Appendix E
OBSTRUCTED PLUME FIRE MODELING RESULTS

This appendix presents the results of the FDS computer simulations related to the obstructed plume studies. Table E-1 and Table E-2 list the results of obstructed and unobstructed plume simulations, respectively. Table E-3, Table E-4, Table E-5, Table E-6, Table E-7, Table E-8 and Table E-9 present the results of bias and uncertainty, opening sensitivity, vertical source sensitivity, wall surface sensitivity, soffit sensitivity, steel enclosure thickness, and horizontal plume shift and angle results for the obstructed plume models, respectively. Table E-10 presents a table identifying the FDS run identification numbers associated with the unobstructed (baseline) plume case (in Table E-2) and three obstructed plume cases (in Table E-1) so that one could compare the results of the similar experimental configurations. Finally, Table E-11 presents a matrix of simulation runs in Table E-4 for ease of use on the opening sensitivity study. The fire models used for the simulations, the input data files, and a copy of NUREG-1934 (EPRI 1023259), *Nuclear Power Plant Fire Modeling Analysis Guidelines (NPP FIRE MAG)*, are included as Appendix G of this report.

Subject **Page**

Contains results for obstructed plume simulations used in this investigation. Includes the simulation Test ID, the HRR used in the simulation, the fire source diameter, the fire source elevation, the elevation of the temperature prediction, the maximum time-averaged plume temperature rise, the comparative baseline unobstructed simulation TestID, for reference, identified if the value was filtered from the investigation and the criteria by which the data was filtered as described in Section 5.2.4.5.

Contains results for unobstructed plume simulations used in this investigation. Includes the simulation Test ID, the HRR used in the simulation, the fire source diameter, the fire source elevation, the elevation of the temperature prediction, the maximum time-averaged plume temperature rise, the corresponding Heskestad Fire Plume Correlation estimated temperature rise, identified if the value was filtered from the investigation and the criteria by which the data was filtered as described in Section 5.2.4.5.

Identifies the bias for each pair of FDS simulated temperature with an obstructed plume geometry and the corresponding Heskestad Fire Plume Correlation using equations from Section 5.2.4.5.

$$\overline{\ln\left(\frac{M}{E}\right)} = \frac{1}{n}\sum_{i=1}^{n} \ln\left(\frac{M_i}{E_i}\right) = -0.50 \qquad (5\text{-}11)$$

$$\tilde{\sigma}_M^2 + \tilde{\sigma}_E^2 = \frac{1}{1-n}\sum_{i=1}^{n}\left[\ln\left(\frac{M_i}{E_i}\right) - \overline{\ln\left(\frac{M}{E}\right)}\right]^2 = 0.11 \quad (5\text{-}12)$$

$$\tilde{\sigma}_E = 0.20$$

$$\tilde{\sigma}_M = 0.28$$

$$\delta = \exp\left(\overline{\ln\left(\frac{M}{E}\right)} + \frac{\tilde{\sigma}_M^2}{2} - \frac{\tilde{\sigma}_E^2}{2}\right) = 0.62 \quad (5\text{-}13)$$

temperature rise relative to the center of the enclosure, the radial distance for damage using the point source model for thermoplastic and thermoset targets, and the angle of the plume shift for each value.

Provides an index for matching obstructed and unobstructed simulations used in this investigation.

