The Frequency of Incipient Fires at the Savannah River Site

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**The Frequency of Incipient Fires
at the Savannah River Site (U)**

September 30, 1999

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Abstract

Fire is a significant hazard in most industrial and nuclear facilities. As such it is important that adequate safeguards be provided to ensure a responsible level of safety. In determining this level of safety it is necessary to know three key parameters. These are the frequency of the incipient fire, the probability that a fire will grow from the incipient stage to cause the potential consequence, and the potential consequences (i.e., losses) from an unwanted fire. Consequence predictions have been modeled and evaluated extensively and can be readily confirmed by comparison with historic loss records. These loss records can also provide significant insight into the probability that given a fire it grows to create a defined consequence. The other key parameter, frequency, is the focus of this report. This report determines an alternative method for estimating SRS building fire frequencies as a function of floor area to the linear method previously used.

The frequency of an incipient fire is not easily derived from existing fire loss records. This occurs because the fire loss records do not make reference to the sample population. To derive an initiating frequency both the number of events (incipient fires) and the population (number of buildings and years in service) must be known. This report documents an evaluation that estimates the frequency of incipient fires in industrial and nuclear facilities. These estimates were developed from the unique historical record that has been maintained at the Savannah River Site.

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Introduction

Since 1994 SRS has estimated the frequency of incipient fires based on the floor area of the building [1]. Typically, the fire frequency was considered proportional to the building area. This method also assumed that the fire frequency did not vary with building use (i.e., occupancy). In 1995 the British Standards Institute [2] published a set of incipient fire frequency correlations for industrial occupancies that were non-linear with respect to building size and included an occupancy effect. In addition, data has become available for other occupancy types [2,3]. This report reviews the newly published data, and provides an updated evaluation of the SRS fire records.

The reevaluation has demonstrated that incipient fire frequencies in Production Occupancies are non-linear with respect to building size. Thus, for very large structures the uniform frequency method (i.e., the incipient fire frequency is proportional to the size of the building) overpredicts the frequency of fire in SRS Production Occupancies, but underestimates them for smaller structures. The reevaluation also demonstrated that for SRS Administrative Occupancies the incipient fire frequency is proportional to the building area as assumed by the uniform frequency method. In addition, the reevaluation allowed the development of occupancy-based frequency multipliers. These multipliers allow the frequency estimates to account for different incipient frequencies for different industrial occupancies.

In evaluating the SRS data and comparing it with correlations developed from other data sets the definitions for the data groups is very important. Often the data groups are not consistent between the sets. This occurs because there is no uniform classification method. In addition some data sets smear several building occupancies (i.e., uses) into one category. The SRS Administrative Occupancy is a good example of this. In practice the Administrative Occupancy is the non-Production Occupancy and thus contains office buildings, warehouses, machine shops and service facilities. Thus, any frequency results obtained for the Administrative Occupancy are smeared across several occupancy types. The confusion created by this, must be addressed by consistent use of the terms within any report and care by the reader in making comparisons with other documents.

Conclusions

A reevaluation of the SRS Fire Department loss data has demonstrated that larger production buildings do in fact have a lower incipient fire frequency per unit of area. This effect can be substantial. The analysis also demonstrated that the incipient fire frequency for smaller production associated buildings exceeds values used in previous work. Thus, in terms of the new non-linear model presented below, the uniform frequency method, which is based on 33 fires/km²-yr, while over-conservative for large production and industrial buildings, under-estimates the frequency for all smaller production and industrial buildings.

It was demonstrated for Administrative Occupancies that the incipient fire frequency is simply proportional to the building area as has been assumed in previous work.

The recommend design and analysis frequency predictors for use at SRS are:

Office occupancies	$F = 1.0E - 5 A$
General storage occupancies	$F = 3.3E - 5 A$
Production and industrial facilities	$F = 0.0017 K A^{0.53}$
Other locations	$F = 0.0027 A^{0.52}$

Where F is the fire frequency (fires/year), A is the building area (m²) and K is an occupancy-based multiplier:

Low potential (vault storage, reactor operations)	0.8
Nominal potential (general industry, simple operations)	1.5
High potential (laboratories, material processing facilities)	3

Examples of the effect of these new correlations on typical buildings at SRS is presented below. Figure 1 presents a comparison of the more important recommended design and analysis frequency predictors listed above with the previous uniform frequency method.

Building	Area, m ²	Occupancy	K	Frequencies, fires/year	
				original value	updated value
105-K	46000	Production - Low potential	0.8	1.52	0.40
221-H	31000	Production - High potential	3.0	1.02	1.22
233-H	3000	Production - Nominal potential	1.2	0.10	0.14
234-H	5000	Production - Nominal potential	1.2	0.17	0.19
703-A	16000	Office	...	0.53	0.16
772-F	8000	Production - High potential	3.0	0.26	0.60
773-A	28000	Production - High potential	3.0	0.92	1.16

Figure 1, Recommended design and analysis incipient fire frequency correlations

More generally, the following is true for production and industrial buildings with nominal fire potential and a floor area of less than 10,000 m², or with high fire potential and floor area of less than 45,000 m², the previous linear estimator of 33 fires/km²·yr underestimated the fire frequencies.

Literature Review

For the past several years SRS has relied on a uniform incipient fire frequency value of 33 fires/km²·yr (3.3E-5 fires/m²·yr) for predicting the frequency of an incipient fire [1]. This value was developed from the site-specific data [4] in Table 1 that was derived from SRS Fire Department loss records [5]. At the time that the uniform incipient fire frequency was published, based on the information available, no significant difference was identified between production and administrative building groups. The basis for the frequencies in Table 1 is data and evaluation prepared in support of the Multi-Attribute-Utility model [4] that has been unpublished until this report. This basis is presented as Appendix C.

Other incipient fire frequency estimators have been published in the same form as in Table 1. These values are between one-fourth and three times the SRS value and are presented in Table 2. Thus, they are within a factor of 3 or 4 of the SRS value.

Fire frequency estimators have also been published on a building basis as shown in Table 3. These values have the inherent weakness that they do not reflect the known increase in incipient fires as the building size increases. It is possible to estimate the area-based frequency from these values by assuming a nominal area. For dwellings a reasonable size estimate would be 150 m². Thus, the area-based fire frequency would be:

$$(1) \quad F = \frac{F}{A} = \frac{0.0030 \frac{\text{fires}}{\text{year}}}{150 \text{ m}^2} = 20 \frac{\text{fires}}{\text{km}^2 \cdot \text{yr}}$$

For other types of occupancies a higher average size is appropriate. Since these areas are basically conjectures with large uncertainties, they will not be developed further in this report.

For industrial facilities it has been shown that the fire frequency is not linearly proportional to the area [2]. The equation form is:

$$(2) \quad F = aA^b$$

where the coefficient b is less than unity and the frequency, F , is given in fires per year. Thus, the rate (or slope) of fire frequency as the building area increases falls below the relationship that the frequency is proportional to the area. That is, the incremental increase in frequency is always *decreasing* with increasing area. This suggests that the use of a single constant, such as 33 fires/km²·yr, for estimating the incipient fire frequency may be over-conservative for very large buildings.

Table 1. —Original SRS incipient fire frequency results

Area	Occupancy	Frequency [4] (fires/km ² ·yr)
A	Administration	18.4
B	Administration	13.3
700C	Administration	12.7
700D	Administration	31.2
700F	Administration	49.4
700H	Administration	17.4
700K	Administration	6.9
700L	Administration	66.0
700M	Administration	58.7
700P	Administration	40.0
700R	Administration	15.6
100	Production	9.2
400D	Production	66.3
200F	Production	50.5
200H	Production	30.4
300M	Production	78.7
S	Production	Not reported
T	Production	12.8
G,N,E	Special	14.1
	Mean	33
	Standard deviation	23
	Median	24
	Minimum	7
	Maximum	79

Table 2. —Area-based uniform fire frequency estimators

Occupancy	Frequency fires/km ² ·yr	Reference
SRS - 1994	33	SRS [1]
Apartments	22	Australia [3]
Offices	8.9	Australia [3]
Offices	12	United States [2]*
Storage	33	United States [2]*
Public assembly	97	United States [2]*

* Attributed to F. Smith ("How successful are sprinklers?" *Fire Prevention*. 1982, pp. 28-35) however this citation does not present these values.

Table 3. —Occupancy-based fire frequency estimators

Occupancy	Frequency fires/building·yr	Reference
Industrial	0.044	United Kingdom [2]
Storage	0.013	United Kingdom [2]
Offices	0.0062	United Kingdom [2]
Assembly entertainment	0.12	United Kingdom [2]
Assembly non-residential	0.020	United Kingdom [2]
Hospitals	0.30	United Kingdom [2]
Schools	0.04	United Kingdom [2]
Dwellings	0.0030	United Kingdom [2]

Table 4. — Area-based non-uniform fire frequency estimators

Occupancy	a	b	Reference
All manufacturing	0.0017	0.53	United Kingdom [2]
Food, drink, tobacco	0.0011	0.60	United Kingdom [2]
Chemical and allied	0.0069	0.46	United Kingdom [2]
Mechanical engineering	0.0001	0.75	United Kingdom [2]
Electrical engineering	0.0006	0.59	United Kingdom [2]
Vehicle manufacture	0.0001	0.86	United Kingdom [2]
Metal goods	0.0016	0.54	United Kingdom [2]
Textiles	0.0075	0.35	United Kingdom [2]
Paper, printing, publishing	0.00007	0.91	United Kingdom [2]
Other manufacturing	0.0084	0.41	United Kingdom [2]

Analysis

The SRS loss data in Appendix A has been updated to include the fire history in 1991, 1992, 1993 and 1994 [6, 7, 8, 9]. These fires are summarized in Appendix B. In addition, minor revisions to the data were made to reflect the best available data. These updates are based on interviews with site personnel, the most recent SRS Building List and analysts judgement. A sensitivity review for outliers demonstrates that these revisions had no significant effect on the final results.

Table 5 summarizes the incipient fire history for SRS from January 1958 to December 1994. The original analysis assumed that all buildings had been in service for 33 years. This neglected the construction boom that occurred in the early 1980s and had the effect of under-predicting the fire frequency. The size-year values in Table 5 present the product of the combined building size and 33 years. The size-year data for the update are based on the individual building size and the actual number of years that a building was in service. This approach avoids the error of assuming that all of the buildings were built in the same year. Appendix A presents all of the data used in this analysis.

The area-specific uniform fire frequencies are presented in Table 6. With the exception of A-Area and 400D, the frequencies calculated using the data base information replicate the original published work within expected roundoff error. In the original work Building 773-A was excluded as an outlier (28,267 m² of area and 96 fires). If this is accounted for, the replicated uniform frequency for A-Area would be:

$$(3) \quad F^* = \frac{169 \text{ fires} - 96 \text{ fires}}{(148,432 \text{ m}^2 - 28,267 \text{ m}^2)(33 \text{ years})} = 18.4 \frac{\text{fires}}{\text{km}^2 \cdot \text{yr}}$$

The updated results have a greater variability than the original results. The uniform-area frequencies range from 9 to 110 fires/km²·yr. The mean value increased from 33 to 50 fires/km²·yr. The median value increased from 23 to 28 fires/km²·yr.

Table 5. — SRS incipient fire summaries

Area	Occupancy	Combined building size, m ²		Size-years m ² ·yr		Number of fires	
		Original	Updated	Original	Updated	Original	Updated
A	Administration	148432	149529	4898256	4169083	169	186
B	Administration	6856	7285	226248	55783	3	5
700C	Administration	11972	12783	395076	211919	5	8
700D	Administration	4861	4861	160413	181965	5	5
700F	Administration	25730	25726	849090	746506	42	44
700H	Administration	12150	11107	400950	185544	7	12
700K	Administration	4380	4537	144540	91054	1	3
700L	Administration	1835	1835	60555	60010	4	4
700M	Administration	2584	2591	85272	49194	5	5
700P	Administration	2268	2269	74844	79243	3	3
700R	Administration	1939	1940	63987	63696	1	1
100	Production	311900	311902	10292700	11712194	95	106
400D	Production	34291	34288	1131603	1239614	75	85
200F	Production	70227	72170	2317491	2025392	117	131
200H	Production	61986	69851	2045538	2123424	62	77
300M	Production	31483	31481	1038939	800995	82	87
S	Production	...	53380	...	201365	...	6
T	Production	14264	14264	470712	232069	6	6
G,N,E	Special	53935	57440	1779855	1367896	25	39
	Sum	801093	869239	26436069	25596946	707	813

Table 6. — SRS uniform incipient fire frequencies by location

Area	Occupancy	Frequency (fires/km ² ·yr)		
		Original		Updated
		reported	calculated	calculated
A	Administration	18.4	34.5	44.6
B	Administration	13.3	13.3	89.6
700C	Administration	12.7	12.7	37.8
700D	Administration	31.2	31.2	27.5
700F	Administration	49.4	49.5	58.9
700H	Administration	17.4	17.5	64.7
700K	Administration	6.9	6.9	32.9
700L	Administration	66.0	66.1	66.7
700M	Administration	58.7	58.6	101.6
700P	Administration	40.0	40.1	37.9
700R	Administration	15.6	15.6	15.7
100	Production	9.2	9.2	9.1
400D	Production	66.3	64.5	67.0
200F	Production	50.5	50.5	64.7
200H	Production	30.4	30.3	36.3
300M	Production	78.7	78.9	108.6
S	Production	...	...	29.8
T	Production	12.8	12.7	25.9
G,N,E	Special	14.1	14.0	28.5
Mean		33	34	50
Std. Deviation		23	23	28
Median		24	31	38
Minimum		7	7	9
Maximum		79	79	110

Non-linear Form

The primary intent of the study presented in this report was to evaluate the non-linear fire frequency estimator, F . As was discussed above when analyzing fire frequency data it is necessary to normalize the results in terms of area-years. Thus, the data becomes fires per year per unit area (fires/km²·yr) rather than fires per year as given in Equation (2). To accommodate this, a normalized fire frequency equation will be used for analysis purposes. This normalized frequency is:

$$(4) \quad F' = \alpha A^{\beta} = a b A^{b-1}$$

Thus, to transform the results developed using Equation (4) into the design form of Equation (2):

$$(5) \quad a = \frac{\alpha}{(\beta+1)}$$

$$(6) \quad b = \beta + 1$$

The median size of the buildings listed in Appendix A is 89 m^2 . Twenty-five percent of the buildings are smaller than 29 m^2 , 75 percent of the buildings are smaller than 280 m^2 , and 90 percent are smaller than 1100 m^2 . The largest building is 69677 m^2 . This suggests the following logical groupings based on size:

Very small	$A \leq 30 \text{ m}^2$
Small	$30 < A \leq 90 \text{ m}^2$
Medium	$90 < A \leq 300 \text{ m}^2$
Large	$300 < A \leq 1000 \text{ m}^2$

In addition, the largest building that did not have a fire had an area of slightly less than 5000 m^2 . Thus, for buildings greater than 5000 m^2 it is possible to explicitly calculate the fire frequency. For buildings smaller than 5000 m^2 the data is grouped as shown in Table 7. These data are plotted in Figure 2 along with the individual building frequencies from Table 8. To account for the unequal area-years of history the curve fit was weighted using the area-years value. The weighted curve fit for all of the SRS data is:

$$(7) \quad F' = 630 A^{-0.39}$$

On inspection of the E, G, N Areas data, which is treated as a special occupancy, it is uncertain if the information is complete. Thus, a curve fit was generated excluding this data. Table 9 provides the summary of the SRS building fire data after the exclusion of E, G, and N Areas. The resulting weighted curve fit is:

$$(8) \quad F' = 910 A^{-0.42}$$

The original study excluded Building 773-A as an outlier. The data for Buildings 105-L, 221-F and 313-M could also be excluded based on the same logic. If these data and the information for E, G and N Areas area excluded, the weighted curve fit is:

$$(9) \quad F' = 850 A^{-0.43}$$

These three curve fits are shown in Figure 2. There is little difference in the results. Since the "outliers" have little effect it is recommended that the curve fit that excludes E, G and N Area data be the fit of choice to cover all SRS buildings (i.e., Equation (8)). When transformed back to the design equation form, Equation (8) becomes:

$$(10) \quad F = 0.0016 A^{0.58}$$

Administrative Occupancies:

The analysis for all building data can be repeated for both Administrative and Production Occupancies. Table 10 provides a summary of the Administrative Occupancy fire loss data that has been combined with the Administrative Occupancy data in Table 8 and plotted in Figure 3. Two weighted curve fits have been presented. The first includes all

data; the second excludes the data from Buildings 772-F and 773-A. Both of these buildings are actually laboratories, rather than the more common Administrative Occupancies (e.g., office buildings, maintenance shops, warehouses). The respective weighted curve fits are:

$$(11) F' = 19 A^{0.085}$$

$$(12) F' = 150 A^{-0.21}$$

The first fit, which includes data from the two laboratory buildings, has a positive slope. This is the opposite of that expected. After excluding the two laboratory buildings the slope becomes negative. The present data does not suggest a strong variation with increasing area. Thus, it is recommended that weighted mean (excluding 772-F and 773-A) be used for fire frequency estimates for Administrative Occupancies. This mean value is 35 fires/km²·yr.

Production Occupancies

Table 11 provides a summary of the Production Occupancy fire loss data. (Information on Special Occupancies is shown in Table 12 to allow comparison.) This data has been combined with the Production Occupancy data in Table 8 and plotted in Figure 4. Two weighted curve fits have been presented. The first includes all data; the second excludes the data from Buildings 105-L, 221-F and 313-M. The respective weighted curve fits are:

$$(13) F' = 1400 A^{-0.48}$$

$$(14) F' = 950 A^{-0.44}$$

These curves are very similar and since there is no strong evidence to exclude data from any of the buildings, Equation (13) is the recommended curve fit for Production Occupancies. When transformed back to the design equation form, Equation (13) becomes:

$$(15) F = 0.0027 A^{0.52}$$

Table 7. —Summary of SRS building fire data

Size	Number of buildings	Number of fires	Area, m ²		Area-years m ² ·yr	F" fires/km ² ·yr
			Mean	Sum		
≤ 30	303	56	14	4276	72073	777
30 to 90	295	15	63	18521	229978	65
90 to 300	295	91	160	47114	604614	151
300 to 1000	145	73	560	81478	2017036	36
1000 to 5000	115	128	1900	222315	5031352	25
> 5000	24	450	21000	495535	17641893	25
Sums	1177	813		869239	25596946	

Table 8. —Fire frequency data for all SRS buildings

Occupancy	Building	Average size m ²	Area-years m ² ·yr	Number of fires	F" fires/km ² ·yr
Production	105-000C	46452	1718724	18	10
Production	105-000K	46452	1718724	15	9
Production	184-000K	7897	292189	11	2
Production	105-000L	46452	1718724	3	6
Production	184-000L	7897	292189	3	4
Production	105-000P	69677	2578049	15	38
Production	184-000P	7897	292189	12	10
Production	105-000R	46452	1904532	8	41
Production	184-000R	7897	292189	3	10
Production	210-000S	8696	34784	1	29
Production	221-000S	17782	71128	2	77
Administration	772-000F	7785	311400	24	27
Production	484-000D	23226	859362	10	28
Production	313-000M	5315	223230	32	45
Production	320-000M	5880	217560	20	31
Production	321-000M	5209	192733	17	48
Production	221-000H	30621	1224840	33	143
Production	232-000H	5130	200070	9	92
Production	234-000H	5331	191916	6	88
Production	221-000F	30632	1225280	94	12
Production	247-000F	13006	104048	5	16
Administration	703-000A	16444	608428	10	77
Administration	773-000A	28267	1158947	96	83
Administration	777-010A	5138	210658	3	14
	Sums	495535	17641893	450	

Table 9. — Summary of SRS building fire data excluding E, G and N Areas

Size	Number of buildings	Number of fires	Area, m ²		Area-years m ² ·yr	F" fires/km ² ·yr
			Mean	Sum		
≤ 30	239	38	16	3706	62800	605
30 to 90	262	12	63	16627	198880	60
90 to 300	274	89	159	43527	539444	165
300 to 1000	114	70	555	63307	1621503	43
1000 to 5000	94	115	2012	189097	4164530	28
> 5000	24	450	20647	495535	17641893	26
Sums	1007	774		811799	24229050	

Table 10. — Fire frequency data for administrative areas

Size	Number of buildings	Number of fires	Area, m ²		Area-years m ² ·yr	F" fires/km ² ·yr
			Mean	Sum		
≤ 30	91	24	15	1405	26994	889
30 to 90	112	2	66	7338	83826	24
90 to 300	149	8	161	23978	305676	26
300 to 1000	38	26	505	19175	496809	52
1000 to 5000	55	83	2090	114933	2691259	31
Sums	445	143		166829	3604564	

Table 11. — Fire frequency data for production areas

Size	Number of buildings	Number of fires	Area, m ²		Area-years m ² ·yr	F" fires/km ² ·yr
			Mean	Sum		
≤ 30	148	14	16	2301	35806	391
30 to 90	150	10	62	9289	115054	87
90 to 300	125	81	156	19549	233768	346
300 to 1000	76	44	581	44132	1124694	39
1000 to 5000	39	32	1902	74164	1473271	22
Sums	538	181		149435	2982593	

Table 12. — Fire frequency data for special areas

Size	Number of buildings	Number of fires	Area, m ²		Area-years m ² ·yr	F" fires/km ² ·yr
			Mean	Sum		
≤ 30	64	18	9	570	9273	1900
30 to 90	33	3	57	1894	31098	97
90 to 300	21	2	171	3587	65170	31
300 to 1000	31	3	586	18171	395533	8
1000 to 5000	21	13	1582	33218	866822	15
Sums	170	39		57440	1367896

Figure 2, Fire frequency curve fits for all SRS buildings

Figure 3, Fire frequency curve fits for SRS administrative areas

Figure 4, Fire frequency curve fit for SRS production areas

Results

The reanalysis has demonstrated that there is a size effect for Production Facilities. This effect can be significant. The effect was not observed for Administrative Facilities. For Administrative Facilities it appears that an area-based proportional constant is all that is necessary to accurately estimate the incipient fire frequency.

