-06
SEF															9.53E-07		3.32E-09
SEC			5.54E-04								3.86E-06						5.58E-04
SE			1.78E-06								4.99E-05						5.17E-05
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.84E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			7.20E-09							2.94E-11	1.62E-09						8.85E-09
SLC			3.30E-12								3.04E-09	3.25E-10					3.37E-09
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.25E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF						1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				3.37E-05	3.81E-05
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				2.00E-08	3.74E-06
V2E				5.29E-07													5.29E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.81E-06	5.75E-04	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	5.83E-05	5.88E-07	6.54E-06	7.80E-07	9.60E-07	3.37E-05	6.95E-04

Table 4.20 Plant Damage State and Core Damage Frequencies for Model 1 Case 7

MODEL 1 CASE 7

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.68E-07	2.63E-07															9.31E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFL	1.62E-06	1.62E-06															3.24E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08						1.02E-06
SEF														9.53E-07			2.06E-10
SEC		5.54E-04												3.32E-09			3.32E-09
SE		1.78E-06									3.86E-06						5.58E-04
SLFC		2.35E-05									4.99E-05						5.17E-05
SLF		8.39E-09			1.19E-09	1.19E-09	9.84E-07	1.97E-07	1.17E-07	1.31E-06	9.25E-07	3.49E-07	1.35E-06		4.55E-10		2.87E-05
SLC		3.30E-12								2.94E-11	3.80E-07						1.22E-08
SL											5.87E-09	3.25E-10					6.20E-09
TEFC											3.92E-10						3.92E-10
TEF					1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06		2.81E-09		1.23E-05
TEC							1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10				1.43E-09
TE					1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06			3.37E-05	3.81E-05
V2E							2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08			2.00E-08	3.74E-06
V2L	9.40E-09	9.40E-09			5.29E-07												5.29E-07
V					2.44E-06	9.40E-09	9.40E-09										2.48E-06
TOTAL	2.31E-06	1.90E-06	5.80E-04	2.97E-06	1.24E-08	1.24E-08	4.99E-06	9.98E-07	5.94E-07	6.65E-06	5.87E-05	6.63E-07	6.83E-06	7.80E-07	9.60E-07	3.37E-05	7.02E-04

Table 4.21 Plant Damage State and Core Damage Frequencies for Model 1 Case 8

MODEL 1 CASE 8

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			5.08E-08								4.88E-08						1.05E-06
SEF														9.53E-07			9.53E-07
SEC		5.54E-04													9.18E-09		9.18E-09
SE		1.78E-06									3.86E-06						5.58E-04
SLFC		1.84E-05									4.99E-05						5.17E-05
SLF		7.20E-09			1.33E-09	1.33E-09	2.26E-07	4.52E-07	2.70E-07	3.01E-06	8.55E-07	3.49E-07	3.09E-06		4.55E-10		2.87E-05
SLC		3.30E-12								2.60E-10	1.85E-09						9.31E-09
SL											4.48E-09	3.25E-10					4.81E-09
TEFC												4.41E-11					4.41E-11
TEF				4.44E-09	4.44E-09	8.58E-06	1.72E-06	1.02E-06	1.14E-05	1.20E-07	7.50E-07	1.18E-05			2.81E-09		3.54E-05
TEC						1.53E-09	3.06E-10	1.83E-10	3.57E-09			2.10E-09					7.68E-09
TE				2.47E-10	2.47E-10	1.60E-06	3.19E-07	1.91E-07	2.14E-06	3.92E-07	8.46E-08	2.19E-06				5.15E-05	5.84E-05
V2E						3.48E-08	6.93E-09	4.14E-09	4.64E-08	5.35E-06	1.61E-09	4.77E-08				3.11E-08	5.52E-06
V2L	9.40E-09	9.40E-09	5.29E-07														5.29E-07
V			6.41E-06	9.40E-09	9.40E-09												6.45E-06
TOTAL	2.20E-06	1.79E-06	5.75E-04	6.94E-06	1.54E-08	1.54E-08	1.25E-05	2.50E-06	1.49E-06	1.66E-05	6.05E-05	1.19E-06	1.71E-05	7.80E-07	9.65E-07	5.15E-05	7.51E-04

Table 4.22 Plant Damage State and Core Damage Frequencies for Model 1 Case 9

MODEL 1 CASE 9

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08						1.02E-06
SEF														9.53E-07			3.32E-09
SEC		5.54E-04									3.86E-06						5.58E-04
SE		1.78E-06									4.99E-05						5.17E-05
SLFC		1.84E-05		1.19E-09	1.19E-09	7.74E-07	1.55E-07	9.22E-08	1.03E-06	6.39E-07	2.74E-07	1.06E-06		4.55E-10			2.24E-05
SLF		7.20E-09							2.94E-11	1.65E-09							8.88E-09
SLC		3.30E-12								3.39E-09	3.25E-10						3.72E-09
SL											4.41E-11						4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06		2.81E-09			1.23E-05
TEF					1.73E-10	3.46E-11	2.07E-11	9.60E-10				2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				3.37E-05	3.81E-05
TE					2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08					2.00E-08	3.74E-06
V2E			5.29E-07														5.29E-07
V2L	9.40E-09	9.40E-09	2.37E-06	9.40E-09	9.40E-09												2.41E-06
V													7.80E-07				7.80E-07
TOTAL	2.20E-06	1.79E-06	5.75E-04	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.56E-07	5.69E-07	6.37E-06	5.84E-05	5.88E-07	6.55E-06	7.80E-07	9.60E-07	3.37E-05	6.95E-04

Table 4.23 Plant Damage State and Core Damage Frequencies for Model 2 Case 1

MODEL 2 CASE 1

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08						1.02E-06
SEF														9.53E-07			3.32E-09
SEC			5.87E-07								5.26E-09						5.93E-07
SE			1.16E-08								2.42E-07						2.54E-07
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			7.20E-09							2.94E-11	1.62E-09						8.85E-09
SLC			3.30E-12								3.04E-09	3.25E-10					3.37E-09
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.53E-07	4.07E-06			2.81E-09		1.23E-05
TEF						1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				3.37E-05	3.81E-05
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				2.00E-08	3.74E-06
V2E				5.29E-07													5.29E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.79E-06	1.90E-05	2.90E-05	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	4.82E-06	5.88E-07	6.54E-06	7.80E-07	9.60E-07	3.37E-05	8.60E-05

Table 4.24 Plant Damage State and Core Damage Frequencies for Model 2 Case 2

MODEL 2 CASE 2

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.68E-07	2.82E-07															
REF																	9.50E-07
REC		6.13E-08															
RE	9.15E-10	9.15E-10															6.13E-08
ALFC	1.62E-06	1.62E-06															1.83E-09
ALF	5.58E-10	5.58E-10															3.24E-06
ALC	6.13E-08																1.12E-09
AL																	6.13E-08
SEFC			5.40E-08														
SEF											5.38E-08				9.53E-07		1.06E-06
SEC			3.20E-06												9.18E-09		9.18E-09
SE			5.28E-08								3.86E-08						3.24E-06
SLFC			2.35E-05								6.16E-07						6.69E-07
SLF			1.03E-08		1.33E-09	1.33E-09	2.90E-06	5.79E-07	3.46E-07	3.86E-06	2.71E-06	4.45E-07	3.97E-06		4.55E-10		3.83E-05
SLC			2.28E-09							2.20E-10	2.16E-08						3.21E-08
SL											8.04E-08	9.30E-10					8.36E-08
TEFC												1.81E-09					1.81E-09
TEF					4.44E-09	4.44E-09	8.58E-06	1.72E-06	1.02E-06	1.14E-05	2.08E-07	7.50E-07	1.18E-05		2.81E-09		3.55E-05
TEC							1.53E-09	3.06E-10	1.83E-10	4.16E-09			2.10E-09				8.28E-09
TE					6.17E-10	6.17E-10	8.01E-06	1.60E-06	9.57E-07	1.08E-05	2.56E-06	4.24E-07	1.10E-05			3.92E-04	4.28E-04
V2E							1.40E-07	2.81E-08	1.68E-08	1.88E-07	2.22E-05	7.03E-09	1.92E-07			2.94E-07	2.31E-05
V2L	9.40E-09	9.40E-09		2.64E-06													2.64E-06
V				6.48E-06	9.40E-09	9.40E-09											6.52E-06
TOTAL	2.36E-06	1.97E-06	2.68E-05	9.12E-06	1.58E-08	1.58E-08	1.96E-05	3.93E-06	2.34E-06	2.63E-05	2.85E-05	1.63E-06	2.69E-05	7.80E-07			7.80E-07

Table 4.25 Plant Damage State and Core Damage Frequencies for Model 2 Case 3

MODEL 2 CASE 3

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
REC		1.14E-08															1.14E-08
RE	9.15E-10	9.15E-10															1.83E-09
RLFC	1.54E-06	1.54E-06															3.08E-06
RLF	5.58E-10	5.58E-10															1.12E-09
RLC	1.14E-08																1.14E-08
RL																	
SEFC			2.05E-08								5.38E-08						1.03E-06
SEF														9.53E-07			3.32E-09
SEC			5.87E-07								1.02E-08						5.98E-07
SE			5.26E-08								5.30E-07						5.83E-07
SLFC			1.84E-05		1.19E-09	1.19E-09	7.77E-07	1.55E-07	9.27E-08	1.04E-06	1.78E-06	2.74E-07	1.06E-06		4.55E-10		2.36E-05
SLF			7.20E-09							2.94E-11	1.14E-08						1.86E-08
SLC			3.30E-12								9.46E-09	3.25E-10					9.79E-09
SL											2.04E-10						2.04E-10
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.55E-07	3.96E-06	1.46E-07	2.59E-07	4.07E-06			2.81E-09		1.24E-05
TEF						1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	4.38E-07	5.36E-08	1.39E-06				3.37E-05	3.83E-05
TE						1.05E-07	2.10E-08	1.25E-08	1.40E-07	1.24E-05	5.18E-09	1.44E-07				2.00E-08	1.28E-05
V2E				5.62E-07													5.62E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.79E-06	1.91E-05	2.93E-06	1.24E-08	1.24E-08	4.87E-06	9.72E-07	5.80E-07	6.48E-06	1.54E-05	5.92E-07	6.67E-06	7.80E-07	9.60E-07	3.37E-05	9.70E-05