Provides an index for simulations with an opening in the top obstruction

Obstructed Simulation Results

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_1054	1000	0.91	0.30	2.4	402.99	BASE_404	TRUE	Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	2.7	249.05	BASE_404	TRUE	Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	3	199.53	BASE_404	TRUE	Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	3.3	172.57	BASE_404	TRUE	Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	3.6	153.99	BASE_404	TRUE	Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	3.9	136.7	BASE_404	TRUE	Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	4.2	126.62	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	4.5	113.14	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	4.8	103.21	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	5.1	96.109	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	5.4	90.815	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1054	1000	0.91	0.30	5.7	85.55	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_1054	1000	0.91	0.30	6	81.415	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1055	1000	0.91	1.14	2.4	706.62	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	2.7	459.45	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	3	337.19	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	3.3	271.35	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	3.6	227.5	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	3.9	201.32	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	4.2	178.36	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	4.5	159.08	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	4.8	143.06	BASE_400	FALSE	Not Filtered
ARCH_1055	1000	0.91	1.14	5.1	128.93	BASE_400	TRUE	Temperature < 130 C
ARCH_1055	1000	0.91	1.14	5.4	111.59	BASE_400	TRUE	Temperature < 130 C
ARCH_1055	1000	0.91	1.14	5.7	101.23	BASE_400	TRUE	Temperature < 130 C
ARCH_1055	1000	0.91	1.14	6	94.488	BASE_400	TRUE	Temperature < 130 C
ARCH_1056	1000	0.91	1.98	2.4	1071	BASE_401	TRUE	Temperature > 800 C
ARCH_1056	1000	0.91	1.98	2.7	999.09	BASE_401	TRUE	Temperature > 800 C
ARCH_1056	1000	0.91	1.98	3	888.05	BASE_401	TRUE	Temperature > 800 C
ARCH_1056	1000	0.91	1.98	3.3	744.08	BASE_401	FALSE	Not Filtered
ARCH_1056	1000	0.91	1.98	3.6	623.99	BASE_401	FALSE	Not Filtered
ARCH_1056	1000	0.91	1.98	3.9	505.27	BASE_401	FALSE	Not Filtered
ARCH_1056	1000	0.91	1.98	4.2	404.48	BASE_401	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_1056	1000	0.91	1.98	4.5	327.37	BASE_401	FALSE	Not Filtered
ARCH_1056	1000	0.91	1.98	4.8	279.4	BASE_401	FALSE	Not Filtered
ARCH_1056	1000	0.91	1.98	5.1	243.14	BASE_401	FALSE	Not Filtered
ARCH_1056	1000	0.91	1.98	5.4	217.29	BASE_401	FALSE	Not Filtered
ARCH_1056	1000	0.91	1.98	5.7	197.62	BASE_401	FALSE	Not Filtered
ARCH_1056	1000	0.91	1.98	6	181.65	BASE_401	FALSE	Not Filtered
ARCH_1063	1000	1.22	0.30	2.4	314.81	BASE_405	TRUE	Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	2.7	200.08	BASE_405	TRUE	Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	3	161.99	BASE_405	TRUE	Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	3.3	139.11	BASE_405	TRUE	Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	3.6	127.87	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	3.9	116.51	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	4.2	108.46	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	4.5	101.39	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	4.8	97.629	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_1063	1000	1.22	0.30	5.1	92.41	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	5.4	86.168	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	5.7	80.069	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1063	1000	1.22	0.30	6	77.021	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_1064	1000	1.22	1.14	2.4	518.48	BASE_402	FALSE	Not Filtered
ARCH_1064	1000	1.22	1.14	2.7	310.87	BASE_402	FALSE	Not Filtered
ARCH_1064	1000	1.22	1.14	3	248.02	BASE_402	FALSE	Not Filtered
ARCH_1064	1000	1.22	1.14	3.3	200.07	BASE_402	FALSE	Not Filtered
ARCH_1064	1000	1.22	1.14	3.6	173.69	BASE_402	FALSE	Not Filtered
ARCH_1064	1000	1.22	1.14	3.9	152.29	BASE_402	FALSE	Not Filtered
ARCH_1064	1000	1.22	1.14	4.2	139.64	BASE_402	FALSE	Not Filtered
ARCH_1064	1000	1.22	1.14	4.5	125.97	BASE_402	TRUE	Temperature < 130 C
ARCH_1064	1000	1.22	1.14	4.8	113.42	BASE_402	TRUE	Temperature < 130 C
ARCH_1064	1000	1.22	1.14	5.1	104.74	BASE_402	TRUE	Temperature < 130 C
ARCH_1064	1000	1.22	1.14	5.4	96.844	BASE_402	TRUE	Temperature < 130 C
ARCH_1064	1000	1.22	1.14	5.7	88.525	BASE_402	TRUE	Temperature < 130 C
ARCH_1064	1000	1.22	1.14	6	84.126	BASE_402	TRUE	Temperature < 130 C
ARCH_1065	1000	1.22	1.98	2.4	1017.4	BASE_403	TRUE	Temperature > 800 C
ARCH_1065	1000	1.22	1.98	2.7	912.53	BASE_403	TRUE	Temperature > 800 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_1065	1000	1.22	1.98	3	717.19	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	3.3	559.48	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	3.6	449.2	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	3.9	342.39	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	4.2	275.39	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	4.5	228.68	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	4.8	200.89	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	5.1	179.61	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	5.4	158.36	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	5.7	140.7	BASE_403	FALSE	Not Filtered
ARCH_1065	1000	1.22	1.98	6	132.26	BASE_403	FALSE	Not Filtered
ARCH_822	50	0.30	0.30	2.4	78.421	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_822	50	0.30	0.30	2.7	61.983	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_822	50	0.30	0.30	3	54.471	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_822	50	0.30	0.30	3.3	48.091	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_822	50	0.30	0.30	3.6	44.856	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_822	50	0.30	0.30	3.9	41.157	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_823	100	0.30	0.30	2.4	111.96	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_823	100	0.30	0.30	2.7	85.738	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_823	100	0.30	0.30	3	73.613	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_823	100	0.30	0.30	3.3	63.543	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_823	100	0.30	0.30	3.6	57.189	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_823	100	0.30	0.30	3.9	51.926	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_823	100	0.30	0.30	4.2	47.036	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_823	100	0.30	0.30	4.5	44.597	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_823	100	0.30	0.30	4.8	42.113	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_829	50	0.30	1.14	2.4	128.48	BASE_311	TRUE	Temperature < 130 C
ARCH_829	50	0.30	1.14	2.7	83.525	BASE_311	TRUE	Temperature < 130 C
ARCH_829	50	0.30	1.14	3	65.94	BASE_311	TRUE	Temperature < 130 C
ARCH_829	50	0.30	1.14	3.3	55.802	BASE_311	TRUE	Temperature < 130 C
ARCH_829	50	0.30	1.14	3.6	50.422	BASE_311	TRUE	Temperature < 130 C
ARCH_829	50	0.30	1.14	3.9	45.23	BASE_311	TRUE	Temperature < 130 C
ARCH_829	50	0.30	1.14	4.2	42.194	BASE_311	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_830	100	0.30	1.14	2.4	218.07	BASE_312	FALSE	Not Filtered
ARCH_830	100	0.30	1.14	2.7	132.16	BASE_312	FALSE	Not Filtered
ARCH_830	100	0.30	1.14	3	104.18	BASE_312	TRUE	Temperature < 130 C
ARCH_830	100	0.30	1.14	3.3	84.312	BASE_312	TRUE	Temperature < 130 C
ARCH_830	100	0.30	1.14	3.6	72.088	BASE_312	TRUE	Temperature < 130 C
ARCH_830	100	0.30	1.14	3.9	64.197	BASE_312	TRUE	Temperature < 130 C
ARCH_830	100	0.30	1.14	4.2	58.619	BASE_312	TRUE	Temperature < 130 C
ARCH_830	100	0.30	1.14	4.5	51.953	BASE_312	TRUE	Temperature < 130 C
ARCH_830	100	0.30	1.14	4.8	47.76	BASE_312	TRUE	Temperature < 130 C
ARCH_830	100	0.30	1.14	5.1	45.075	BASE_312	TRUE	Temperature < 130 C
ARCH_830	100	0.30	1.14	5.4	42.484	BASE_312	TRUE	Temperature < 130 C
ARCH_836	50	0.30	1.98	2.4	266.03	BASE_322	FALSE	Not Filtered
ARCH_836	50	0.30	1.98	2.7	146.04	BASE_322	FALSE	Not Filtered
ARCH_836	50	0.30	1.98	3	103.12	BASE_322	TRUE	Temperature < 130 C
ARCH_836	50	0.30	1.98	3.3	79.733	BASE_322	TRUE	Temperature < 130 C
ARCH_836	50	0.30	1.98	3.6	68.823	BASE_322	TRUE	Temperature < 130 C
ARCH_836	50	0.30	1.98	3.9	62.17	BASE_322	TRUE	Temperature < 130 C
ARCH_836	50	0.30	1.98	4.2	56.616	BASE_322	TRUE	Temperature < 130 C
ARCH_836	50	0.30	1.98	4.5	50.366	BASE_322	TRUE	Temperature < 130 C
ARCH_836	50	0.30	1.98	4.8	46.16	BASE_322	TRUE	Temperature < 130 C
ARCH_836	50	0.30	1.98	5.1	41.517	BASE_322	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_837	100	0.30	1.98	2.4	531.44	BASE_323	FALSE	Not Filtered
ARCH_837	100	0.30	1.98	2.7	275.75	BASE_323	FALSE	Not Filtered
ARCH_837	100	0.30	1.98	3	191.73	BASE_323	FALSE	Not Filtered
ARCH_837	100	0.30	1.98	3.3	138.23	BASE_323	FALSE	Not Filtered
ARCH_837	100	0.30	1.98	3.6	111.02	BASE_323	TRUE	Temperature < 130 C
ARCH_837	100	0.30	1.98	3.9	90.378	BASE_323	TRUE	Temperature < 130 C
ARCH_837	100	0.30	1.98	4.2	78.574	BASE_323	TRUE	Temperature < 130 C
ARCH_837	100	0.30	1.98	4.5	68.337	BASE_323	TRUE	Temperature < 130 C
ARCH_837	100	0.30	1.98	4.8	62.439	BASE_323	TRUE	Temperature < 130 C
ARCH_837	100	0.30	1.98	5.1	56.388	BASE_323	TRUE	Temperature < 130 C
ARCH_837	100	0.30	1.98	5.4	50.913	BASE_323	TRUE	Temperature < 130 C
ARCH_837	100	0.30	1.98	5.7	46.702	BASE_323	TRUE	Temperature < 130 C
ARCH_837	100	0.30	1.98	6	43.468	BASE_323	TRUE	Temperature < 130 C
ARCH_887	200	0.61	0.30	2.4	148.43	BASE_302	TRUE	, Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	2.7	100.37	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	3	85.081	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	3.3	74.859	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	3.6	69.47	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_887	200	0.61	0.30	3.9	63.212	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	4.2	59.739	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	4.5	57.879	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	4.8	54.59	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	5.1	51.417	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	5.4	48.415	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	5.7	46.025	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_887	200	0.61	0.30	6	43.88	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	2.4	203.24	BASE_303	TRUE	Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	2.7	127.89	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	3	107.9	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	3.3	94.353	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	3.6	84.65	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_888	300	0.61	0.30	3.9	77.241	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	4.2	72.78	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	4.5	67.684	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	4.8	61.735	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	5.1	56.565	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	5.4	51.5	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	5.7	48.936	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_888	300	0.61	0.30	6	46.643	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	2.4	255.22	BASE_304	TRUE	Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	2.7	157.96	BASE_304	TRUE	Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	3	127.64	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	3.3	109.23	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	3.6	98.671	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_889	400	0.61	0.30	3.9	88.758	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	4.2	80.791	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	4.5	73.599	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	4.8	69.728	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	5.1	66.947	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	5.4	62.583	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	5.7	57.735	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_889	400	0.61	0.30	6	54.117	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	2.4	334.39	BASE_305	TRUE	Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	2.7	208.25	BASE_305	TRUE	Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	3	163.33	BASE_305	TRUE	Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	3.3	136.87	BASE_305	TRUE	Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	3.6	120.3	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_890	500	0.61	0.30	3.9	108.92	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	4.2	99.827	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	4.5	89.634	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	4.8	83.218	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	5.1	77.533	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	5.4	72.565	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	5.7	68.466	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_890	500	0.61	0.30	6	65.06	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	2.4	392.93	BASE_306	TRUE	Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	2.7	238.68	BASE_306	TRUE	Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	3	182.46	BASE_306	TRUE	Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	3.3	151.7	BASE_306	TRUE	Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	3.6	132.77	BASE_306	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_891	600	0.61	0.30	3.9	117.68	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	4.2	105.86	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	4.5	97.088	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	4.8	89.553	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	5.1	83.845	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	5.4	77.08	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	5.7	70.69	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_891	600	0.61	0.30	6	66.18	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_894	200	0.61	1.14	2.4	259.92	BASE_313	FALSE	Not Filtered
