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Bin	Generic Location
3	PWR Containment (COP)
5	Control/Aux/Reactor (CAR)
6	Control/Aux/Reactor (CAR)
7	Control/Aux/Reactor (CAR)
11	Plant Wide (PW)
24	Plant Wide (PW)
25	Plant Wide (PW)
31	Turbine Building (TB)
36	Turbine Building (TB)
37	Turbine Building (TB)



15 16
B_T1



D_T3



Area

D_T2

Example of che

ransient Fire Ignition Frequency Bins	
Description	NUREG/CR-6850
General Transients and Hotwork (GT)	2.00E-03
Cable Fires Cut & Weld (CF)	1.60E-03
Transients Cut & Weld (WC)	9.70E-03
General Transients (GT)	3.90E-03
Cable Fires Cut & Weld (CF)	2.00E-03
Transients Cut & Weld (WC)	4.90E-03
General Transients (GT)	9.90E-03
Cable Fires Cut & Weld (CF)	1.60E-03
Transients Cut & Weld (WC)	8.20E-03
General Transients (GT)	8.50E-03

TISR
A
B
C
D
D_TFZ
D_Storage
D_Other
CAR Total

Example of C

TISR
A
B
C

D
CAR Total

anges made inside PAU D to analyze as 3 distinctly different locations

TABLE 3. Input DATA										
ORIGINAL					REFINED					TISR
Floor Area	n _M	n _O	n _S	n _H	Floor Area	n _M	n _O	n _S	n _H	
[ft ²]					[ft ²]					
1000	3	3	3	1	1000	3	3	3	1	A
500	3	3	3	1	500	3	3	3	1	B
800	1	3	1	3	800	1	3	1	3	C
1600	10	3	3	10	N/A	N/A	N/A	N/A	N/A	D
N/A	N/A	N/A	N/A	N/A	200	1	3	1	1	D_TF
N/A	N/A	N/A	N/A	N/A	400	1	3	10	1	D_St
N/A	N/A	N/A	N/A	N/A	1000	10	3	3	10	orage
3900	17	12	10	15	3900	19	18	21	17	D_Ot
										her
										CAR
										Total

Change made to PAU B to limit maintenance, occupancy, and storage. Entire PAI

TABLE 3. Input DATA										
ORIGINAL					REFINED					TISR
Floor Area	n _M	n _O	n _S	n _H	Floor Area	n _M	n _O	n _S	n _H	
[ft ²]					[ft ²]					
1000	3	3	3	1	1000	3	3	3	1	A
500	3	3	3	1	500	1	1	1	1	B
800	1	3	1	3	800	1	3	1	3	C

1600	10	3	3	10	1600	10	3	3	10
3900	17	12	10	15	3900	15	10	8	15

D
CAR Total

Not a table in FAQ			
ORIGINAL		REFINED	
FA*sum(nMOS)	FA*nH	FA*sum(nMOS)	FA*nH
9000	1000	9000	1000
4500	500	4500	500
4000	2400	4000	2400
25600	16000		
		1000	200
		5600	400
		16000	10000
43100	19900	40100	14500

Table 4
PAU
A
B
C
D
D_TFZ
D_Storage
D_Other

U is affected. PAU D is does not have 3 different areas within it.

Not a table in FAQ			
ORIGINAL		REFINED	
FA*sum(nMOS)	FA*nH	FA*sum(nMOS)	FA*nH
9000	1000	9000	1000
4500	500	1500	500
4000	2400	4000	2400

Table 4
PAU
A
B
C

25600	16000	25600	16000
43100	19900	40100	19900

D

Current					Proposed	
Original		Refined				Original
W_{GT}	W_{WC}	W_{GT}	W_{WC}		W_A	W_{GT}
0.23	0.07	0.16	0.06		0.26	0.21
0.23	0.07	0.16	0.06		0.13	0.10
0.13	0.20	0.09	0.18		0.21	0.09
0.41	0.67	-	-		0.41	0.59
-	-	0.09	0.06		0.05	-
-	-	0.24	0.06		0.10	-
-	-	0.28	0.59		0.26	-