The basic correlations developed from the SRS data are:

Administrative facilities $F = 3.5E - 5 A$

Production facilities $F = 0.0027 A^{0.52}$

Where F is the fire frequency in fires per year and A is the building area in m².

Area Effect

Figure 5 shows how well the SRS Production Curve, Equation (13), parallels with industrial data. The SRS curve is slightly higher than the all-manufacturing correlation and slightly below the correlation for chemical and allied processes. This would be expected since SRS production facilities represent a blend of general industry and nuclear facilities. Often these nuclear facilities are very similar to those used in the chemical industry.

Figure 5 also demonstrates the SRS all-building curve. This curve does not parallel the all manufacturing correlation. This is expected since the SRS all-building curve contains a significant portion of administrative facilities, which have been shown to be better represented using a uniform frequency estimator.

Direct comparison between the SRS Administrative Occupancy results and published literature is not readily possible. SRS Administrative Occupancies are a blend of offices, laboratories, repair and storage facilities. The published estimator for offices ranges from 8.9 to 13 fires/km²·yr. This range is lower than the SRS estimator, which is 35 fires/km²·yr. Figure 5 graphically demonstrates that the frequency of fires in typical industrial facilities ranges from 10 to 100 fires/km²·yr and can exceed 200 fires/km²·yr for small chemical and allied processes. Thus, it is expected that the SRS Administrative Occupancy result is higher than the published values for offices.

It is possible to generalize the SRS results to compare it with published data. To accomplish this requires the following thought experiment. Assume that one-third of the Administrative Occupancies at SRS are offices or similar occupancies with an incipient fire frequency of 10 fires/km²·yr. The remaining two-thirds are split equally between typical industrial and storage facilities and higher potential storage facilities. The frequency estimates for these occupancies are 33 and 80 fires/km²·yr. The net effect would be an overall frequency of:

$$(16) F' = \frac{10 \frac{\text{fires}}{\text{km}^2 \cdot \text{yr}}}{3} + \frac{33 \frac{\text{fires}}{\text{km}^2 \cdot \text{yr}}}{3} + \frac{80 \frac{\text{fires}}{\text{km}^2 \cdot \text{yr}}}{3} = 41 \frac{\text{fires}}{\text{km}^2 \cdot \text{yr}}$$

This result exceeds the 35 fires/km²·yr, but is less than the 46 fires/km²·yr that is the Administrative Occupancy result prior to excluding Buildings 772-F and 773-A. Thus, the SRS Administrative Occupancy results do compare favorably with published values.

Figure 5, Comparison of SRS curve fits with industrial data

Occupancy effect

The fire frequency estimators presented in Table 4 can be recast using the form for Equation (4). This is presented in Table 13. For typical building sizes the normalized incipient fire frequencies all show a decrease in the normalized value as the building size increases. This is shown in Figure 6. For many occupancies the equation slopes are almost identical. Where the slopes are similar it is reasonable to represent the area effect with a single equation and account for the occupancy using a multiplier, K.

$$(17) F = a \cdot K \cdot A^b$$

Table 13. — Fire frequency data for production areas

Building size (m ²)	α	β
SRS new	610	-0.39
All manufacturing	901	-0.47
Food, drink, tobacco	660	-0.40
Chemical and allied	3174	-0.54
Mechanical engineering	75	-0.25
Electrical engineering	354	-0.41
Vehicle manufacture	86	-0.14
Metal goods	864	-0.46
Textiles	2625	-0.65
Paper, printing, publishing	64	-0.09
Other manufacturing	3444	-0.59

Table 14. — Comparison of occupancy specific correlations

Building size (m ²)	Ratio of occupancy specific fire frequency to all-manufacturing prediction						Fire potential
	10	10 ²	10 ³	10 ⁴	10 ⁵	10 ⁶	
All manufacturing	1.00	1.00	1.00	1.00	1.00	1.00	nominal
Food, drink, tobacco	0.76	0.89	1.05	1.23	1.45	1.70	nominal
Chemical and allied	3.45	2.94	2.50	2.13	1.81	1.54	high
Mechanical engineering	0.10	0.16	0.27	0.45	0.74	1.23	low
Electrical engineering	0.41	0.47	0.53	0.61	0.70	0.81	low
Vehicle manufacture	0.13	0.27	0.57	1.23	2.63	5.62	nominal
Metal goods	0.96	0.99	1.01	1.03	1.06	1.08	nominal
Textiles	2.91	1.93	1.27	0.84	0.56	0.37	nominal
Paper, printing, publishing	0.10	0.24	0.57	1.36	3.27	7.85	...
Other manufacturing	3.75	2.84	2.16	1.64	1.24	0.94	...

Table 14 provides the ratio of the estimated fire frequency (fires/yr) and the estimated fire frequency for all industry over a range of areas. From this information it is possible to estimate an appropriate multiplier for each occupancy. To simplify implementation the occupancies were grouped into similar types. Since the basis for the correlations is not available, some of the occupancy descriptions are rather obscure. This grouping process allows the occupancies to be defined explicitly. The logical groups are low, nominal and high potential. These groups were defined based on the frequency estimates at 1000 m²:

$$\begin{array}{ll}
 \text{low} & \frac{F}{F_{\text{all}}} \leq 0.7 \\
 (18) \text{ nominal} & 0.7 < \frac{F}{F_{\text{all}}} \leq 1.3 \\
 \text{high} & 1.3 < \frac{F}{F_{\text{all}}}
 \end{array}$$

Table 15 summarizes the results for the fire potential grouping. The data for vehicle manufacture and paper, printing, publishing have been excluded because of their slopes are very shallow. The other manufacturing category is also excluded from the analysis since this category is ill defined.

Table 15.—Industrial fire frequency ratios

Fire potential	Number in category	Mean	Standard deviation
low	2	0.4	0.2
nominal	4	1.0	0.3
high	1	2.5	...

This analysis approach is repeated in Table 16 for the SRS Production Occupancy results. Ranking the ratios in order demonstrates that below a value of 1.0 most of the large buildings are related to reactor type operations. Above a value of 1.5 the buildings are related to material processing activities or laboratories. These ranges will be denoted as low, nominal and high.

The respective mean values of the ratios for each group are presented in Table 17. These mean values do not represent the best estimator for the K multiplier. In some cases the data is sparse. In some cases some of the building use has been inconsistent. (e.g., Building 105-L was in a non-operational state and essentially abandoned for more than 10 years.) It may also be skewed because there are several buildings with a particular occupancy. The recommended K multipliers presented in Table 17 are based on the information in Table 16 and the author's judgement.

Table 16. —SRS production facility derivation of occupancy multiplier

Building	Historical data			All-manufacturing correlation		SRS Correlation	
	F" fires/km ² ·yr	Area m ²	F fires/yr	F fires/yr	K	F fires/yr	K
105-000L	1.7	46452	0.08	0.51	0.16	0.72	0.11
105-000R	4.2	46452	0.20	0.51	0.39	0.72	0.27
184-000L	10.3	7897	0.08	0.20	0.41	0.29	0.28
184-000R	10.3	7897	0.08	0.20	0.41	0.29	0.28
105-000P	5.8	69677	0.41	0.63	0.65	0.89	0.46
484-000D	11.6	23226	0.27	0.35	0.77	0.50	0.54
105-000K	8.7	46452	0.41	0.51	0.80	0.72	0.56
105-000C	10.5	46452	0.49	0.51	0.96	0.72	0.67
234-000H	31.3	5331	0.17	0.16	1.04	0.23	0.71
210-000S	28.7	8696	0.25	0.21	1.20	0.30	0.83
232-000H	45.0	5130	0.23	0.16	1.47	0.23	1.01
184-000K	37.6	7897	0.30	0.20	1.50	0.29	1.04
184-000P	41.1	7897	0.32	0.20	1.64	0.29	1.13
221-000S	28.1	17782	0.50	0.30	1.64	0.44	1.14
221-000H	26.9	30621	0.82	0.41	2.03	0.58	1.42
247-000F	48.1	13006	0.63	0.26	2.43	0.37	1.68
321-000M	88.2	5209	0.46	0.16	2.90	0.23	1.99
772-000F	77.1	7785	0.60	0.20	3.06	0.28	2.11
320-000M	91.9	5880	0.54	0.17	3.20	0.25	2.19
313-000M	143.3	5315	0.76	0.16	4.75	0.23	3.26
221-000F	76.7	30632	2.35	0.41	5.79	0.58	4.04
773-000A	82.8	28267	2.34	0.39	6.02	0.56	4.20

Table 17. —SRS fire frequency ratios

Fire potential	All-manufacturing correlation	SRS correlation	Recommended K multiplier
Low	0.6	0.4	0.8
Nominal	1.2	0.8	1.2
High	3.2	2.2	3.0

Figure 6, Fire frequency predictions for industrial facilities

Implementation

The incipient fire frequencies presented in this report are intended to estimate the frequency of an incipient fire occurring in a specific building. As such only one correlation should be applied to any one building. In a mixed occupancy (e.g., offices and industrial activities in a single building) the correlation that best represents the overall occupancy should be selected and a single incipient fire frequency can then be computed. Multiple correlations should not be used to estimate the frequencies in a single building unless the building segmented by construction that create independent occupancies (i.e., 4-hour blank fire rated construction.)

There is nothing in the above approach that mandates that the incipient fire frequency be distributed uniformly over the building. If known the incipient frequency can be distributed based on room use. Such information is readily available in single and multi-family residences. In industrial occupancies the weighting can be derived from the occupancy multipliers in Table 17.

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Appendix A, SRS Fire Loss Data

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Table A-1.--Incipient fire data for A Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
		Sub	619675	139529		4169083	69	17	186
A	A	305-000A	18606	1729	37	63973	0	0	0
A	A	607-002A	240	22	41	902	2	0	2
A	A	607-016A	600	56	7	392	0	0	0
A	A	614-001A	86	8	41	328	0	0	0
A	A	701-001A	873	81	40	3240	0	0	0
A	A	701-002A	170	16	41	656	0	0	0
A	A	701-003A	150	14	41	574	0	0	0
A	A	701-009A	64	6	9	54	0	0	0
A	A	701-012A	1216	113	6	678	0	0	0
A	A	701-013A	48	4	8	32	0	0	0
A	A	702-000A	5195	483	37	17871	2	0	2
A	A	703-000A	177000	16444	37	608428	7	3	10
A	A	703-002A	1536	143	14	2002	0	0	0
A	A	703-003A	1536	143	9	1287	0	0	0
A	A	703-004A	1560	145	14	2030	0	0	0
A	A	703-005A	1560	145	9	1305	0	0	0
A	A	703-006A	1536	143	9	1287	0	0	0
A	A	703-009A	823	76	9	684	0	0	0
A	A	703-010A	1536	143	9	1287	0	0	0
A	A	703-011A	1536	143	9	1287	0	0	0
A	A	703-012A	720	67	9	603	0	0	0
A	A	703-013A	720	67	9	603	0	0	0
A	A	703-014A	1536	143	9	1287	0	0	0
A	A	703-015A	720	67	9	603	0	0	0
A	A	703-016A	720	67	9	603	0	0	0
A	A	703-017A	720	67	9	603	0	0	0
A	A	703-018A	720	67	9	603	0	0	0
A	A	703-022A	1792	166	9	1494	0	0	0
A	A	703-026A	1792	166	9	1494	0	0	0
A	A	703-028A	1792	166	9	1494	0	0	0
A	A	703-030A	1792	166	14	2324	0	0	0
A	A	703-031A	1792	166	14	2324	0	0	0
A	A	703-033A	1536	143	14	2002	0	0	0
A	A	703-034A	1600	149	14	2086	0	0	0
A	A	703-037A	1600	149	14	2086	0	0	0
A	A	703-038A	1600	149	14	2086	0	0	0
A	A	703-041A	20000	1858	14	26012	0	1	1
A	A	703-042A	20000	1858	14	26012	0	1	1
A	A	703-043A	20000	1858	14	26012	4	0	4
A	A	703-044A	20000	1858	5	9290	1	0	1
A	A	703-045A	20000	1858	5	9290	0	0	0
A	A	703-051A	432	40	7	280	0	0	0
A	A	703-052A	896	83	7	581	0	0	0
A	A	703-053A	896	83	7	581	0	0	0
A	A	703-054A	896	83	7	581	0	0	0
A	A	703-055A	896	83	7	581	0	0	0

Table A-1.--Incipient fire data for A Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
A	A	703-056A	896	83	7	581	0	0	0
A	A	703-057A	896	83	7	581	0	0	0
A	A	703-058A	896	83	7	581	0	0	0
A	A	703-063A	896	83	9	747	0	0	0
A	A	703-070A	896	83	9	747	0	0	0
A	A	703-071A	600	56	9	504	0	0	0
A	A	703-073A	1792	166	6	996	0	0	0
A	A	706-000A	1216	113	41	4633	0	0	0
A	A	707-000A	1008	94	41	3854	0	0	0
A	A	708-000A	40068	3722	37	137714	7	0	7
A	A	709-000A	3695	343	41	14063	0	0	0
A	A	710-000A	9533	886	41	36326	2	0	2
A	A	711-000A	2512	233	41	9553	0	0	0
A	A	712-000A	683	63	41	2583	0	0	0
A	A	713-000A	48521	4508	41	184828	0	0	0
A	A	713-001A	11760	1093	43	46999	1	0	1
A	A	713-002A	20000	1858	11	20438	0	0	0
A	A	713-003A	896	83	6	498	0	0	0
A	A	714-000A	45036	4184	41	171544	0	0	0
A	A	715-000A	229	21	41	861	1	1	2
A	A	716-000A	100	9	41	369	7	1	8
A	A	716-001A	896	83	5	415	0	0	0
A	A	716-002A	7225	671	5	3355	2	1	3
A	A	716-003A	360	33	8	264	0	0	0
A	A	716-004A	2400	223	8	1784	0	0	0
A	A	717-000A	52435	4871	41	199711	9	0	9
A	A	717-004A	200	19	10	190	0	0	0
A	A	717-005A	1536	143	15	2145	0	0	0
A	A	717-006A	160	15	9	135	0	0	0
A	A	717-007A	1536	143	10	1430	0	0	0
A	A	717-008A	792	74	7	518	0	0	0
A	A	717-009A	792	74	7	518	0	0	0
A	A	717-010A	1440	134	8	1072	0	0	0
A	A	719-000A	26487	2461	37	91057	0	0	0
A	A	719-001A	840	78	6	468	0	0	0
A	A	719-002A	1792	166	6	996	0	0	0
A	A	719-003A	160	15	13	195	0	0	0
A	A	719-004A	16000	1486	9	13374	0	0	0
A	A	719-007A	896	83	7	581	0	0	0
A	A	719-008A	896	83	6	498	1	0	1
A	A	719-009A	896	83	6	498	0	0	0
A	A	719-011A	900	84	6	504	0	1	1
A	A	719-013A	504	47	5	235	0	0	0
A	A	719-014A	952	88	5	440	0	0	0
A	A	719-015A	952	88	5	440	0	0	0
A	A	719-016A	952	88	5	440	0	0	0
A	A	719-017A	962	89	5	445	0	0	0

Table A-1.--Incipient fire data for A Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
A	A	719-018A	1792	166	5	830	0	0	0
A	A	719-019A	1792	166	5	830	0	0	0
A	A	719-020A	720	67	5	335	0	0	0
A	A	720-000A	11180	1039	41	42599	0	0	0
A	A	721-000A	4595	427	17	7259	0	0	0
A	A	722-000A	11700	1087	37	40219	0	0	0
A	A	722-001A	6900	641	13	8333	0	0	0
A	A	722-002A	720	67	14	938	0	0	0
A	A	722-004A	7800	725	11	7975	0	0	0
A	A	722-005A	20000	1858	5	9290	0	0	0
A	A	722-008A	792	74	6	444	0	0	0
A	A	723-000A	25194	2341	38	88958	3	1	4
A	A	723-002A	1152	107	18	1926	0	0	0
A	A	723-004A	1792	166	17	2822	0	0	0
A	A	723-005A	384	36	17	612	0	0	0
A	A	723-006A	1320	123	17	2091	0	0	0
A	A	723-007A	1560	145	17	2465	0	0	0
A	A	723-008A	720	67	16	1072	0	0	0
A	A	723-009A	720	67	16	1072	0	0	0
A	A	723-012A	240	22	13	286	0	0	0
A	A	723-013A	210	20	14	280	0	0	0
A	A	723-015A	2400	223	6	1338	0	0	0
A	A	724-000A	11595	1077	41	44157	0	0	0
A	A	724-002A	2160	201	17	3417	0	0	0
A	A	724-003A	1536	143	7	1001	0	0	0
A	A	724-004A	1536	143	7	1001	0	0	0
A	A	724-006A	384	36	8	288	0	0	0
A	A	724-007A	384	36	8	288	0	0	0
A	A	725-000A	1680	156	39	6084	0	0	0
A	A	726-000A	400	37	39	1443	0	0	0
A	A	730-000A	20000	1858	9	16722	1	0	1
A	A	730-001A	1792	166	6	996	0	0	0
A	A	730-002A	1792	166	6	996	0	0	0
A	A	730-003A	1792	166	6	996	0	0	0
A	A	733-000A	1926	179	41	7339	0	0	0
A	A	733-001A	4000	372	6	2232	0	0	0
A	A	734-000A	2034	189	41	7749	0	0	0
A	A	735-000A	48290	4486	41	183926	13	0	13
A	A	735-002A	1800	167	20	3340	0	1	1
A	A	735-004A	213	20	18	360	0	0	0
A	A	735-007A	7500	697	11	7667	0	0	0
A	A	735-008A	1536	143	14	2002	0	0	0
A	A	735-009A	1536	143	12	1716	0	0	0
A	A	735-011A	30000	2787	6	16722	0	0	0
A	A	735-013A	1800	167	6	1002	0	0	0
A	A	735-016A	1792	166	6	996	0	0	0
A	A	736-000A	10286	956	37	35372	0	0	0