ARCH_894	200	0.61	1.14	2.7	140.83	BASE_313	FALSE	Not Filtered
ARCH_894	200	0.61	1.14	3	107.55	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	3.3	92.404	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	3.6	80.943	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	3.9	73.928	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	4.2	69.147	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	4.5	60.989	BASE_313	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_894	200	0.61	1.14	4.8	56.486	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	5.1	52.641	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	5.4	49.817	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	5.7	47.225	BASE_313	TRUE	Temperature < 130 C
ARCH_894	200	0.61	1.14	6	45.813	BASE_313	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	2.4	350.38	BASE_314	FALSE	Not Filtered
ARCH_895	300	0.61	1.14	2.7	192.02	BASE_314	FALSE	Not Filtered
ARCH_895	300	0.61	1.14	3	145.64	BASE_314	FALSE	Not Filtered
ARCH_895	300	0.61	1.14	3.3	123.78	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	3.6	107.6	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	3.9	96.495	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	4.2	89.162	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	4.5	82.797	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	4.8	76.094	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	5.1	70.124	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	5.4	65.595	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	5.7	60.586	BASE_314	TRUE	Temperature < 130 C
ARCH_895	300	0.61	1.14	6	57.174	BASE_314	TRUE	Temperature < 130 C
ARCH_896	400	0.61	1.14	2.4	575.97	BASE_315	FALSE	Not Filtered
ARCH_896	400	0.61	1.14	2.7	273.67	BASE_315	FALSE	Not Filtered
ARCH_896	400	0.61	1.14	3	192.71	BASE_315	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_896	400	0.61	1.14	3.3	155.45	BASE_315	FALSE	Not Filtered
ARCH_896	400	0.61	1.14	3.6	135.42	BASE_315	FALSE	Not Filtered
ARCH_896	400	0.61	1.14	3.9	119.35	BASE_315	TRUE	Temperature < 130 C
ARCH_896	400	0.61	1.14	4.2	105.99	BASE_315	TRUE	Temperature < 130 C
ARCH_896	400	0.61	1.14	4.5	95.01	BASE_315	TRUE	Temperature < 130 C
ARCH_896	400	0.61	1.14	4.8	86.706	BASE_315	TRUE	Temperature < 130 C
ARCH_896	400	0.61	1.14	5.1	79.523	BASE_315	TRUE	Temperature < 130 C
ARCH_896	400	0.61	1.14	5.4	73.124	BASE_315	TRUE	Temperature < 130 C
ARCH_896	400	0.61	1.14	5.7	68.01	BASE_315	TRUE	Temperature < 130 C
ARCH_896	400	0.61	1.14	6	64.528	BASE_315	TRUE	Temperature < 130 C
ARCH_897	500	0.61	1.14	2.4	705.87	BASE_316	FALSE	Not Filtered
ARCH_897	500	0.61	1.14	2.7	405.73	BASE_316	FALSE	Not Filtered
ARCH_897	500	0.61	1.14	3	275.53	BASE_316	FALSE	Not Filtered
ARCH_897	500	0.61	1.14	3.3	207.46	BASE_316	FALSE	Not Filtered
ARCH_897	500	0.61	1.14	3.6	175.04	BASE_316	FALSE	Not Filtered
ARCH_897	500	0.61	1.14	3.9	151.32	BASE_316	FALSE	Not Filtered
ARCH_897	500	0.61	1.14	4.2	134.1	BASE_316	FALSE	Not Filtered
ARCH_897	500	0.61	1.14	4.5	116.32	BASE_316	TRUE	Temperature < 130 C
ARCH_897	500	0.61	1.14	4.8	105.38	BASE_316	TRUE	Temperature < 130 C
ARCH_897	500	0.61	1.14	5.1	98.169	BASE_316	TRUE	Temperature < 130 C
ARCH_897	500	0.61	1.14	5.4	90.329	BASE_316	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_897	500	0.61	1.14	5.7	83.386	BASE_316	TRUE	Temperature < 130 C
ARCH_897	500	0.61	1.14	6	77.358	BASE_316	TRUE	Temperature < 130 C
ARCH_898	600	0.61	1.14	2.4	777.31	BASE_317	FALSE	Not Filtered
ARCH_898	600	0.61	1.14	2.7	455.11	BASE_317	FALSE	Not Filtered
ARCH_898	600	0.61	1.14	3	337.58	BASE_317	FALSE	Not Filtered
ARCH_898	600	0.61	1.14	3.3	252	BASE_317	FALSE	Not Filtered
ARCH_898	600	0.61	1.14	3.6	213.7	BASE_317	FALSE	Not Filtered
ARCH_898	600	0.61	1.14	3.9	178.56	BASE_317	FALSE	Not Filtered
ARCH_898	600	0.61	1.14	4.2	154.6	BASE_317	FALSE	Not Filtered
ARCH_898	600	0.61	1.14	4.5	133.8	BASE_317	FALSE	Not Filtered
ARCH_898	600	0.61	1.14	4.8	121.31	BASE_317	TRUE	Temperature < 130 C
ARCH_898	600	0.61	1.14	5.1	107.65	BASE_317	TRUE	Temperature < 130 C
ARCH_898	600	0.61	1.14	5.4	97.561	BASE_317	TRUE	Temperature < 130 C
ARCH_898	600	0.61	1.14	5.7	89.094	BASE_317	TRUE	Temperature < 130 C
ARCH_898	600	0.61	1.14	6	82.72	BASE_317	TRUE	Temperature < 130 C
ARCH_901	200	0.61	1.98	2.4	693.58	BASE_324	FALSE	Not Filtered
ARCH_901	200	0.61	1.98	2.7	369.88	BASE_324	FALSE	Not Filtered
ARCH_901	200	0.61	1.98	3	253.64	BASE_324	FALSE	Not Filtered
ARCH_901	200	0.61	1.98	3.3	194.13	BASE_324	FALSE	Not Filtered
ARCH_901	200	0.61	1.98	3.6	161.03	BASE_324	FALSE	Not Filtered
ARCH_901	200	0.61	1.98	3.9	130.93	BASE_324	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_901	200	0.61	1.98	4.2	111.32	BASE_324	TRUE	Temperature < 130 C
ARCH_901	200	0.61	1.98	4.5	97.46	BASE_324	TRUE	Temperature < 130 C
ARCH_901	200	0.61	1.98	4.8	89.489	BASE_324	TRUE	Temperature < 130 C
ARCH_901	200	0.61	1.98	5.1	82.647	BASE_324	TRUE	Temperature < 130 C
ARCH_901	200	0.61	1.98	5.4	72.712	BASE_324	TRUE	Temperature < 130 C
ARCH_901	200	0.61	1.98	5.7	65.348	BASE_324	TRUE	Temperature < 130 C
ARCH_901	200	0.61	1.98	6	59.505	BASE_324	TRUE	Temperature < 130 C
ARCH_902	300	0.61	1.98	2.4	931.25	BASE_325	TRUE	Temperature > 800 C
ARCH_902	300	0.61	1.98	2.7	657.24	BASE_325	FALSE	Not Filtered
ARCH_902	300	0.61	1.98	3	450.61	BASE_325	FALSE	Not Filtered
ARCH_902	300	0.61	1.98	3.3	345.15	BASE_325	FALSE	Not Filtered
ARCH_902	300	0.61	1.98	3.6	272.2	BASE_325	FALSE	Not Filtered
ARCH_902	300	0.61	1.98	3.9	214.8	BASE_325	FALSE	Not Filtered
ARCH_902	300	0.61	1.98	4.2	178.08	BASE_325	FALSE	Not Filtered
ARCH_902	300	0.61	1.98	4.5	146.34	BASE_325	FALSE	Not Filtered
ARCH_902	300	0.61	1.98	4.8	129.83	BASE_325	TRUE	Temperature < 130 C
ARCH_902	300	0.61	1.98	5.1	118.19	BASE_325	TRUE	Temperature < 130 C
ARCH_902	300	0.61	1.98	5.4	101.98	BASE_325	TRUE	Temperature < 130 C
ARCH_902	300	0.61	1.98	5.7	92.618	BASE_325	TRUE	Temperature < 130 C
ARCH_902	300	0.61	1.98	6	86.111	BASE_325	TRUE	Temperature < 130 C
ARCH_903	400	0.61	1.98	2.4	1006.2	BASE_326	TRUE	Temperature > 800 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_903	400	0.61	1.98	2.7	884.94	BASE_326	TRUE	Temperature > 800 C
ARCH_903	400	0.61	1.98	3	712.12	BASE_326	FALSE	Not Filtered
ARCH_903	400	0.61	1.98	3.3	515.23	BASE_326	FALSE	Not Filtered
ARCH_903	400	0.61	1.98	3.6	387.41	BASE_326	FALSE	Not Filtered
ARCH_903	400	0.61	1.98	3.9	289.44	BASE_326	FALSE	Not Filtered
ARCH_903	400	0.61	1.98	4.2	232.59	BASE_326	FALSE	Not Filtered
ARCH_903	400	0.61	1.98	4.5	183.52	BASE_326	FALSE	Not Filtered
ARCH_903	400	0.61	1.98	4.8	157.37	BASE_326	FALSE	Not Filtered
ARCH_903	400	0.61	1.98	5.1	138.3	BASE_326	FALSE	Not Filtered
ARCH_903	400	0.61	1.98	5.4	121.29	BASE_326	TRUE	Temperature < 130 C
ARCH_903	400	0.61	1.98	5.7	108.2	BASE_326	TRUE	Temperature < 130 C
ARCH_903	400	0.61	1.98	6	99.461	BASE_326	TRUE	Temperature < 130 C
ARCH_904	500	0.61	1.98	2.4	1057.3	BASE_327	TRUE	Temperature > 800 C
ARCH_904	500	0.61	1.98	2.7	1014.7	BASE_327	TRUE	Temperature > 800 C
ARCH_904	500	0.61	1.98	3	921.04	BASE_327	TRUE	Temperature > 800 C
ARCH_904	500	0.61	1.98	3.3	753.53	BASE_327	FALSE	Not Filtered
ARCH_904	500	0.61	1.98	3.6	594.4	BASE_327	FALSE	Not Filtered
ARCH_904	500	0.61	1.98	3.9	434.66	BASE_327	FALSE	Not Filtered
ARCH_904	500	0.61	1.98	4.2	334.39	BASE_327	FALSE	Not Filtered
ARCH_904	500	0.61	1.98	4.5	256.69	BASE_327	FALSE	Not Filtered
ARCH_904	500	0.61	1.98	4.8	213.59	BASE_327	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_904	500	0.61	1.98	5.1	182.15	BASE_327	FALSE	Not Filtered
ARCH_904	500	0.61	1.98	5.4	158.1	BASE_327	FALSE	Not Filtered
ARCH_904	500	0.61	1.98	5.7	135.49	BASE_327	FALSE	Not Filtered
ARCH_904	500	0.61	1.98	6	119.78	BASE_327	TRUE	Temperature < 130 C
ARCH_905	600	0.61	1.98	2.4	1103.1	BASE_328	TRUE	Temperature > 800 C
ARCH_905	600	0.61	1.98	2.7	1061.1	BASE_328	TRUE	Temperature > 800 C
ARCH_905	600	0.61	1.98	3	1012.7	BASE_328	TRUE	Temperature > 800 C
ARCH_905	600	0.61	1.98	3.3	890.92	BASE_328	TRUE	Temperature > 800 C
ARCH_905	600	0.61	1.98	3.6	734.06	BASE_328	FALSE	Not Filtered
ARCH_905	600	0.61	1.98	3.9	533.68	BASE_328	FALSE	Not Filtered
ARCH_905	600	0.61	1.98	4.2	418.77	BASE_328	FALSE	Not Filtered
ARCH_905	600	0.61	1.98	4.5	319.55	BASE_328	FALSE	Not Filtered
ARCH_905	600	0.61	1.98	4.8	263.95	BASE_328	FALSE	Not Filtered
ARCH_905	600	0.61	1.98	5.1	218.04	BASE_328	FALSE	Not Filtered
ARCH_905	600	0.61	1.98	5.4	182.57	BASE_328	FALSE	Not Filtered
ARCH_905	600	0.61	1.98	5.7	154.08	BASE_328	FALSE	Not Filtered
ARCH_905	600	0.61	1.98	6	136.82	BASE_328	FALSE	Not Filtered
ARCH_951	300	0.91	0.30	2.4	142.3	BASE_307	TRUE	Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	2.7	100.22	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_951	300	0.91	0.30	3	85.336	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	3.3	75.533	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	3.6	71.239	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	3.9	65.25	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	4.2	61.878	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	4.5	57.541	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	4.8	54.979	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	5.1	52.798	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	5.4	51.555	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	5.7	49.802	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_951	300	0.91	0.30	6	47.649	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	2.4	181.52	BASE_308	TRUE	Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	2.7	119.53	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_952	400	0.91	0.30	3	101.81	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	3.3	90.742	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	3.6	82.895	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	3.9	76.825	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	4.2	71.033	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	4.5	66.905	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	4.8	63.285	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	5.1	60.726	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	5.4	58.829	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	5.7	56.644	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_952	400	0.91	0.30	6	54.836	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	2.4	222.62	BASE_309	TRUE	Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	2.7	144.54	BASE_309	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_953	500	0.91	0.30	3	119.47	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	3.3	104.67	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	3.6	97.276	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	3.9	88.925	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	4.2	81.512	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	4.5	76.345	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	4.8	72.617	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	5.1	70.106	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	5.4	67.562	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	5.7	65.966	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_953	500	0.91	0.30	6	63.074	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	2.4	249.34	BASE_310	TRUE	Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	2.7	160.57	BASE_310	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_954	600	0.91	0.30	3	131.61	BASE_310	TRUE	Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	3.3	115.48	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	3.6	105.73	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	3.9	96.502	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	4.2	88.467	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	4.5	81.004	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	4.8	75.232	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	5.1	71.754	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	5.4	68.018	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	5.7	65.049	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_954	600	0.91	0.30	6	63.057	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
ARCH_958	300	0.91	1.14	2.4	221.52	BASE_318	FALSE	Not Filtered
ARCH_958	300	0.91	1.14	2.7	135.52	BASE_318	FALSE	Not Filtered