Table 4.26 Plant Damage State and Core Damage Frequencies for Model 2 Case 4

MODEL 2 CASE 4

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
REC		6.13E-08															6.13E-08
RE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	6.13E-08																6.13E-08
AL																	
SEFC			2.03E-08														
SEF											4.88E-08				9.53E-07		1.02E-06
SEC			3.20E-06												3.32E-09		3.32E-09
SE			1.17E-08								3.37E-08						3.23E-06
SLFC			1.84E-05								3.28E-07						3.40E-07
SLF			7.20E-09			1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10	2.24E-05
SLC			3.30E-12								2.94E-11	1.62E-09					8.85E-09
SL											3.04E-09	9.30E-10					3.97E-09
TEFC												4.41E-11					4.41E-11
TEF						1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06		2.81E-09	1.23E-05
TEC								1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10			1.43E-09
TE						5.33E-10	5.33E-10	4.95E-06	9.91E-07	5.91E-07	6.64E-06	1.51E-06	2.62E-07	6.78E-06		2.57E-04	2.78E-04
V2E								2.34E-08	4.68E-09	2.79E-09	3.14E-08	7.25E-06	1.05E-09	3.21E-08		1.52E-07	7.50E-06
V2L	9.40E-09	9.40E-09			2.61E-06												2.61E-06
V					2.37E-06	9.40E-09	9.40E-09										2.41E-06
TOTAL	2.25E-06	1.84E-06	2.16E-05	4.98E-06	1.27E-08	1.27E-08	8.71E-06	1.74E-06	1.04E-06	1.17E-05	9.82E-06	7.97E-07	1.19E-05	7.80E-07	9.60E-07	2.57E-04	3.35E-04

Table 4.27 Plant Damage State and Core Damage Frequencies for Model 2 Case 5

MODEL 2 CASE 5

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
REC		1.14E-08															1.14E-08
RE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08						1.02E-06
SEF															9.53E-07		3.32E-09
SEC			5.87E-07								5.26E-09						5.93E-07
SE			1.16E-08								2.42E-07						2.54E-07
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			9.12E-09							2.94E-11	2.72E-09						1.19E-08
SLC			2.28E-09								2.08E-08	3.25E-10					2.34E-08
SL												4.41E-11					4.41E-11
TEFC					1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06		2.81E-09		1.23E-05
TEF							1.73E-10	3.46E-11	2.07E-11	1.02E-09			2.37E-10				1.49E-09
TEC					1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.58E-07	5.36E-08	1.39E-06			3.37E-05	3.81E-05
TE							2.34E-08	4.68E-09	2.79E-09	3.14E-03	3.62E-06	1.05E-09	3.21E-08			2.48E-08	3.74E-06
V2E				5.29E-07													5.29E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.79E-06	1.90E-05	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	4.84E-06	5.88E-07	6.54E-06	7.80E-07	9.60E-07	3.37E-05	8.61E-05

Table 4.28 Plant Damage State and Core Damage Frequencies for Model 2 Case 6

MODEL 2 CASE 6

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.50E-07															8.86E-07
AEF																	
AEC		1.14E-08															1.14E-08
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08						1.02E-06
SEF															9.53E-07		3.32E-09
SEC			5.87E-07								5.26E-09				3.32E-09		5.93E-07
SE			1.16E-08								2.42E-07						2.54E-07
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.84E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			7.20E-09							2.94E-11	1.62E-09						8.85E-09
SLC			3.30E-12								3.04E-09	3.25E-10					3.37E-09
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.25E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF							1.73E-10	3.46E-11	2.07E-11	9.60E-10		2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				3.37E-05	3.81E-05
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				2.00E-08	3.74E-06
V2E				5.29E-07													5.29E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.81E-06	1.90E-05	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.55E-07	5.69E-07	6.36E-06	4.82E-06	5.88E-07	6.54E-06	7.80E-07	9.60E-07	3.37E-05	8.61E-05

Table 4.29 Plant Damage State and Core Damage Frequencies for Model 2 Case 7

MODEL 2 CASE 7

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.68E-07	2.63E-07															9.31E-07
REF																	
REC		1.14E-08															1.14E-08
RE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.62E-06	1.62E-06															3.24E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08														
SEF											4.88E-08				9.53E-07		1.02E-06
SEC			5.87E-07												3.32E-09		3.32E-09
SE			1.16E-08								5.26E-09						5.93E-07
SLFC			2.35E-05			1.19E-09	1.19E-09	9.84E-07	1.97E-07	1.17E-07	1.31E-06	9.25E-07	3.49E-07	1.35E-06			2.54E-07
SLF			8.39E-09								2.94E-11	3.80E-09			4.55E-10		2.87E-05
SLC			3.30E-12														1.22E-08
SL											5.87E-09	3.25E-10					6.20E-09
TEFC												3.92E-10					3.92E-10
TEF						1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06	2.81E-09		1.23E-05
TEC								1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10			1.43E-09
TE						1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06		3.37E-05	3.81E-05
V2E								2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08		2.00E-08	3.74E-06
V2L	9.40E-09	9.40E-09	5.29E-07														5.29E-07
V			2.44E-06	9.40E-09	9.40E-09												2.48E-06
TOTAL	2.31E-06	1.90E-06	2.41E-05	2.97E-06	1.24E-08	1.24E-08	4.99E-06	9.98E-07	5.94E-07	6.65E-06	5.17E-06	6.63E-07	6.83E-06	7.80E-07	9.60E-07	3.37E-05	9.27E-05

Table 4.30 Plant Damage State and Core Damage Frequencies for Model 2 Case 8

MODEL 2 CASE 8

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															
AEF																	8.66E-07
AEC		1.14E-08															
AE	1.03E-10	1.03E-10															1.14E-08
ALFC	1.54E-06	1.54E-06															2.06E-10
ALF	5.58E-10	5.58E-10															3.08E-06
ALC	1.14E-08																1.12E-09
AL																	1.14E-08
SEFC			5.08E-08														
SEF											4.88E-08				9.53E-07		1.05E-06
SEC			5.87E-07												9.18E-09		9.18E-09
SE			1.16E-08								5.26E-09						5.93E-07
SLFC			1.84E-05								2.42E-07						2.54E-07
SLF			7.20E-09			1.33E-09	1.33E-09	2.26E-06	4.52E-07	2.70E-07	3.01E-06	8.55E-07	3.49E-07	3.09E-06		4.55E-10	2.87E-05
SLC			3.30E-12								2.60E-10	1.85E-09					9.31E-09
SL											4.48E-09	3.25E-10					4.81E-09
TEFC												4.41E-11					4.41E-11
TEF						4.44E-09	4.44E-09	8.58E-06	1.72E-06	1.02E-06	1.14E-05	1.20E-07	7.50E-07	1.18E-05		2.81E-09	3.54E-05
TEC								1.53E-09	3.06E-10	1.83E-10	3.57E-09		2.10E-09				7.68E-09
TE						2.47E-10	2.47E-10	1.60E-06	3.19E-07	1.91E-07	2.14E-06	3.92E-07	8.46E-08	2.19E-06		5.15E-05	5.84E-05
V2E								3.48E-08	6.93E-09	4.14E-09	4.64E-08	5.35E-06	1.61E-09	4.77E-08		3.11E-08	5.52E-06
V2L	9.40E-09	9.40E-09				5.29E-07											5.29E-07
V						6.41E-06	9.40E-09	9.40E-09									6.45E-06
TOTAL	2.20E-06	1.79E-06	1.91E-05	6.94E-06	1.54E-08	1.54E-08	1.25E-05	2.50E-06	1.49E-06	1.66E-05	7.02E-06	1.19E-06	1.71E-05	7.80E-07	9.65E-07	5.15E-05	1.42E-04

Table 4.31 Plant Damage State and Core Damage Frequencies for Model 2 Case 9

MODEL 2 CASE 9

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
REF																	
REC		1.14E-08															1.14E-08
RE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	1.14E-08																1.14E-08
AL																	
SEFC			1.88E-08								4.88E-08						1.02E-06
SEF														9.53E-07			3.32E-09
SEC			5.87E-07								5.26E-09						5.93E-07
SE			1.16E-08								2.42E-07						2.54E-07
SLFC			1.84E-05		1.19E-09	1.19E-09	7.74E-07	1.55E-07	9.22E-08	1.03E-06	6.39E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			7.20E-09							2.94E-11	1.65E-09						8.88E-09
SLC			3.30E-12								3.39E-09	3.25E-10					3.72E-09
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF							1.73E-10	3.46E-11	2.07E-11	9.60E-10		2.37E-10					1.43E-09
TEC				1.63E-10	1.63E-10	1.01E-06	2.02E-07	1.20E-07	1.35E-06	2.57E-07	5.36E-08	1.39E-06				3.37E-05	3.81E-05
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.62E-06	1.05E-09	3.21E-08				2.00E-08	3.74E-06
V2E				5.29E-07													5.29E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.20E-06	1.79E-06	1.90E-05	2.90E-06	1.24E-08	1.24E-08	4.78E-06	9.56E-07	5.69E-07	6.37E-06	4.88E-06	5.88E-07	6.55E-06	7.80E-07	9.60E-07	3.37E-05	8.61E-05

Table 4.32 Plant Damage State and Core Damage Frequencies for Model 3 Case 1

MODEL 3 CASE 1

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
REC		5.03E-09															5.03E-09
RE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	5.03E-09																5.03E-09
AL																	
SEFC			1.86E-08								4.88E-08						1.02E-06
SEF														9.53E-07			3.32E-09
SEC			1.13E-04								1.53E-06						1.14E-04
SE			1.69E-06								4.32E-05						4.49E-05
SLFC			1.84E-05		1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLF			7.20E-09							2.94E-11	1.62E-09						8.85E-09
SLC			3.30E-12								3.03E-09	2.48E-10					3.28E-09
SL												4.41E-11					4.41E-11
TEFC				1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06			2.81E-09		1.23E-05
TEF						1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10					1.43E-09
TEC				1.16E-10	1.16E-10	5.07E-07	1.01E-07	6.05E-08	6.76E-07	9.69E-08	2.70E-08	6.95E-07				5.30E-06	7.47E-06
TE						2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.16E-06	1.05E-09	3.21E-08				3.14E-09	3.26E-06
V2E				2.63E-07													2.63E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.19E-06	1.79E-06	1.33E-04	2.63E-06	1.23E-08	1.23E-08	4.27E-06	8.54E-07	5.09E-07	5.69E-06	4.87E-05	5.61E-07	5.85E-06	7.80E-07	9.60E-07	5.31E-06	2.13E-04