Table A-1.--Incipient fire data for A Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*mi ²	Fire count		
							Original count	'91 to '94	Sum of all fires
A	A	736-001A	120	11	37	407	0	0	0
A	A	737-000A	27321	2538	17	43146	0	0	0
A	A	737-001A	2702	251	12	3012	0	0	0
A	A	737-002A	1210	112	10	1120	0	0	0
A	A	737-003A	1356	126	10	1260	0	0	0
A	A	737-004A	740	69	10	690	0	0	0
A	A	737-005A	2400	223	20	4460	0	0	0
A	A	737-006A	1584	147	9	1323	0	0	0
A	A	737-007A	1440	134	9	1206	0	0	0
A	A	737-008A	1440	134	9	1206	0	0	0
A	A	737-011A	1475	137	9	1233	0	0	0
A	A	737-012A	738	69	9	621	0	0	0
A	A	737-013A	5000	465	8	3720	0	0	0
A	A	737-014A	1440	134	9	1206	0	0	0
A	A	737-015A	1440	134	9	1206	0	0	0
A	A	737-017A	500	46	9	414	0	0	0
A	A	737-018A	2400	223	8	1784	0	0	0
A	A	737-019A	1440	134	7	938	0	0	0
A	A	737-020A	768	71	9	639	0	0	0
A	A	737-023A	300	28	9	252	0	0	0
A	A	738-000A	96	9	41	369	0	0	0
A	A	740-000A	3026	281	41	11521	0	0	0
A	A	740-003A	1792	166	6	996	0	0	0
A	A	740-004A	1792	166	6	996	0	0	0
A	A	740-005A	1792	166	6	996	0	0	0
A	A	740-006A	1792	166	6	996	0	0	0
A	A	740-007A	504	47	5	235	0	0	0
A	A	740-008A	1200	111	5	555	0	0	0
A	A	740-009A	1792	166	5	830	0	0	0
A	A	740-010A	1792	166	5	830	0	0	0
A	A	740-011A	1792	166	5	830	0	0	0
A	A	740-012A	1792	166	5	830	0	0	0
A	A	742-000A	29000	2694	11	29634	0	0	0
A	A	742-002A	1792	166	6	996	0	0	0
A	A	742-003A	1792	166	6	996	0	0	0
A	A	742-004A	720	67	6	402	0	0	0
A	A	742-005A	720	67	6	402	0	0	0
A	A	743-000A	1034	96	41	3936	0	0	0
A	A	743-001A	1440	134	14	1876	0	0	0
A	A	745-000A	11025	1024	36	36864	1	0	1
A	A	745-003A	384	36	11	396	0	0	0
A	A	745-006A	2400	223	11	2453	0	0	0
A	A	746-000A	1296	120	36	4320	0	0	0
A	A	746-001A	1200	111	14	1554	0	0	0
A	A	748-000A	5680	528	27	14256	0	0	0
A	A	748-001A	35	3	27	81	0	0	0
A	A	749-000A	11500	1068	6	6408	0	0	0

Table A-1.--Incipient fire data for A Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
A	A	749-001A	100	9	6	54	0	0	0
A	A	751-001A	4450	413	37	15281	1	0	1
A	A	751-002A	288	27	41	1107	0	0	0
A	A	752-025A	200	19	19	361	0	0	0
A	A	761-000A	141	13	37	481	0	0	0
A	A	763-000A	2400	223	15	3345	0	0	0
A	A	770-000A	1404	130	41	5330	0	0	0
A	A	771-000A	45	4	39	156	0	0	0
A	A	773-000A	304263	28267	41	1158947	96	0	96
A	A	773-002A	1012	94	41	3854	0	0	0
A	A	773-003A	449	42	41	1722	0	0	0
A	A	773-004A	35	3	28	84	0	0	0
A	A	773-005A	35	3	28	84	0	0	0
A	A	773-006A	35	3	26	78	0	0	0
A	A	773-008A	35	3	25	75	0	0	0
A	A	773-011A	1824	169	9	1521	1	0	1
A	A	773-012A	1632	152	9	1368	0	0	0
A	A	773-013A	1500	139	9	1251	0	0	0
A	A	773-014A	768	71	9	639	0	0	0
A	A	773-016A	1536	143	9	1287	0	0	0
A	A	773-017A	1536	143	9	1287	0	0	0
A	A	773-018A	1536	143	9	1287	0	0	0
A	A	773-019A	1536	143	9	1287	0	0	0
A	A	773-020A	896	83	16	1328	0	0	0
A	A	773-021A	1512	140	16	2240	0	0	0
A	A	773-022A	1536	143	14	2002	0	0	0
A	A	773-023A	1536	143	14	2002	0	0	0
A	A	773-024A	1536	143	14	2002	0	0	0
A	A	773-026A	1536	143	9	1287	0	0	0
A	A	773-027A	1536	143	9	1287	0	0	0
A	A	773-041A	20000	1858	10	18580	0	0	0
A	A	773-042A	20000	1858	9	16722	0	0	0
A	A	773-043A	18720	1739	7	12173	0	0	0
A	A	773-051A	20000	1858	6	11148	0	0	0
A	A	773-053A	1792	166	6	996	0	0	0
A	A	773-054A	1792	166	6	996	0	0	0
A	A	773-055A	1792	166	6	996	0	0	0
A	A	773-056A	1792	166	5	830	0	0	0
A	A	773-057A	1792	166	5	830	0	0	0
A	A	773-058A	1792	166	5	830	0	0	0
A	A	773-059A	1792	166	5	830	0	0	0
A	A	773-060A	504	47	9	423	0	0	0
A	A	774-000A	2501	232	37	8584	1	0	1
A	A	774-001A	720	67	8	536	0	0	0
A	A	774-002A	798	74	8	592	0	0	0
A	A	775-000A	819	76	25	1900	0	0	0
A	A	776-000A	3000	279	6	1674	0	0	0

Table A-1.--Incipient fire data for A Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
A	A	776-001A	1801	167	41	6847	0	0	0
A	A	776-003A	280	26	26	676	0	0	0
A	A	776-004A	280	26	26	676	0	0	0
A	A	776-005A	360	33	8	264	0	0	0
A	A	776-006A	2563	238	41	9758	0	0	0
A	A	776-008A	608	56	9	504	0	0	0
A	A	777-000A	2800	260	5	1300	0	0	0
A	A	777-010A	55308	5138	41	210658	1	2	3
A	A	777-011A	96	9	41	369	0	0	0
A	A	777-012A	885	82	30	2460	0	0	0
A	A	777-015A	720	67	7	469	0	0	0
A	A	778-000A	144	13	33	429	0	0	0
A	A	778-005A		0			0	1	1
A	A	779-000A	4589	426	24	10224	1	0	1
A	A	779-001A	720	67	9	603	0	0	0
A	A	779-003A	150	14	9	126	0	0	0
A	A	779-006A	288	27	9	243	0	0	0
A	A	779-010A	1450	135	9	1215	0	0	0
A	A	780-001A	270	25	41	1025	0	0	0
A	A	780-002A	421	39	41	1599	0	0	0
A	A	781-000A	10800	1003	9	9027	0	0	0
A	A	784-000A	6000	557	37	20609	2	1	3
A	A	784-001A	960	89	13	1157	0	0	0
A	A	784-003A	150	14	14	196	0	0	0
A	A	784-004A	480	45	14	630	0	0	0
A	A	784-004A	173	16	14	224	0	0	0
A	A	785-000A	960	89	41	3649	0	0	0
A	A	785-001A	121	11	30	330	0	0	0
A	A	786-000A	4600	427	22	9394	0	0	0
A	A	786-001A	1536	143	14	2002	0	0	0
A	A	786-002A	408	38	14	532	0	0	0
A	A	786-004A	288	27	8	216	0	0	0
A	A	786-005A	2100	195	9	1755	0	0	0
A	A	786-006A	1120	104	9	936	0	0	0
A	A	786-013A	144	13	9	117	0	0	0
A	A	789-000A	6000	557	37	20609	2	2	4
A	A	792-000A	882	82	20	1640	0	0	0
A	A	905-098A	196	18	13	234	0	0	0

Table A-2.--Incipient fire data for B Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
		Sub	3410	7285		55293	1	2	3
B	A	607-002B	432	40	7	280	0	0	0
B	A	623-000B	0	0	0	0	1	0	1
B	A	703-000B	20000	1858	8	14864	1	1	2
B	A	703-001B	20000	1858	8	14864	1	1	2
B	A	703-005B	20000	1858	7	13006	0	0	0
B	A	703-007B	952	88	6	528	0	0	0
B	A	703-010B	480	45	6	270	0	0	0
B	A	703-012B	1200	111	6	666	0	0	0
B	A	704-000B	3000	279	9	2511	0	0	0
B	A	704-003B	1800	167	8	1336	0	0	0
B	A	707-032B	504	47	9	423	0	0	0
B	A	707-033B	504	47	9	423	0	0	0
B	A	716-000B	4624	430	9	3870	0	0	0
B	A	772-026B	1920	178	6	1068	0	0	0
B	A	772-027B	3000	279	6	1674	0	0	0
		Sub	97416	7222		127813	2	2	4

Table A-3.--Incipient fire data for 700C Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
C	A	701-001C	4164	387	9	3483	0	0	0
C	A	701-002C	1679	156	9	1404	0	0	0
C	A	701-004C	240	22	9	198	0	0	0
C	A	701-005C	240	22	9	198	0	0	0
C	A	701-006C	200	19	9	171	0	0	0
C	A	702-000C	1665	155	9	1395	0	0	0
C	A	704-000C	18489	1718	41	70438	4	0	4
C	A	704-001C	1493	139	9	1251	0	0	0
C	A	704-002C	1792	166	9	1494	0	0	0
C	A	704-006C	4826	448	6	2688	0	1	1
C	A	705-000C	26250	2439	9	21951	0	0	0
C	A	706-000C	19000	1765	39	68835	0	1	1
C	A	706-006C	720	67	9	603	0	0	0
C	A	706-009C	3920	364	9	3276	0	1	1
C	A	706-017C	1792	166	9	1494	0	0	0
C	A	707-000C	44728	4155	7	29085	0	0	0
C	A	707-002C	540	50	2	100	0	0	0
C	A	707-003C	540	50	2	100	0	0	0
C	A	707-004C	540	50	2	100	0	0	0
C	A	707-005C	540	50	2	100	0	0	0
C	A	717-000C	4250	395	9	3555	1	0	1

Table A-4.--Incipient fire data for 700D Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
D	A	701-001D	4034	375	41	15375	0	0	0
D	A	701-002D	100	9	41	369	0	0	0
D	A	701-003D	202	19	41	779	0	0	0
D	A	704-000D	10087	937	41	38417	1	0	1
D	A	704-001D	1792	166	6	996	0	0	0
D	A	707-000D	1665	155	41	6355	1	0	1
D	A	711-000D	680	63	41	2583	0	0	0
D	A	711-001D	3646	339	7	2373	0	0	0
D	A	717-000D	18365	1706	41	69946	1	0	1
D	A	772-000D	11750	1092	41	44772	2	0	2

Table A-5.--Incipient fire data for 700F Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
F	A	300-000F	0	0	0	0	1	0	1
F	A	701-001F	6080	565	40	22600	0	1	1
F	A	701-002F	150	14	40	560	0	0	0
F	A	701-003F	672	62	40	2480	0	0	0
F	A	701-004F	150	14	40	560	0	0	0
F	A	701-005F	228	21	40	840	0	0	0
F	A	701-006F	308	29	9	261	0	0	0
F	A	701-007F	144	13	9	117	0	0	0
F	A	701-009F	1800	167	6	1002	0	0	0
F	A	701-013F	308	29	6	174	0	0	0
F	A	701-018F	308	29	5	145	0	0	0
F	A	701-019F	1440	134	5	670	0	0	0
F	A	702-000F	1665	155	4	620	0	0	0
F	A	703-000F	25000	2323	10	23230	1	0	1
F	A	703-001F	840	78	10	780	0	0	0
F	A	704-000F	12141	1128	40	45120	2	0	2
F	A	704-002F	1296	120	9	1080	0	0	0
F	A	704-003F	1296	120	19	2280	0	0	0
F	A	704-004F	720	67	9	603	0	0	0
F	A	704-005F	720	67	14	938	0	0	0
F	A	704-008F	1536	143	12	1716	0	0	0
F	A	704-010F	1792	166	12	1992	0	0	0
F	A	704-011F	896	83	11	913	0	0	0
F	A	704-012F	896	83	11	913	0	0	0
F	A	704-017F	768	71	7	497	0	0	0
F	A	704-018F	1792	166	5	830	0	0	0
F	A	704-019F	1792	166	5	830	0	0	0
F	A	704-023F	1792	166	6	996	0	0	0
F	A	705-001F	600	56	6	336	0	0	0
F	A	705-002F	600	56	6	336	0	0	0
F	A	706-000F	4001	372	37	13764	0	0	0
F	A	707-001F	3888	361	38	13718	2	0	2
F	A	707-002F	1484	138	9	1242	0	0	0
F	A	707-004F	240	22	9	198	0	0	0
F	A	709-000F	2075	193	40	7720	0	0	0
F	A	709-001F	2506	233	20	4660	0	0	0
F	A	709-002F	156	14	20	280	0	0	0
F	A	709-004F	960	89	9	801	0	0	0
F	A	709-005F	960	89	9	801	0	0	0
F	A	711-000F	680	63	9	567	0	0	0
F	A	717-000F	52500	4877	37	130449	0	0	0
F	A	717-004F	240	22	12	264	0	0	0
F	A	717-005F	100	9	12	108	0	0	0
F	A	719-000F	192	18	31	558	0	0	0
F	A	722-000F	600	56	31	1736	0	0	0
F	A	723-000F	12599	1170	40	46800	12	0	12

Table A-5.--Incipient fire data for 700F Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
F	A	723-001F	240	22	14	308	0	0	0
F	A	723-002F	144	13	9	117	0	0	0
F	A	725-000F	35	3	27	81	0	0	0
F	A	727-000F	240	22	9	198	0	0	0
F	A	728-000F	3888	361	40	14440	0	0	0
F	A	729-000F	3208	298	15	4470	0	0	0
F	A	729-001F	384	36	9	324	0	0	0
F	A	772-000F	83796	7785	40	311400	23	1	24
F	A	772-001F	32000	2973	9	26757	1	0	1
F	A	772-003F	1792	166	6	996	0	0	0
F	A	782-001F	320	30	11	330	0	0	0

Table A-6.--Incipient fire data for 700H Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs"m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
H	A	322-000H	0	0	0	0	1	0	1
H	A	701-001H	4293	399	39	15561	1	0	1
H	A	701-003H	316	29	9	261	1	0	1
H	A	701-004H	65	6	9	54	0	0	0
H	A	701-008H	80	7	9	63	0	0	0
H	A	702-000H	1665	155	10	1550	0	0	0
H	A	703-000H	25000	2323	10	23230	0	1	1
H	A	704-000H	15000	1394	39	54366	2	2	4
H	A	704-001H	1536	143	9	1287	0	0	0
H	A	704-002H	1536	143	9	1287	0	0	0
H	A	704-003H	1536	143	9	1287	0	0	0
H	A	704-005H	1536	143	9	1287	0	0	0
H	A	704-006H	7200	669	9	6021	0	0	0
H	A	704-008H	5040	468	13	6084	0	0	0
H	A	704-011H	240	22	9	198	0	0	0
H	A	705-000H	20000	1858	9	16722	0	2	2
H	A	705-001H	600	56	14	784	0	0	0
H	A	705-002H	600	56	14	784	0	0	0
H	A	705-005H	960	89	9	801	0	0	0
H	A	706-000H	4220	392	39	15288	0	0	0
H	A	706-001H	1536	143	9	1287	0	0	0
H	A	706-002H	1536	143	14	2002	0	0	0
H	A	707-000H	19000	1765	9	15885	0	0	0
H	A	717-003H	360	33	15	495	0	0	0
H	A	717-004H	360	33	15	495	0	0	0
H	A	724-000H	5001	465	39	18135	1	0	1
H	A	777-000H	0	0	0	0	1	0	1
H	A	782-001H	320	30	11	330	0	0	0

Table A-7.--Incipient fire data for 700K Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
K	A	701-001K	4162	387	40	15480	1	0	1
K	A	701-002K	1679	156	7	1092	0	0	0
K	A	701-005K	308	29	7	203	0	0	0
K	A	704-000K	15870	1474	40	58960	0	0	0
K	A	704-001K	1792	166	12	1992	0	0	0
K	A	704-002K	845	79	5	395	0	0	0
K	A	704-003K	845	79	5	395	0	0	0
K	A	704-004K	845	79	5	395	0	0	0
K	A	704-022K	1680	156	4	624	0	1	1
K	A	711-001K	800	74	5	370	0	0	0
K	A	717-000K	20000	1858	6	11148	0	1	1

Table A-8.--Incipient fire data for 700L Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
L	A	701-001L	228	21	40	840	0	0	0
L	A	701-002L	1679	156	7	1092	2	0	2
L	A	701-005L	308	29	7	203	0	0	0
L	A	704-000L	14487	1346	40	53840	1	0	1
L	A	704-001L	1792	166	8	1328	0	0	0
L	A	711-000L	630	59	40	2360	0	0	0
L	A	717-000L	0	0	0	0	1	0	1
L	A	723-000L	180	17	5	85	0	0	0
L	A	723-001L	85	8	5	40	0	0	0
L	A	723-002L	80	7	5	35	0	0	0
L	A	723-003L	80	7	5	35	0	0	0
L	A	723-004L	200	19	8	152	0	0	0

Table A-9.--Incipient fire data for 700M Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
M	A	701-001M	315	29	42	1218	0	0	0
M	A	701-003M	195	18	42	756	0	0	0
M	A	701-004M	192	18	4	72	1	0	1
M	A	701-006M	80	7	42	294	1	0	1
M	A	701-007M	420	39	4	156	0	0	0
M	A	704-000M	7672	713	42	29946	0	0	0
M	A	710-000M	250	23	42	966	0	0	0
M	A	730-000M	18000	1672	9	15048	0	0	0
M	A	734-000M	450	42	9	378	0	0	0
M	A	777-000M	0	0	0	0	3	0	3
M	A	782-001M	320	30	12	360	0	0	0

Table A-10.--Incipient fire data for 700P Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*in ²	Fire count		
							Original count	'91 to '94	Sum of all fires
		SUN	2417	226		792		1	3
P	A	701-001P	4164	387	40	15480	0	0	0
P	A	701-002P	1679	156	7	1092	1	0	1
P	A	701-005P	308	29	7	203	0	0	0
P	A	704-002P	870	81	7	567	0	0	0
P	A	704-003P	896	83	7	581	0	0	0
P	A	704-000P	15870	1474	40	58960	2	0	2
P	A	711-000P	630	59	40	2360	0	0	0

Table A-11.--Incipient fire data for 700R Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
R	A	701-1R	4162	387	7	2709	0	0	0
R	A	701-2R	150	14	7	98	0	0	0
R	A	701-3R	64	6	7	42	0	0	0
R	A	704-R	15870	1474	41	60434	1	0	1
R	A	711-R	630	59	7	413	0	0	0