ARCH_958	300	0.91	1.14	3	109.65	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	3.3	94	BASE_318	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_958	300	0.91	1.14	3.6	82.876	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	3.9	74.375	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	4.2	69.917	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	4.5	64.995	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	4.8	60.525	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	5.1	57.31	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	5.4	54.302	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	5.7	51.35	BASE_318	TRUE	Temperature < 130 C
ARCH_958	300	0.91	1.14	6	49.543	BASE_318	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	2.4	274.49	BASE_319	FALSE	Not Filtered
ARCH_959	400	0.91	1.14	2.7	170.19	BASE_319	FALSE	Not Filtered
ARCH_959	400	0.91	1.14	3	135.72	BASE_319	FALSE	Not Filtered
ARCH_959	400	0.91	1.14	3.3	111.31	BASE_319	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	3.6	97.466	BASE_319	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	3.9	88.814	BASE_319	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	4.2	83.577	BASE_319	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	4.5	77.256	BASE_319	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	4.8	72.615	BASE_319	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	5.1	66.86	BASE_319	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	5.4	61.074	BASE_319	TRUE	Temperature < 130 C
ARCH_959	400	0.91	1.14	5.7	56.642	BASE_319	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_959	400	0.91	1.14	6	53.967	BASE_319	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	2.4	371.76	BASE_320	FALSE	Not Filtered
ARCH_960	500	0.91	1.14	2.7	206.86	BASE_320	FALSE	Not Filtered
ARCH_960	500	0.91	1.14	3	166.01	BASE_320	FALSE	Not Filtered
ARCH_960	500	0.91	1.14	3.3	137.15	BASE_320	FALSE	Not Filtered
ARCH_960	500	0.91	1.14	3.6	120.9	BASE_320	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	3.9	110.17	BASE_320	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	4.2	100.36	BASE_320	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	4.5	91.016	BASE_320	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	4.8	84.619	BASE_320	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	5.1	79.613	BASE_320	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	5.4	72.486	BASE_320	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	5.7	65.353	BASE_320	TRUE	Temperature < 130 C
ARCH_960	500	0.91	1.14	6	61.863	BASE_320	TRUE	Temperature < 130 C
ARCH_961	600	0.91	1.14	2.4	432.98	BASE_321	FALSE	Not Filtered
ARCH_961	600	0.91	1.14	2.7	237.42	BASE_321	FALSE	Not Filtered
ARCH_961	600	0.91	1.14	3	184.16	BASE_321	FALSE	Not Filtered
ARCH_961	600	0.91	1.14	3.3	152.43	BASE_321	FALSE	Not Filtered
ARCH_961	600	0.91	1.14	3.6	133.03	BASE_321	FALSE	Not Filtered
ARCH_961	600	0.91	1.14	3.9	119.15	BASE_321	TRUE	Temperature < 130 C
ARCH_961	600	0.91	1.14	4.2	109.24	BASE_321	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_961	600	0.91	1.14	4.5	100.67	BASE_321	TRUE	Temperature < 130 C
ARCH_961	600	0.91	1.14	4.8	92.7	BASE_321	TRUE	Temperature < 130 C
ARCH_961	600	0.91	1.14	5.1	86.482	BASE_321	TRUE	Temperature < 130 C
ARCH_961	600	0.91	1.14	5.4	80.763	BASE_321	TRUE	Temperature < 130 C
ARCH_961	600	0.91	1.14	5.7	73.875	BASE_321	TRUE	Temperature < 130 C
ARCH_961	600	0.91	1.14	6	68.907	BASE_321	TRUE	Temperature < 130 C
ARCH_965	300	0.91	1.98	2.4	607.47	BASE_329	FALSE	Not Filtered
ARCH_965	300	0.91	1.98	2.7	331.53	BASE_329	FALSE	Not Filtered
ARCH_965	300	0.91	1.98	3	232.09	BASE_329	FALSE	Not Filtered
ARCH_965	300	0.91	1.98	3.3	177.64	BASE_329	FALSE	Not Filtered
ARCH_965	300	0.91	1.98	3.6	146.25	BASE_329	FALSE	Not Filtered
ARCH_965	300	0.91	1.98	3.9	126.7	BASE_329	TRUE	Temperature < 130 C
ARCH_965	300	0.91	1.98	4.2	112.7	BASE_329	TRUE	Temperature < 130 C
ARCH_965	300	0.91	1.98	4.5	98.797	BASE_329	TRUE	Temperature < 130 C
ARCH_965	300	0.91	1.98	4.8	90.066	BASE_329	TRUE	Temperature < 130 C
ARCH_965	300	0.91	1.98	5.1	83.373	BASE_329	TRUE	Temperature < 130 C
ARCH_965	300	0.91	1.98	5.4	78.82	BASE_329	TRUE	Temperature < 130 C
ARCH_965	300	0.91	1.98	5.7	73.241	BASE_329	TRUE	Temperature < 130 C
ARCH_965	300	0.91	1.98	6	68.812	BASE_329	TRUE	Temperature < 130 C
ARCH_966	400	0.91	1.98	2.4	868.44	BASE_330	TRUE	Temperature > 800 C
ARCH_966	400	0.91	1.98	2.7	552.14	BASE_330	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_966	400	0.91	1.98	3	368	BASE_330	FALSE	Not Filtered
ARCH_966	400	0.91	1.98	3.3	275.26	BASE_330	FALSE	Not Filtered
ARCH_966	400	0.91	1.98	3.6	219.12	BASE_330	FALSE	Not Filtered
ARCH_966	400	0.91	1.98	3.9	180.14	BASE_330	FALSE	Not Filtered
ARCH_966	400	0.91	1.98	4.2	154.08	BASE_330	FALSE	Not Filtered
ARCH_966	400	0.91	1.98	4.5	130.46	BASE_330	FALSE	Not Filtered
ARCH_966	400	0.91	1.98	4.8	114.68	BASE_330	TRUE	Temperature < 130 C
ARCH_966	400	0.91	1.98	5.1	102.07	BASE_330	TRUE	Temperature < 130 C
ARCH_966	400	0.91	1.98	5.4	92.363	BASE_330	TRUE	Temperature < 130 C
ARCH_966	400	0.91	1.98	5.7	85.204	BASE_330	TRUE	Temperature < 130 C
ARCH_966	400	0.91	1.98	6	80.246	BASE_330	TRUE	Temperature < 130 C
ARCH_967	500	0.91	1.98	2.4	887.06	BASE_331	TRUE	Temperature > 800 C
ARCH_967	500	0.91	1.98	2.7	642.57	BASE_331	FALSE	Not Filtered
ARCH_967	500	0.91	1.98	3	449.19	BASE_331	FALSE	Not Filtered
ARCH_967	500	0.91	1.98	3.3	324.39	BASE_331	FALSE	Not Filtered
ARCH_967	500	0.91	1.98	3.6	252.72	BASE_331	FALSE	Not Filtered
ARCH_967	500	0.91	1.98	3.9	216.54	BASE_331	FALSE	Not Filtered
ARCH_967	500	0.91	1.98	4.2	183.63	BASE_331	FALSE	Not Filtered
ARCH_967	500	0.91	1.98	4.5	153.81	BASE_331	FALSE	Not Filtered
ARCH_967	500	0.91	1.98	4.8	134.52	BASE_331	FALSE	Not Filtered
ARCH_967	500	0.91	1.98	5.1	119.4	BASE_331	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
ARCH_967	500	0.91	1.98	5.4	107.44	BASE_331	TRUE	Temperature < 130 C
ARCH_967	500	0.91	1.98	5.7	98.525	BASE_331	TRUE	Temperature < 130 C
ARCH_967	500	0.91	1.98	6	91.036	BASE_331	TRUE	Temperature < 130 C
ARCH_968	600	0.91	1.98	2.4	965.8	BASE_332	TRUE	Temperature > 800 C
ARCH_968	600	0.91	1.98	2.7	717.36	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	3	549.99	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	3.3	412.15	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	3.6	311.81	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	3.9	245.14	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	4.2	209.01	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	4.5	173.48	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	4.8	149.83	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	5.1	131.62	BASE_332	FALSE	Not Filtered
ARCH_968	600	0.91	1.98	5.4	118.34	BASE_332	TRUE	Temperature < 130 C
ARCH_968	600	0.91	1.98	5.7	106.75	BASE_332	TRUE	Temperature < 130 C
ARCH_968	600	0.91	1.98	6	99.896	BASE_332	TRUE	Temperature < 130 C
OBST_1051	1000	0.91	0.30	2.4	533.89	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	2.7	422.39	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	3	340.68	BASE_404	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_1051	1000	0.91	0.30	3.3	270.01	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	3.6	233.57	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	3.9	215.99	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	4.2	206.03	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	4.5	193.24	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	4.8	182.06	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	5.1	172.23	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	5.4	163.41	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	5.7	155.42	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1051	1000	0.91	0.30	6	147.94	BASE_404	TRUE	Source Located 1 ft. above Ground
OBST_1052	1000	0.91	1.14	2.4	828.59	BASE_400	TRUE	Temperature > 800 C
OBST_1052	1000	0.91	1.14	2.7	639.49	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	3	485.41	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	3.3	380.12	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	3.6	338.6	BASE_400	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_1052	1000	0.91	1.14	3.9	319.22	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	4.2	306.21	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	4.5	288.02	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	4.8	270.8	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	5.1	255.33	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	5.4	236.32	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	5.7	219.16	BASE_400	FALSE	Not Filtered
OBST_1052	1000	0.91	1.14	6	204.84	BASE_400	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	2.4	1086.9	BASE_401	TRUE	Temperature > 800 C
OBST_1053	1000	0.91	1.98	2.7	883.59	BASE_401	TRUE	Temperature > 800 C
OBST_1053	1000	0.91	1.98	3	823.73	BASE_401	TRUE	Temperature > 800 C
OBST_1053	1000	0.91	1.98	3.3	734.4	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	3.6	670.23	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	3.9	596.13	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	4.2	534.31	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	4.5	470.83	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	4.8	424.86	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	5.1	382.82	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	5.4	333	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	5.7	293.13	BASE_401	FALSE	Not Filtered
OBST_1053	1000	0.91	1.98	6	258.54	BASE_401	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_1060	1000	1.22	0.30	2.4	397.06	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	2.7	319.73	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	3	250.83	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	3.3	197.52	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	3.6	182.14	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	3.9	171.16	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	4.2	163.99	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	4.5	157.72	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	4.8	152.54	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	5.1	147.72	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	5.4	141.96	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	5.7	135.56	BASE_405	TRUE	Source Located 1 ft. above Ground
OBST_1060	1000	1.22	0.30	6	131.27	BASE_405	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_1061	1000	1.22	1.14	2.4	688.56	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	2.7	513.44	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	3	396.9	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	3.3	320.69	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	3.6	279.7	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	3.9	255.99	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	4.2	239.89	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	4.5	226.26	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	4.8	216.94	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	5.1	207.38	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	5.4	196.74	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	5.7	184	BASE_402	FALSE	Not Filtered
OBST_1061	1000	1.22	1.14	6	172.26	BASE_402	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	2.4	1024.3	BASE_403	TRUE	Temperature > 800 C
OBST_1062	1000	1.22	1.98	2.7	743.77	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	3	668.11	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	3.3	599.14	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	3.6	551	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	3.9	494.5	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	4.2	446.72	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	4.5	405.71	BASE_403	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_1062	1000	1.22	1.98	4.8	367.67	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	5.1	333.88	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	5.4	295.56	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	5.7	259.91	BASE_403	FALSE	Not Filtered
OBST_1062	1000	1.22	1.98	6	233	BASE_403	FALSE	Not Filtered
OBST_801	50	0.30	0.30	2.4	87.091	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	2.7	74.382	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	3	67.295	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	3.3	60.832	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	3.6	56.846	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	3.9	53.889	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	4.2	51.386	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	4.5	48.698	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	4.8	45.556	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_801	50	0.30	0.30	5.1	43.585	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_801	50	0.30	0.30	5.4	40.939	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	2.4	150.06	BASE_301	TRUE	Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	2.7	115.07	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	3	106.42	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	3.3	97.657	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	3.6	88.334	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	3.9	81.554	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	4.2	74.802	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	4.5	67.73	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	4.8	64.039	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	5.1	60.336	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	5.4	56.214	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_802	100	0.30	0.30	5.7	52.062	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_802	100	0.30	0.30	6	49.453	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_808	50	0.30	1.14	2.4	138.47	BASE_311	FALSE	Not Filtered