Table 4.33 Plant Damage State and Core Damage Frequencies for Model 3 Case 2

MODEL 3 CASE 2

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL	
AEFC	6.68E-07	2.82E-07																
AEF																	9.50E-07	
AEC		5.03E-09																
AE	9.15E-10	9.15E-10															5.03E-09	
ALFC	1.62E-06	1.62E-06															1.83E-09	
ALF	5.58E-10	5.58E-10															3.24E-06	
ALC	5.03E-09																1.12E-09	
AL																	5.03E-09	
SEFC			5.23E-08															
SEF											5.38E-08				9.53E-07		1.06E-06	
SEC		1.13E-04													9.18E-09		9.18E-09	
SE		7.02E-06									4.23E-06						1.17E-04	
SLFC		2.35E-05									1.68E-04						1.75E-04	
SLF		1.03E-08			1.33E-09	1.33E-09	2.89E-06	5.79E-07	3.45E-07	3.86E-06	2.62E-06	4.44E-07	3.96E-06		4.55E-10		3.82E-05	
SLC		2.28E-09								2.20E-10	2.12E-08						3.17E-08	
SL											7.52E-08	2.48E-10					7.77E-08	
TEFC												1.81E-09					1.81E-09	
TEF					4.44E-09	4.44E-09	8.58E-06	1.72E-06	1.02E-06	1.14E-05	2.08E-07	7.50E-07	1.18E-05		2.81E-09		3.55E-05	
TEC							1.53E-09	3.06E-10	1.83E-10	4.16E-09			2.10E-09				8.28E-09	
TE					2.00E-10	2.00E-10	7.77E-07	1.56E-07	9.28E-08	1.04E-06	3.78E-07	4.14E-08	1.06E-06			8.11E-06	1.17E-05	
V2E							1.40E-07	2.81E-08	1.68E-08	1.88E-07	1.58E-05	7.03E-09	1.92E-07			6.08E-09	1.64E-05	
V2L	9.40E-09	9.40E-09	2.96E-07														2.96E-07	
V			6.48E-06	9.40E-09	9.40E-09												6.52E-06	
TOTAL	2.30E-06	1.92E-06	1.43E-04	6.78E-06	1.54E-08	1.54E-08	1.24E-05	2.48E-06	1.47E-06	1.65E-05	1.91E-04	1.24E-06	1.70E-05	7.80E-07	7.80E-07	9.65E-07	8.11E-06	4.06E-04

Table 4.34 Plant Damage State and Core Damage Frequencies for Model 3 Case 3

MODEL 3 CASE 3

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
AEC		5.03E-09															5.03E-09
AE	9.15E-10	9.15E-10															1.83E-09
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	5.03E-09																5.03E-09
AL																	
SEFC			2.03E-08								5.38E-08						1.03E-06
SEF														9.53E-07			3.32E-09
SEC			1.13E-04								4.23E-06						1.17E-04
SE			7.02E-06								1.68E-04						1.75E-04
SLFC			1.84E-05		1.19E-09	1.19E-09	7.77E-07	1.55E-07	9.27E-08	1.04E-06	1.78E-06	2.74E-07	1.06E-06		4.55E-10		2.36E-05
SLF			7.20E-09							2.94E-11	1.14E-08						1.86E-08
SILC			3.30E-12								9.46E-09	2.48E-10					9.71E-09
SL												2.04E-10					2.04E-10
TEFC					1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.55E-07	3.96E-06	1.46E-07	2.59E-07	4.07E-06		2.81E-09		1.24E-05
TEF							1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10				1.43E-09
TEC					1.16E-10	1.16E-10	5.07E-07	1.01E-07	6.05E-08	6.76E-07	2.78E-07	2.70E-08	6.95E-07			5.30E-06	7.65E-06
TE							1.05E-07	2.10E-08	1.25E-08	1.40E-07	1.20E-05	5.18E-09	1.44E-07			3.14E-09	1.24E-05
V2E				2.96E-07													2.96E-07
V2L	9.40E-09	9.40E-09		2.37E-06	9.40E-09	9.40E-09											2.41E-06
V														7.80E-07			7.80E-07
TOTAL	2.19E-06	1.79E-06	1.38E-04	2.67E-06	1.23E-08	1.23E-08	4.36E-06	8.71E-07	5.21E-07	5.81E-06	1.87E-04	5.66E-07	5.98E-06	7.80E-07	9.60E-07	5.31E-06	3.56E-04

Table 4.36 Plant Damage State and Core Damage Frequencies for Model 3 Case 5

MODEL 3 CASE 5

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.30E-07															8.66E-07
REF																	
AEC		5.03E-09															5.03E-09
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	5.03E-09																5.03E-09
AL																	
SEFC			1.86E-08														
SEF											4.88E-08				9.53E-07		1.02E-06
SEC															3.32E-09		3.32E-09
SE			1.13E-04														1.16E-04
SLFC			1.79E-06														1.66E-05
SLF			1.84E-05			1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10	2.24E-05
SLC			9.12E-09								2.94E-11	2.72E-09					1.19E-08
SL			2.28E-09														2.32E-08
TEFC																	4.41E-11
TEF						1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06		2.81E-09	1.23E-05
TEC								1.73E-10	3.46E-11	2.07E-11	1.02E-09			2.37E-10			1.49E-09
TE						1.16E-10	1.16E-10	5.07E-07	1.01E-07	6.05E-08	6.76E-07	9.79E-08	2.70E-08	6.95E-07		5.30E-06	7.47E-06
V2E								2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.16E-06	1.05E-09	3.21E-08		3.90E-09	3.26E-06
V2L			2.63E-07														2.63E-07
V	9.40E-09	9.40E-09	2.37E-06	9.40E-09	9.40E-09												2.41E-06
TOTAL	2.19E-06	1.79E-06	1.33E-04	2.63E-06	1.23E-08	1.23E-08	4.27E-06	8.54E-07	5.09E-07	5.69E-06	5.10E-05	5.61E-07	5.85E-05	7.80E-07	7.80E-07	9.60E-07	2.15E-04

Table 4.37 Plant Damage State and Core Damage Frequencies for Model 3 Case 6

MODEL 3 CASE 6

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
AEFC	6.36E-07	2.50E-07															8.86E-07
AEF																	
AEC		5.03E-09															5.03E-09
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	5.03E-09																5.03E-09
AL																	
SEFC			1.86E-08								4.88E-08						
SEF														9.53E-07			1.02E-06
SEC		1.13E-04												3.32E-09			3.32E-09
SE		1.69E-06									1.53E-06						1.14E-04
SLFC		1.84E-05									4.32E-05						4.49E-05
SLF		7.20E-09			1.19E-09	1.19E-09	7.71E-07	1.54E-07	9.21E-08	1.03E-06	5.83E-07	2.74E-07	1.06E-06		4.55E-10		2.24E-05
SLC		3.30E-12								2.94E-11	1.62E-09						8.85E-09
SL											3.03E-09	2.48E-10					3.28E-09
TEFC											4.41E-11						4.41E-11
TEF					1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.25E-08	2.59E-07	4.07E-06		2.81E-09		1.23E-05
TEC							1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10				1.43E-09
TE					1.16E-10	1.16E-10	5.07E-07	1.01E-07	6.05E-08	6.76E-07	9.69E-08	2.70E-08	6.95E-07			5.30E-06	7.47E-06
V2E							2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.16E-06	1.05E-09	3.21E-08			3.14E-09	3.26E-06
V2L	9.40E-09	9.40E-09	2.63E-07														2.63E-07
			2.37E-06	9.40E-09	9.40E-09												2.41E-06
TOTAL	2.19E-06	1.81E-06	1.33E-04	2.63E-06	1.23E-08	1.23E-08	4.27E-06	8.54E-07	5.09E-07	5.69E-06	4.87E-05	5.61E-07	5.85E-06	7.80E-07	9.60E-07	5.31E-06	2.13E-04

Table 4.38 Plant Damage State and Core Damage Frequencies for Model 3 Case 7

MODEL 3 CASE 7

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.68E-07	2.63E-07															9.31E-07
REF																	
REC		5.03E-09															5.03E-09
RE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.62E-06	1.62E-06															3.24E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	5.03E-09																5.03E-09
AL																	
SEFC			1.86E-08														
SEF											4.88E-08				9.53E-07		1.02E-06
SEC		1.13E-04													3.32E-09		3.32E-09
SE		1.69E-06									1.53E-06						1.14E-04
SLFC		2.35E-05									4.32E-05						4.49E-05
SLF		8.39E-09			1.19E-09	1.19E-09	9.84E-07	1.97E-07	1.17E-07	1.31E-06	9.24E-07	3.49E-07	1.35E-06		4.55E-10		2.87E-05
SLC		3.30E-12								2.94E-11	3.80E-09						1.22E-08
SL											5.86E-09	2.48E-10					6.11E-09
TEFC												3.92E-10					3.92E-10
TEF					1.61E-09	1.61E-09	2.97E-06	5.94E-07	3.54E-07	3.96E-06	6.13E-08	2.59E-07	4.07E-06		2.81E-09		1.23E-05
TEC							1.73E-10	3.46E-11	2.07E-11	9.60E-10			2.37E-10				1.43E-09
TE					1.16E-10	1.16E-10	5.07E-07	1.01E-07	6.05E-08	6.76E-07	9.69E-08	2.70E-08	6.95E-07			5.30E-06	7.47E-06
V2E							2.34E-08	4.68E-09	2.79E-09	3.14E-08	3.16E-06	1.05E-09	3.21E-08			3.14E-09	3.26E-06
V2L	9.40E-09	9.40E-09	2.63E-07														2.63E-07
V			2.44E-06	9.40E-09	9.40E-09												2.48E-06
TOTAL	2.30E-06	1.90E-06	1.38E-04	2.70E-06	1.23E-08	1.23E-08	4.48E-06	8.97E-07	5.34E-07	5.98E-06	4.90E-05	6.37E-07	6.14E-06	7.80E-07	9.60E-07	5.31E-06	2.19E-04

Table 4.39 Plant Damage State and Core Damage Frequencies for Model 3 Case 8

MODEL 3 CASE 8

	ET1	ET2	ET3	ET4	ET5	ET6	ET7	ET8	ET9	ET11	ET12A	ET13	ET14	ET15	ET16	ET17	TOTAL
REFC	6.36E-07	2.30E-07															8.66E-07
REF																	
AEC		5.03E-09															5.03E-09
AE	1.03E-10	1.03E-10															2.06E-10
ALFC	1.54E-06	1.54E-06															3.08E-06
ALF	5.58E-10	5.58E-10															1.12E-09
ALC	5.03E-09																5.03E-09
AL																	
SEFC			5.06E-08								4.88E-08						1.05E-06
SEF														9.53E-07			9.18E-09
SEC			1.13E-04								1.53E-06						1.14E-04
SE			1.69E-06								4.32E-05						4.49E-05
SLFC			1.84E-05		1.33E-09	1.33E-09	2.26E-06	4.52E-07	2.70E-07	3.01E-06	8.54E-07	3.49E-07	3.09E-06		4.55E-10		2.87E-05
SLF			7.20E-09							2.60E-10	1.85E-09						9.31E-09
SLC			3.30E-12								4.47E-09	2.48E-10					4.72E-09
SL												4.41E-11					4.41E-11
TEFC				4.44E-09	4.44E-09	8.58E-06	1.72E-06	1.02E-06	1.14E-05	1.20E-07	7.50E-07	1.18E-05			2.81E-09		3.54E-05
TEF						1.53E-09	3.06E-10	1.83E-10	3.57E-09			2.10E-09					7.68E-09
TEC				2.00E-10	2.00E-10	7.77E-07	1.56E-07	9.28E-08	1.04E-06	1.45E-07	4.14E-08	1.06E-06				8.11E-06	1.14E-05
TE						3.48E-08	6.93E-09	4.14E-09	4.64E-08	4.63E-06	1.61E-09	4.77E-08				4.89E-09	4.78E-06
V2E			2.63E-07														2.63E-07
V2L	9.40E-09	9.40E-09		6.41E-06	9.40E-09	9.40E-09											6.45E-06
V														7.80E-07			7.80E-07
TOTAL	2.19E-06	1.79E-06	1.33E-04	6.67E-06	1.54E-08	1.54E-08	1.17E-05	2.34E-06	1.39E-06	1.55E-05	5.05E-05	1.14E-06	1.60E-05	7.80E-07	9.65E-07	8.11E-06	2.52E-04