Table A-12.--Incipient fire data for 100 Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
		SUM	125725	11902		1718724	17	1	18
C	P	105-000C	500000	46452	37	1718724	17	1	18
C	P	105-006C	240	22	9	198	0	0	0
C	P	105-007C	240	22	9	198	0	0	0
C	P	108-001C	6000	557	33	18381	0	0	0
C	P	108-002C	6000	557	33	18381	0	0	0
C	P	110-000C	240	22	37	814	0	0	0
C	P	151-001C	6400	595	33	19635	0	0	0
C	P	151-002C	6400	595	33	19635	0	0	0
C	P	152-007C	200	19	7	133	0	0	0
C	P	183-002C	760	71	39	2769	0	0	0
C	P	183-004C	6430	597	39	23283	0	0	0
C	P	184-002C	828	77	39	3003	0	0	0
C	P	184-006C	800	74	7	518	0	0	0
C	P	190-000C	12000	1115	37	41255	0	0	0
C	P	191-000C	288	27	37	999	0	0	0
K	P	105-000K	500000	46452	37	1718724	8	7	15
K	P	105-006K	96	9	7	63	0	0	0
K	P	105-007K	96	9	7	63	0	0	0
K	P	105-008K	120	11	7	77	0	0	0
K	P	105-013K	3250	302	7	2114	0	0	0
K	P	108-001K	6000	557	40	22280	3	0	3
K	P	108-002K	6000	557	40	22280	1	0	1
K	P	110-000K	240	22	40	880	0	0	0
K	P	151-001K	6400	595	37	22015	0	0	0
K	P	151-002K	6400	595	37	22015	0	0	0
K	P	152-001K	6400	595	37	22015	0	0	0
K	P	152-007K	200	19	9	171	0	0	0
K	P	183-002K	720	67	40	2680	1	0	1
K	P	183-004K	6430	597	40	23880	0	1	1
K	P	184-000K	85000	7897	37	292189	11	0	11
K	P	184-005K	173	16	9	144	0	0	0
K	P	185-000K	375	35	40	1400	1	0	1
K	P	190-000K	12000	1115	37	41255	0	0	0
K	P	191-000K	288	27	31	837	1	0	1
L	P	105-000L	500000	46452	37	1718724	3	0	3
L	P	105-002L	720	67	9	603	0	0	0
L	P	108-001L	6000	557	37	20609	2	0	2
L	P	108-002L	6000	557	37	20609	0	0	0
L	P	108-004L	625	58	9	522	1	0	1
L	P	110-000L	240	22	37	814	0	0	0
L	P	151-001L	6400	595	37	22015	0	0	0
L	P	151-002L	6400	595	37	22015	0	0	0
L	P	152-001L	6400	595	37	22015	0	0	0
L	P	152-007L	200	19	7	133	0	0	0
L	P	183-002L	720	67	40	2680	0	0	0
L	P	183-004L	6430	597	40	23880	0	0	0

Table A-12.--Incipient fire data for 100 Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
L	P	184-000L	85000	7897	37	292189	3	0	3
L	P	184-006L	800	74	7	518	0	0	0
L	P	190-000L	12000	1115	37	41255	0	0	0
L	P	191-000L	288	27	30	810	0	0	0
P	P	105-000P	750000	69677	37	2578049	13	2	15
P	P	105-002P	720	67	7	469	0	0	0
P	P	105-003P	720	67	7	469	0	0	0
P	P	105-006P	96	9	7	63	0	0	0
P	P	105-013P	3250	302	7	2114	0	0	0
P	P	105-014P	360	33	8	264	0	0	0
P	P	108-001P	6000	557	40	22280	1	0	1
P	P	108-002P	6000	557	40	22280	2	0	2
P	P	110-000P	240	22	40	880	0	0	0
P	P	151-001P	6400	595	37	22015	0	0	0
P	P	151-002P	6400	595	37	22015	0	0	0
P	P	152-001P	6400	595	37	22015	0	0	0
P	P	152-007P	200	19	7	133	0	0	0
P	P	183-002P	720	67	40	2680	0	0	0
P	P	183-004P	6430	597	40	23880	1	0	1
P	P	184-000P	85000	7897	37	292189	12	0	12
P	P	184-005P	173	16	7	112	0	0	0
P	P	184-006P	800	74	7	518	0	0	0
P	P	185-000P	375	35	40	1400	1	0	1
P	P	190-000P	12000	1115	37	41255	0	0	0
P	P	191-000P	288	27	30	810	0	0	0
R	P	100-000R	0	0	0	0	1	0	1
R	P	105-000R	500000	46452	41	1904532	8	0	8
R	P	108-001R	6596	613	41	25133	0	0	0
R	P	108-002R	9525	885	41	36285	0	0	0
R	P	110-000R	240	22	37	814	0	0	0
R	P	122-000R	4759	442	41	18122	0	0	0
R	P	151-001R	6151	571	41	23411	0	0	0
R	P	151-002R	7601	706	41	28946	0	0	0
R	P	181-000R	144	13	36	468	0	0	0
R	P	183-001R	2640	245	41	10045	0	0	0
R	P	183-002R	1150	107	41	4387	0	0	0
R	P	184-000R	85000	7897	37	292189	3	0	3
R	P	190-000R	15638	1453	41	59573	1	0	1
									106

Table A-13.--Incipient fire data for 400D Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
		SUM	369104	34288		123962	75	10	85
D	P	400-000D	0	0	41	0	2	0	2
D	P	401-001D	1930	179	41	7339	2	0	2
D	P	401-002D	300	28	41	1148	0	0	0
D	P	402-000D	7500	697	41	28577	1	0	1
D	P	411-003D	7464	693	41	28413	2	0	2
D	P	411-004D	352	33	41	1353	0	0	0
D	P	411-006D	360	33	41	1353	0	0	0
D	P	411-007D	240	22	41	902	0	0	0
D	P	412-001D	1000	93	33	3069	33	0	33
D	P	412-011D	100	9	41	369	0	0	0
D	P	412-002D	2402	223	41	9143	0	0	0
D	P	412-003D	5790	538	41	22058	0	0	0
D	P	412-004D	1098	102	41	4182	0	0	0
D	P	412-005D	1200	111	41	4551	0	0	0
D	P	412-008D	631	59	20	1180	0	0	0
D	P	412-009D	366	34	41	1394	0	0	0
D	P	413-000D	0	0	33	0	8	0	8
D	P	414-000D	1200	111	41	4551	0	0	0
D	P	415-000D	1200	111	41	4551	0	0	0
D	P	420-002D	880	82	18	1476	0	0	0
D	P	420-000D	6030	560	41	22960	0	0	0
D	P	421-002D	5525	513	40	20520	0	0	0
D	P	421-004D	3600	334	13	4342	0	0	0
D	P	421-000D	8128	755	41	30955	2	0	2
D	P	451-000D	566	53	41	2173	0	0	0
D	P	480-002D	270	25	41	1025	0	0	0
D	P	480-003D	576	54	41	2214	0	0	0
D	P	483-001D	38000	3530	37	130610	0	0	0
D	P	483-002D	851	79	41	3239	0	0	0
D	P	483-003D	1920	178	41	7298	0	0	0
D	P	484-010D	2400	223	6	1338	24	0	24
D	P	484-011D	192	18	6	108	0	0	0
D	P	484-012D	800	74	6	444	0	0	0
D	P	484-002D	648	60	15	900	1	0	1
D	P	484-003D	550	51	14	714	0	0	0
D	P	484-004D	9200	855	13	11115	0	0	0
D	P	484-005D	240	22	13	286	0	0	0
D	P	484-007D	1600	149	7	1043	0	0	0
D	P	484-000D	250000	23226	37	859362	0	10	10
D	P	485-000D	3826	355	37	13135	0	0	0
D	P	494-006D	168	16	14	224	0	0	0
		SUM	369104	34288		123962	75	10	85

Table A-14.--Incipient fire data for 200F Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
		SUM	76510	7170		122522	117	6	131
F	P	200-000F	0	0	0	0	1	0	1
F	P	211-000F	10000	929	37	34373	3	0	3
F	P	211-001F	6000	557	9	5013	0	1	1
F	P	211-002F	740	69	40	2760	0	0	0
F	P	211-003F	1900	177	40	7080	0	0	0
F	P	211-004F	140	13	40	520	0	0	0
F	P	211-005F	288	27	40	1080	0	0	0
F	P	211-007F	1800	167	7	1169	0	0	0
F	P	217-000F	1024	95	40	3800	0	0	0
F	P	221-000F	329720.1	30632	40	1225280	88	6	94
F	P	221-001F	24067	2236	37	82732	1	1	2
F	P	221-003F	4000	372	37	13764	0	0	0
F	P	221-004F	192	18	37	666	0	0	0
F	P	221-010F	1536	143	13	1859	0	0	0
F	P	221-012F	10800	1003	7	7021	0	0	0
F	P	221-013F	416	39	12	468	0	0	0
F	P	221-015F	1536	143	9	1287	0	0	0
F	P	221-016F	1008	94	9	846	0	0	0
F	P	221-021F	20000	1858	7	13006	0	0	0
F	P	221-022F	20000	1858	7	13006	0	0	0
F	P	221-025F	20880	1940	9	17460	0	1	1
F	P	221-026F	800	74	7	518	0	0	0
F	P	221-027F	1000	93	6	558	0	0	0
F	P	222-000F	5989	556	37	20572	1	0	1
F	P	223-000F	390	36	32	1152	0	0	0
F	P	232-000F	16440	1527	40	61080	1	0	1
F	P	235-000F	47080	4374	37	161838	5	0	5
F	P	235-001F	950	88	16	1408	0	0	0
F	P	235-002F	476	44	9	396	0	0	0
F	P	235-006F	288	27	9	243	0	0	0
F	P	235-009F	288	27	9	243	0	0	0
F	P	235-011F	1792	166	5	830	0	0	0
F	P	240-000F	3072	285	43	12255	0	0	0
F	P	241-000F	714	66	9	594	1	0	1
F	P	241-017F	1078	100	14	1400	0	0	0
F	P	241-018F	1200	111	14	1554	0	0	0
F	P	241-024F	1500	139	14	1946	1	0	1
F	P	241-028F	1000	93	12	1116	0	1	1
F	P	241-051F	36	3	14	42	0	0	0
F	P	241-053F	300	28	14	392	0	0	0
F	P	241-058F	2400	223	14	3122	0	0	0
F	P	241-062F	390	36	10	360	0	0	0
F	P	241-064F	486	45	11	495	0	1	1
F	P	241-065F	360	33	11	363	0	0	0
F	P	241-072F	360	33	11	363	0	0	0
F	P	241-080F	600	56	11	616	0	0	0

Table A-14.--Incipient fire data for 200F Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*in ²	Fire count		
							Original count	'91 to '94	Sum of all fires
F	P	241-084F	400	37	8	296	0	0	0
F	P	241-091F	2400	223	8	1784	0	0	0
F	P	241-093F	608	56	8	448	0	0	0
F	P	241-096F	144	13	7	91	0	0	0
F	P	241-100F	1792	166	6	996	0	0	0
F	P	242-001F	913	85	12	1020	0	0	0
F	P	246-000F	13660	1269	17	21573	0	0	0
F	P	246-001F	240	22	8	176	0	0	0
F	P	246-002F	1792	166	6	996	0	0	0
F	P	247-000F	140000	13006	8	104048	4	1	5
F	P	247-003F	1836	171	6	1026	0	0	0
F	P	247-004F	180	17	6	102	0	0	0
F	P	247-007F	600	56	6	336	0	0	0
F	P	247-008F	276	26	6	156	0	0	0
F	P	247-009F	240	22	6	132	0	0	0
F	P	247-011F	180	17	6	102	0	0	0
F	P	247-012F	3795	353	6	2118	0	0	0
F	P	247-041F	1200	111	6	666	0	0	0
F	P	251-000F	1923	179	37	6623	1	0	1
F	P	254-002F	520	48	17	816	0	0	0
F	P	254-005F	816	76	14	1064	0	0	0
F	P	260-001F	80	7	40	280	0	0	0
F	P	280-001F	944	88	40	3520	0	0	0
F	P	280-002F	400	37	40	1480	0	0	0
F	P	281-004F	250	23	40	920	0	0	0
F	P	281-006F	250	23	40	920	0	0	0
F	P	281-012F	112	10	6	60	0	0	0
F	P	281-019F	144	13	6	78	0	0	0
F	P	281-020F	144	13	6	78	0	0	0
F	P	281-021F	144	13	6	78	0	0	0
F	P	281-022F	144	13	6	78	0	0	0
F	P	281-023F	144	13	6	78	0	0	0
F	P	281-024F	144	13	6	78	0	0	0
F	P	281-025F	144	13	6	78	0	0	0
F	P	282-000F	210	20	38	760	0	0	0
F	P	284-000F	30000	2787	40	111480	4	0	4
F	P	284-002F	500	46	21	966	0	0	0
F	P	284-003F	240	22	14	308	0	0	0
F	P	284-004F	840	78	14	1092	0	0	0
F	P	284-005F	240	22	14	308	0	0	0
F	P	284-008F	2826	263	9	2367	0	0	0
F	P	284-009F	3600	334	6	2004	0	0	0
F	P	285-001F	60	6	30	180	0	0	0
F	P	292-000F	12482	1160	37	42920	5	2	7
F	P	292-001F	613	57	40	2280	1	0	1
F	P	292-002F	3470	322	5	1610	0	0	0
F	P	294-001F	240	22	8	176	0	0	0

Table A-14.--Incipient fire data for 200F Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires

Table A-15.--Incipient fire data for 200H Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*ft ²	Fire count		
							Original count	'91 to '94	Sum of all fires
H	P	200-000H	0	0	0	0	1	0	1
H	P	211-000H	10000	929	37	34373	0	0	0
H	P	211-002H	1500	139	37	5143	0	0	0
H	P	211-004H	141	13	39	507	0	0	0
H	P	211-007H	10000	929	37	34373	4	0	4
H	P	211-008H	3000	279	8	2232	0	0	0
H	P	211-009H	300	28	8	224	0	0	0
H	P	211-010H	300	28	8	224	0	0	0
H	P	217-000H	901	84	36	3024	0	0	0
H	P	218-000H	2800	260	9	2340	0	1	1
H	P	221-000H	329600	30621	40	1224840	27	6	33
H	P	221-004H	1500	139	27	3753	0	0	0
H	P	221-006H	240	22	8	176	0	0	0
H	P	221-012H	160	15	9	135	0	0	0
H	P	221-013H	600	56	9	504	0	0	0
H	P	221-014H	600	56	9	504	0	0	0
H	P	225-001H	896	83	9	747	0	0	0
H	P	225-002H	1792	166	9	1494	0	0	0
H	P	225-003H	1792	166	9	1494	0	0	0
H	P	225-007H	1792	166	6	996	0	0	0
H	P	225-008H	1792	166	5	830	0	0	0
H	P	225-009H	840	78	13	1014	0	0	0
H	P	225-010H	960	89	13	1157	0	0	0
H	P	225-011H	960	89	13	1157	0	0	0
H	P	225-012H	960	89	13	1157	0	0	0
H	P	225-013H	960	89	13	1157	0	0	0
H	P	225-014H	960	89	13	1157	0	0	0
H	P	225-015H	960	89	13	1157	0	0	0
H	P	225-017H	960	89	13	1157	0	0	0
H	P	225-018H	504	47	13	611	0	0	0
H	P	230-000H	7165	666	11	7326	1	0	1
H	P	232-000H	55220	5130	39	200070	9	0	9
H	P	232-001H	11000	1022	37	37814	0	0	0
H	P	233-000H	33000	3066	11	33726	0	0	0
H	P	233-004H	1792	166	3	498	0	0	0
H	P	233-006H	1792	166	6	996	0	0	0
H	P	233-007H	1792	166	6	996	0	0	0
H	P	233-008H	1792	166	6	996	0	0	0
H	P	233-009H	1792	166	5	830	0	0	0
H	P	233-010H	1792	166	5	830	0	0	0
H	P	233-011H	432	40	5	200	0	0	0
H	P	233-012H	288	27	5	135	0	0	0
H	P	234-000H	57383	5331	36	191916	5	1	6
H	P	234-002H	672	62	9	558	0	0	0
H	P	235-000H	12000	1115	10	11150	0	0	0
H	P	235-001H	720	67	6	402	0	0	0

Table A-15.--Incipient fire data for 200H Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
H	P	235-002H	720	67	6	402	0	0	0
H	P	235-007H	510	47	6	282	0	0	0
H	P	235-009H	1792	166	6	996	0	0	0
H	P	235-010H	1792	166	6	996	0	0	0
H	P	236-000H	1270	118	24	2832	0	0	0
H	P	237-000H	5675	527	24	12648	0	0	0
H	P	238-000H	17175	1596	25	39900	0	0	0
H	P	238-001H	640	59	25	1475	0	0	0
H	P	241-000H	1725	160	14	2240	0	1	1
H	P	241-010H	9713	902	14	12628	0	0	0
H	P	241-013H	640	59	15	885	0	0	0
H	P	241-017H	363	34	18	612	0	0	0
H	P	241-023H	720	67	14	938	0	0	0
H	P	241-024H	1536	143	17	2431	1	0	1
H	P	241-025H	120	11	14	154	0	0	0
H	P	241-026H	36	3	14	42	0	0	0
H	P	241-028H	100	9	12	108	0	0	0
H	P	241-049H	100	9	12	108	0	0	0
H	P	241-052H	288	27	12	324	0	0	0
H	P	241-055H	1875	174	12	2088	1	0	1
H	P	241-057H	800	74	12	888	0	0	0
H	P	241-058H	2508	233	12	2796	1	0	1
H	P	241-062H	390	36	10	360	0	0	0
H	P	241-064H	480	45	10	450	0	0	0
H	P	241-065H	360	33	10	330	0	0	0
H	P	241-068H	580	54	10	540	0	0	0
H	P	241-069H	109	10	10	100	0	0	0
H	P	241-070H	540	50	10	500	0	0	0
H	P	241-071H	288	27	10	270	0	0	0
H	P	241-072H	360	33	14	462	0	0	0
H	P	241-080H	600	56	12	672	0	0	0
H	P	241-081H	16500	1533	10	15330	0	0	0
H	P	241-082H	1800	167	1	167	0	1	1
H	P	241-084H	6240	580	10	5800	0	0	0
H	P	241-085H	400	37	8	296	0	0	0
H	P	241-087H	100	9	8	72	0	0	0
H	P	241-088H	100	9	8	72	0	0	0
H	P	241-089H	1800	167	8	1336	0	0	0
H	P	241-090H	960	89	8	712	0	0	0
H	P	241-092H	1200	111	8	888	0	0	0
H	P	241-095H	672	62	8	496	0	0	0
H	P	241-098H	144	13	7	91	0	0	0
H	P	241-099H	144	13	7	91	0	0	0
H	P	241-105H	750	70	6	420	0	0	0
H	P	241-109H	360	33	6	198	0	0	0
H	P	241-110H	480	45	6	270	0	0	0
H	P	241-119H	1792	166	6	996	0	0	0

Table A-15.--Incipient fire data for 200H Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
H	P	241-120H	1792	166	6	996	0	0	0
H	P	241-121H	1792	166	6	996	0	0	0
H	P	241-122H	504	47	6	282	0	0	0
H	P	241A-38H	375	35	9	315	0	0	0
H	P	241A-39H	375	35	9	315	0	0	0
H	P	241A-40H	375	35	9	315	0	0	0
H	P	241A-41H	375	35	9	315	0	0	0
H	P	241A-42H	375	35	9	315	0	0	0
H	P	241A-43H	375	35	9	315	0	0	0
H	P	242-001H	720	67	32	2144	1	0	1
H	P	242-016H	300	28	12	336	0	0	0
H	P	242-019H	560	52	10	520	0	0	0
H	P	242-023H	200	19	10	190	0	0	0
H	P	242-024H	3000	279	8	2232	0	0	0
H	P	242-025H	1674	156	9	1404	0	1	1
H	P	244-000H	20785	1931	32	61792	1	0	1
H	P	244-001H	1920	178	25	4450	0	0	0
H	P	244-002H	1440	134	17	2278	0	0	0
H	P	245-000H	3241	301	31	9331	0	0	0
H	P	245-002H	160	15	9	135	0	0	0
H	P	248-010H	173	16	14	224	0	0	0
H	P	251-000H	1845	171	37	6327	0	0	0
H	P	253-000H	1350	125	8	1000	0	0	0
H	P	254-005H	816	76	13	988	0	1	1
H	P	254-028H	30	3	9	27	0	0	0
H	P	260-001H	81	8	39	312	0	0	0
H	P	260-002H	81	8	38	304	0	0	0
H	P	260-003H	100	9	37	333	0	0	0
H	P	260-004H	241	22	36	792	0	0	0
H	P	280-001H	940	87	39	3393	0	0	0
H	P	281-004H	251	23	39	897	0	0	0
H	P	281-006H	251	23	39	897	0	0	0
H	P	281-012H	112	10	7	70	0	0	0
H	P	281-013H	144	13	7	91	0	0	0
H	P	281-014H	144	13	7	91	0	0	0
H	P	281-015H	144	13	7	91	0	0	0
H	P	281-016H	144	13	7	91	0	0	0
H	P	281-017H	144	13	7	91	0	0	0
H	P	281-018H	144	13	7	91	0	0	0
H	P	284-000H	2500	232	37	8584	8	1	9
H	P	284-001H	200	19	13	247	0	0	0
H	P	284-004H	840	78	13	1014	0	0	0
H	P	284-005H	240	22	13	286	0	0	0
H	P	284-006H	240	22	13	286	0	0	0
H	P	284-007H	1800	167	14	2338	0	0	0
H	P	285-001H	61	6	30	180	0	0	0
H	P	285-002H	192	18	27	486	0	0	0