OBST_808	50	0.30	1.14	2.7	100.55	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	3	82.454	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	3.3	75.188	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	3.6	70.849	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	3.9	66.382	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	4.2	62.626	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	4.5	58.6	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	4.8	54.769	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	5.1	51.378	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	5.4	48.644	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	5.7	45.892	BASE_311	TRUE	Temperature < 130 C
OBST_808	50	0.30	1.14	6	44.185	BASE_311	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	2.4	235.87	BASE_312	FALSE	Not Filtered
OBST_809	100	0.30	1.14	2.7	155.85	BASE_312	FALSE	Not Filtered
OBST_809	100	0.30	1.14	3	121.47	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	3.3	110.1	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	3.6	100.82	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	3.9	91.194	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	4.2	84.456	BASE_312	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_809	100	0.30	1.14	4.5	77.93	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	4.8	72.592	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	5.1	67.397	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	5.4	62.75	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	5.7	59.553	BASE_312	TRUE	Temperature < 130 C
OBST_809	100	0.30	1.14	6	56.916	BASE_312	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	2.4	238.53	BASE_322	FALSE	Not Filtered
OBST_815	50	0.30	1.98	2.7	142.51	BASE_322	FALSE	Not Filtered
OBST_815	50	0.30	1.98	3	107.22	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	3.3	93.883	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	3.6	86.855	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	3.9	78.339	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	4.2	71.221	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	4.5	63.611	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	4.8	58.549	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	5.1	55.323	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	5.4	51.364	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	5.7	47.838	BASE_322	TRUE	Temperature < 130 C
OBST_815	50	0.30	1.98	6	45.651	BASE_322	TRUE	Temperature < 130 C
OBST_816	100	0.30	1.98	2.4	434.45	BASE_323	FALSE	Not Filtered
OBST_816	100	0.30	1.98	2.7	227.23	BASE_323	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_816	100	0.30	1.98	3	170.7	BASE_323	FALSE	Not Filtered
OBST_816	100	0.30	1.98	3.3	145.87	BASE_323	FALSE	Not Filtered
OBST_816	100	0.30	1.98	3.6	130.11	BASE_323	FALSE	Not Filtered
OBST_816	100	0.30	1.98	3.9	116.02	BASE_323	TRUE	Temperature < 130 C
OBST_816	100	0.30	1.98	4.2	104.88	BASE_323	TRUE	Temperature < 130 C
OBST_816	100	0.30	1.98	4.5	91.788	BASE_323	TRUE	Temperature < 130 C
OBST_816	100	0.30	1.98	4.8	84.026	BASE_323	TRUE	Temperature < 130 C
OBST_816	100	0.30	1.98	5.1	78.137	BASE_323	TRUE	Temperature < 130 C
OBST_816	100	0.30	1.98	5.4	71.948	BASE_323	TRUE	Temperature < 130 C
OBST_816	100	0.30	1.98	5.7	66.311	BASE_323	TRUE	Temperature < 130 C
OBST_816	100	0.30	1.98	6	62.282	BASE_323	TRUE	Temperature < 130 C
OBST_866	200	0.61	0.30	2.4	164.84	BASE_302	TRUE	Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	2.7	132.51	BASE_302	TRUE	Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	3	107.21	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	3.3	95.331	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	3.6	91.403	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	3.9	87.841	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_866	200	0.61	0.30	4.2	85.424	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	4.5	81.446	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	4.8	77.871	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	5.1	74.707	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	5.4	70.967	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	5.7	67.65	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_866	200	0.61	0.30	6	65.534	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	2.4	222.46	BASE_303	TRUE	Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	2.7	180.68	BASE_303	TRUE	Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	3	140.38	BASE_303	TRUE	Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	3.3	122.94	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	3.6	116.1	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	3.9	110.06	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_867	300	0.61	0.30	4.2	105.24	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	4.5	99.731	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	4.8	95.923	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	5.1	91.96	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	5.4	86.163	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	5.7	81.681	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_867	300	0.61	0.30	6	78.494	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	2.4	291.34	BASE_304	TRUE	Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	2.7	240.71	BASE_304	TRUE	Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	3	182.9	BASE_304	TRUE	Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	3.3	153	BASE_304	TRUE	Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	3.6	139.81	BASE_304	TRUE	Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	3.9	130.81	BASE_304	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_868	400	0.61	0.30	4.2	123.93	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	4.5	117.05	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	4.8	111.78	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	5.1	107.26	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	5.4	101.33	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	5.7	97.187	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_868	400	0.61	0.30	6	92.575	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	2.4	360.38	BASE_305	TRUE	Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	2.7	296.38	BASE_305	TRUE	Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	3	226.34	BASE_305	TRUE	Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	3.3	187.21	BASE_305	TRUE	Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	3.6	176.3	BASE_305	TRUE	Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	3.9	161.36	BASE_305	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_869	500	0.61	0.30	4.2	151.9	BASE_305	TRUE	Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	4.5	142.66	BASE_305	TRUE	Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	4.8	135.24	BASE_305	TRUE	Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	5.1	128.53	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	5.4	120.48	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	5.7	112.01	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_869	500	0.61	0.30	6	105.22	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	2.4	444.1	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	2.7	366.54	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	3	267.05	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	3.3	208.14	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	3.6	196.87	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	3.9	187.62	BASE_306	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_870	600	0.61	0.30	4.2	177.69	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	4.5	166.61	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	4.8	156.15	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	5.1	146.03	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	5.4	136.86	BASE_306	TRUE	Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	5.7	127.13	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_870	600	0.61	0.30	6	118.31	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_873	200	0.61	1.14	2.4	252.79	BASE_313	FALSE	Not Filtered
OBST_873	200	0.61	1.14	2.7	178.78	BASE_313	FALSE	Not Filtered
OBST_873	200	0.61	1.14	3	139.76	BASE_313	FALSE	Not Filtered
OBST_873	200	0.61	1.14	3.3	114.89	BASE_313	TRUE	Temperature < 130 C
OBST_873	200	0.61	1.14	3.6	109.86	BASE_313	TRUE	Temperature < 130 C
OBST_873	200	0.61	1.14	3.9	105.51	BASE_313	TRUE	Temperature < 130 C
OBST_873	200	0.61	1.14	4.2	98.993	BASE_313	TRUE	Temperature < 130 C
OBST_873	200	0.61	1.14	4.5	92.343	BASE_313	TRUE	Temperature < 130 C
OBST_873	200	0.61	1.14	4.8	91.944	BASE_313	TRUE	Temperature < 130 C
OBST_873	200	0.61	1.14	5.1	88.838	BASE_313	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_873	200	0.61	1.14	5.4	79.482	BASE_313	TRUE	Temperature < 130 C
OBST_873	200	0.61	1.14	5.7	75.88	BASE_313	TRUE	Temperature < 130 C
OBST_873	200	0.61	1.14	6	73.076	BASE_313	TRUE	Temperature < 130 C
OBST_874	300	0.61	1.14	2.4	368.65	BASE_314	FALSE	Not Filtered
OBST_874	300	0.61	1.14	2.7	245.86	BASE_314	FALSE	Not Filtered
OBST_874	300	0.61	1.14	3	184.52	BASE_314	FALSE	Not Filtered
OBST_874	300	0.61	1.14	3.3	156.76	BASE_314	FALSE	Not Filtered
OBST_874	300	0.61	1.14	3.6	146.93	BASE_314	FALSE	Not Filtered
OBST_874	300	0.61	1.14	3.9	141.51	BASE_314	FALSE	Not Filtered
OBST_874	300	0.61	1.14	4.2	136.21	BASE_314	FALSE	Not Filtered
OBST_874	300	0.61	1.14	4.5	128.41	BASE_314	TRUE	Temperature < 130 C
OBST_874	300	0.61	1.14	4.8	121.42	BASE_314	TRUE	Temperature < 130 C
OBST_874	300	0.61	1.14	5.1	113.6	BASE_314	TRUE	Temperature < 130 C
OBST_874	300	0.61	1.14	5.4	105.07	BASE_314	TRUE	Temperature < 130 C
OBST_874	300	0.61	1.14	5.7	97.706	BASE_314	TRUE	Temperature < 130 C
OBST_874	300	0.61	1.14	6	93.251	BASE_314	TRUE	Temperature < 130 C
OBST_875	400	0.61	1.14	2.4	527.19	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	2.7	351.26	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	3	254.18	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	3.3	201.11	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	3.6	188.81	BASE_315	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_875	400	0.61	1.14	3.9	177.84	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	4.2	169.98	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	4.5	162.77	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	4.8	154.43	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	5.1	146.06	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	5.4	135.51	BASE_315	FALSE	Not Filtered
OBST_875	400	0.61	1.14	5.7	124.66	BASE_315	TRUE	Temperature < 130 C
OBST_875	400	0.61	1.14	6	117.1	BASE_315	TRUE	Temperature < 130 C
OBST_876	500	0.61	1.14	2.4	670.82	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	2.7	454.57	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	3	325.36	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	3.3	246.23	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	3.6	230.64	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	3.9	220.37	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	4.2	209.08	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	4.5	196.49	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	4.8	185.18	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	5.1	174.3	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	5.4	162.71	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	5.7	150.55	BASE_316	FALSE	Not Filtered
OBST_876	500	0.61	1.14	6	140.12	BASE_316	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_877	600	0.61	1.14	2.4	805.93	BASE_317	TRUE	Temperature > 800 C
OBST_877	600	0.61	1.14	2.7	574.34	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	3	403.91	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	3.3	299.89	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	3.6	267.2	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	3.9	252.02	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	4.2	238.02	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	4.5	220.1	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	4.8	206.1	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	5.1	194.77	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	5.4	183.24	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	5.7	170.25	BASE_317	FALSE	Not Filtered
OBST_877	600	0.61	1.14	6	157.23	BASE_317	FALSE	Not Filtered
OBST_880	200	0.61	1.98	2.4	604.85	BASE_324	FALSE	Not Filtered
OBST_880	200	0.61	1.98	2.7	379.73	BASE_324	FALSE	Not Filtered
OBST_880	200	0.61	1.98	3	281.92	BASE_324	FALSE	Not Filtered
OBST_880	200	0.61	1.98	3.3	206.03	BASE_324	FALSE	Not Filtered
OBST_880	200	0.61	1.98	3.6	163.97	BASE_324	FALSE	Not Filtered
OBST_880	200	0.61	1.98	3.9	135.19	BASE_324	FALSE	Not Filtered
OBST_880	200	0.61	1.98	4.2	120.13	BASE_324	TRUE	Temperature < 130 C
OBST_880	200	0.61	1.98	4.5	114.48	BASE_324	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_880	200	0.61	1.98	4.8	108.02	BASE_324	TRUE	Temperature < 130 C
OBST_880	200	0.61	1.98	5.1	101.9	BASE_324	TRUE	Temperature < 130 C
OBST_880	200	0.61	1.98	5.4	92.323	BASE_324	TRUE	Temperature < 130 C