Model 1 Case 1

$$Total = 6.95 \times 10^{-4} / \text{ry}$$

TERM PROB.
NUMBER OF TERM

CORED =

1	4.7350E-04	S2-QA * IF-ET17 +
2	2.2065E-05	AF01PBFS * IF-ET17 +
3	9.8434E-06	CCESWU1 * S2-QA * IF-ET14 +
4	9.5800E-06	CCESWU1 * IF-ET11 * S2-QA +
5	7.9296E-06	IF-ET3 * PRH01PACFS +
6	7.1850E-06	CCESWU1 * IF-ET7 * S2-QA +
7	6.3182E-06	LOSPNONREC * DGANONREC * DGAFR * DGBNONREC * DGBFR * IF-ET12A * S2-QA * E120-2 +
8	6.1081E-06	AF01PBFR * IF-ET17 +
9	3.6147E-06	LOSPNONREC * DGAM * DGBNONREC * DGBFR * IF-ET12A * S2-QA * E120-2 +
10	3.6147E-06	LOSPNONREC * DGANONREC * DGAFR * DGBM * IF-ET12A * S2-QA * E120-2 +
11	3.5400E-06	IF-ET3 * HPRECIRCOP +
12	3.2102E-06	LOSPNONREC * DGANONREC * DGAFR * DGBNONREC * DGBFS * IF-ET12A * S2-QA * E120-2 +
13	3.2102E-06	LOSPNONREC * DGANONREC * DGAFS * DGBNONREC * DGBFR * IF-ET12A * S2-QA * E120-2 +
14	3.1023E-06	LOSPNONREC * DGANONREC * DGBNONREC * CCAC * IF-ET12A * S2-QA * E120-2 +
15	2.2671E-06	PAF01PBM * IF-ET17 +
16	2.2199E-06	LOSPNONREC * DGANONREC * DGAFR * DGBNONREC * DGBFR * IF-ET12A * E120-1 * S2-QA +
17	2.2105E-06	1PSX01PAM * 1SSX01FBQ * S2-QA * IF-ET14 +
18	2.2105E-06	1SSX01FAQ * 1PSX01PBM * S2-QA * IF-ET14 +
19	2.1514E-06	1PSX01PAM * 1SSX01FBQ * IF-ET11 * S2-QA +
20	2.1514E-06	1SSX01FAQ * 1PSX01PBM * IF-ET11 * S2-QA +
21	1.8366E-06	LOSPNONREC * DGAM * DGBNONREC * DGBFS * IF-ET12A * S2-QA * E120-2 +

22	1.8366E-06	LOSPNONREC * DGANDONREC * DGAFS * DGBM * IF-ET12A * S2-QA * E120-2 +
23	1.6461E-06	IF-ET3 * MVCC9412CC +
24	1.6461E-06	IF-ET3 * MVSI8811CC +
25	1.6311E-06	LOSPNONREC * DGANDONREC * DGAFS * DGBNONREC * DGBFS * IF-ET12A * S2-QA * E120-2 +
26	1.6135E-06	1PSX01PAM * 1SSX01FBQ * IF-ET7 * S2-QA +
27	1.6135E-06	1SSX01FAQ * 1PSX01PBM * IF-ET7 * S2-QA +
28	1.4370E-06	CCESWU1 * IF-ET8 * S2-QA +
29	1.4100E-06	IF-ET1 * LPRECIRCOP +
30	1.4100E-06	LPRECIRCOP * IF-ET2 +
31	1.3637E-06	ADVSI178D * IF-ET17 +
32	1.3637E-06	ADVSI173D * IF-ET17 +
33	1.2700E-06	LOSPNONREC * DGAM * DGBNONREC * DGBFR * IF-ET12A * E120-1 * S2-QA +
34	1.2700E-06	LOSPNONREC * DGANDONREC * DGAFR * DGBM * IF-ET12A * E120-1 * S2-QA +
35	1.1279E-06	LOSPNONREC * DGANDONREC * DGAFR * DGBNONREC * DGBFS * IF-ET12A * E120-1 * S2-QA +
36	1.1279E-06	LOSPNONREC * DGANDONREC * DGAFS * DGBNONREC * DGBFR * IF-ET12A * E120-1 * S2-QA +
37	1.0900E-06	LOSPNONREC * DGANDONREC * DGBNONREC * CCAC * IF-ET12A * E120-1 * S2-QA +
38	1.0541E-06	LOSPNONREC * DGBNONREC * DGBFR * 1PSX01PAM * IF-ET12A * S2-QA * E120-2 +
39	1.0541E-06	LOSPNONREC * DGANDONREC * DGAFR * 1PSX01PBM * IF-ET12A * S2-QA * E120-2 +
40	9.5200E-07	IF-ET16 * PL-1 * TT2-2 +
41	8.5741E-07	CCESWU1 * IF-ET9 * S2-QA +
42	8.3287E-07	AFWSCCFAIL * IF-ET4 * OP8-20D +
43	8.1414E-07	AFWSCCFAIL * OP2-QD * IF-ET14 +
44	8.1414E-07	AFWSCCFAIL * OP1-QD * IF-ET14 +
45	7.9235E-07	AFWSCCFAIL * OP2-QD * IF-ET11 +

Model 1 Case 2

$$Total = 4.82 \times 10^{-3} / ry$$

TERM PROB.
NUMBER OF TERM

CORED =

1	3.6050E-03	S2-QA * IF-ET17 +
2	1.6799E-04	AF01PBFS * IF-ET17 +
3	1.5264E-04	PAF01PBM * IF-ET17 +
4	4.6504E-05	AF01PBFR * IF-ET17 +
5	3.1961E-05	LOSPNONREC * DGAM * DGBNONREC * DGBFR * IF-ET12A * S2-QA * E120-2 +
6	3.1961E-05	LOSPNONREC * DGANONREC * DGAFR * DGBM * IF-ET12A * S2-QA * E120-2 +
7	1.9555E-05	1PSX01PAM * 1SSX01FBQ * S2-QA * IF-ET14 +
8	1.9555E-05	1SSX01FAQ * 1PSX01PBM * S2-QA * IF-ET14 +
9	1.9032E-05	1PSX01PAM * 1SSX01FBQ * IF-ET11 * S2-QA +
10	1.9032E-05	1SSX01FAQ * 1PSX01PBM * IF-ET11 * S2-QA +
11	1.6239E-05	LOSPNONREC * DGAM * DGBNONREC * DGBFS * IF-ET12A * S2-QA * E120-2 +
12	1.6239E-05	LOSPNONREC * DGANONREC * DGAFS * DGBM * IF-ET12A * S2-QA * E120-2 +
13	1.4274E-05	1PSX01PAM * 1SSX01FBQ * IF-ET7 * S2-QA +
14	1.4274E-05	1SSX01FAQ * 1PSX01PBM * IF-ET7 * S2-QA +
15	1.1230E-05	LOSPNONREC * DGAM * DGBNONREC * DGBFR * IF-ET12A * E120-1 * S2-QA +
16	1.1230E-05	LOSPNONREC * DGANONREC * DGAFR * DGBM * IF-ET12A * E120-1 * S2-QA +
17	1.0382E-05	ADVX178D * IF-ET17 +
18	1.0382E-05	ADVX173D * IF-ET17 +
19	9.8434E-06	CCESWU1 * S2-QA * IF-ET14 +
20	9.5800E-06	CCESWU1 * IF-ET11 * S2-QA +
21	9.3249E-06	LOSPNONREC * DGBNONREC * DGBFR * 1PSX01PAM * IF-ET12A * S2-QA * E120-2 +

22 9.3249E-06 LOSPNONREC * DGANONREC * DGAFR * 1PSX01PBM * IF-ET12A * S2-QA * E120-2 +
 23 7.9296E-06 IF-ET3 * PRH01PACFS +
 24 7.1850E-06 CCESWU1 * IF-ET7 * S2-QA +
 25 6.9030E-06 1PSX01PAM * FSX03CFFR * S2-QA * IF-ET14 +
 26 6.9030E-06 1PSX01PAM * FSX03CEFR * S2-QA * IF-ET14 +
 27 6.9030E-06 FSX03CBFR * 1PSX01PBM * S2-QA * IF-ET14 +
 28 6.9030E-06 FSX03CAFR * 1PSX01PBM * S2-QA * IF-ET14 +
 29 6.7183E-06 1PSX01PAM * FSX03CFFR * IF-ET11 * S2-QA +
 30 6.7183E-06 1PSX01PAM * FSX03CEFR * IF-ET11 * S2-QA +
 31 6.7183E-06 FSX03CBFR * 1PSX01PBM * IF-ET11 * S2-QA +
 32 6.7183E-06 FSX03CAFR * 1PSX01PBM * IF-ET11 * S2-QA +
 33 6.3182E-06 LOSPNONREC * DGANONREC * DGAFR * DGBNONREC * DGBFR * IF-ET12A * S2-QA * E120-2 +
 34 5.7057E-06 LOSPNONREC * DGAM * DGBNONREC * DGBFS * IF-ET12A * E120-1 * S2-QA +
 35 5.7057E-06 LOSPNONREC * DGANONREC * DGAFS * DGBM * IF-ET12A * E120-1 * S2-QA +
 36 5.0387E-06 1PSX01PAM * FSX03CFFR * IF-ET7 * S2-QA +
 37 5.0387E-06 1PSX01PAM * FSX03CEFR * IF-ET7 * S2-QA +
 38 5.0387E-06 FSX03CBFR * 1PSX01PBM * IF-ET7 * S2-QA +
 39 5.0387E-06 FSX03CAFR * 1PSX01PBM * IF-ET7 * S2-QA +
 40 4.8472E-06 1SSX01FAQ * FSX03CFM * S2-QA * IF-ET14 +
 41 4.8472E-06 1SSX01FAQ * FSX03CEM * S2-QA * IF-ET14 +
 42 4.8472E-06 FSX03CBM * 1SSX01FBQ * S2-QA * IF-ET14 +
 43 4.8472E-06 FSX03CBM * 1SSX01FBQ * S2-QA * IF-ET14 +
 44 4.7380E-06 LOSPNONREC * DGBNONREC * DGBFS * 1PSX01PAM * IF-ET12A * S2-QA * E120-2 +
 45 4.7380E-06 LOSPNONREC * DGANONREC * DGAFS * 1PSX01PBM * IF-ET12A * S2-QA * E120-2 +