Current					Proposed	
Original		Refined				Original
W_{GT}	W_{WC}	W_{GT}	W_{WC}		W_A	W_{GT}
0.23	0.07	0.27	0.07		0.26	0.21
0.23	0.07	0.09	0.07		0.13	0.10
0.13	0.20	0.15	0.20		0.21	0.09

0.41	0.67	0.48	0.67		0.41	0.59
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	Refined	
W_{WC}	W_{GT}	W_{WC}
0.05	0.22	0.07
0.03	0.11	0.03
0.12	0.10	0.17
0.80	-	-
-	0.02	0.01
-	0.14	0.03
-	0.40	0.69

Table 5	Current Methodolo
TISR	Orignal
	Bin 7 (GT)
A	9.00E-04
B	9.00E-04
C	5.00E-04
D	1.60E-03
D_TFZ	
D_Storage	
D_Other	
D Total	1.60E-03
Total	3.90E-03

	Refined	
W_{WC}	W_{GT}	W_{WC}
0.05	0.22	0.05
0.03	0.04	0.03
0.12	0.10	0.12

Table 5	Current Methodolo
TISR	Orignal
	Bin 7 (GT)
A	9.00E-04
B	9.00E-04
C	5.00E-04

0.80	0.64	0.80
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D	1.60E-03
Total	3.90E-03

ogy			Proposed
	Revised		Original
Bin 6 (WC)	Bin 7 (GT)	Bin 6 (WC)	Bin 7 (GT)
6.47E-04	6.05E-04	5.71E-04	8.14E-04
6.47E-04	6.05E-04	5.71E-04	4.07E-04
1.94E-03	3.36E-04	1.71E-03	3.62E-04
6.47E-03			2.32E-03
	3.36E-04	5.71E-04	
	9.41E-04	5.71E-04	
	1.08E-03	5.71E-03	
6.47E-03	2.35E-03	6.85E-03	2.32E-03
9.70E-03	3.90E-03	9.70E-03	3.90E-03

ogy			Proposed
	Revised		Original
Bin 6 (WC)	Bin 7 (GT)	Bin 6 (WC)	Bin 7 (GT)
6.47E-04	1.06E-03	6.47E-04	8.14E-04
6.47E-04	3.55E-04	6.47E-04	4.07E-04
1.94E-03	5.91E-04	1.94E-03	3.62E-04

6.47E-03	1.89E-03	6.47E-03		2.32E-03
9.70E-03	3.90E-03	9.70E-03		3.90E-03

	Revised	
Bin 6 (WC)	Bin 7 (GT)	Bin 6 (WC)
4.87E-04	8.75E-04	6.69E-04
2.44E-04	4.38E-04	3.34E-04
1.17E-03	3.89E-04	1.61E-03
7.80E-03		
	9.73E-05	1.34E-04
	5.45E-04	2.68E-04
	1.56E-03	6.69E-03
7.80E-03	2.20E-03	7.09E-03
9.70E-03	3.90E-03	9.70E-03

Table 6. Scenario D	
Scenario	Floor Area [ft ²]
A_T1	100
B_T1	100
C_T1	100
D_T1 (TFZ)	100
D_T2 (Storage)	100
D_T3 (Other)	100

	Revised	
Bin 6 (WC)	Bin 7 (GT)	Bin 6 (WC)
4.87E-04	8.75E-04	4.87E-04
2.44E-04	1.46E-04	2.44E-04
1.17E-03	3.89E-04	1.17E-03

Table 6. Scenario D	
Scenario	Floor Area [ft ²]
A_T1	100
B_T1	100
C_T1	100

7.80E-03	2.49E-03	7.80E-03
9.70E-03	3.90E-03	9.70E-03

D_T1	100
D_T2	100
D_T3	100

ata	
Original	revised
Ratio	
0.1	0.1
0.2	0.2
0.125	0.125
0.0625	0.5
0.0625	0.25
0.0625	0.1