OBST_880	200	0.61	1.98	5.7	84.71	BASE_324	TRUE	Temperature < 130 C
OBST_880	200	0.61	1.98	6	79.047	BASE_324	TRUE	Temperature < 130 C
OBST_881	300	0.61	1.98	2.4	756.24	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	2.7	518.35	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	3	352.98	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	3.3	273.32	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	3.6	234.24	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	3.9	213.54	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	4.2	199.06	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	4.5	179.94	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	4.8	165.89	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	5.1	153.19	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	5.4	138.07	BASE_325	FALSE	Not Filtered
OBST_881	300	0.61	1.98	5.7	124.6	BASE_325	TRUE	Temperature < 130 C
OBST_881	300	0.61	1.98	6	114.21	BASE_325	TRUE	Temperature < 130 C
OBST_882	400	0.61	1.98	2.4	894.05	BASE_326	TRUE	Temperature > 800 C
OBST_882	400	0.61	1.98	2.7	596.62	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	3	471.3	BASE_326	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_882	400	0.61	1.98	3.3	398.26	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	3.6	356	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	3.9	315.04	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	4.2	285.76	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	4.5	253.9	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	4.8	223.38	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	5.1	200.05	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	5.4	175.4	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	5.7	154.3	BASE_326	FALSE	Not Filtered
OBST_882	400	0.61	1.98	6	139.3	BASE_326	FALSE	Not Filtered
OBST_883	500	0.61	1.98	2.4	1025	BASE_327	TRUE	Temperature > 800 C
OBST_883	500	0.61	1.98	2.7	767.26	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	3	593.89	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	3.3	517.17	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	3.6	457.04	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	3.9	396.41	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	4.2	349.43	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	4.5	305.67	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	4.8	272.27	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	5.1	247.61	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	5.4	220	BASE_327	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_883	500	0.61	1.98	5.7	194.5	BASE_327	FALSE	Not Filtered
OBST_883	500	0.61	1.98	6	175.45	BASE_327	FALSE	Not Filtered
OBST_884	600	0.61	1.98	2.4	1097.7	BASE_328	TRUE	Temperature > 800 C
OBST_884	600	0.61	1.98	2.7	859.9	BASE_328	TRUE	Temperature > 800 C
OBST_884	600	0.61	1.98	3	742.72	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	3.3	652.09	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	3.6	576.72	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	3.9	500.69	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	4.2	448.14	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	4.5	394.23	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	4.8	347.72	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	5.1	304.84	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	5.4	262.25	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	5.7	230.22	BASE_328	FALSE	Not Filtered
OBST_884	600	0.61	1.98	6	206.23	BASE_328	FALSE	Not Filtered
OBST_930	300	0.91	0.30	2.4	160.04	BASE_307	TRUE	Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	2.7	128.35	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	3	99.968	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	3.3	87.329	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_930	300	0.91	0.30	3.6	84.8	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	3.9	81.026	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	4.2	79.399	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	4.5	77.372	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	4.8	75.677	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	5.1	73.803	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	5.4	71.873	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	5.7	69.841	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_930	300	0.91	0.30	6	67.783	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	2.4	200.28	BASE_308	TRUE	Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	2.7	159.04	BASE_308	TRUE	Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	3	127.39	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	3.3	109.61	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_931	400	0.91	0.30	3.6	104.4	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	3.9	100.86	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	4.2	97.017	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	4.5	93.238	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	4.8	90.169	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	5.1	86.888	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	5.4	83.318	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	5.7	80.717	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_931	400	0.91	0.30	6	77.924	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	2.4	252.84	BASE_309	TRUE	Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	2.7	197.23	BASE_309	TRUE	Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	3	155.39	BASE_309	TRUE	Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	3.3	133.65	BASE_309	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_932	500	0.91	0.30	3.6	125.14	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	3.9	120.05	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	4.2	115.56	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	4.5	111.08	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	4.8	108.49	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	5.1	106.33	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	5.4	103.09	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	5.7	99.274	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_932	500	0.91	0.30	6	95.942	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	2.4	305.13	BASE_310	TRUE	Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	2.7	237.66	BASE_310	TRUE	Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	3	189.79	BASE_310	TRUE	Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	3.3	160.75	BASE_310	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_933	600	0.91	0.30	3.6	148.5	BASE_310	TRUE	Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	3.9	139.86	BASE_310	TRUE	Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	4.2	135	BASE_310	TRUE	Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	4.5	130.94	BASE_310	TRUE	Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	4.8	126.3	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	5.1	121.48	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	5.4	116.38	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	5.7	112.08	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_933	600	0.91	0.30	6	108.23	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
OBST_937	300	0.91	1.14	2.4	256.44	BASE_318	FALSE	Not Filtered
OBST_937	300	0.91	1.14	2.7	190.78	BASE_318	FALSE	Not Filtered
OBST_937	300	0.91	1.14	3	146.6	BASE_318	FALSE	Not Filtered
OBST_937	300	0.91	1.14	3.3	128.92	BASE_318	TRUE	Temperature < 130 C
OBST_937	300	0.91	1.14	3.6	122.18	BASE_318	TRUE	Temperature < 130 C
OBST_937	300	0.91	1.14	3.9	115.48	BASE_318	TRUE	Temperature < 130 C
OBST_937	300	0.91	1.14	4.2	110.78	BASE_318	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_937	300	0.91	1.14	4.5	105.77	BASE_318	TRUE	Temperature < 130 C
OBST_937	300	0.91	1.14	4.8	101.51	BASE_318	TRUE	Temperature < 130 C
OBST_937	300	0.91	1.14	5.1	97.445	BASE_318	TRUE	Temperature < 130 C
OBST_937	300	0.91	1.14	5.4	93.173	BASE_318	TRUE	Temperature < 130 C
OBST_937	300	0.91	1.14	5.7	88.159	BASE_318	TRUE	Temperature < 130 C
OBST_937	300	0.91	1.14	6	84.368	BASE_318	TRUE	Temperature < 130 C
OBST_938	400	0.91	1.14	2.4	345.72	BASE_319	FALSE	Not Filtered
OBST_938	400	0.91	1.14	2.7	232.8	BASE_319	FALSE	Not Filtered
OBST_938	400	0.91	1.14	3	182.85	BASE_319	FALSE	Not Filtered
OBST_938	400	0.91	1.14	3.3	156.65	BASE_319	FALSE	Not Filtered
OBST_938	400	0.91	1.14	3.6	147.22	BASE_319	FALSE	Not Filtered
OBST_938	400	0.91	1.14	3.9	141.22	BASE_319	FALSE	Not Filtered
OBST_938	400	0.91	1.14	4.2	136.82	BASE_319	FALSE	Not Filtered
OBST_938	400	0.91	1.14	4.5	130.48	BASE_319	FALSE	Not Filtered
OBST_938	400	0.91	1.14	4.8	124.77	BASE_319	TRUE	Temperature < 130 C
OBST_938	400	0.91	1.14	5.1	119.2	BASE_319	TRUE	Temperature < 130 C
OBST_938	400	0.91	1.14	5.4	112.58	BASE_319	TRUE	Temperature < 130 C
OBST_938	400	0.91	1.14	5.7	106.5	BASE_319	TRUE	Temperature < 130 C
OBST_938	400	0.91	1.14	6	100.49	BASE_319	TRUE	Temperature < 130 C
OBST_939	500	0.91	1.14	2.4	440.75	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	2.7	305.96	BASE_320	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_939	500	0.91	1.14	3	224.42	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	3.3	186.46	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	3.6	176.39	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	3.9	169.66	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	4.2	164.02	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	4.5	156.28	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	4.8	149.36	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	5.1	141.6	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	5.4	132.1	BASE_320	FALSE	Not Filtered
OBST_939	500	0.91	1.14	5.7	122.61	BASE_320	TRUE	Temperature < 130 C
OBST_939	500	0.91	1.14	6	114.99	BASE_320	TRUE	Temperature < 130 C
OBST_940	600	0.91	1.14	2.4	562.49	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	2.7	385.62	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	3	292.81	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	3.3	240.08	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	3.6	214.75	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	3.9	196.25	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	4.2	187.07	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	4.5	179.33	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	4.8	172.41	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	5.1	165.68	BASE_321	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_940	600	0.91	1.14	5.4	156.24	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	5.7	145.56	BASE_321	FALSE	Not Filtered
OBST_940	600	0.91	1.14	6	136.35	BASE_321	FALSE	Not Filtered
OBST_944	300	0.91	1.98	2.4	448.28	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	2.7	294.2	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	3	230.14	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	3.3	198.17	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	3.6	190.23	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	3.9	182.18	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	4.2	172.71	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	4.5	161.02	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	4.8	150.26	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	5.1	139.52	BASE_329	FALSE	Not Filtered
OBST_944	300	0.91	1.98	5.4	127.37	BASE_329	TRUE	Temperature < 130 C
OBST_944	300	0.91	1.98	5.7	116.2	BASE_329	TRUE	Temperature < 130 C
OBST_944	300	0.91	1.98	6	106.93	BASE_329	TRUE	Temperature < 130 C
OBST_945	400	0.91	1.98	2.4	634.19	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	2.7	393.3	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	3	320.01	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	3.3	271.01	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	3.6	256.39	BASE_330	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_945	400	0.91	1.98	3.9	242.45	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	4.2	224.26	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	4.5	202.73	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	4.8	185.73	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	5.1	169.17	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	5.4	151.88	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	5.7	135.11	BASE_330	FALSE	Not Filtered
OBST_945	400	0.91	1.98	6	123.31	BASE_330	TRUE	Temperature < 130 C
OBST_946	500	0.91	1.98	2.4	766.89	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	2.7	474.78	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	3	395.78	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	3.3	350.79	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	3.6	323.72	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	3.9	302.66	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	4.2	280.58	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	4.5	255.83	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	4.8	233.31	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	5.1	210.86	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	5.4	188.4	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	5.7	165.77	BASE_331	FALSE	Not Filtered
OBST_946	500	0.91	1.98	6	150.43	BASE_331	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
OBST_947	600	0.91	1.98	2.4	908.27	BASE_332	TRUE	Temperature > 800 C