Model 2 Case 1

$$Total = 8.60 \times 10^{-5} / r_4$$

TERM
NUMBER

PROB.
OF TERM

CORED =

1	2.2065E-05	AF01PBFS * IF-ET17 +
2	7.9295E-06	IF-ET3 * PRH01PACFS +
3	6.1081E-06	AF01PBFR * IF-ET17 +
4	3.5400E-06	IF-ET3 * HPRECIRCOP +
5	2.2671E-06	PAF01PRM * IF-ET17 +
6	1.6461E-06	IF-ET3 * MVCC9412CC +
7	1.6461E-06	IF-ET3 * MVSI8811CC +
8	1.4100E-06	LPRECIRCOP * IF-ET2 +
9	1.4100E-06	IF-ET1 * LPRECIRCOP +
10	1.3637E-06	ADVSX178D * IF-ET17 +
11	1.3637E-06	ADVSX173D * IF-ET17 +
12	9.5200E-07	IF-ET16 * PL-1 * TT2-2 +
13	8.3287E-07	AFWSCCFAIL * IF-ET4 * OP8-2QD +
14	8.1414E-07	AFWSCCFAIL * OP2-QD * IF-ET14 +
15	8.1414E-07	AFWSCCFAIL * OP1-QD * IF-ET14 +
16	7.9235E-07	AFWSCCFAIL * OP2-QD * IF-ET11 +
17	7.9235E-07	AFWSCCFAIL * OP1-QD * IF-ET11 +
18	7.8000E-07	ET15V +
19	5.9426E-07	AFWSCCFAIL * OP1-QD * IF-ET7 +
20	5.9426E-07	AFWSCCFAIL * IF-ET7 * OP2-QD +
21	4.5870E-07	CCESWU1 * AF01PBFS * IF-ET14 +

22 4.4643E-07 CCESWU1 * AF01PBFS * IF-ET11 +
 23 4.3277E-07 AF01PFS * AF01PBFS * IF-ET4 * OP8-QD +
 24 4.2304E-07 AF01PFS * AF01PBFS * OP2-QD * IF-ET14 +
 25 4.2304E-07 AF01PFS * AF01PBFS * OP1-QD * IF-ET14 +
 26 4.1172E-07 AF01PFS * AF01PBFS * OP2-QD * IF-ET11 +
 27 4.1172E-07 AF01PFS * AF01PBFS * OP1-QD * IF-ET11 +
 28 3.3482E-07 CCESWU1 * AF01PBFS * IF-ET7 +
 29 3.0879E-07 AF01PFS * AF01PBFS * IF-ET7 * OP2-QD +
 30 3.0879E-07 AF01PFS * AF01PBFS * OP1-QD * IF-ET7 +
 31 3.0630E-07 PAF01PAM * AF01PBFS * IF-ET4 * OP8-QD +
 32 2.9942E-07 PAF01PAM * AF01PBFS * OP2-QD * IF-ET14 +
 33 2.9942E-07 PAF01PAM * AF01PBFS * OP1-QD * IF-ET14 +
 34 2.9443E-07 LOSPNONREC * DGBNONREC * DGAFR * DGBNONREC * DGBFR * AF01PBFS * IF-ET12A * E120-2 +
 35 2.9140E-07 PAF01PAM * AF01PBFS * OP2-QD * IF-ET11 +
 36 2.9140E-07 PAF01PAM * AF01PBFS * OP1-QD * IF-ET11 +
 37 2.9067E-07 IF-ET3 * PRH01PACFR +
 38 2.1855E-07 PAF01PAM * AF01PBFS * IF-ET7 * OP2-QD +
 39 2.1855E-07 PAF01PAM * AF01PBFS * OP1-QD * IF-ET7 +
 40 2.1317E-07 AFWSCCFail * IF-ET17 +
 41 2.1056E-07 CCRHRMPFS * IF-ET2 +
 42 2.1056E-07 IF-ET1 * CCRHRMPFS +
 43 2.0724E-07 PRH01PACFS * AFWSCCFail * IF-ET14 +
 44 2.0169E-07 PRH01PACFS * AFWSCCFail * IF-ET11 +
 45 1.7723E-07 CCESWU1 * IF-ET4 +

Model 2 Case 2

Total = $5.44 \times 10^{-4}/ry$

TERM
NUMBER

PROB.
OF TERM

CORED =

1	1.6799E-04	AF01PBFS * IF-ET17 +
2	1.5264E-04	PAF01PBM * IF-ET17 +
3	4.6504E-05	AF01PBFR * IF-ET17 +
4	1.0382E-05	AOVSX178D * IF-ET17 +
5	1.0382E-05	AOVSX173D * IF-ET17 +
6	7.9296E-06	IF-ET3 * PRH01PACFS +
7	3.5400E-06	IF-ET3 * HPRECIRCOP +
8	2.7087E-06	PAF01PAM * AF01PBFS * IF-ET4 * OP8-QD +
9	2.6478E-06	PAF01PAM * AF01PBFS * OP2-QD * IF-ET14 +
10	2.6478E-06	PAF01PAM * AF01PBFS * OP1-QD * IF-ET14 +
11	2.5769E-06	PAF01PAM * AF01PBFS * OP2-QD * IF-ET11 +
12	2.5769E-06	PAF01PAM * AF01PBFS * OP1-QD * IF-ET11 +
13	1.9327E-06	PAF01PAM * AF01PBFS * IF-ET7 * OP2-QD +
14	1.9327E-06	PAF01PAM * AF01PBFS * OP1-QD * IF-ET7 +
15	1.6461E-06	IF-ET3 * MVS18811CC +
16	1.6461E-06	IF-ET3 * MVCC9412CC +
17	1.6230E-06	AFWSCCFail * IF-ET17 +
18	1.4894E-06	LOSPNONREC * DSAM * DGBNONREC * DGBFR * AF01PBFS * IF-ET12A * E120-2 +
19	1.4894E-06	LOSPNONREC * DGANDNREC * DGAFR * DGBM * AF01PBFS * IF-ET12A * E120-2 +
20	1.4100E-06	IF-ET1 * LPRECIRCOP +
21	1.4100E-06	LPRECIRCOP * IF-ET2 +

22 1.3532E-06 LOSPNDONREC * DGANDONREC * DGAFR * DGBM * PAF01PEM * IF-ET12A * E120-2 +
 23 9.5200E-07 IF-ET16 * PL-1 * TT2-2 +
 24 9.1128E-07 1SSX01FAQ * IPSX01PBM * AFO1PBFS * IF-ET14 +
 25 9.1128E-07 IPSX01PAM * 1SSX01FBQ * AFO1PBFS * IF-ET14 +
 26 8.8689E-07 1SSX01FAQ * IPSX01PBM * AFO1PBFS * IF-ET11 +
 27 8.8689E-07 IPSX01PAM * 1SSX01FBQ * AFO1PBFS * IF-ET11 +
 28 8.3287E-07 AFWSCCFAIL * IF-ET4 * OP8-2QD +
 29 8.2797E-07 IPSX01PAM * 1SSX01FBQ * PAF01PBM * IF-ET14 +
 30 8.2797E-07 1SSX01FAQ * IPSX01PBM * PAF01PBM * IF-ET14 +
 31 8.1414E-07 AFWSCCFAIL * OP2-QD * IF-ET14 +
 32 8.1414E-07 AFWSCCFAIL * OP1-QD * IF-ET14 +
 33 8.0581E-07 IPSX01PAM * 1SSX01FBQ * PAF01PBM * IF-ET11 +
 34 8.0581E-07 1SSX01FAQ * IPSX01PBM * PAF01PBM * IF-ET11 +
 35 7.9235E-07 AFWSCCFAIL * OP2-QD * IF-ET11 +
 36 7.9235E-07 AFWSCCFAIL * OP1-QD * IF-ET11 +
 37 7.8000E-07 ET15V +
 38 7.5675E-07 LOSPNDONREC * DGAM * DGBNDONREC * DGBFS * AFO1PBFS * IF-ET12A * E120-2 +
 39 7.5675E-07 LOSPNDONREC * DGANDONREC * DGAFS * DGBM * AFO1PBFS * IF-ET12A * E120-2 +
 40 7.4984E-07 PAF01PAM * AFO1PBFR * IF-ET4 * OP8-2QD +
 41 7.3298E-07 PAF01PAM * AFO1PBFR * OP2-QD * IF-ET14 +
 42 7.3298E-07 PAF01PAM * AFO1PBFR * OP1-QD * IF-ET14 +
 43 7.2100E-07 S2-QC * IF-ET17 +
 44 7.1336E-07 PAF01PAM * AFO1PBFR * OP2-QD * IF-ET11 +
 45 7.1336E-07 PAF01PAM * AFO1PBFR * OP1-QD * IF-ET11 +