Table A-15.--Incipient fire data for 200H Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
H	P	285-004H	44	4	9	36	0	0	0
H	P	292-000H	13251	1231	37	45547	2	0	2
H	P	292-002H	3360	312	9	2808	0	0	0
H	P	292-003H	100	9	9	81	0	0	0
H	P	294-000H	24000	2230	9	20070	0	1	1
H	P	299-000H	1200	111	12	1332	0	1	1
H	P	299-002H	576	54	10	540	0	0	0
H	P	299-003H	200	19	9	171	0	0	0
H	P	299-004H	1500	139	8	1112	0	0	0
H	P	299-005H	608	56	8	448	0	0	0

Table A-16.--Incipient fire data for 300M Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
M	P	305-001M	10440	970	9	8730	0	1	1
M	P	313-000M	57212	5315	42	223230	32	0	32
M	P	313-003M	44000	4088	9	36792	0	0	0
M	P	313-006M	44000	4088	9	36792	0	0	0
M	P	313-007M	360	33	8	264	0	0	0
M	P	313-009M	315	29	8	232	0	0	0
M	P	313-010M	144	13	8	104	0	0	0
M	P	313-011M	192	18	8	144	0	0	0
M	P	315-000M	15286	1420	19	26980	0	0	0
M	P	315-001M	72	7	19	133	0	0	0
M	P	315-002M	100	9	19	171	0	0	0
M	P	316-000M	1600	149	7	1043	0	0	0
M	P	319-000M	506	47	37	1739	0	0	0
M	P	320-000M	63288	5880	37	217560	17	3	20
M	P	320-001M	720	67	9	603	0	0	0
M	P	321-000M	56072	5209	37	192733	16	1	17
M	P	321-002M	510	47	9	423	0	0	0
M	P	321-003M	4000	372	11	4092	0	0	0
M	P	321-004M	240	22	9	198	0	0	0
M	P	322-000M	7812	726	37	26862	16	0	16
M	P	322-001M	190	18	21	378	0	0	0
M	P	322-002M	1104	103	14	1442	0	0	0
M	P	322-003M	80	7	14	98	0	0	0
M	P	323-000M	360	33	8	264	0	0	0
M	P	324-000M	1875	174	28	4872	1	0	1
M	P	330-000M	8000	743	5	3715	0	0	0
M	P	331-000M	8000	743	6	4458	0	0	0
M	P	340-000M	400	37	6	222	0	0	0
M	P	341-000M	6000	557	6	3342	0	0	0
M	P	341-001M	5600	520	6	3120	0	0	0
M	P	341-005M	400	37	7	259	0	0	0

Table A-16.--Incipient fire data for T Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
T	P	607-41T	400	37	8	296	0	0	0
T	P	607-46T	600	56	6	336	0	0	0
T	P	669-T	3150	293	8	2344	0	0	0
T	P	670-T	3600	334	8	2672	0	0	0
T	P	671-T	200	19	12	228	0	0	0
T	P	672-T	12120	1126	11	12386	0	0	0
T	P	673-T	4800	446	12	5352	0	0	0
T	P	674-T	7000	650	13	8450	0	0	0
T	P	675-T	6642	617	12	7404	1	0	1
T	P	676-10T	1536	143	7	1001	0	0	0
T	P	676-11T	1536	143	5	715	0	0	0
T	P	676-12T	1536	143	6	858	0	0	0
T	P	676-14T	1792	166	6	996	0	0	0
T	P	676-15T	1792	166	5	830	0	0	0
T	P	676-1T	1536	143	14	2002	0	0	0
T	P	676-2T	720	67	9	603	0	0	0
T	P	676-8T	1536	143	9	1287	0	0	0
T	P	676-9T	1536	143	6	858	0	0	0
T	P	676-T	1536	143	14	2002	0	0	0
T	P	677-1T	192	18	14	252	0	0	0
T	P	677-2T	192	18	14	252	0	0	0
T	P	677-T	15280	1420	37	52540	0	0	0
T	P	678-T	12957	1204	37	44548	4	0	4
T	P	679-2T	120	11	9	99	0	0	0
T	P	679-5T	48	4	9	36	0	0	0
T	P	679-7T	101	9	9	81	0	0	0
T	P	679-8T	101	9	9	81	0	0	0
T	P	679-T	13360	1241	41	50881	0	0	0
T	P	682-T	500	46	6	276	0	0	0
T	P	684-T	420	39	7	273	0	0	0
T	P	704-1T	6500	604	7	4228	0	0	0
T	P	704-T	6395	594	12	7128	0	0	0
T	P	711-T	200	19	10	190	0	0	0
T	P	772-T	40000	3716	5	18580	1	0	1
T	P	904-T	3600	334	6	2004	0	0	0

Table A-17.--Incipient fire data for S Area

Area	Type	ID	Area, ft2	Area, m2	years in service to '94	yrs*m2	Fire count		
							Original count	'91 to '94	Sum of all fires
S	P	210-000S	93600	8696	4	34784	0	1	1
S	P	221-000S	191400	17782	4	71128	0	2	2
S	P	250-000S	24824	2306	4	9224	0	0	0
S	P	250-001S	2400	223	4	892	0	0	0
S	P	250-002S	2000	186	4	744	0	0	0
S	P	250-003S	200	19	4	76	0	0	0
S	P	260-000S		0	4	0	0	0	0
S	P	260-001S	288	27	4	108	0	0	0
S	P	263-155S	200	19	4	76	0	0	0
S	P	291-000S	0	0	4	0	0	0	0
S	P	292-000S	21936	2038	4	8152	0	0	0
S	P	375-000S	0	0	4	0	0	0	0
S	P	422-000S	4611	428	4	1712	0	0	0
S	P	422-001S	0	0	4	0	0	0	0
S	P	422-002S	4200	390	4	1560	0	0	0
S	P	422-003S	460	43	2	86	0	0	0
S	P	422-004S	1075	100	4	400	0	0	0
S	P	422-005S	0	0	4	0	0	0	0
S	P	422-006S	576	54	4	216	0	0	0
S	P	430-000S	0	0	4	0	0	0	0
S	P	430-001S	304	28	4	112	0	0	0
S	P	430-003S	828	77	4	308	0	0	0
S	P	430-004S	527	49	4	196	0	0	0
S	P	511-002S	48	4	4	16	0	0	0
S	P	511-003S	200	19	4	76	0	0	0
S	P	512-000S	7215	670	4	2680	0	0	0
S	P	512-003S	240	22	4	88	0	0	0
S	P	512-004S	1352	126	4	504	0	0	0
S	P	512-005S	1344	125	4	500	0	0	0
S	P	512-006S	800	74	4	296	0	0	0
S	P	512-007S	800	74	4	296	0	0	0
S	P	512-008S	800	74	4	296	0	0	0
S	P	512-009S	960	89	4	356	0	0	0
S	P	512-010S	960	89	4	356	0	0	0
S	P	512-011S	960	89	4	356	0	0	0
S	P	701-000S	1000	93	4	372	0	0	0
S	P	701-002S	36	3	4	12	0	0	0
S	P	701-003S	128	12	4	48	0	0	0
S	P	702-000S	1000	93	4	372	0	0	0
S	P	704-000S	25844	2401		0	0	1	1
S	P	704-001S	1504	140	4	560	0	0	0
S	P	704-002S	1411	131	4	524	0	0	0
S	P	704-003S	1398	130	4	520	0	0	0
S	P	704-004S	1396	130	4	520	0	0	0
S	P	704-005S	1365	127	4	508	0	0	0
S	P	704-006S	1447	134	4	536	0	0	0

Table A-17.--Incipient fire data for S Area

Area	Type	ID	Area, ft2	Area, m2	years in service to '94	yrs*m2	Fire count		
							Original count	'91 to '94	Sum of all fires
S	P	704-007S	1440	134	4	536	0	0	0
S	P	704-008S	1498	139	4	556	0	0	0
S	P	704-015S	896	83	4	332	0	0	0
S	P	704-016S	1116	104	4	416	0	0	0
S	P	704-018S	1296	120	4	480	0	0	0
S	P	704-019S	827	77	4	308	0	0	0
S	P	704-020S	1393	129	4	516	0	0	0
S	P	704-024S	686	64	4	256	0	0	0
S	P	704-025S	1736	161	4	644	0	1	1
S	P	704-026S	1731	161	4	644	0	0	0
S	P	704-027S	1731	161	4	644	0	0	0
S	P	704-028S	1731	161	4	644	0	0	0
S	P	704-029S	1736	161	4	644	0	0	0
S	P	704-030S	1731	161	4	644	0	0	0
S	P	704-031S	1731	161	4	644	0	0	0
S	P	704-032S	200	19	3	57	0	0	0
S	P	704-035S	1754	163	4	652	0	0	0
S	P	704-041S	660	61	4	244	0	0	0
S	P	704-042S	660	61	4	244	0	0	0
S	P	704-044S	720	67	4	268	0	0	0
S	P	704-045S	1440	134	4	536	0	0	0
S	P	704-046S	1440	134	4	536	0	0	0
S	P	704-047S	240	22	4	88	0	0	0
S	P	704-049S	5369	499	2	998	0	0	0
S	P	704-050S	960	89	4	356	0	0	0
S	P	704-051S	960	89	4	356	0	0	0
S	P	704-052S	960	89	4	356	0	0	0
S	P	704-054S	240	22	4	88	0	0	0
S	P	704-058S	1513	141	4	564	0	0	0
S	P	704-059S	792	74	4	296	0	0	0
S	P	704-060S	1492	139	4	556	0	0	0
S	P	704-061S	1703	158	5	790	0	0	0
S	P	704-062S	960	89	4	356	0	0	0
S	P	704-063S	960	89	4	356	0	0	0
S	P	704-064S	960	89	4	356	0	0	0
S	P	704-065S	960	89	4	356	0	0	0
S	P	704-066S	1909	177	4	708	0	0	0
S	P	704-067S	1909	177	4	708	0	0	0
S	P	704-068S	1347	125	4	500	0	0	0
S	P	704-071S	21204	1970	4	7880	0	1	1
S	P	704-072S	19900	1849	4	7396	0	0	0
S	P	704-074S	1417	132	4	528	0	0	0
S	P	704-081S	720	67	4	268	0	0	0
S	P	704-082S	1440	134	4	536	0	0	0
S	P	704-089S	720	67	4	268	0	0	0
S	P	704-096S	80	7	4	28	0	0	0
S	P	704-097S	960	89	4	356	0	0	0

Table A-17.--Incipient fire data for S Area

Area	Type	ID	Area, ft2	Area, m2	years in service to '94	yrs*m2	Fire count		
							Original count	'91 to '94	Sum of all fires
S	P	704-098S	1339	124	4	496	0	0	0
S	P	704-099S	889	83	4	332	0	0	0
S	P	704-111S	0	0	4	0	0	0	0
S	P	704-112S	1792	166	4	664	0	0	0
S	P	704-115S	1953	181	4	724	0	0	0
S	P	704-116S	288	27	4	108	0	0	0
S	P	704-118S	960	89	4	356	0	0	0
S	P	704-119S	720	67	4	268	0	0	0
S	P	704-120S	700	65	4	260	0	0	0
S	P	704-13S	312	29	4	116	0	0	0
S	P	706-000S	8640	803	2	1606	0	0	0
S	P	707-000S	4500	418	4	1672	0	0	0
S	P	707-001S	480	45	4	180	0	0	0
S	P	707-002S	360	33	4	132	0	0	0
S	P	707-003S	160	15	4	60	0	0	0
S	P	707-004S	160	15	4	60	0	0	0
S	P	707-005S	200	19	4	76	0	0	0
S	P	714-000S	12000	1115	4	4460	0	0	0
S	P	714-001S	1040	97	4	388	0	0	0
S	P	714-002S	954	89	4	356	0	0	0
S	P	714-003S	954	89	4	356	0	0	0
S	P	714-004S	954	89	4	356	0	0	0
S	P	714-005S	954	89	4	356	0	0	0
S	P	714-006S	960	89	4	356	0	0	0
S	P	717-000S	2000	186	4	744	0	0	0
S	P	717-001S	240	22	4	88	0	0	0
S	P	717-003S	756	70	4	280	0	0	0
S	P	717-011S	9600	892	4	3568	0	0	0
S	P	717-012S	8000	743	4	2972	0	0	0
S	P	717-013S	10800	1003	4	4012	0	0	0
S	P	981-000S	2430	226	4	904	0	0	0

Table A-18.--Incipient fire data for G,N,E Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
E	S	643-000E	0	0	0	0	0	2	2
G	S	504-001G	576	54	37	1998	0	0	0
G	S	504-002G	576	54	37	1998	0	0	0
G	S	504-003G	756	70	37	2590	0	0	0
G	S	607-038G	600	56	9	504	0	0	0
G	S	608-000G	1477	137	41	5617	0	0	0
G	S	609-000G	4000	372	38	14136	0	0	0
G	S	614-006G	86	8	41	328	0	0	0
G	S	614-048G	93	9	5	45	0	0	0
G	S	614-049G	93	9	5	45	0	0	0
G	S	614-050G	93	9	5	45	0	0	0
G	S	614-051G	93	9	5	45	0	0	0
G	S	614-052G	93	9	5	45	0	0	0
G	S	614-053G	93	9	5	45	0	0	0
G	S	614-054G	93	9	5	45	0	0	0
G	S	614-055G	93	9	5	45	0	0	0
G	S	616-000G	654	61	41	2501	0	0	0
G	S	617-000G	2400	223	10	2230	0	0	0
G	S	617-002G	480	45	8	360	0	0	0
G	S	618-000G	12522	1163	41	47683	0	0	0
G	S	623-002G	64	6	41	246	0	0	0
G	S	623-027G	288	27	9	243	0	0	0
G	S	624-003G	600	56	9	504	0	0	0
G	S	642-000G	2800	260	9	2340	0	0	0
G	S	643-000G	0	0	0	0	1	0	1
G	S	643-006G	65	6	9	54	0	0	0
G	S	643-012G	720	67	9	603	0	0	0
G	S	643-015G	192	18	9	162	0	0	0
G	S	643-016G	240	22	9	198	0	0	0
G	S	643-017G	160	15	11	165	0	0	0
G	S	643-018G	160	15	9	135	0	0	0
G	S	643-020G	360	33	9	297	0	0	0
G	S	643-023G	80	7	9	63	0	0	0
G	S	643-029G	3600	334	9	3006	0	0	0
G	S	643-030G	8000	743	9	6687	0	0	0
G	S	647-000G	5000	465	9	4185	0	0	0
G	S	647-001G	1344	125	9	1125	0	0	0
G	S	652-008G	0	0	33	0	1	0	1
G	S	661-000G	2967	276	41	11316	0	0	0
G	S	661-001G	64	6	17	102	0	0	0
G	S	661-002G	1400	130	17	2210	0	0	0
G	S	673-000G	0	0	33	0	1	0	1
G	S	675-000G	0	0	33	0	2	0	2
G	S	677-000G	0	0	33	0	4	0	4
G	S	678-000G	0	0	33	0	1	0	1
G	S	681-001G	12843	1193	37	44141	1	0	1

Table A-18.--Incipient fire data for G,N,E Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*mi ²	Fire count		
							Original count	'91 to '94	Sum of all fires
G	S	681-003G	12843	1193	37	44141	1	0	1
G	S	681-005G	5899	548	37	20276	0	0	0
G	S	681-006G	2400	223	36	8028	0	0	0
G	S	681-007G	1790	166	39	6474	0	0	0
G	S	681-008G	400	37	27	999	0	0	0
G	S	681-009G	480	45	9	405	0	0	0
G	S	681-010G	362	34	9	306	1	0	1
G	S	681-011G	246	23	9	207	0	0	0
G	S	681-017G		0		0	0	1	1
G	S	686-003G	720	67	16	1072	0	0	0
G	S	690-000G	11500	1068	9	9612	3	0	3
G	S	701-002G	146	14	41	574	0	0	0
G	S	701-003G	146	14	41	574	0	0	0
G	S	701-004G	146	14	41	574	0	0	0
G	S	701-005G	146	14	41	574	0	0	0
G	S	701-006G	146	14	41	574	0	0	0
G	S	701-008G	150	14	10	140	0	0	0
G	S	701-012G	150	14	10	140	0	0	0
G	S	701-013G	150	14	10	140	0	0	0
G	S	701-014G	48	4	9	36	0	0	0
G	S	701-015G	48	4	9	36	0	0	0
G	S	701-016G	48	4	9	36	0	0	0
G	S	703-005G	2700	251	9	2259	0	0	0
G	S	703-006G	5600	520	9	4680	0	0	0
G	S	703-007G	240	22	9	198	0	0	0
G	S	703-009G	200	19	9	171	0	0	0
G	S	704-001G	980	91	5	455	0	0	0
G	S	704-002G	784	73	5	365	0	0	0
G	S	704-003G	980	91	5	455	0	0	0
G	S	704-004G	460	43	5	215	0	0	0
G	S	705-000G	11926	1108	5	5540	1	0	1
G	S	706-000G	7333	681	5	3405	0	0	0
G	S	706-001G	200	19	5	95	0	0	0
G	S	706-003G	10500	975	5	4875	0	0	0
G	S	707-000G	961	89	5	445	0	0	0
G	S	709-000G	10080	936	12	11232	0	0	0
G	S	709-001G	750	70	5	350	0	0	0
G	S	709-002G	13550	1259	8	10072	0	0	0
G	S	709-004G	11550	1073	6	6438	0	0	0
G	S	710-000G	15360	1427	5	7135	1	0	1
G	S	710-002G	800	74	5	370	0	0	0
G	S	711-000G	6000	557	5	2785	0	0	0
G	S	714-000G	8000	743	37	27491	0	0	0
G	S	714-002G	11956	1111	37	41107	0	0	0
G	S	714-005G	18670	1734	37	64158	0	0	0
G	S	714-006G	16000	1486	37	54982	0	0	0
G	S	714-007G	16000	1486	37	54982	0	0	0