Table 7	Current Methodology		
	Original		
Scenario	Bin 7	Bin 6	Total
A_T1	9.00E-05	6.47E-05	1.55E-04
B_T1	1.80E-04	1.29E-04	3.09E-04
C_T1	6.25E-05	2.43E-04	3.05E-04
D_T1 (TFZ)	1.00E-04	4.04E-04	5.04E-04
D_T2 (Storage)	1.00E-04	4.04E-04	5.04E-04
D_T3 (Other)	1.00E-04	4.04E-04	5.04E-04

ata	
Original	revised
Ratio	
0.1	0.1
0.2	0.2
0.125	0.125

Table 7	Current Methodology		
	Original		
Scenario	Bin 7	Bin 6	Total
A_T1	9.00E-05	6.47E-05	1.55E-04
B_T1	1.80E-04	1.29E-04	3.09E-04
C_T1	6.25E-05	2.43E-04	3.05E-04

0.0625	0.0625
0.0625	0.0625
0.0625	0.0625

D_T1	1.00E-04	4.04E-04	5.04E-04
D_T2	1.00E-04	4.04E-04	5.04E-04
D_T3	1.00E-04	4.04E-04	5.04E-04

				Proposed			
Revised				Original			Revised
Bin 7	Bin 6	Total		Bin 7	Bin 6	Total	Bin 7
6.05E-05	5.71E-05	1.18E-04		8.14E-05	4.87E-05	1.30E-04	8.75E-05
1.21E-04	1.14E-04	2.35E-04		8.14E-05	4.87E-05	1.30E-04	8.75E-05
4.20E-05	2.14E-04	2.56E-04		4.52E-05	1.46E-04	1.91E-04	4.86E-05
1.68E-04	2.85E-04	4.53E-04		1.45E-04	4.87E-04	6.32E-04	4.86E-05
2.35E-04	1.43E-04	3.78E-04		1.45E-04	4.87E-04	6.32E-04	1.36E-04
1.08E-04	5.71E-04	6.78E-04		1.45E-04	4.87E-04	6.32E-04	1.56E-04

				Proposed			
Revised				Original			Revised
Bin 7	Bin 6	Total		Bin 7	Bin 6	Total	Bin 7
1.06E-04	6.47E-05	1.71E-04		8.14E-05	4.87E-05	1.30E-04	8.75E-05
7.09E-05	1.29E-04	2.00E-04		8.14E-05	4.87E-05	1.30E-04	2.92E-05
7.39E-05	2.43E-04	3.16E-04		4.52E-05	1.46E-04	1.91E-04	4.86E-05

1.18E-04	4.04E-04	5.22E-04		1.45E-04	4.87E-04	6.32E-04	1.56E-04
1.18E-04	4.04E-04	5.22E-04		1.45E-04	4.87E-04	6.32E-04	1.56E-04
1.18E-04	4.04E-04	5.22E-04		1.45E-04	4.87E-04	6.32E-04	1.56E-04

		% Change	
Bin 6	Total	Current	Proposed
6.69E-05	1.54E-04	-24%	19%
6.69E-05	1.54E-04	-24%	19%
2.01E-04	2.49E-04	-16%	30%
6.69E-05	1.16E-04	-10%	-82%
6.69E-05	2.03E-04	-25%	-68%
6.69E-04	8.25E-04	35%	30%

		% Change	
Bin 6	Total	Current	Proposed
4.87E-05	1.36E-04	11%	5%
4.87E-05	7.79E-05	-35%	-40%
1.46E-04	1.95E-04	4%	2%

4.87E-04	6.43E-04	4%	2%
4.87E-04	6.43E-04	4%	2%
4.87E-04	6.43E-04	4%	2%

While the scenarios in all PAUs were impacted by the refinement made to PAU D, the enhanced methodology ensured that the changes were in the correct direction. The TFZ and Storage transient scenarios decreased in value since measures were taken to ensure transient ignition sources and combustibles were less likely to be co-located. The scenarios in other PAUs increased in value, but since the transient frequency bins must be fully allocated, this is simply a consequence of the method.

While all PAUs are impacted in the current and enhanced methods the change to other PAUs is smaller under the proposed method because the size of the PAU is taken into consideration. Of course if a very large PAU had similar change implemented the impact on the other PAUs would be higher, however it is very unlikely that a very large PAU would be treated in this manner. It

PAU would be treated in this manner. It would be more likely that a portion of the PAU would have administrative controls applied as is described in the first example.