Model 1 Case 1

PAIRWISE

		BASIC EVENT PROBABILITY	SINGLE EVENT F-V IMPORTANCE	CONTRIBUTION TO TOP EVENT
1	(185) S2-QA	5.0000D-01	8.7843D-01	6.0877D-04
2	(195) IF-ET17	9.4700D-04	7.3203D-01	5.0731D-04
3	(178) IF-ET12A	9.1000D-02	8.3322D-02	5.7743D-05
4	(27) LQSPNONREC	2.6000D-01	8.0622D-02	5.5872D-05
5	(186) E120-2	7.4000D-01	6.1779D-02	4.2814D-05
6	(28) D6ANDNREC	7.5000D-01	5.8456D-02	4.0511D-05
7	(33) D6BNDNREC	7.5000D-01	5.7847D-02	4.0089D-05
8	(143) AF01PBFS	2.3300D-02	4.9891D-02	3.4575D-05
9	(194) IF-ET14	4.1100D+00	4.8967D-02	3.3935D-05
10	(177) IF-ET11	4.0000D+00	4.7656D-02	3.3026D-05
11	(71) CCESWU1	4.7900D-06	4.5823D-02	3.1756D-05
12	(169) IF-ET7	3.0000D+00	3.5742D-02	2.4770D-05
13	(30) DGAFR	3.5820D-02	3.4289D-02	2.3763D-05
14	(35) DGBFR	3.5820D-02	3.3855D-02	2.3462D-05
15	(97) IPSX01PBM	4.4820D-03	2.7038D-02	1.8738D-05
16	(83) IPSX01PAM	4.4820D-03	2.7034D-02	1.8735D-05
17	(113) IF-ET3	3.5400D-02	2.6119D-02	1.8101D-05
18	(179) E120-1	2.6000D-01	2.1543D-02	1.4930D-05
19	(80) ISSX01FAQ	2.4000D-04	2.0214D-02	1.4008D-05
20	(94) ISSX01FBQ	2.4000D-04	2.0213D-02	1.4008D-05
21	(29) DGAFS	1.8200D-02	1.7198D-02	1.1918D-05
22	(34) DGBFS	1.8200D-02	1.7023D-02	1.1797D-05
23	(126) PRH01PACFS	2.2400D-04	1.4197D-02	9.8387D-06
24	(144) AF01PBFR	6.4500D-03	1.3372D-02	9.2670D-06
25	(31) DGAM	1.5370D-02	1.3245D-02	9.1790D-06
26	(32) DGBM	1.5370D-02	1.3078D-02	9.0635D-06
27	(139) AFWSCCFAIL	2.2510D-04	1.0699D-02	7.4144D-06
28	(147) OP1-QD	8.8000D-04	8.2936D-03	5.7476D-06
29	(172) OP2-QD	8.8000D-04	8.2729D-03	5.7333D-06
30	(140) AF01PFS	5.0200D-03	7.7854D-03	5.3954D-06
31	(118) CCAC	6.3000D-04	7.1770D-03	4.9738D-06
32	(175) IF-ET8	6.0000D-01	7.1325D-03	4.9429D-06
33	(76) FSX03CBFR	8.4720D-05	6.8963D-03	4.7792D-06
34	(73) FSX03CAFR	8.4720D-05	6.8963D-03	4.7792D-06
35	(89) FSX03CFFR	8.4720D-05	6.8962D-03	4.7792D-06
36	(86) FSX03CEFR	8.4720D-05	6.8962D-03	4.7792D-06
37	(120) HPRECIRCOP	1.0000D-04	6.3023D-03	4.3676D-06
38	(75) FSX03CBM	1.1120D-03	5.8050D-03	4.0229D-06
39	(72) FSX03CAM	1.1120D-03	5.8050D-03	4.0229D-06
40	(88) FSX03CFM	1.1120D-03	5.6152D-03	3.8914D-06
41	(85) FSX03CEM	1.1120D-03	5.6152D-03	3.8914D-06
42	(141) PAF01PAM	3.5530D-03	5.3703D-03	3.7217D-06

43	(142) PAF01PBM	2.3940D-03	4.6537D-03	3.2251D-06
44	(176) IF-ET9	3.5800D-01	4.2421D-03	2.9399D-06
45	(77) FSX03CBFS	1.1700D-03	4.1531D-03	2.8782D-06
46	(74) FSX03CAFS	1.1700D-03	4.1531D-03	2.8782D-06
47	(90) FSX03CFFS	1.1700D-03	4.1516D-03	2.8771D-06
48	(87) FSX03CEFS	1.1700D-03	4.1516D-03	2.8771D-06
49	(69) LPRECIRCOP	1.5000D-03	4.0692D-03	2.8200D-06
50	(150) IF-ET4	3.8200D-02	4.0691D-03	2.8200D-06
51	(7) IF-ET1	9.4000D-04	3.1260D-03	2.1664D-06
52	(163) QPB-2QD	1.0000D-01	2.9666D-03	2.0559D-06
53	(122) MVCC9412CC	4.6500D-05	2.8976D-03	2.0081D-06
54	(121) MVS18811CC	4.6500D-05	2.8976D-03	2.0081D-06
55	(146) ADVSX178D	1.4400D-03	2.7883D-03	1.9323D-06
56	(145) ADVSX173D	1.4400D-03	2.7883D-03	1.9323D-06
57	(26) LDSP	3.4000D-04	2.7457D-03	1.9028D-06
58	(109) IPSX01PAFS	7.2100D-04	2.5526D-03	1.7690D-06
59	(110) IPSX01PBFS	7.2100D-04	2.5517D-03	1.7684D-06
60	(105) IF-ET2	9.4000D-04	2.5408D-03	1.7608D-06
61	(98) BUS131ZD	5.5720D-05	2.3800D-03	1.6494D-06
62	(101) BUS132ZD	5.5720D-05	2.3799D-03	1.6493D-06
63	(189) IF-ET13	1.6000D-01	2.3225D-03	1.6096D-06
64	(103) FLAGESFANF	5.0000D-01	2.1281D-03	1.4748D-06
65	(102) FLAGESFANE	5.0000D-01	2.1281D-03	1.4748D-06
66	(100) FLAGESFANB	5.0000D-01	2.1281D-03	1.4748D-06
67	(99) FLAGESFANA	5.0000D-01	2.1281D-03	1.4748D-06
68	(95) IPSX01PBFR	3.1680D-05	2.0604D-03	1.4279D-06
69	(84) IPSX01PAFR	3.1680D-05	2.0604D-03	1.4279D-06
70	(191) PL-1	5.0000D-01	1.3744D-03	9.5248D-07
71	(190) IF-ET16	1.3600D-05	1.3744D-03	9.5248D-07
72	(193) TT2-2	1.4000D-01	1.3737D-03	9.5200D-07
73	(112) FLAGESPEFS	5.0000D-01	1.3114D-03	9.0881D-07
74	(111) FLAGESPAFS	5.0000D-01	1.3114D-03	9.0881D-07
75	(199) ET15V	7.8000D-07	1.1255D-03	7.8000D-07
76	(96) ISSX01FEM	1.9000D-04	9.3396D-04	6.4725D-07
77	(82) ISSX01FAM	1.9000D-04	9.3396D-04	6.4725D-07
78	(181) S2-QC	1.0000D-04	8.9016D-04	6.1690D-07
79	(198) CCESWUILOSP	1.2000D-05	8.3587D-04	5.7927D-07
80	(55) MVCC9412BQ	1.5500D-03	7.6051D-04	5.2704D-07
81	(51) MVS18811BQ	1.5500D-03	7.6051D-04	5.2704D-07
82	(155) QP3-QD	3.0000D-03	7.5803D-04	5.2532D-07
83	(45) MVCC9412AQ	1.5500D-03	6.7456D-04	4.6748D-07
84	(41) MVS18811AQ	1.5500D-03	6.7456D-04	4.6748D-07
85	(149) AF01PFR	4.9350D-04	6.2802D-04	4.3523D-07
86	(23) CCRHAPMPFS	2.2400D-04	6.0766D-04	4.2112D-07
87	(93) IXVSX143BC	9.5040D-06	5.7929D-04	4.0146D-07
88	(92) IMVSX001BC	9.5040D-06	5.7929D-04	4.0146D-07
89	(4) PRH01PBM	1.1600D-03	5.6373D-04	3.9067D-07
90	(2) PRH01PAM	1.1600D-03	5.1390D-04	3.5614D-07

		PAIRWISE F-V IMPORTANCE	CONTRIBUTION TO TOP EVENT	
1	(185) S2-QA	(195) IF-ET17	6.8325D-01	4.7350D-04
2	(27) LOSPNONREC	(178) IF-ET12A	7.7876D-02	5.3970D-05
3	(185) S2-QA	(178) IF-ET12A	7.6879D-02	5.3279D-05
4	(185) S2-QA	(27) LOSPNONREC	7.4737D-02	5.1794D-05
5	(178) IF-ET12A	(186) E120-2	6.1779D-02	4.2814D-05
6	(27) LOSPNONREC	(28) DGANONREC	5.8456D-02	4.0511D-05
7	(27) LOSPNONREC	(33) DGBNONREC	5.7847D-02	4.0089D-05
8	(27) LOSPNONREC	(186) E120-2	5.7719D-02	4.0000D-05
9	(185) S2-QA	(186) E120-2	5.6923D-02	3.9449D-05
10	(28) DGANONREC	(178) IF-ET12A	5.6371D-02	3.9066D-05
11	(33) DGBNONREC	(178) IF-ET12A	5.5768D-02	3.8648D-05
12	(185) S2-QA	(28) DGANONREC	5.4160D-02	3.7534D-05
13	(185) S2-QA	(33) DGBNONREC	5.4153D-02	3.7529D-05
14	(28) DGANONREC	(186) E120-2	4.1775D-02	2.8951D-05
15	(33) DGBNONREC	(186) E120-2	4.1292D-02	2.8616D-05
16	(28) DGANONREC	(33) DGBNONREC	3.7940D-02	2.6293D-05
17	(28) DGANONREC	(30) DGAFR	3.4289D-02	2.3763D-05
18	(27) LOSPNONREC	(30) DGAFR	3.4289D-02	2.3763D-05
19	(33) DGBNONREC	(35) DGBFR	3.3855D-02	2.3462D-05
20	(27) LOSPNONREC	(35) DGBFR	3.3855D-02	2.3462D-05
21	(30) DGAFR	(178) IF-ET12A	3.2988D-02	2.2861D-05
22	(35) DGBFR	(178) IF-ET12A	3.2559D-02	2.2564D-05
23	(185) S2-QA	(30) DGAFR	3.1689D-02	2.1961D-05
24	(185) S2-QA	(35) DGBFR	3.1682D-02	2.1956D-05
25	(185) S2-QA	(97) IPSX01PBM	2.5259D-02	1.7505D-05
26	(185) S2-QA	(83) IPSX01PAM	2.5259D-02	1.7505D-05
27	(30) DGAFR	(186) E120-2	2.4439D-02	1.6936D-05
28	(35) DGBFR	(186) E120-2	2.4101D-02	1.6702D-05
29	(30) DGAFR	(33) DGBNONREC	2.0778D-02	1.4400D-05
30	(28) DGANONREC	(35) DGBFR	2.0778D-02	1.4400D-05
31	(28) DGANONREC	(29) DGAFS	1.7198D-02	1.1918D-05
32	(27) LOSPNONREC	(29) DGAFS	1.7198D-02	1.1918D-05
33	(33) DGBNONREC	(34) DGBFS	1.7023D-02	1.1797D-05
34	(27) LOSPNONREC	(34) DGBFS	1.7023D-02	1.1797D-05
35	(29) DGAFS	(178) IF-ET12A	1.6690D-02	1.1567D-05
36	(34) DGBFS	(178) IF-ET12A	1.6517D-02	1.1446D-05
37	(185) S2-QA	(34) DGBFS	1.5948D-02	1.1052D-05
38	(185) S2-QA	(29) DGAFS	1.5948D-02	1.1052D-05
39	(30) DGAFR	(35) DGBFR	1.3782D-02	9.5508D-06
40	(27) LOSPNONREC	(31) C9AM	1.3245D-02	9.1790D-06
41	(27) LOSPNONREC	(32) DGBM	1.3078D-02	9.0635D-06
42	(31) DGAM	(178) IF-ET12A	1.2727D-02	8.8200D-06