OBST_947	600	0.91	1.98	2.7	586.87	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	3	489.56	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	3.3	448.06	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	3.6	410.02	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	3.9	371.04	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	4.2	338.75	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	4.5	299.61	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	4.8	266.02	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	5.1	237.54	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	5.4	209.53	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	5.7	184.54	BASE_332	FALSE	Not Filtered
OBST_947	600	0.91	1.98	6	167.13	BASE_332	FALSE	Not Filtered
THREEWALL_1057	1000	0.91	0.30	2.4	621.54	BASE_404	TRUE	Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	2.7	405.17	BASE_404	TRUE	Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	3	294.64	BASE_404	TRUE	Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	3.3	232.75	BASE_404	TRUE	Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	3.6	196.9	BASE_404	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_1057	1000	0.91	0.30	3.9	169.25	BASE_404	TRUE	Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	4.2	152.11	BASE_404	TRUE	Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	4.5	138.74	BASE_404	TRUE	Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	4.8	131.68	BASE_404	TRUE	Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	5.1	121.29	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	5.4	109.71	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	5.7	103.98	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1057	1000	0.91	0.30	6	99.867	BASE_404	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1058	1000	0.91	1.14	2.4	889.87	BASE_400	TRUE	Temperature > 800 C
THREEWALL_1058	1000	0.91	1.14	2.7	640.76	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	3	504.86	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	3.3	401.71	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	3.6	339.8	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	3.9	284.72	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	4.2	250.82	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	4.5	215.58	BASE_400	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_1058	1000	0.91	1.14	4.8	188.42	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	5.1	166.49	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	5.4	146.15	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	5.7	135.05	BASE_400	FALSE	Not Filtered
THREEWALL_1058	1000	0.91	1.14	6	126.88	BASE_400	TRUE	Temperature < 130 C
THREEWALL_1059	1000	0.91	1.98	2.4	1062.2	BASE_401	TRUE	Temperature > 800 C
THREEWALL_1059	1000	0.91	1.98	2.7	1070.8	BASE_401	TRUE	Temperature > 800 C
THREEWALL_1059	1000	0.91	1.98	3	1025.2	BASE_401	TRUE	Temperature > 800 C
THREEWALL_1059	1000	0.91	1.98	3.3	921.05	BASE_401	TRUE	Temperature > 800 C
THREEWALL_1059	1000	0.91	1.98	3.6	827.48	BASE_401	TRUE	Temperature > 800 C
THREEWALL_1059	1000	0.91	1.98	3.9	666.54	BASE_401	FALSE	Not Filtered
THREEWALL_1059	1000	0.91	1.98	4.2	547.72	BASE_401	FALSE	Not Filtered
THREEWALL_1059	1000	0.91	1.98	4.5	431.6	BASE_401	FALSE	Not Filtered
THREEWALL_1059	1000	0.91	1.98	4.8	354.89	BASE_401	FALSE	Not Filtered
THREEWALL_1059	1000	0.91	1.98	5.1	306.67	BASE_401	FALSE	Not Filtered
THREEWALL_1059	1000	0.91	1.98	5.4	264.2	BASE_401	FALSE	Not Filtered
THREEWALL_1059	1000	0.91	1.98	5.7	227.16	BASE_401	FALSE	Not Filtered
THREEWALL_1059	1000	0.91	1.98	6	206.73	BASE_401	FALSE	Not Filtered
THREEWALL_1066	1000	1.22	0.30	2.4	429.91	BASE_405	TRUE	Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	2.7	269.44	BASE_405	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_1066	1000	1.22	0.30	3	211.98	BASE_405	TRUE	Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	3.3	185.78	BASE_405	TRUE	Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	3.6	165.07	BASE_405	TRUE	Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	3.9	141.74	BASE_405	TRUE	Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	4.2	133.48	BASE_405	TRUE	Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	4.5	125.97	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	4.8	115.34	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	5.1	107.39	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	5.4	99.885	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	5.7	93.595	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1066	1000	1.22	0.30	6	89.031	BASE_405	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_1067	1000	1.22	1.14	2.4	683.06	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	2.7	460.84	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	3	363.31	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	3.3	299.81	BASE_402	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_1067	1000	1.22	1.14	3.6	255.01	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	3.9	210.95	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	4.2	187.89	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	4.5	161.24	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	4.8	145.62	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	5.1	132.94	BASE_402	FALSE	Not Filtered
THREEWALL_1067	1000	1.22	1.14	5.4	122.79	BASE_402	TRUE	Temperature < 130 C
THREEWALL_1067	1000	1.22	1.14	5.7	114.24	BASE_402	TRUE	Temperature < 130 C
THREEWALL_1067	1000	1.22	1.14	6	108.6	BASE_402	TRUE	Temperature < 130 C
THREEWALL_1068	1000	1.22	1.98	2.4	1071.1	BASE_403	TRUE	Temperature > 800 C
THREEWALL_1068	1000	1.22	1.98	2.7	1067.8	BASE_403	TRUE	Temperature > 800 C
THREEWALL_1068	1000	1.22	1.98	3	1011.9	BASE_403	TRUE	Temperature > 800 C
THREEWALL_1068	1000	1.22	1.98	3.3	858.81	BASE_403	TRUE	Temperature > 800 C
THREEWALL_1068	1000	1.22	1.98	3.6	679.45	BASE_403	FALSE	Not Filtered
THREEWALL_1068	1000	1.22	1.98	3.9	516.14	BASE_403	FALSE	Not Filtered
THREEWALL_1068	1000	1.22	1.98	4.2	417.07	BASE_403	FALSE	Not Filtered
THREEWALL_1068	1000	1.22	1.98	4.5	338.85	BASE_403	FALSE	Not Filtered
THREEWALL_1068	1000	1.22	1.98	4.8	292.29	BASE_403	FALSE	Not Filtered
THREEWALL_1068	1000	1.22	1.98	5.1	254.15	BASE_403	FALSE	Not Filtered
THREEWALL_1068	1000	1.22	1.98	5.4	224.04	BASE_403	FALSE	Not Filtered
THREEWALL_1068	1000	1.22	1.98	5.7	199.74	BASE_403	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_1068	1000	1.22	1.98	6	181.86	BASE_403	FALSE	Not Filtered
THREEWALL_843	50	0.30	0.30	2.4	106.22	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_843	50	0.30	0.30	2.7	69.818	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_843	50	0.30	0.30	3	58.899	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_843	50	0.30	0.30	3.3	50.866	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_843	50	0.30	0.30	3.6	46.842	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_843	50	0.30	0.30	3.9	43.306	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_843	50	0.30	0.30	4.2	40.867	BASE_300	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	2.4	151.65	BASE_301	TRUE	Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	2.7	99.551	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	3	85.142	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	3.3	73.312	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	3.6	64.692	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_844	100	0.30	0.30	3.9	59.171	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	4.2	54.595	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	4.5	51.396	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	4.8	47.861	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	5.1	45.037	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	5.4	42.201	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_844	100	0.30	0.30	5.7	40.709	BASE_301	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_850	50	0.30	1.14	2.4	175.3	BASE_311	FALSE	Not Filtered
THREEWALL_850	50	0.30	1.14	2.7	107.81	BASE_311	TRUE	Temperature < 130 C
THREEWALL_850	50	0.30	1.14	3	89.936	BASE_311	TRUE	Temperature < 130 C
THREEWALL_850	50	0.30	1.14	3.3	75.701	BASE_311	TRUE	Temperature < 130 C
THREEWALL_850	50	0.30	1.14	3.6	66.33	BASE_311	TRUE	Temperature < 130 C
THREEWALL_850	50	0.30	1.14	3.9	58.179	BASE_311	TRUE	Temperature < 130 C
THREEWALL_850	50	0.30	1.14	4.2	52.582	BASE_311	TRUE	Temperature < 130 C
THREEWALL_850	50	0.30	1.14	4.5	47.396	BASE_311	TRUE	Temperature < 130 C
THREEWALL_850	50	0.30	1.14	4.8	43.576	BASE_311	TRUE	Temperature < 130 C
THREEWALL_850	50	0.30	1.14	5.1	42.094	BASE_311	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_851	100	0.30	1.14	2.4	275.53	BASE_312	FALSE	Not Filtered
THREEWALL_851	100	0.30	1.14	2.7	159.25	BASE_312	FALSE	Not Filtered
THREEWALL_851	100	0.30	1.14	3	127.63	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	3.3	105.49	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	3.6	91.185	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	3.9	80.914	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	4.2	74.131	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	4.5	66.294	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	4.8	61.449	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	5.1	57.622	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	5.4	53.854	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	5.7	49.889	BASE_312	TRUE	Temperature < 130 C
THREEWALL_851	100	0.30	1.14	6	47.38	BASE_312	TRUE	Temperature < 130 C
THREEWALL_857	50	0.30	1.98	2.4	435.6	BASE_322	FALSE	Not Filtered
THREEWALL_857	50	0.30	1.98	2.7	255.48	BASE_322	FALSE	Not Filtered
THREEWALL_857	50	0.30	1.98	3	177.34	BASE_322	FALSE	Not Filtered
THREEWALL_857	50	0.30	1.98	3.3	131.29	BASE_322	FALSE	Not Filtered
THREEWALL_857	50	0.30	1.98	3.6	103.33	BASE_322	TRUE	Temperature < 130 C
THREEWALL_857	50	0.30	1.98	3.9	86.596	BASE_322	TRUE	Temperature < 130 C
THREEWALL_857	50	0.30	1.98	4.2	75.4	BASE_322	TRUE	Temperature < 130 C
THREEWALL_857	50	0.30	1.98	4.5	64.238	BASE_322	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_857	50	0.30	1.98	4.8	57.548	BASE_322	TRUE	Temperature < 130 C
THREEWALL_857	50	0.30	1.98	5.1	52.801	BASE_322	TRUE	Temperature < 130 C
THREEWALL_857	50	0.30	1.98	5.4	49.598	BASE_322	TRUE	Temperature < 130 C
THREEWALL_857	50	0.30	1.98	5.7	45.826	BASE_322	TRUE	Temperature < 130 C
THREEWALL_857	50	0.30	1.98	6	43.713	BASE_322	TRUE	Temperature < 130 C
THREEWALL_858	100	0.30	1.98	2.4	820.14	BASE_323	TRUE	Temperature > 800 C
THREEWALL_858	100	0.30	1.98	2.7	530.25	BASE_323	FALSE	Not Filtered
THREEWALL_858	100	0.30	1.98	3	347.37	BASE_323	FALSE	Not Filtered
THREEWALL_858	100	0.30	1.98	3.3	238.83	BASE_323	FALSE	Not Filtered
THREEWALL_858	100	0.30	1.98	3.6	189.87	BASE_323	FALSE	Not Filtered
THREEWALL_858	100	0.30	1.98	3.9	155.33	BASE_323	FALSE	Not Filtered
THREEWALL_858	100	0.30	1.98	4.2	129.01	BASE_323	TRUE	Temperature < 130 C
THREEWALL_858	100	0.30	1.98	4.5	106.66	BASE_323	TRUE	Temperature < 130 C
THREEWALL_858	100	0.30	1.98	4.8	92.817	BASE_323	TRUE	Temperature < 130 C
THREEWALL_858	100	0.30	1.98	5.1	82.359	BASE_323	TRUE	Temperature < 130 C
THREEWALL_858	100	0.30	1.98	5.4	72.31	BASE_323	TRUE	Temperature < 130 C
THREEWALL_858	100	0.30	1.98	5.7	65.47	BASE_323	TRUE	Temperature < 130 C
THREEWALL_858	100	0.30	1.98	6	59.874	BASE_323	TRUE	Temperature < 130 C