Table A-18.--Incipient fire data for G,N,E Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*m ²	Fire count		
							Original count	'91 to '94	Sum of all fires
G	S	715-000G	140	13	9	117	0	0	0
G	S	715-001G	576	54	9	486	0	0	0
G	S	717-000G	3244	301	42	12642	0	1	1
G	S	722-000G	6030	560	9	5040	0	0	0
G	S	724-007G	5231	486	9	4374	1	0	1
G	S	724-008G	1300	121	9	1089	0	0	0
G	S	726-001G	1600	149	9	1341	0	0	0
G	S	728-000G	1201	112	9	1008	0	0	0
G	S	730-000G	8080	751	9	6759	0	0	0
G	S	734-000G	308	29	26	754	0	0	0
G	S	735-007G	1550	144	9	1296	0	0	0
G	S	735-007G	4920	457	9	4113	0	0	0
G	S	739-001G	200	19	9	171	0	0	0
G	S	739-004G	360	33	22	726	0	0	0
G	S	739-006G	48	4	9	36	0	0	0
G	S	741-000G	600	56	9	504	0	1	1
G	S	741-001G	400	37	9	333	0	0	0
G	S	741-002G	8000	743	9	6687	0	0	0
G	S	760-000G	4074	378	38	14364	0	0	0
G	S	760-001G	4138	384	38	14592	1	0	1
G	S	760-002G	714	66	38	2508	0	0	0
G	S	760-003G	3024	281	38	10678	0	0	0
G	S	760-004G	3760	349	21	7329	0	0	0
G	S	760-005G	1792	166	5	830	0	0	0
G	S	760-008G	865	80	15	1200	0	0	0
G	S	760-009G	3600	334	13	4342	0	0	0
G	S	760-010G	144	13	13	169	0	0	0
G	S	760-011G	11401	1059	12	12708	1	0	1
G	S	760-012G	1500	139	11	1529	0	0	0
G	S	760-013G	2000	186	6	1116	0	0	0
G	S	772-000G	7695	715	38	27170	0	0	0
G	S	772-001G	7786	723	38	27474	0	0	0
G	S	772-002G	392	36	34	1224	1	0	1
G	S	772-003G	240	22	31	682	0	0	0
G	S	772-005G	668	62	30	1860	0	0	0
G	S	772-007G	8000	743	41	30463	0	0	0
G	S	772-008G	7800	725	26	18850	0	0	0
G	S	772-009G	7800	725	26	18850	0	0	0
G	S	772-010G	7800	725	26	18850	0	0	0
G	S	772-013G	720	67	24	1608	0	0	0
G	S	772-014G	672	62	20	1240	0	0	0
G	S	772-017G	768	71	19	1349	0	0	0
G	S	772-018G	660	61	9	549	0	0	0
G	S	772-019G	660	61	9	549	0	0	0
G	S	772-020G	1000	93	19	1767	1	0	1
G	S	772-021G	648	60	9	540	0	0	0
G	S	772-022G	648	60	9	540	0	0	0

Table A-18.--Incipient fire data for G,N,E Area

Area	Type	ID	Area, ft ²	Area, m ²	years in service to '94	yrs*ni ²	Fire count		
							Original count	'91 to '94	Sum of all fires
G	S	772-025G	2400	223	9	2007	0	1	1
G	S	772-026G	200	19	12	228	0	0	0
G	S	904-116G	48	4	7	28	0	0	0
G	S	905-006G	48	4	41	164	0	0	0
G	S	905-007G	48	4	41	164	0	0	0
G	S	905-008G	48	4	41	164	0	0	0
G	S	905-010G	48	4	41	164	0	0	0
G	S	905-011G	36	3	41	123	0	0	0
G	S	905-074G	36	3	20	60	0	0	0
G	S	905-109G	48	4	8	32	0	0	0
G	S	905-110G	48	4	8	32	0	0	0
G	S	905-111G	48	4	8	32	0	0	0
G	S	905-115G	48	4	7	28	0	0	0
N	S	704-003N	12000	1115	11	12265	0	0	0
N	S	711-000N	45600	4236	37	156732	0	2	2
N	S	711-002N		0		0	0	1	1
N	S	713-000N	30000	2787	37	103119	0	0	0
N	S	713-001N	30000	2787	12	33444	0	0	0
N	S	716-000N		0		0	0	1	1
N	S	716-000N	15850	1473	37	54501	0	0	0
N	S	716-005N		0		0	0	1	1
N	S	717-005N	22000	2044	37	75628	0	0	0
N	S	717-008N	7400	687	37	25419	0	0	0
N	S	717-010N	12000	1115	15	15725	2	0	2
N	S	717-011N	5265	489	37	18093	0	0	0
N	S	719-000N	6500	604	37	22348	0	0	0
N	S	725-001N	4500	418	12	5016	0	0	0
N	S	728-012N	0	0	0	0	0	1	1
N	S	731-000N	14000	1301	9	11709	0	1	1
N	S	741-000N	0	0	0	0	0	1	1

Appendix B, SRS Fire Loss Data for 1991, 1992, 1993 and 1994

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Table B-1.--Incipient fires occurring between 1991 and 1994

Building	1991	1992	1993	1994	Sum of fires between '91-'94
703-000A		1	2		3
703-041A		1			1
703-042A	1				1
715-000A			1		1
716-000A				1	1
716-002A		1			1
719-011A				1	1
723-000A		1			1
735-002A			1		1
777-010A	1		1		2
778-005A			1		1
784-000A			1		1
789-000A			1	1	2
A	2	4	8	3	17
703-000B			1		1
703-001B	1				1
B	1	0	1	0	2
704-006C		1			1
706-000C			1		1
706-009C			1		1
700C	0	1	2	0	3
701-001F		1			1
772-000F		1			1
700F	0	2	0	0	2
703-000H	1				1
704-000H	1	1			2
705-000H	1			1	2
700H	3	1	0	1	5
704-022K	1				1
717-000K		1			1
700K	1	1	0	0	2
105-000C			1		1
105-000K	1	2	4		7
183-004K		1			1
105-000P	1		1		2
100	2	3	6	0	11
484-000D	5	1	3	1	10
400D	5	1	3	1	10
211-001F	1				1

Building	1991	1992	1993	1994	Sum of fires between '91-'94
221-000F	2	1	1	2	6
221-001F			1		1
221-025F	1				1
241-028F			1		1
241-064F			1		1
247-000F				1	1
292-000F		2			2
200F	4	3	4	3	14
218-000H				1	1
221-000H		2	2	2	6
234-000H			1		1
241-000H	1				1
241-082H		1			1
242-025H				1	1
254-005H			1		1
284-000H	1				1
294-000H			1		1
299-000H			1		1
200H	2	3	6	4	15
305-001M			1		1
320-000M	1	1		1	3
321-000M		1			1
300M	1	2	1	1	5
210-000S			1		1
221-000S			1	1	2
704-000S				1	1
704-025S				1	1
704-071S				1	1
S	0	0	2	4	6
643-000E		1		1	2
681-017G	1				1
717-000G				1	1
741-000G				1	1
772-025G	1				1
711-000N	2				2
711-002N				1	1
716-000N			1		1
716-005N	1				1
728-012N		1			1
731-000N				1	1
741-000N			1		1
E/G/N	5	2	2	5	14
Total fires	26	23	35	22	106

Appendix C, Background Material for Original Fire Frequency Estimator

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DEVELOPMENT OF BUILDING FIRE FREQUENCIES FOR THE MAU REPORT

The initial MAU report, WSRC-TR-91-469, and the draft final report, WSRC-TR-91-424, developed fire frequencies for the various buildings under consideration for a fire protection upgrade by estimating a site severe fire frequency per 10,000 square feet of floor space, assigning multipliers to the different areas based on history of fires, and assigning multipliers based on usage of the buildings. The site severe fire frequency was developed from WSRC-RP-90-143, "Analysis of SRS Industrial Fire Records".

The site severe fire frequency ($F_{\text{severesite}}$) was estimated as the total site fire frequency ($F_{\text{totalsite}}$) multiplied by the expected occurrence of a fire of sufficient magnitude to cause substantial damage (deaths of a fraction of the occupants, or property damage losses on the order of 5% to 70% of the buildings replacement value which varies from about \$20 million upward to \$800 million). $F_{\text{totalsite}} = 10,000 * N_{\text{tot}} / (A_{\text{tot}} * Y) = 40.5\text{E-}03$ fires per 10,000 sq ft-yr where N_{tot} is the total number of fires observed in facilities with A_{tot} sq ft of floor space over a period of Y years. At the time of the report there had been 0 fires out of 669 fires reported that caused the magnitude of damage stated above, therefore it was assumed that one occurs every 669 fires to yield a site severe fire frequency of $F_{\text{severesite}} = 40.5\text{E-}03 * (1/669) = 60.5\text{E-}06$ per 10,000 sq ft per yr.

$F_{\text{severesite}}$ was used to calculate individual building severe fire frequency by multiplying it by the building square footage, an area specific multiplier, and a usage dependent multiplier. The area specific multiplier weighted the fire frequency depending on the area that the building was in (based on history of fires in the various areas), and the usage dependent multiplier weighted the fire frequency depending on the activity that was performed in the building (manufacturing, chemical storage, offices, etc.)

The effort in this report is to use the building/area fire data used in WSRC-RP-90-143 to develop building specific severe fire frequencies or area specific fire frequencies based on actual occurrence of fires in the buildings/areas. This will reduce uncertainties about the data used in the initial and final draft versions of the MAU report.

METHODS

The data base used to develop WSRC-RP-90-143 was obtained from M.D.

Brandyberry. The data base listed all fires that were reported during the period January 1958 through December 1990, and it listed the building that the fire occurred in. There were a total of 710 facility fires reported during the period. The data base was sorted by area and building to facilitate extraction of numbers of fires per building and numbers of fires per area. For the buildings in the MAU analysis, the number of fires reported if any, were gathered and placed in a spreadsheet along with the associated buildings (see Table 1, columns B & C). Columns D & E of Table 1 show the month and year that the buildings were completed according to property accounting records (if available), and column F calculates the years that the buildings have been in service during the period 1/58 through 12/90. When property accounting records were not available for certain buildings, cognizant personnel provided an estimate of start-up date for some of the facilities. These estimates are shown in column F with no entries to columns C or D. The building specific severe fire frequency (Table 1, column G) is calculated by the following formula:

$$F_{\text{bldgspecific}} = \# \text{ Fires Reported} / \# \text{ Yrs in Service } 1/58-12/90 * (1/710)$$

This was considered to be a statistically sufficient value to use in the MAU analysis if; 1) there were 2 or more fires reported in the facility, or 2) the # yrs in service was judged to be sufficient to calculate a frequency based on one reported fire.

If either of the two conditions listed above were not met, an area specific fire frequency per 10,000 square feet/year was developed from Brandyberry's data base to reduce uncertainties associated with using a site severe fire frequency with weighting factors. Table 2 shows by area (from property accounting records), the buildings within the area, the square footage of the buildings, and the number of fires reported for the buildings. At the end of each area, the total square footage is shown, and the total number of reported fires is shown. From these values, we can derive an area specific fire frequency per 10,000 square feet per year by the following formula:

$$F_{\text{areaspecific}} = F_{\text{total}} * 10,000 / (A_{\text{tot}} * 710 \text{ fires} * 33 \text{ yrs})$$

where: F_{total} = Total number of fires reported for the area,
 A_{total} = Total square footage of the buildings in the area
 33 yrs is the assumed # years of service for the area
 (1/58-12/90)

The area specific data was broken down into areas that would contain like buildings, i.e. manufacturing or office, in order to

eliminate usage of weighting factors. The following are the areas in which an area specific severe fire frequency was developed, and the actual area specific fire frequency is also listed.

<u>Area</u>	<u>Severe Fire Frequency</u> <u>(per 10,000 sq ft / yr)</u>
100	1.21E-05
200F	6.61E-05
200H	3.97E-05
A	2.41E-05
700F	6.47E-05
700H	2.28E-05
300M	1.03E-04
400D	8.67E-05
B	1.74E-05
700C	1.66E-05
700D	4.08E-05
G/CS	1.84E-05
TNX	1.67E-05
700K	9.05E-06
700L	8.64E-05
700M	7.67E-05
700P	5.24E-05
700R	2.04E-05

There was not enough data to calculate an area specific severe fire frequency for S-Area, so it was assumed to be the average of 200-F and 200-H.

This data was used in column I of Table 1 to calculate building severe fire frequency for those building that had insufficient data to determine a building specific severe fire frequency by multiplying the area specific severe fire frequency per 10,000 square feet by the square footage of the building and dividing the result by 10,000. Therefore, column J of Table 1 contains the recommended values for building severe fire frequencies, where the values in bold represent a frequency based on actual fires in the building, and the values that are not in bold represent a frequency based on actual fires in the area.

As a final "sanity" check of the building severe fire frequencies, the number of small fires that were expected to have occurred over the existence of the building was back calculated using the building severe fire frequency from column J, and the number of years in service (during the period 1/58-12/90) of the building from column F. If the expected number of fires came out greater than 1 for the buildings that had actually experienced 0 fires, then the building severe fire frequency was forced to a value that would be consistent with the building experiencing 1 fire over it's existence. This situation did occur with 6 buildings; 305-A,

719-A, 483-1D, 717-F, 711-N, and 713-N. The forced values are highlighted in the Table as large, bold, italic numbers.

LIMITATIONS

The limitations of using this data in the MAU prioritization effort are concerned with uncertainties in the reporting of fires and therefore the fire database, and uncertainties in area square footage. As acknowledged in WSRC-RP-90-143, the industrial fire data base is not complete because undoubtedly, there have been fires that have occurred that were not reported. This uncertainty was also present in the earlier MAU reports since it relied on the data to determine area specific multipliers.

The square footage values used in Table 2 came from the property accounting group in SRL. Discrepancies have been shown in this data because it was initially used as the raw data for square footage of the buildings considered in the MAU analysis, and when cognizant personnel reviewed the input data there were some gross errors uncovered with some square footage values. These errors were corrected for those buildings. The other buildings that were not part of the MAU analysis but were used in the development of area specific fire frequency development could be suspect.

Table 1

	A	B	C	D	E	F	G	H	I	J	K
1							BLDG		AREA SPECIFIC	ADOPTED VALUE	# OF FIRES
2			# FIRES			YRS IN	SPECIFIC		SEVERE	FOR BLDG	EXPECTED
3			REPORTED	MTH	YR	SERVICE	SEVERE	BLDG	FIRE FREQ /	SEVERE	BASED ON
4	AREA	BLDG	1/58 - 12/90	COMP	COMP	1/58 - 12/90	FIRE FREQ	SQ FT	10,000 SQ FT	FIRE FREQ	BLDG SFREQ
5											
6	A	305-A	1	2	53	33.00	4.27E-05	18606	2.41E-05	4.27E-05	1.00
7	A	702-A	2	7	53	33.00	8.54E-05	5195	2.41E-05	8.54E-05	2.00
8	A	703-41A	0	10	84	6.25		20000	2.41E-05	4.82E-05	.21
9	A	703-42A	0	6	84	6.58		20000	2.41E-05	4.82E-05	.23
10	A	703-43A	4	4	85	5.75	9.80E-04	20000	2.41E-05	9.80E-04	4.00
11	A	703-45A	0	11	85	5.17		20000	2.41E-05	4.82E-05	.18
12	A	703-A	7	7	53	33.00	2.99E-04	177000	2.41E-05	2.99E-04	7.00
13	A	708-A	7	7	53	33.00	2.99E-04	40068	2.41E-05	2.99E-04	7.00
14	A	719-A	1	7	53	33.00	4.27E-05	26487	2.41E-05	4.27E-05	1.00
15	A	722-1A	0	8	81	9.42		6900	2.41E-05	1.66E-05	.11
16	A	722-4A	0	6	84	6.58		7800	2.41E-05	1.88E-05	.09
17	A	722-A	0	7	53	33.00		11700	2.41E-05	2.82E-05	.66
18	A	730-A	1	2	86	4.92	2.86E-04	20000	2.41E-05	4.82E-05	.17
19	A	735-2A	0	3	75	15.83		1800	2.41E-05	4.34E-06	.05
20	A	735-7A	0	1	84	7.00		7500	2.41E-05	1.81E-05	.09
21	A	736-A	0	7	53	33.00		10286	2.41E-05	2.48E-05	.58
22	A	742-A	0	11	83	7.17		29000	2.41E-05	6.99E-05	.36
23	A	751-1A	1	7	53	33.00	4.27E-05	4450	2.41E-05	4.27E-05	1.00
24	A	773-41A	0	12	84	6.08		20000	2.41E-05	4.82E-05	.21
25	A	773-A	96	7	53	33.00	4.10E-03	304000	2.41E-05	4.10E-03	96.00
26	A	774-A	1	7	57	33.00	4.27E-05	2501	2.41E-05	4.27E-05	1.00
27	A	784-A	2	7	53	33.00	8.54E-05	6000	2.41E-05	8.54E-05	2.00
28	A	789-A	2	7	53	33.00	8.54E-05	6000	2.41E-05	8.54E-05	2.00
29	B	703-1B	1	3	87	3.83	3.67E-04	20000	1.74E-05	3.48E-05	.09
30	B	703-B	1	3	87	3.83	3.67E-04	20000	1.74E-05	3.48E-05	.09
31	C	105-C (1)	17	4	55	33.00	7.26E-04	500000	1.21E-05	7.26E-04	17.00
32	C	105-C (2)	17	4	55	33.00	7.26E-04	500000	1.21E-05	7.26E-04	17.00
33	C	108-1C	0	4	55	33.00		6000	1.21E-05	7.26E-06	.17
34	C	108-2C	0	4	55	33.00		6000	1.21E-05	7.26E-06	.17

Table 1

	A	B	C	D	E	F	G	H	I	J	K
1							BLDG		AREA SPECIFIC	ADOPTED VALUE	# OF FIRES
2			# FIRES			YRS IN	SPECIFIC		SEVERE	FOR BLDG	EXPECTED
3			REPORTED	MTH	YR	SERVICE	SEVERE	BLDG	FIRE FREQ /	SEVERE	BASED ON
4	AREA	BLDG	1/58 - 12/90	COMP	COMP	1/58 - 12/90	FIRE FREQ	SQ FT	10,000 SQ FT	FIRE FREQ	BLDG SFREQ
5											
35	C	151-1C	0	4	55	33.00		6400	1.21E-05	7.74E-06	.18
36	C	151-2C	0	4	55	33.00		6400	1.21E-05	7.74E-06	.18
37	C	190-C	0	4	55	33.00		12000	1.21E-05	1.45E-05	.34
38	C	707-C	0	6	88	2.58		44728	1.66E-05	7.42E-05	.14
39	D	483-1D	7	2	53	33.00	4.27E-05	38000	8.67E-05	4.27E-05	1.00
40	D	484-D (1)	24	2	53	33.00	1.02E-03	250000	8.67E-05	1.02E-03	24.00
41	D	484-D (2)	24	2	53	33.00	1.02E-03	250000	8.67E-05	1.02E-03	24.00
42	D	485-D	0	2	53	33.00		3826	8.67E-05	3.32E-05	.78
43	F	211-1F (1)	0	10	85	5.25		6000	6.61E-05	3.97E-05	.15
44	F	211-1F (2)	0	10	85	5.25		6000	6.61E-05	3.97E-05	.15
45	F	211-F (1)	3	9	54	33.00	1.28E-04	10000	6.61E-05	1.28E-04	3.00
46	F	211-F (2)	3	9	54	33.00	1.28E-04	10000	6.61E-05	1.28E-04	3.00
47	F	221-1F (1)	1	9	54	33.00	4.27E-05	24067	6.61E-05	4.27E-05	1.00
48	F	221-1F (2)	1	9	54	33.00	4.27E-05	24067	6.61E-05	4.27E-05	1.00
49	F	221-F (1)	74	9	54	33.00	3.16E-03	329600	6.61E-05	3.16E-03	74.00
50	F	221-F (2)	74	9	54	33.00	3.16E-03	329600	6.61E-05	3.16E-03	74.00
51	F	222-F	1	6	58	32.58	4.32E-05	5989	6.61E-05	4.32E-05	1.00
52	F	235-F	5	9	54	33.00	2.13E-04	47080	6.61E-05	2.13E-04	5.00
53	F	247-F	4	7	88	2.50	2.25E-03	140000	6.61E-05	2.25E-03	4.00
54	F	251-F	1	9	54	33.00	4.27E-05	1923	6.61E-05	4.27E-05	1.00
55	F	284-8F	0	11	85	5.17		2826	6.61E-05	1.87E-05	.07
56	F	292-2F (1)	0	11	89	1.17		3470	6.61E-05	2.29E-05	.02
57	F	292-2F (2)	0	11	89	1.17		3470	6.61E-05	2.29E-05	.02
58	F	292-F	5	9	54	33.00	2.13E-04	12482	6.61E-05	2.13E-04	5.00
59	F	703-F	1	9	84	6.33	2.22E-04	25000	6.47E-05	2.22E-04	1.00
60	F	717-F	7	9	54	33.00	4.27E-05	52500	6.47E-05	4.27E-05	1.00
61	F	772-1F	1			5.00	2.82E-04	32000	6.47E-05	2.07E-04	.73
62	F	FB LINE	14	9	54	33.00	5.98E-04	30000	6.47E-05	5.98E-04	14.00
63	F	NSR/PSF	0			3.00		40000	6.47E-05	2.59E-04	.55