43	(32) DGBM	(178) IF-ET12A	1.2558D-02	8.7029D-06
44	(29) DGAFS	(186) E120-2	1.2379D-02	8.5788D-06
45	(34) DGBFS	(186) E120-2	1.2234D-02	8.4780D-06
46	(185) S2-QA	(32) DGBM	1.2193D-02	8.4496D-06
47	(185) S2-QA	(31) DGAM	1.2193D-02	8.4496D-06
48	(28) DGBNONREC	(32) DGBM	1.2058D-02	8.3564D-06
49	(31) DGAM	(33) DGBNONREC	1.2005D-02	8.3193D-06
50	(29) DGAFS	(33) DGBNONREC	1.0400D-02	7.2074D-06
51	(28) DGBNONREC	(34) DGBFS	1.0400D-02	7.2074D-06
52	(31) DGAM	(186) E120-2	9.4287D-03	6.5342D-06
53	(32) DGBM	(186) E120-2	9.2970D-03	6.4430D-06
54	(30) DGAFR	(32) DGBM	7.9105D-03	5.4821D-06
55	(31) DGAM	(35) DGBFR	7.8754D-03	5.4578D-06
56	(118) CCAC	(27) LOSPNONREC	7.1770D-03	4.9738D-06
57	(30) DGAFR	(34) DGBFS	6.9968D-03	4.8489D-06
58	(29) DGAFS	(35) DGBFR	6.9968D-03	4.8489D-06
59	(118) CCAC	(28) DGBNONREC	6.9695D-03	4.8300D-06
60	(118) CCAC	(33) DGBNONREC	6.9690D-03	4.8296D-06
61	(118) CCAC	(178) IF-ET12A	6.9006D-03	4.7822D-06
62	(118) CCAC	(185) S2-QA	6.7214D-03	4.6580D-06
63	(185) S2-QA	(75) FSX03CBM	5.5600D-03	3.8532D-06
64	(185) S2-QA	(72) FSX03CAM	5.5600D-03	3.8132D-06
65	(185) S2-QA	(88) FSX03CFM	5.3725D-03	3.7232D-06
66	(185) S2-QA	(85) FSX03CEM	5.3725D-03	3.7232D-06
67	(118) CCAC	(186) E120-2	5.1161D-03	3.5456D-06
68	(97) IPSX01PBM	(178) IF-ET12A	4.4996D-03	3.1183D-06
69	(83) IPSX01PAM	(178) IF-ET12A	4.4996D-03	3.1183D-06
1 70	(29) DGAFS	(32) DGBM	4.0155D-03	2.7828D-06
71	(31) DGAM	(34) DGBFS	3.9977D-03	2.7705D-06
72	(28) DGBNONREC	(97) IPSX01PBM	3.5092D-03	2.4319D-06
73	(27) LOSPNONREC	(97) IPSX01PBM	3.5092D-03	2.4319D-06
74	(33) DGBNONREC	(83) IPSX01PAM	3.5052D-03	2.4292D-06
75	(27) LOSPNONREC	(83) IPSX01PAM	3.5052D-03	2.4292D-06
76	(29) DGAFS	(34) DGBFS	3.4033D-03	2.3586D-06
77	(97) IPSX01PBM	(186) E120-2	3.3320D-03	2.3091D-06
78	(83) IPSX01PAM	(186) E120-2	3.3320D-03	2.3091D-06
79	(142) PAF01PBM	(195) IF-ET17	3.2714D-03	2.2671D-06
80	(26) LOSP	(27) LOSPNONREC	2.7457D-03	1.9028D-06
81	(185) S2-QA	(26) LOSP	2.6670D-03	1.8483D-06
82	(30) DGAFR	(97) IPSX01PBM	2.3032D-03	1.5962D-06
83	(35) DGBFR	(83) IPSX01PAM	2.2992D-03	1.5934D-06
84	(26) LOSP	(28) DGBNONREC	2.0850D-03	1.4449D-06
85	(26) LOSP	(33) DGBNONREC	2.0787D-03	1.4406D-06
86	(141) PAF01PAM	(147) OP1-QD	1.7944D-03	1.2436D-06
87	(141) PAF01PAM	(172) OP2-QD	1.7897D-03	1.2403D-06
88	(26) LOSP	(30) DGAFR	1.3013D-03	9.0179D-07
89	(26) LOSP	(35) DGBFR	1.2958D-03	8.9799D-07
90	(34) DGBFS	(83) IPSX01PAM	1.1677D-03	8.0920D-07

Model 1 Case 2
PAIRWISE

		BASIC EVENT PROBABILITY	SINGLE EVENT F-V IMPORTANCE	CONTRIBUTION TO TOP EVENT
1	(185) S2-GA	5.0000D-01	8.8830D-01	4.2762D-03
2	(195) IF-ET17	7.2100D-03	8.3047D-01	3.9978D-03
3	(178) IF-ET12A	9.1000D-02	5.7717D-02	2.7785D-04
4	(27) LOSPNONREC	2.6000D-01	5.4757D-02	2.6360D-04
5	(143) AF01PBFS	2.3300D-02	4.6839D-02	2.2548D-04
6	(186) E120-2	7.4000D-01	4.2770D-02	2.0589D-04
7	(142) PAFO1PBM	2.1170D-02	3.7029D-02	1.7826D-04
8	(97) IPSX01PBM	3.9650D-02	3.5573D-02	1.7125D-04
9	(83) IPSX01PAM	3.9650D-02	3.5568D-02	1.7122D-04
10	(194) IF-ET14	4.1100D+00	3.4712D-02	1.6710D-04
11	(177) IF-ET11	4.0000D+00	3.3783D-02	1.6263D-04
12	(28) DGBNONREC	7.5000D-01	2.9155D-02	1.4035D-04
13	(33) DGBNONREC	7.5000D-01	2.8308D-02	1.3627D-04
14	(169) IF-ET7	3.0000D+00	2.5337D-02	1.2197D-04
15	(80) ISSX01FAQ	2.4000D-04	2.1491D-02	1.0346D-04
16	(94) ISSX01FBQ	2.4000D-04	2.1488D-02	1.0344D-04
17	(30) DGAFR	3.5820D-02	1.8528D-02	8.9192D-05
18	(35) DGBFR	3.5820D-02	1.7962D-02	8.6469D-05
19	(32) DGBM	1.3590D-01	1.7249D-02	8.3036D-05
20	(31) DGBM	1.3590D-01	1.6881D-02	8.1265D-05
21	(179) E120-1	2.6000D-01	1.4947D-02	7.1955D-05
22	(144) AF01PBFR	6.4500D-03	1.2607D-02	6.0688D-05
23	(29) DGAFS	1.8200D-02	9.3695D-03	4.5104D-05
24	(34) DGBFS	1.8200D-02	9.0940D-03	4.3778D-05
25	(75) FSX03CBM	9.8280D-03	7.5465D-03	3.6328D-05
26	(72) FSX03CAM	9.8280D-03	7.5465D-03	3.6328D-05
27	(76) FSX03CBFR	8.4720D-05	7.3699D-03	3.5478D-05
28	(73) FSX03CAFR	8.4720D-05	7.3699D-03	3.5478D-05
29	(89) FSX03CFFR	8.4720D-05	7.3690D-03	3.5474D-05
30	(86) FSX03CEFR	8.4720D-05	7.3690D-03	3.5474D-05
31	(88) FSX03CFM	9.8280D-03	7.3050D-03	3.5166D-05
32	(85) FSX03CEM	9.8280D-03	7.3050D-03	3.5166D-05
33	(141) PAFO1PAM	3.1420D-02	7.1041D-03	3.4198D-05
34	(71) CCESWU1	4.7900D-06	6.8251D-03	3.2856D-05
35	(113) IF-ET3	3.5400D-02	5.2015D-03	2.5040D-05
36	(175) IF-ET8	6.0000D-01	5.0582D-03	2.4350D-05
37	(147) OP1-GD	8.8000D-04	3.4710D-03	1.6709D-05
38	(172) OP2-GD	8.8000D-04	3.4621D-03	1.6666D-05
39	(98) BUS131ZD	5.5720D-05	3.1375D-03	1.5104D-05
40	(101) BUS132ZD	5.5720D-05	3.1369D-03	1.5101D-05
41	(176) IF-ET9	3.5800D-01	3.0108D-03	1.4494D-05
42	(95) IPSX01PBFR	3.1680D-05	2.6605D-03	1.2808D-05