Table 1

	A	B	C	D	E	F	G	H	I	J	K
1							BLDG		AREA SPECIFIC	ADOPTED VALUE	# OF FIRES
2			# FIRES			YRS IN	SPECIFIC		SEVERE	FOR BLDG	EXPECTED
3			REPORTED	MTH	YR	SERVICE	SEVERE	BLDG	FIRE FREQ /	SEVERE	BASED ON
4	AREA	BLDG	1/58 - 12/90	COMP	COMP	1/58 - 12/90	FIRE FREQ	SQ FT	10,000 SQ FT	FIRE FREQ	BLDG SFREQ
5											
64	G	647-G	0					5000	1.84E-05	9.20E-06	
65	G	681-1G (1)	1	7	53	33.00	4.27E-05	12843	1.84E-05	4.27E-05	1.00
66	G	681-1G (2)	1	7	53	33.00	4.27E-05	12843	1.84E-05	4.27E-05	1.00
67	G	681-3G (1)	1	7	53	33.00	4.27E-05	12843	1.84E-05	4.27E-05	1.00
68	G	681-3G (2)	1	7	53	33.00	4.27E-05	12843	1.84E-05	4.27E-05	1.00
69	G	681-5G	0	7	53	33.00		5899	1.84E-05	1.09E-05	.25
70	G	681-6G	0	12	58	32.08		2400	1.84E-05	4.42E-06	.10
71	G	709-2G	0	4	87	3.75		13550	1.84E-05	2.49E-05	.07
72	G	709-4G	0	10	88	2.25		11550	1.84E-05	2.13E-05	.03
73	G	709-G	0	7	83	7.50		10080	1.84E-05	1.85E-05	.10
74	G	714-2G	0	1	56	33.00		11956	1.84E-05	2.20E-05	.52
75	G	714-6G	0	1	52	33.00		16000	1.84E-05	2.94E-05	.69
76	H	211-8H	0	6	87	3.58		3000	3.97E-05	1.19E-05	.03
77	H	211-9H&10H	0	6	87	3.58		600	3.97E-05	2.38E-06	.01
78	H	211-H&7H (1)	4	7	55	33.00	1.71E-04	10000	3.97E-05	1.71E-04	4.00
79	H	211-H&7H (2)	4	7	55	33.00	1.71E-04	10000	3.97E-05	1.71E-04	4.00
80	H	221-H (1)	23	7	55	33.00	9.82E-04	329600	3.97E-05	9.82E-04	23.00
81	H	221-H (2)	23	7	55	33.00	9.82E-04	329600	3.97E-05	9.82E-04	23.00
82	H	230-H	1	11	83	7.17	1.97E-04	7165	3.97E-05	1.97E-04	1.00
83	H	235-H	0	9	84	6.33		12000	3.97E-05	4.76E-05	.21
84	H	241-10H	0					9713	3.97E-05	3.86E-05	
85	H	242-1H	1	3	63	27.83	5.06E-05	720	3.97E-05	5.06E-05	1.00
86	H	244-H	1	10	62	28.25	4.99E-05	20785	3.97E-05	4.99E-05	1.00
87	H	251-H	0	7	55	33.00		1845	3.97E-05	7.32E-06	.17
88	H	253-H	0	10	86	4.25		1350	3.97E-05	5.36E-06	.02
89	H	254-28H	0					30	3.97E-05	1.19E-07	
90	H	284-H (1)	8	7	55	33.00	3.41E-04	2500	3.97E-05	3.41E-04	8.00
91	H	284-H (2)	8	7	55	33.00	3.41E-04	2500	3.97E-05	3.41E-04	8.00
92	H	292-H	2	7	55	33.00	8.54E-05	13251	3.97E-05	8.54E-05	2.00
93	H	5000-H	0			4.00		11250	2.28E-05	2.57E-05	.07

Table 1

	A	B	C	D	E	F	G	H	I	J		K
										ADOPTED VALUE	FOR BLDG	# OF FIRES
1			# FIRES			YRS IN	BLDG		SEVERE	SEVERE	SEVERE	EXPECTED
2			REPORTED	MTH	YR	SERVICE	SEVERE	BLDG	FIRE FREQ /			BASED ON
3			1/58 - 12/90	COMP	COMP	1/58 - 12/90	FIRE FREQ	SQ FT	10,000 SQ FT	FIRE FREQ		BLDG SFREQ
4	AREA	BLDG										
5												
94	H	702-H	0	4	85	5.75		1665	2.28E-05	3.80E-06		.02
95	H	703-H	0	9	84	6.33		25000	2.28E-05	5.70E-05		.26
96	H	HB LINE (1)	4	7	55	33.00	1.71E-04		3.97E-05	1.71E-04		4.00
97	H	HB LINE (2)	4	7	55	33.00	1.71E-04		3.97E-05	1.71E-04		4.00
98	K	105-K (1)	8	10	54	33.00	3.41E-04	500000	1.21E-05	3.41E-04		8.00
99	K	105-K (2)	8	10	54	33.00	3.41E-04	500000	1.21E-05	3.41E-04		8.00
100	K	108-K (1)	4	10	54	33.00	1.71E-04	12000	1.21E-05	1.71E-04		4.00
101	K	108-K (2)	4	10	54	33.00	1.71E-04	12000	1.21E-05	1.71E-04		4.00
102	K	151-1K	0	10	54	33.00		6400	1.21E-05	7.74E-06		.18
103	K	151-2K	0	10	54	33.00		6400	1.21E-05	7.74E-06		.18
104	K	152-1K	0	10	54	33.00		6400	1.21E-05	7.74E-06		.18
105	K	184-K (1)	11	10	54	33.00	4.69E-04	85000	1.21E-05	4.69E-04		11.00
106	K	184-K (2)	11	10	54	33.00	4.69E-04	85000	1.21E-05	4.69E-04		11.00
107	K	190-K (1&2)	0	10	54	33.00		12000	1.21E-05	1.45E-05		.34
108	K	191-K	1	5	64	26.67	5.28E-05	288	1.21E-05	5.28E-05		1.00
109	L	105-L (1)	3	7	54	33.00	1.28E-04	500000	1.21E-05	1.28E-04		3.00
110	L	105-L (2)	3	7	54	33.00	1.28E-04	500000	1.21E-05	1.28E-04		3.00
111	L	108-1L	2	7	54	33.00	8.54E-05	6000	1.21E-05	8.54E-05		2.00
112	L	108-2L	0	7	54	33.00		6000	1.21E-05	7.26E-06		.17
113	L	151-1L	0	7	54	33.00		6400	1.21E-05	7.74E-06		.18
114	L	151-2L	0	7	54	33.00		6400	1.21E-05	7.74E-06		.18
115	L	152-1L	0	7	54	33.00		12000	1.21E-05	1.45E-05		.34
116	L	190-L	0	7	54	33.00		288	1.21E-05	3.48E-07		.01
117	L	191-L	0	12	54	26.08		10440	1.03E-04	1.08E-04		
118	M	305-1M	0					63288	1.03E-04	7.26E-04		17.00
119	M	320-M	17	3	53	33.00	7.26E-04	63288	1.03E-04	6.83E-04		16.00
120	M	321-M (1)	16	10	57	33.00	6.83E-04	56072	1.03E-04	6.83E-04		16.00
121	M	321-M (2)	16	10	57	33.00	6.83E-04	56072	1.03E-04	6.83E-04		16.00
122	N	704-3N	0	4	84	6.75		12000	1.84E-05	2.21E-05		.11

Table 1

	A	B	C	D	E	F	G	H	I	J	K
1							BLDG		AREA SPECIFIC	ADOPTED VALUE	# OF FIRES
2			# FIRES			YRS IN	SPECIFIC		SEVERE	FOR BLDG	EXPECTED
3			REPORTED	MTH	YR	SERVICE	SEVERE	BLDG	FIRE FREQ /	SEVERE	BASED ON
4	AREA	BLDG	1/58 - 12/90	COMP	COMP	1/58 - 12/90	FIRE FREQ	SQ FT	10,000 SQ FT	FIRE FREQ	BLDG SFREQ
5											
123	N	711-N	1	7	53	33.00	4.27E-05	45600	1.84E-05	4.27E-05	1.00
124	N	713-1N	0	11	82	8.17		30000	1.84E-05	5.52E-05	.32
125	N	713-N	1	7	53	33.00	4.27E-05	30000	1.84E-05	4.27E-05	1.00
126	N	716-N	0	7	53	33.00		15850	1.84E-05	2.92E-05	.68
127	N	717-10N	0	7	80	10.50		12000	1.84E-05	2.21E-05	.16
128	N	717-11N	0	7	53	33.00		5265	1.84E-05	9.69E-06	.23
129	N	717-5N	0	7	53	33.00		22000	1.84E-05	4.05E-05	.95
130	N	717-8N	0	7	53	33.00		7400	1.84E-05	1.36E-05	.32
131	N	719-N	0	7	53	33.00		6500	1.84E-05	1.20E-05	.28
132	N	725-1N	0	5	83	7.67		4500	1.84E-05	8.28E-06	.05
133	P	105-P (1)	13	3	54	33.00	5.55E-04	750000	1.21E-05	5.55E-04	13.00
134	P	105-P (2)	13	3	54	33.00	5.55E-04	750000	1.21E-05	5.55E-04	13.00
135	P	108-P (1)	3	3	54	33.00	1.28E-04	12000	1.21E-05	1.28E-04	3.00
136	P	108-P (2)	3	3	54	33.00	1.28E-04	12000	1.21E-05	1.28E-04	3.00
137	P	151-1P (1)	0	3	54	33.00		6400	1.21E-05	7.74E-06	.18
138	P	151-1P (2)	0	3	54	33.00		6400	1.21E-05	7.74E-06	.18
139	P	151-2P (1)	0	3	54	33.00		6400	1.21E-05	7.74E-06	.18
140	P	151-2P (2)	0	3	54	33.00		6400	1.21E-05	7.74E-06	.18
141	P	152-1P	0	3	54	33.00		6400	1.21E-05	7.74E-06	.18
142	P	184-P	12	3	54	33.00	5.12E-04	85000	1.21E-05	5.12E-04	12.00
143	P	190-P (1)	0	3	54	33.00		12000	1.21E-05	1.45E-05	.34
144	P	190-P (2)	0	3	54	33.00		12000	1.21E-05	1.45E-05	.34
145	P	191-P	0	3	65	25.83		288	1.21E-05	3.48E-07	.01
146	S	210-S	0					50703	5.29E-05	2.68E-04	
147	S	221-S	1					191400	5.29E-05	1.01E-03	
148	S	292-S	0					21274	5.29E-05	1.13E-04	
149	S	422-S	0					4541	5.29E-05	2.40E-05	
150	S	511-S	0					9593	5.29E-05	5.07E-05	

Table 1

	A	B	C	D	E	F	G	H	I	J	K
1							BLDG		AREA SPECIFIC	ADOPTED VALUE	# OF FIRES
2			# FIRES			YRS IN	SPECIFIC		SEVERE	FOR BLDG	EXPECTED
3			REPORTED	MTH	YR	SERVICE	SEVERE	BLDG	FIRE FREQ /	SEVERE	BASED ON
4	AREA	BLDG	1/58 - 12/90	COMP	COMP	1/58 - 12/90	FIRE FREQ	SQ FT	10,000 SQ FT	FIRE FREQ	BLDG SFREQ
5											
152	S	980-S	0					5426	5.29E-05	2.87E-05	
153	T	670-T	0	11	86	4.17		3600	1.67E-05	6.01E-06	.02
154	T	672-T	0	3	84	6.83		12120	1.67E-05	2.02E-05	.10
155	T	675-T	1	1	83	8.00	1.76E-04	6642	1.67E-05	1.76E-04	1.00
156	T	677-T	0	1	56	33.00		15280	1.67E-05	2.55E-05	.60
157	T	678-T	4	7	53	33.00	1.71E-04	12957	1.67E-05	1.71E-04	4.00
158	T	704-1T	0	10	87	3.25		6500	1.67E-05	1.09E-05	.03
159	T	704-T	0	12	82	8.08		6395	1.67E-05	1.07E-05	.06

Table 2

100 AREAS: AVERAGE SEVERE FIRE			
FREQUENCY / 10000 SQ FT			
BLDG	SQ FT	# FIRES	
105-C	500000	17	
105-6C	240	0	
105-7C	240	0	
108-1C	6000	0	
108-2C	6000	0	
110-C	240	0	
151-1C	6400	0	
151-2C	6400	0	
152-7C	200	0	
183-2C	760	0	
183-4C	6430	0	
184-2C	828	0	
184-6C	800	0	
190-C	12000	0	
191-C	288	0	
105-K	500000	8	
105-6K	96	0	
105-7K	96	0	
105-8K	120	0	
105-13K	3250	0	
108-1K	6000	3	
108-2K	6000	1	
110-K	240	0	
151-1K	6400	0	
151-2K	6400	0	
152-1K	6400	0	
152-7K	200	0	
183-2K	720	1	
183-4K	6430	0	
184-K	85000	11	
184-5K	173	0	
185-K	375	1	
190-K	12000	0	
191-K	288	1	
105-P	750000	13	
105-2P	720	0	
105-3P	720	0	
105-6P	96	0	
105-13P	3250	0	
105-14P	360	0	
108-1P	6000	1	
108-2P	6000	2	
110-P	240	0	
151-1P	6400	0	
151-2P	6400	0	

Table 2

152-1P	6400	0		
152-7P	200	0		
183-2P	720	0		
183-4P	6430	1		
184-P	85000	12		
184-5P	173	0		
184-6P	800	0		
185-P	375	1		
190-P	12000	0		
191-P	288	0		
105-L	500000	3		
105-2L	720	0		
108-1L	6000	2		
108-2L	6000	0		
108-4L	625	1		
110-L	240	0		
151-1L	6400	0		
151-2L	6400	0		
152-1L	6400	0		
152-7L	200	0		
183-2L	720	0		
183-4L	6430	0		
184-L	85000	3		
184-6L	800	0		
190-L	12000	0		
191-L	288	0		
100-R	0	1		
105-R	500000	8		
108-1R	6596	0		
108-2R	9525	0		
110-R	240	0		
122-R	4759	0		
151-1R	6151	0		
151-2R	7601	0		
181-R	144	0		
184-R	85000	3		
183-1R	2640	0		
183-2R	1150	0		
190-R	15638	1		
	3357253	95		
F(100 areas/ =		1.21E-05		
10000 sq ft)				
200 F AREAS: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				

Table 2

BLDG	SQ FT	# FIRES		
200-F	0	1		
211-F	10000	3		
211-1F	6000	0		
211-2F	740	0		
211-3F	1900	0		
211-4F	140	0		
211-5F	288	0		
211-7F	1800	0		
217-F	1024	0		
221-F	329600	88		
221-1F	24067	1		
221-3F	4000	0		
221-4F	192	0		
221-10F	1536	0		
221-12F	10800	0		
221-13F	416	0		
221-15F	1536	0		
221-16F	1008	0		
221-21F	20000	0		
221-22F	20000	0		
221-26F	800	0		
221-27F	1000	0		
222-F	5989	1		
223-F	390	0		
232-F	16440	1		
235-F	47080	5		
235-1F	950	0		
235-2F	476	0		
235-6F	288	0		
235-9F	288	0		
235-11F	1792	0		
240-F	3072	0		
241-F	714	1		
241-17F	1078	0		
241-18F	1200	0		
241-24F	1500	1		
241-28F	1000	0		
241-51F	36	0		
241-53F	300	0		
241-58F	2400	0		
241-62F	390	0		
241-64F	480	0		
241-65F	360	0		
241-72F	360	0		
241-80F	600	0		
241-84F	400	0		
241-91F	2400	0		

Table 2

241-93F	608	0		
241-96F	144	0		
241-100F	1792	0		
242-1F	913	0		
242-16F	5	0		
246-F	13660	0		
246-1F	240	0		
246-2F	1792	0		
247-F	140000	4		
247-3F	1836	0		
247-4F	180	0		
247-7F	600	0		
247-8F	276	0		
247-9F	240	0		
247-11F	180	0		
247-12F	3795	0		
247-41F	1200	0		
251-F	1923	1		
254-2F	520	0		
254-5F	816	0		
260-1F	80	0		
280-1F	944	0		
280-2F	400	0		
281-4F	250	0		
281-6F	250	0		
281-12F	112	0		
281-19F	144	0		
281-20F	144	0		
281-21F	144	0		
281-22F	144	0		
281-23F	144	0		
281-24F	144	0		
281-25F	144	0		
282-F	210	0		
284-F	30000	4		
284-2F	500	0		
284-3F	240	0		
284-4F	840	0		
284-5F	240	0		
284-8F	2826	0		
284-9F	3600	0		
285-1F	60	0		
292-F	12482	5		
292-1F	613	1		
292-2F	3470	0		
294-1F	240	0		
	755915	117		

Table 2

F(200 F area/ =	6.61E-05		
10000 sq ft)			
200 H AREAS: AVERAGE SEVERE FIRE			
FREQUENCY / 10000 SQ FT			
BLDG	SQ FT	# FIRES	
200-H	0	1	
211-2H	1500	0	
211-4H	141	0	
211-7H	10000	4	
211-8H	3000	0	
211-9H	300	0	
211-10H	300	0	
217-H	901	0	
221-H	329600	27	
221-4H	1500	0	
221-6H	240	0	
221-12H	160	0	
221-13H	600	0	
221-14H	600	0	
225-1H	896	0	
225-2H	1792	0	
225-3H	1792	0	
225-7H	1792	0	
225-8H	1792	0	
225-9H	840	0	
225-10H	960	0	
225-11H	960	0	
225-12H	960	0	
225-13H	960	0	
225-14H	960	0	
225-15H	960	0	
225-17H	960	0	
225-18H	504	0	
230-H	7165	1	
232-H	55220	9	
232-1H	11000	0	
233-4H	1792	0	
233-6H	1792	0	
233-7H	1792	0	
233-8H	1792	0	
233-9H	1792	0	
233-10H	1792	0	
233-11H	432	0	
233-12H	288	0	

Table 2

234-H	45737	5		
234-2H	672	0		
235-H	12000	0		
235-1H	720	0		
235-2H	720	0		
235-7H	510	0		
235-9H	1792	0		
235-10H	1792	0		
236-H	1270	0		
237-H	5675	0		
238-H	17175	0		
238-1H	640	0		
241A-38H	375	0		
241A-39H	375	0		
241A-40H	375	0		
241A-41H	375	0		
241A-42H	375	0		
241A-43H	375	0		
241-H	1725	0		
241-10H	9713	0		
241-13H	640	0		
241-17H	363	0		
241-23H	720	0		
241-24H	1536	1		
241-25H	120	0		
241-26H	36	0		
241-28H	100	0		
241-49H	100	0		
241-52H	288	0		
241-55H	1875	1		
241-57H	800	0		
241-58H	2508	1		
241-62H	390	0		
241-64H	480	0		
241-65H	360	0		
241-68H	580	0		
241-69H	109	0		
241-70H	540	0		
241-71H	288	0		
241-72H	360	0		
241-80H	600	0		
241-81H	16500	0		
241-84H	6240	0		
241-85H	400	0		
241-86H	100	0		
241-87H	100	0		
241-88H	100	0		
241-89H	1800	0		
241-90H	960	0		

Table 2

241-92H	1200	0		
241-95H	672	0		
241-98H	144	0		
241-99H	144	0		
241-105H	750	0		
241-109H	360	0		
241-110H	480	0		
241-119H	1792	0		
241-120H	1792	0		
241-121H	1792	0		
241-122H	504	0		
242-1H	720	1		
242-16H	300	0		
242-19H	560	0		
242-23H	200	0		
242-24H	3000	0		
244-H	20785	1		
244-1H	1920	0		
244-2H	1440	0		
245-H	3241	0		
245-2H	160	0		
251-H	1845	0		
253-H	1350	0		
254-5H	816	0		
254-28H	30	0		
260-1H	81	0		
260-2H	81	0		
260-3H	100	0		
260-4H	241	0		
280-1H	940	0		
281-4H	251	0		
281-6H	251	0		
281-12H	112	0		
281-13H	144	0		
281-14H	144	0		
281-15H	144	0		
281-16H	144	0		
281-17H	144	0		
281-18H	144	0		
284-H	2500	8		
284-1H	200	0		
284-4H	840	0		
284-5H	240	0		
284-6H	240	0		
284-7H	1800	0		
284-10H	173	0		
285-1H	61	0		
285-2H	192	0		
285-4H	44	0		

Table 2

292-H	13251	2		
292-2H	3360	0		
292-3H	100	0		
299-H	1200	0		
299-2H	576	0		
299-3H	200	0		
299-4H	1500	0		
299-5H	608	0		
	667214	62		
F(200 H area/ =		3.97E-05		
10000 sq ft)				
A AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
305-A	18606	0		
607-2A	240	2		
607-16A	600	0		
614-1A	86	0		
701-1A	873	0		
701-2A	170	0		
701-3A	150	0		
701-9A	64	0		
701-12A	1216	0		
701-13A	48	0		
702-A	5195	2		
703-A	177000	7		
703-2A	1536	0		
703-3A	1536	0		
703-4A	1560	0		
703-5A	1560	0		
703-6A	1536	0		
703-9A	823	0		
703-10A	1536	0		
703-11A	1536	0		
703-12A	720	0		
703-13A	720	0		
703-14A	1536	0		
703-15A	720	0		
703-16A	720	0		
703-17A	720	0		
703-18A	720	0		
703-22A	1792	0		
703-26A	1792	0		

Table 2

703-28A	1792	0	
703-30A	1792	0	
703-31A	1792	0	
703-33A	1536	0	
703-34A	1600	0	
703-37A	1600	0	
703-38A	1600	0	
703-41A	20000	0	
703-42A	20000	0	
703-43A	20000	4	
703-44A	20000	1	
703-45A	20000	0	
703-51A	432	0	
703-52A	896	0	
703-53A	896	0	
703-54A	896	0	
703-55A	896	0	
703-56A	896	0	
703-57A	896	0	
703-58A	896	0	
703-63A	896	0	
703-70A	896	0	
703-71A	600	0	
703-73A	1792	0	
706-A	1216	0	
707-A	1008	0	
708-A	40068	7	
709-A	3695	0	
710-A	9533	2	
711-A	2512	0	
712-A	683	0	
713-A	48521	0	
713-1A	11760	1	
713-2A	20000	0	
713-3A	896	0	
714-A	45036	0	
715-A	229	1	
716-A	100	7	
716-1A	896	0	
716-2A	7225	2	
716-3A	360	0	
716-4A	2400	0	
717-A	52435	9	
717-4A	200	0	
717-5A	1536	0	
717-6A	160	0	
717-7A	1536	0	
717-8A	792	0	
717-9A	792	0	

Table 2

717-10A	1440	0		
719-A	26487	0		
719-1A	840	0		
719-2A	1792	0		
719-3A	160	0		
719-4A	16000	0		
719-7A	896	0		
719-8A	896	1		
719-9A	896	0		
719-13A	504	0		
719-14A	952	0		
719-15A	952	0		
719-16A	952	0		
719-17A	952	0		
719-18A	1792	0		
719-19A	1792	0		
719-20A	720	0		
720-A	11180	0		
721-A	4595	0		
722-A	11700	0		
722-1A	6900	0		
722-2A	720	0		
722-4A	7800	0		
722-5A	20000	0		
722-8A	792	0		
723-A	25194	3		
723-2A	1152	0		
723-4A	1792	0		
723-5A	384	0		
723-6A	1320	0		
723-7A	1560	0		
723-8A	720	0		
723-9A	720	0		
723-12A	240	0		
723-13A	210	0		
723-15A	2400	0		
724-A	11595	0		
724-2A	2160	0		
724-3A	1536	0		
724-4A	1536	0		
724-6A	384	0		
724-7A	384	0		
725-A	1680	0		
726-A	400	0		
730-A	20000	1		
730-1A	1792	0		
730-2A	1792	0		
730-3A	1792	0		
733-A	1926	0		

Table 2

733-1A	4000	0		
734-A	2034	0		
735-A	48290	13		
735-2A	1800	0		
735-4A	213	0		
735-7A	7500	0		
735-8A	1536	0		
735-9A	1536	0		
735-11A	30000	0		
735-13A	1800	0		
735-16A	1792	0		
736-A	10286	0		
736-1A	120	0		
737-A	27321	0		
737-1A	2702	0		
737-2A	1210	0		
737-3A	1356	0		
737-4A	740	0		
737-5A	2400	0		
737-6A	1584	0		
737-7A	1440	0		
737-8A	1440	0		
737-11A	1475	0		
737-12A	738	0		
737-13A	5000	0		
737-14A	1440	0		
737-15A	1440	0		
737-17A	500	0		
737-18A	2400	0		
737-19A	1440	0		
737-20A	768	0		
737-23A	300	0		
738-A	96	0		
740-A	3026	0		
740-3A	1792	0		
740-4A	1792	0		
740-5A	1792	0		
740-6A	1792	0		
740-7A	504	0		
740-8A	1200	0		
740-9A	1792	0		
740-10A	1792	0		
740-11A	1792	0		
740-12A	1792	0		
742-A	29000	0		
742-2A	1792	0		
742-3A	1792	0		
742-4A	720	0		
742-5A	720	0		

Table 2

743-A	1034	0		
743-1A	1440	0		
745-A	11025	1		
745-3A	384	0		
745-6A	2400	0		
746-A	1296	0		
746-1A	1200	0		
748-A	5680	0		
748-1A	35	0		
749-A	11500	0		
749-1A	100	0		
751-1A	4450	1		
751-2A	288	0		
752-25A	200	0		
761-A	141	0		
763-A	2400	0		
770-A	1404	0		
771-A	45	0		
773-A	304000	96		
773-2A	1012	0		
773-3A	449	0		
773-4A	35	0		
773-5A	35	0		
773-6A	35	0		
773-8A	35	0		
773-11A	1824	1		
773-12A	1632	0		
773-13A	1500	0		
773-14A	768	0		
773-16A	1536	0		
773-17A	1536	0		
773-18A	1536	0		
773-19A	1536	0		
773-20A	896	0		
773-21A	1512	0		
773-22A	1536	0		
773-23A	1536	0		
773-24A	1536	0		
773-26A	1536	0		
773-27A	1536	0		
773-41A	20000	0		
773-42A	20000	0		
773-43A	18720	0		
773-51A	20000	0		
773-53A	1792	0		
773-54A	1792	0		
773-55A	1792	0		
773-56A	1792	0		
773-57A	1792	0		

Table 2

773-58A	1792	0		
773-59A	1792	0		
773-60A	504	0		
774-A	2501	1		
774-1A	720	0		
774-2A	798	0		
775-A	819	0		
776-A	3000	0		
776-1A	1801	0		
776-3A	280	0		
776-4A	280	0		
776-5A	360	0		
776-6A	2563	0		
776-8A	608	0		
777-A	2800	0		
777-10A	55308	1		
777-11A	96	0		
777-12A	885	0		
777-15A	720	0		
778-A	144	0		
779-A	4589	1		
779-1A	720	0		
779-3A	150	0		
779-6A	288	0		
779-10A	1450	0		
780-1A	270	0		
780-2A	421	0		
784-A	6000	2		
784-4	480	0		
784-1A	960	0		
784-3A	150	0		
784-4A	173	0		
785-A	960	0		
785-1A	121	0		
786-A	4600	0	<i>(Bldg 773-A removed from the data because it is an outlier)</i>	
786-1A	1536	0		
786-2A	408	0		
786-4A	288	0		
786-5A	2100	0		
786-6A	1120	0		
786-13A	144	0		
789-A	6000	2		
792-A	882	0		
905-98A	196	0		
	1597702	169		
F(A area/ =		2.41E-05		
10000 sq ft)				

Table 2

700 F AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
300-F	0	1		
701-1F	6080	0		
701-2F	150	0		
701-3F	672	0		
701-4F	150	0		
701-5F	228	0		
701-6F	308	0		
701-7F	144	0		
701-9F	1800	0		
701-13F	308	0		
701-18F	308	0		
701-19F	1440	0		
702-F	1665	0		
703-F	25000	1		
703-1F	840	0		
704-F	12141	2		
704-2F	1296	0		
704-3F	1296	0		
704-4F	720	0		
704-5F	720	0		
704-8F	1536	0		
704-10F	1792	0		
704-11F	896	0		
704-12F	896	0		
704-17F	768	0		
704-18F	1792	0		
704-19F	1792	0		
704-23F	1792	0		
705-1F	600	0		
705-2F	600	0		
706-F	4001	0		
707-1F	3888	2		
707-2F	1484	0		
707-4F	240	0		
709-F	2075	0		
709-1F	2506	0		
709-2F	156	0		
709-4F	960	0		
709-5F	960	0		
711-F	680	0		
717-F	52500	0		
717-4F	240	0		

Table 2

717-5F	100	0	
719-F	192	0	
722-F	600	0	
723-F	12599	12	
723-1F	240	0	
723-2F	144	0	
725-F	35	0	
727-F	240	0	
728-F	3888	0	
729-F	3208	0	
729-1F	384	0	
772-F	83796	23	
772-1F	32000	1	
772-3F	1792	0	
782-1F	320	0	
	276958	42	
F(700F area/ =		6.47E-05	
10000 sq ft)			
700 H AREA: AVERAGE SEVERE FIRE			
FREQUENCY / 10000 SQ FT			
BLDG	SQ FT	# FIRES	
322-H	0	1	
701-1H	4293	1	
701-3H	316	1	
701-4H	65	0	
701-8H	80	0	
702-H	1665	0	
703-H	25000	0	
704-H	15000	2	
704-1H	1536	0	
704-2H	1536	0	
704-3H	1536	0	
704-5H	1536	0	
704-6H	7200	0	
704-8H	5040	0	
704-11H	240	0	
705-H	20000	0	
705-1H	600	0	
705-2H	600	0	
705-5H	960	0	
706-H	4220	0	
706-1H	1536	0	
706-2H	1536	0	

Table 2

707-H	19000	0		
717-3H	360	0		
717-4H	360	0		
724-H	5001	1		
777-H	0	1		
782-1H	320	0		
5000-H	11250	0		
	130786	7		
F(700H area/ =		2.28E-05		
10000 sq ft)				
300 M AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
305-1M	10440	0		
313-M	57212	32		
313-3M	44000	0		
313-6M	44000	0		
313-7M	360	0		
313-9M	315	0		
313-10M	144	0		
313-11M	192	0		
315-M	15286	0		
315-1M	72	0		
315-2M	100	0		
316-M	1600	0		
319-M	506	0		
320-M	63288	17		
320-1M	720	0		
321-M	56072	16		
321-2M	510	0		
321-3M	4000	0		
321-4M	240	0		
322-M	7812	16		
322-1M	190	0		
322-2M	1104	0		
322-3M	80	0		
323-M	360	0		
324-M	1875	1		
330-M	8000	0		
331-M	8000	0		
340-M	400	0		
341-M	6000	0		
341-1M	5600	0		

Table 2

341-5M	400	0		
	338878	82		
F(300M area/ =		1.03E-04		
10000 sq ft)				
400 D AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
400-D	0	2		
401-1D	1930	2		
401-2D	300	0		
402-D	7500	1		
411-3D	7464	2		
411-4D	352	0		
411-6D	360	0		
411-7D	240	0		
412-1D	1000	33		
412-2D	2402	0		
412-3D	5790	0		
412-4D	1098	0		
412-5D	1200	0		
412-6D	1	0		
412-8D	631	0		
412-9D	366	0		
412-11D	100	0		
413-D	0	8		
414-D	1200	0		
415-D	1200	0		
420-D	6030	0		
420-2D	880	0		
421-D	8128	2		
421-2D	5525	0		
421-4D	3600	0		
451-D	566	0		
480-2D	270	0		
480-3D	576	0		
483-1D	38000	0		
483-2D	851	0		
483-3D	1920	0		
484-D	250000	24		
484-2D	648	1		
484-3D	550	0		
484-4D	9200	0		
484-5D	240	0		

Table 2

484-6D	168	0		
484-7D	1600	0		
484-10D	2400	0		
484-11D	192	0		
484-12D	800	0		
485-D	3826	0		
	369104	75		
F(400D area/ =		8.67E-05		
10000 sq ft)				
B AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
607-2B	432	0		
623-B	0	1		
703-B	20000	1		
703-1B	20000	1		
703-5B	20000	0		
703-7B	952	0		
703-10B	480	0		
703-12B	1200	0		
704-B	3000	0		
704-3B	1800	0		
707-32B	504	0		
707-33B	504	0		
772-26B	1920	0		
772-27B	3000	0		
	73792	3		
F(B area/ =		1.74E-05		
10000 sq ft)				
700C AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
701-1C	4164	0		
701-2C	1679	0		
701-4C	240	0		
701-5C	240	0		
701-6C	200	0		

Table 2

702-C	1665	0		
704-C	18489	4		
704-1C	1493	0		
704-2C	1792	0		
705-C	26250	0		
706-C	19000	0		
706-6C	720	0		
706-17C	1792	0		
707-C	44728	0		
707-2C	540	0		
707-3C	540	0		
707-4C	540	0		
707-5C	540	0		
717-C	4250	1		
	128862	5		
F(700C area/ =		1.66E-05		
10000 sq ft)				
700D AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
701-1D	4034	0		
701-2D	100	0		
701-3D	202	0		
704-D	10087	1		
704-1D	1792	0		
707-D	1665	1		
711-D	680	0		
711-1D	3646	0		
717-D	18365	1		
772-D	11750	2		
	52321	5		
F(700D area/ =		4.08E-05		
10000 sq ft)				
G AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		

Table 2

504-1G	576	0		
504-2G	576	0		
504-3G	756	0		
607-38G	600	0		
608-G	1477	0		
609-G	4000	0		
614-48G	93	0		
614-49G	93	0		
614-50G	93	0		
614-51G	93	0		
614-52G	93	0		
614-53G	93	0		
614-54G	93	0		
614-55G	93	0		
614-6G	86	0		
616-G	654	0		
617-2G	480	0		
617-G	2400	0		
618-G	12522	0		
623-27G	288	0		
623-2G	64	0		
624-3G	600	0		
642-G	2800	0		
643-G	0	2		
643-12G	720	0		
643-15G	192	0		
643-16G	240	0		
643-17G	160	0		
643-18G	160	0		
643-20G	360	0		
643-23G	80	0		
643-29G	3600	0		
643-30G	8000	0		
643-6G	65	0		
647-1G	1344	0		
647-G	5000	0		
652-8G	0	1		
661-1G	64	0		
661-2G	1400	0		
661-G	2967	0		
673-G	0	1		
675-G	0	2		
677-G	0	4		
678-G	0	1		
681-10G	362	1		
681-11G	246	0		
681-1G	12843	1		
681-3G	12843	1		
681-5G	5899	0		

Table 2

681-6G	2400	0		
681-7G	1790	0		
681-8G	400	0		
681-9G	480	0		
686-3G	720	0		
690-G	11500	3		
701-12G	150	0		
701-13G	150	0		
701-14G	48	0		
701-15G	48	0		
701-16G	48	0		
701-2G	146	0		
701-3G	146	0		
701-4G	146	0		
701-5G	146	0		
701-6G	146	0		
701-8G	150	0		
703-5G	2700	0		
703-6G	5600	0		
703-7G	240	0		
703-9G	200	0		
704-1G	980	0		
704-2G	784	0		
704-3G	980	0		
704-4G	460	0		
705-G	11926	1		
706-1G	200	0		
706-3G	10500	0		
706-G	7333	0		
707-G	961	0		
709-1G	750	0		
709-2G	13550	0		
709-4G	11550	0		
709-G	10080	0		
710-2G	800	0		
710-G	15360	1		
711-G	6000	0		
714-2G	11956	0		
714-5G	18670	0		
714-6G	16000	0		
714-7G	16000	0		
714-G	8000	0		
715-1G	576	0		
715-G	140	0		
717-G	3244	0		
722-G	6030	0		
724-7G	5231	1		
724-8G	1300	0		
726-1G	1600	0		

Table 2

728-G	1201	0		
730-G	8080	0		
734-G	308	0		
735-7G	4920	0		
735-7G	1550	0		
739-1G	200	0		
739-4G	360	0		
739-6G	48	0		
741-1G	400	0		
741-2G	8000	0		
741-G	600	0		
760-10G	144	0		
760-11G	0	1		
760-12G	1500	0		
760-13G	2000	0		
760-1G	4138	1		
760-2G	714	0		
760-3G	3024	0		
760-4G	3760	0		
760-5G	1792	0		
760-8G	865	0		
760-9G	3600	0		
760-G	4074	0		
772-10G	7800	0		
772-13G	720	0		
772-14G	672	0		
772-17G	768	0		
772-18G	660	0		
772-19G	660	0		
772-1G	7786	0		
772-2G	0	1		
772-20G	1000	0		
772-21G	648	0		
772-22G	648	0		
772-25G	2400	0		
772-26G	200	0		
772-3G	240	0		
772-5G	668	0		
772-7G	8000	0		
772-8G	7800	0		
772-9G	7800	0		
772-G	7695	0		
904-116G	48	0		
905-109G	48	0		
905-10G	48	0		
905-110G	48	0		
905-111G	48	0		
905-115G	48	0		
905-11G	36	0		

Table 2

905-6G	48	0		
905-74G	36	0		
905-7G	48	0		
905-8G	48	0		
725-1N	4500	0		
717-11N	5265	0		
711-N	45600	0		
713-1N	30000	0		
713-N	30000	0		
716-N	15850	0		
717-10N	12000	2		
717-5N	22000	0		
717-8N	7400	0		
719-N	6500	0		
	580545	25		
F/G area/ =		1.84E-05		
10000 sq ft)				
TNX AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
607-41T	400	0		
607-46T	600	0		
669-T	3150	0		
670-T	3600	0		
671-T	200	0		
672-T	12120	0		
673-T	4800	0		
674-T	7000	0		
675-T	6642	1		
676-T	1536	0		
676-1T	1536	0		
676-2T	720	0		
676-8T	1536	0		
676-9T	1536	0		
676-10T	1536	0		
676-11T	1536	0		
676-12T	1536	0		
676-14T	1792	0		
676-15T	1792	0		
677-T	15280	0		
677-1T	192	0		
677-2T	192	0		
678-T	12957	4		

Table 2

679-T	13360	0		
679-2T	120	0		
679-5T	48	0		
679-7T	101	0		
679-8T	101	0		
682-T	500	0		
684-T	420	0		
704-T	6395	0		
704-1T	6500	0		
711-T	200	0		
772-T	40000	1		
904-T	3600	0		
	153534	6		
F(TNX area/ =		1.67E-05		
10000 sq ft)				
700K AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
701-1K	4162	1		
701-2K	1679	0		
701-5K	308	0		
704-K	15870	0		
704-1K	1792	0		
704-2K	845	0		
704-3K	845	0		
704-4K	845	0		
711-1K	800	0		
717-K	20000	0		
	47146	1		
F(700K area/ =		9.05E-06		
10000 sq ft)				
700L AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		

Table 2

701-1L	228	0		
701-2L	1679	2		
701-5L	308	0		
704-L	14487	1		
704-1L	1792	0		
711-L	630	0		
717-L	0	1		
723-L	180	0		
723-1L	85	0		
723-2L	80	0		
723-3L	80	0		
723-4L	200	0		
	19749	4		
F(700L area/ =		8.64E-05		
10000 sq ft)				
700M AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		
701-1M	315	0		
701-3M	195	0		
701-4M	192	1		
701-6M	0	1		
701-7M	420	0		
704-M	7672	0		
710-M	250	0		
730-M	18000	0		
734-M	450	0		
777-M	0	3		
782-1M	320	0		
	27814	5		
F(700M area/ =		7.67E-05		
10000 sq ft)				
700P AREA: AVERAGE SEVERE FIRE				
FREQUENCY / 10000 SQ FT				
BLDG	SQ FT	# FIRES		

Table 2

[illegible]