43	(84) IPSX01PAFR	3.1680D-05	2.6605D-03	1.2808D-05
44	(146) AOVX178D	1.4400D-03	2.6524D-03	1.2768D-05
45	(145) AOVX173D	1.4400D-03	2.6524D-03	1.2768D-05
46	(125) PRH01PACFS	2.2400D-04	2.6276D-03	1.2649D-05
47	(26) LOSP	3.4000D-04	1.9170D-03	9.2285D-06
48	(139) AFWSCCFAIL	2.2510D-04	1.9015D-03	9.1536D-06
49	(150) IF-ET4	3.8200D-02	1.8672D-03	8.9884D-06
50	(140) AF01PFS	5.0200D-03	1.7415D-03	8.3834D-06
51	(77) FSX03CBFS	1.1700D-03	1.6501D-03	7.9434D-06
52	(74) FSX03CAFS	1.1700D-03	1.6501D-03	7.9434D-06
53	(90) FSX03CFFS	1.1700D-03	1.6335D-03	7.8637D-06
54	(87) FSX03CEFS	1.1700D-03	1.6335D-03	7.8637D-06
55	(118) CCAC	6.3000D-04	1.5031D-03	7.2359D-06
56	(189) IF-ET13	1.6000D-01	1.4532D-03	6.9958D-06
57	(163) OP8-2QD	1.0000D-01	1.2377D-03	5.9582D-06
58	(96) ISSX01FBM	1.6800D-03	1.1962D-03	5.7583D-06
59	(82) ISSX01FAM	1.6800D-03	1.1962D-03	5.7583D-06
60	(120) HPRECIRCOP	1.0000D-04	1.1635D-03	5.6008D-06
61	(109) IPSX01PAFS	7.2100D-04	1.0146D-03	4.8844D-06
62	(110) IPSX01PBFS	7.2100D-04	1.0044D-03	4.8353D-06
63	(4) PRH01FBM	1.0300D-02	8.9135D-04	4.2909D-06
64	(2) PRH01PAM	1.0300D-02	7.8979D-04	3.8020D-06
65	(93) IXVSX143BC	9.5040D-06	7.3388D-04	3.5329D-06
66	(92) IMVSX001BC	9.5040D-06	7.3388D-04	3.5329D-06
67	(69) LPRECIRCOP	1.5000D-03	5.8580D-04	2.8200D-06
68	(122) MVCC9412CC	4.6500D-05	5.3496D-04	2.5753D-06
69	(121) MVS18811CC	4.6500D-05	5.3496D-04	2.5753D-06
70	(91) OXVSX138BC	9.5040D-06	4.9199D-04	2.3684D-06
71	(81) IXVSX143AC	9.5040D-06	4.9199D-04	2.3684D-06
72	(79) IMVSX001AC	9.5040D-06	4.9199D-04	2.3684D-06
73	(78) OXVSX138AC	9.5040D-06	4.9199D-04	2.3684D-06
74	(7) IF-ET1	9.4000D-04	4.7678D-04	2.2952D-06
75	(105) IF-ET2	9.4000D-04	3.9443D-04	1.8988D-06
76	(103) FLAGESFANF	5.0000D-01	3.0636D-04	1.4748D-06
77	(102) FLAGESFANE	5.0000D-01	3.0636D-04	1.4748D-06
78	(100) FLAGESFANB	5.0000D-01	3.0636D-04	1.4748D-06
79	(99) FLAGESFANA	5.0000D-01	3.0636D-04	1.4748D-06
80	(55) MVCC9412BQ	1.5500D-03	3.0186D-04	1.4531D-06
81	(51) MVS18811BQ	1.5500D-03	3.0186D-04	1.4531D-06
82	(181) S2-QC	1.0000D-04	2.6263D-04	1.2643D-06
83	(45) MVCC9412AQ	1.5500D-03	2.5887D-04	1.2462D-06
84	(41) MVS18811AQ	1.5500D-03	2.5887D-04	1.2462D-06
85	(155) OP3-QD	3.0000D-03	2.4590D-04	1.1837D-06
86	(132) MVS18804BQ	1.5500D-03	2.4451D-04	1.1771D-06
87	(174) OP2-QR	3.0000D-03	2.1078D-04	1.0147D-06
88	(173) OP2-QA	1.9000D-02	2.1078D-04	1.0147D-06
89	(131) MVS18804AQ	1.5500D-03	2.0148D-04	9.6990D-07
90	(191) PL-1	5.0000D-01	1.9865D-04	9.5628D-07

		PAIRWISE F-V IMPORTANCE		CONTRIBUTION TO TOP EVENT
1	(185) S2-QA	(195) IF-ET17	7.9863D-01	5.7000D-03
2	(27) LOSPNONREC	(178) IF-ET12A	3.5640D-02	2.5437D-04
3	(185) S2-QA	(178) IF-ET12A	3.5124D-02	2.5069D-04
4	(142) PAF01PBM	(195) IF-ET17	3.3814D-02	2.4134D-04
5	(185) S2-QA	(27) LOSPNONREC	3.3390D-02	2.3831D-04
6	(178) IF-ET12A	(186) E120-2	2.8848D-02	2.0589D-04
7	(27) LOSPNONREC	(186) E120-2	2.6401D-02	1.8843D-04
8	(185) S2-QA	(186) E120-2	2.5996D-02	1.8554D-04
9	(185) S2-QA	(97) IPSX01PBM	2.1697D-02	1.5486D-04
10	(185) S2-QA	(83) IPSX01PAM	2.1697D-02	1.5486D-04
11	(27) LOSPNONREC	(28) DGANONREC	1.9665D-02	1.4035D-04
12	(27) LOSPNONREC	(33) DGBNONREC	1.9093D-02	1.3627D-04
13	(28) DGANONREC	(178) IF-ET12A	1.8939D-02	1.3517D-04
14	(33) DGBNONREC	(178) IF-ET12A	1.8388D-02	1.3124D-04
15	(185) S2-QA	(28) DGANONREC	1.7600D-02	1.2562D-04
16	(185) S2-QA	(33) DGBNONREC	1.7600D-02	1.2561D-04
17	(28) DGANONREC	(186) E120-2	1.4025D-02	1.0010D-04
18	(33) DGBNONREC	(186) E120-2	1.3612D-02	9.7153D-05
19	(28) DGANONREC	(30) DGAFR	1.2437D-02	8.9192D-05
20	(27) LOSPNONREC	(30) DGAFR	1.2497D-02	8.9192D-05
21	(33) DGBNONREC	(35) DGBFR	1.2115D-02	8.6468D-05
22	(27) LOSPNONREC	(35) DGBFR	1.2115D-02	8.6468D-05
23	(30) DGAFR	(178) IF-ET12A	1.2021D-02	8.5795D-05
24	(35) DGBFR	(178) IF-ET12A	1.1654D-02	8.3178D-05
25	(27) LOSPNONREC	(32) DGBM	1.1634D-02	8.3036D-05
26	(27) LOSPNONREC	(31) DGAM	1.1386D-02	8.1265D-05
27	(32) DGBM	(178) IF-ET12A	1.1172D-02	7.9740D-05
28	(185) S2-QA	(30) DGAFR	1.1170D-02	7.9721D-05
29	(185) S2-QA	(35) DGBFR	1.1169D-02	7.9717D-05
30	(31) DGAM	(178) IF-ET12A	1.0941D-02	7.8091D-05
31	(28) DGANONREC	(32) DGBM	1.0714D-02	7.6470D-05
32	(185) S2-QA	(32) DGBM	1.0468D-02	7.4710D-05
33	(185) S2-QA	(31) DGAM	1.0468D-02	7.4710D-05
34	(31) DGAM	(33) DGBNONREC	1.0308D-02	7.3569D-05
35	(30) DGAFR	(186) E120-2	8.9000D-03	6.3521D-05
36	(35) DGBFR	(186) E120-2	8.6264D-03	6.1568D-05
37	(32) DGBM	(186) E120-2	8.2729D-03	5.9045D-05
38	(31) DGAM	(186) E120-2	8.1070D-03	5.7861D-05
39	(30) DGAFR	(32) DGBM	7.0290D-03	5.0167D-05
40	(31) DGAM	(35) DGBFR	6.7625D-03	4.8265D-05
41	(28) DGANONREC	(29) DGAFS	6.3196D-03	4.5104D-05
42	(27) LOSPNONREC	(29) DGAFS	6.3196D-03	4.5104D-05

43 (33) DGBNONREC	(34) DGBFS	6.1338D-03	4.3778D-05
44 (27) LQSPNONREC	(34) DGBFS	6.1338D-03	4.3778D-05
45 (29) DGAFS	(178) IF-ET12A	6.0967D-03	4.3513D-05
46 (34) DGBFS	(178) IF-ET12A	5.9166D-03	4.2228D-05
47 (185) S2-QA	(34) DGBFS	5.6602D-03	4.0398D-05
48 (185) S2-QA	(29) DGAFS	5.6602D-03	4.0398D-05
49 (185) S2-QA	(75) FSX03CBM	4.7715D-03	3.4055D-05
50 (185) S2-QA	(72) FSX03CAM	4.7715D-03	3.4055D-05
51 (185) S2-QA	(88) FSX03CFM	4.6106D-03	3.2906D-05
52 (185) S2-QA	(85) FSX03CEM	4.6106D-03	3.2906D-05
53 (29) DGAFS	(186) E120-2	4.5166D-03	3.2236D-05
54 (34) DGBFS	(186) E120-2	4.3806D-03	3.1265D-05
55 (97) IPSX01PBM	(178) IF-ET12A	3.9995D-03	2.8545D-05
56 (83) IPSX01PAM	(178) IF-ET12A	3.9995D-03	2.8545D-05
57 (28) DGBNONREC	(33) DGBNONREC	3.8082D-03	2.7180D-05
58 (29) DGAFS	(32) DGBM	3.5680D-03	2.5466D-05
59 (31) DGAM	(34) DGBFS	3.4326D-03	2.4499D-05
60 (28) DGBNONREC	(97) IPSX01PBM	3.1155D-03	2.2236D-05
61 (27) LQSPNONREC	(97) IPSX01PBM	3.1155D-03	2.2236D-05
62 (33) DGBNONREC	(83) IPSX01PAM	3.1121D-03	2.2212D-05
63 (27) LQSPNONREC	(83) IPSX01PAM	3.1121D-03	2.2212D-05
64 (97) IPSX01PBM	(186) E120-2	2.9621D-03	2.1141D-05
65 (83) IPSX01PAM	(186) E120-2	2.9621D-03	2.1141D-05
66 (30) DGAFR	(33) DGBNONREC	2.0853D-03	1.4863D-05
67 (28) DGBNONREC	(35) DGBFR	2.0853D-03	1.4883D-05
68 (30) DGAFR	(97) IPSX01PBM	2.0447D-03	1.4594D-05
69 (35) DGBFR	(83) IPSX01PAM	2.0413D-03	1.4569D-05
70 (141) PAF01PAM	(147) OP1-QD	1.5408D-03	1.0997D-05
71 (141) PAF01PAM	(172) OP2-QD	1.5367D-03	1.0968D-05
72 (30) DGAFR	(35) DGBFR	1.3831D-03	9.8714D-06
73 (26) LQSP	(27) LQSPNONREC	1.2930D-03	9.2285D-06
74 (185) S2-QA	(26) LQSP	1.2153D-03	8.6735D-06
75 (142) PAF01PBM	(178) IF-ET12A	1.1173D-03	7.9747D-06
76 (29) DGAFS	(33) DGBNONREC	1.0443D-03	7.4532D-06
77 (28) DGBNONREC	(34) DGBFS	1.0443D-03	7.4532D-06
78 (34) DGBFS	(83) IPSX01PAM	1.0367D-03	7.3991D-06
79 (29) DGAFS	(97) IPSX01PBM	1.0367D-03	7.3991D-06
80 (27) LQSPNONREC	(142) PAF01PBM	1.0181D-03	7.2665D-06
81 (118) CCAC	(27) LQSPNONREC	1.0138D-03	7.2358D-06
82 (118) CCAC	(178) IF-ET12A	9.8699D-04	7.0443D-06
83 (75) FSX03CBM	(178) IF-ET12A	9.8224D-04	7.0104D-06
84 (72) FSX03CAM	(178) IF-ET12A	9.8224D-04	7.0104D-06
85 (88) FSX03CFM	(178) IF-ET12A	9.8135D-04	7.0041D-06
86 (85) FSX03CEM	(178) IF-ET12A	9.8135D-04	7.0041D-06
87 (118) CCAC	(185) S2-QA	9.2616D-04	6.6102D-06
88 (142) PAF01PBM	(97) IPSX01PBM	8.6602D-04	6.1809D-06
89 (83) IPSX01PAM	(142) PAF01PBM	8.6602D-04	6.1809D-06
90 (118) CCAC	(28) DGBNONREC	8.4846D-04	6.0556D-06