THREEWALL_908	200	0.61	0.30	2.4	209.07	BASE_302	TRUE	Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	2.7	138.48	BASE_302	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_908	200	0.61	0.30	3	110.24	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	3.3	92.241	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	3.6	86.418	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	3.9	79.258	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	4.2	72.942	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	4.5	68.566	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	4.8	64.97	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	5.1	61.531	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	5.4	57.966	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	5.7	55.271	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_908	200	0.61	0.30	6	53.819	BASE_302	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	2.4	294.83	BASE_303	TRUE	Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	2.7	191.52	BASE_303	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_909	300	0.61	0.30	3	149.7	BASE_303	TRUE	Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	3.3	122.65	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	3.6	109.56	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	3.9	100.78	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	4.2	93.85	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	4.5	84.794	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	4.8	78.946	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	5.1	73.842	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	5.4	69.304	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	5.7	66.545	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_909	300	0.61	0.30	6	63.528	BASE_303	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	2.4	383.52	BASE_304	TRUE	Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	2.7	228.97	BASE_304	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_910	400	0.61	0.30	3	183.34	BASE_304	TRUE	Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	3.3	151.37	BASE_304	TRUE	Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	3.6	133.13	BASE_304	TRUE	Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	3.9	117.64	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	4.2	104.51	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	4.5	94.862	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	4.8	88.761	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	5.1	84.237	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	5.4	78.224	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	5.7	72.443	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_910	400	0.61	0.30	6	68.486	BASE_304	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	2.4	540.81	BASE_305	TRUE	Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	2.7	328	BASE_305	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_911	500	0.61	0.30	3	244.14	BASE_305	TRUE	Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	3.3	192.58	BASE_305	TRUE	Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	3.6	164.65	BASE_305	TRUE	Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	3.9	141.73	BASE_305	TRUE	Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	4.2	127.64	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	4.5	114.66	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	4.8	105.09	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	5.1	98.004	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	5.4	90.971	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	5.7	83.486	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_911	500	0.61	0.30	6	78.099	BASE_305	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	2.4	627.21	BASE_306	TRUE	Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	2.7	383.78	BASE_306	TRUE	Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_912	600	0.61	0.30	3	277.38	BASE_306	TRUE	Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	3.3	220.14	BASE_306	TRUE	Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	3.6	186.98	BASE_306	TRUE	Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	3.9	160.79	BASE_306	TRUE	Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	4.2	139.96	BASE_306	TRUE	Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	4.5	120.03	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	4.8	108.42	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	5.1	99.334	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	5.4	91.383	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	5.7	84.312	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_912	600	0.61	0.30	6	81.252	BASE_306	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_915	200	0.61	1.14	2.4	320.06	BASE_313	FALSE	Not Filtered
THREEWALL_915	200	0.61	1.14	2.7	179.86	BASE_313	FALSE	Not Filtered
THREEWALL_915	200	0.61	1.14	3	154.36	BASE_313	FALSE	Not Filtered
THREEWALL_915	200	0.61	1.14	3.3	128.98	BASE_313	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_915	200	0.61	1.14	3.6	113.2	BASE_313	TRUE	Temperature < 130 C
THREEWALL_915	200	0.61	1.14	3.9	106.12	BASE_313	TRUE	Temperature < 130 C
THREEWALL_915	200	0.61	1.14	4.2	94.481	BASE_313	TRUE	Temperature < 130 C
THREEWALL_915	200	0.61	1.14	4.5	87.577	BASE_313	TRUE	Temperature < 130 C
THREEWALL_915	200	0.61	1.14	4.8	85.132	BASE_313	TRUE	Temperature < 130 C
THREEWALL_915	200	0.61	1.14	5.1	71.536	BASE_313	TRUE	Temperature < 130 C
THREEWALL_915	200	0.61	1.14	5.4	66.804	BASE_313	TRUE	Temperature < 130 C
THREEWALL_915	200	0.61	1.14	5.7	62.677	BASE_313	TRUE	Temperature < 130 C
THREEWALL_915	200	0.61	1.14	6	58.233	BASE_313	TRUE	Temperature < 130 C
THREEWALL_916	300	0.61	1.14	2.4	508.54	BASE_314	FALSE	Not Filtered
THREEWALL_916	300	0.61	1.14	2.7	270.02	BASE_314	FALSE	Not Filtered
THREEWALL_916	300	0.61	1.14	3	194.28	BASE_314	FALSE	Not Filtered
THREEWALL_916	300	0.61	1.14	3.3	161.38	BASE_314	FALSE	Not Filtered
THREEWALL_916	300	0.61	1.14	3.6	143.99	BASE_314	FALSE	Not Filtered
THREEWALL_916	300	0.61	1.14	3.9	130.29	BASE_314	FALSE	Not Filtered
THREEWALL_916	300	0.61	1.14	4.2	116.98	BASE_314	TRUE	Temperature < 130 C
THREEWALL_916	300	0.61	1.14	4.5	103.62	BASE_314	TRUE	Temperature < 130 C
THREEWALL_916	300	0.61	1.14	4.8	93.72	BASE_314	TRUE	Temperature < 130 C
THREEWALL_916	300	0.61	1.14	5.1	85.707	BASE_314	TRUE	Temperature < 130 C
THREEWALL_916	300	0.61	1.14	5.4	77.268	BASE_314	TRUE	Temperature < 130 C
THREEWALL_916	300	0.61	1.14	5.7	69.468	BASE_314	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_916	300	0.61	1.14	6	66.588	BASE_314	TRUE	Temperature < 130 C
THREEWALL_917	400	0.61	1.14	2.4	683.59	BASE_315	FALSE	Not Filtered
THREEWALL_917	400	0.61	1.14	2.7	390.31	BASE_315	FALSE	Not Filtered
THREEWALL_917	400	0.61	1.14	3	270.68	BASE_315	FALSE	Not Filtered
THREEWALL_917	400	0.61	1.14	3.3	203.21	BASE_315	FALSE	Not Filtered
THREEWALL_917	400	0.61	1.14	3.6	172.33	BASE_315	FALSE	Not Filtered
THREEWALL_917	400	0.61	1.14	3.9	152.92	BASE_315	FALSE	Not Filtered
THREEWALL_917	400	0.61	1.14	4.2	138.8	BASE_315	FALSE	Not Filtered
THREEWALL_917	400	0.61	1.14	4.5	121.89	BASE_315	TRUE	Temperature < 130 C
THREEWALL_917	400	0.61	1.14	4.8	110.66	BASE_315	TRUE	Temperature < 130 C
THREEWALL_917	400	0.61	1.14	5.1	101.05	BASE_315	TRUE	Temperature < 130 C
THREEWALL_917	400	0.61	1.14	5.4	91.643	BASE_315	TRUE	Temperature < 130 C
THREEWALL_917	400	0.61	1.14	5.7	84.816	BASE_315	TRUE	Temperature < 130 C
THREEWALL_917	400	0.61	1.14	6	80.483	BASE_315	TRUE	Temperature < 130 C
THREEWALL_918	500	0.61	1.14	2.4	826.87	BASE_316	TRUE	Temperature > 800 C
THREEWALL_918	500	0.61	1.14	2.7	486.61	BASE_316	FALSE	Not Filtered
THREEWALL_918	500	0.61	1.14	3	333.59	BASE_316	FALSE	Not Filtered
THREEWALL_918	500	0.61	1.14	3.3	242.06	BASE_316	FALSE	Not Filtered
THREEWALL_918	500	0.61	1.14	3.6	204.52	BASE_316	FALSE	Not Filtered
THREEWALL_918	500	0.61	1.14	3.9	175.58	BASE_316	FALSE	Not Filtered
THREEWALL_918	500	0.61	1.14	4.2	154.38	BASE_316	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_918	500	0.61	1.14	4.5	130.96	BASE_316	FALSE	Not Filtered
THREEWALL_918	500	0.61	1.14	4.8	118.68	BASE_316	TRUE	Temperature < 130 C
THREEWALL_918	500	0.61	1.14	5.1	108.22	BASE_316	TRUE	Temperature < 130 C
THREEWALL_918	500	0.61	1.14	5.4	99.367	BASE_316	TRUE	Temperature < 130 C
THREEWALL_918	500	0.61	1.14	5.7	89.439	BASE_316	TRUE	Temperature < 130 C
THREEWALL_918	500	0.61	1.14	6	83.231	BASE_316	TRUE	Temperature < 130 C
THREEWALL_919	600	0.61	1.14	2.4	846.23	BASE_317	TRUE	Temperature > 800 C
THREEWALL_919	600	0.61	1.14	2.7	582.28	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	3	436.03	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	3.3	325.81	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	3.6	268	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	3.9	223.92	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	4.2	196.1	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	4.5	172.14	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	4.8	158.53	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	5.1	143.64	BASE_317	FALSE	Not Filtered
THREEWALL_919	600	0.61	1.14	5.4	129.78	BASE_317	TRUE	Temperature < 130 C
THREEWALL_919	600	0.61	1.14	5.7	118.04	BASE_317	TRUE	Temperature < 130 C
THREEWALL_919	600	0.61	1.14	6	110.28	BASE_317	TRUE	Temperature < 130 C
THREEWALL_922	200	0.61	1.98	2.4	894.59	BASE_324	TRUE	Temperature > 800 C
THREEWALL_922	200	0.61	1.98	2.7	607.45	BASE_324	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_922	200	0.61	1.98	3	438.25	BASE_324	FALSE	Not Filtered
THREEWALL_922	200	0.61	1.98	3.3	329.14	BASE_324	FALSE	Not Filtered
THREEWALL_922	200	0.61	1.98	3.6	256.87	BASE_324	FALSE	Not Filtered
THREEWALL_922	200	0.61	1.98	3.9	203.85	BASE_324	FALSE	Not Filtered
THREEWALL_922	200	0.61	1.98	4.2	168.83	BASE_324	FALSE	Not Filtered
THREEWALL_922	200	0.61	1.98	4.5	145.65	BASE_324	FALSE	Not Filtered
THREEWALL_922	200	0.61	1.98	4.8	129.93	BASE_324	TRUE	Temperature < 130 C
THREEWALL_922	200	0.61	1.98	5.1	115.64	BASE_324	TRUE	Temperature < 130 C
THREEWALL_922	200	0.61	1.98	5.4	103.08	BASE_324	TRUE	Temperature < 130 C
THREEWALL_922	200	0.61	1.98	5.7	91.731	BASE_324	TRUE	Temperature < 130 C
THREEWALL_922	200	0.61	1.98	6	84.103	BASE_324	TRUE	Temperature < 130 C
THREEWALL_923	300	0.61	1.98	2.4	983.87	BASE_325	TRUE	Temperature > 800 C
THREEWALL_923	300	0.61	1.98	2.7	922.29	BASE_325	TRUE	Temperature > 800 C
THREEWALL_923	300	0.61	1.98	3	726.09	BASE_325	FALSE	Not Filtered
THREEWALL_923	300	0.61	1.98	3.3	510.62	BASE_325	FALSE	Not Filtered
THREEWALL_923	300	0.61	1.98	3.6	388.3	BASE_325	FALSE	Not Filtered
THREEWALL_923	300	0.61	1.98	3.9	290.83	BASE_325	FALSE	Not Filtered
THREEWALL_923	300	0.61	1.98	4.2	230.29	BASE_325	FALSE	Not Filtered
THREEWALL_923	300	0.61	1.98	4.5	182.55	BASE_325	FALSE	Not Filtered
THREEWALL_923	300	0.61	1.98	4.8	157.83	BASE_325	FALSE	Not Filtered
THREEWALL_923	300	0.61	1.98	5.1	140.83	BASE_325	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_923	300	0.61	1.98	5.4	122.74	BASE_325	TRUE	Temperature < 130 C
THREEWALL_923	300	0.61	1.98	5.7	110.35	BASE_325	TRUE	Temperature < 130 C
THREEWALL_923	300	0.61	1.98	6	101.38	BASE_325	TRUE	Temperature < 130 C
THREEWALL_924	400	0.61	1.98	2.4	1014.1	BASE_326	TRUE	Temperature > 800 C
THREEWALL_924	400	0.61	1.98	2.7	978.89	BASE_326	TRUE	Temperature > 800 C
THREEWALL_924	400	0.61	1.98	3	883.71	BASE_326	TRUE	Temperature > 800 C
THREEWALL_924	400	0.61	1.98	3.3	681.79	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	3.6	519.42	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	3.9	388.24	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	4.2	306.26	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	4.5	246.33	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	4.8	213.8	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	5.1	183.16	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	5.4	157.27	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	5.7	137.47	BASE_326	FALSE	Not Filtered
THREEWALL_924	400	0.61	1.98	6	126.19	BASE_326	TRUE	Temperature < 130 C
THREEWALL_925	500	0.61	1.98	2.4	1106.3	BASE_327	TRUE	Temperature > 800 C
THREEWALL_925	500	0.61	1.98	2.7	1011.3	BASE_327	TRUE	Temperature > 800 C
THREEWALL_925	500	0.61	1.98	3	928.71	BASE_327	TRUE	Temperature > 800 C
THREEWALL_925	500	0.61	1.98	3.3	799.73	BASE_327	FALSE	Not Filtered
THREEWALL_925	500	0.61	1.98	3.6	664.76	BASE_327	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_925	500	0.61	1.98	3.9	518.6	BASE_327	FALSE	Not Filtered
THREEWALL_925	500	0.61	1.98	4.2	405.1	BASE_327	FALSE	Not Filtered
THREEWALL_925	500	0.61	1.98	4.5	310.44	BASE_327	FALSE	Not Filtered
THREEWALL_925	500	0.61	1.98	4.8	262.34	BASE_327	FALSE	Not Filtered
THREEWALL_925	500	0.61	1.98	5.1	221.57	BASE_327	FALSE	Not Filtered
THREEWALL_925	500	0.61	1.98	5.4	192.52	BASE_327	FALSE	Not Filtered
THREEWALL_925	500	0.61	1.98	5.7	166.57	BASE_327	FALSE	Not Filtered
THREEWALL_925	500	0.61	1.98	6	146.18	BASE_327	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	2.4	1089.8	BASE_328	TRUE	Temperature > 800 C
THREEWALL_926	600	0.61	1.98	2.7	1070.9	BASE_328	TRUE	Temperature > 800 C
THREEWALL_926	600	0.61	1.98	3	984.08	BASE_328	TRUE	Temperature > 800 C
THREEWALL_926	600	0.61	1.98	3.3	844.18	BASE_328	TRUE	Temperature > 800 C
THREEWALL_926	600	0.61	1.98	3.6	706.97	BASE_328	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	3.9	561.53	BASE_328	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	4.2	440.71	BASE_328	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	4.5	340.56	BASE_328	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	4.8	284.69	BASE_328	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	5.1	244.92	BASE_328	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	5.4	208.27	BASE_328	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	5.7	183.19	BASE_328	FALSE	Not Filtered
THREEWALL_926	600	0.61	1.98	6	166.48	BASE_328	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_972	300	0.91	0.30	2.4	184.56	BASE_307	TRUE	Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	2.7	118.56	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	3	97.066	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	3.3	83.193	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	3.6	76.028	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	3.9	70.479	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	4.2	66.231	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	4.5	64.326	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	4.8	62.587	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	5.1	60.063	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	5.4	56.428	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	5.7	52.662	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_972	300	0.91	0.30	6	50.738	BASE_307	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_973	400	0.91	0.30	2.4	240.59	BASE_308	TRUE	Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	2.7	144.47	BASE_308	TRUE	Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	3	115.08	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	3.3	102.6	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	3.6	92.14	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	3.9	82.221	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	4.2	76.611	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	4.5	72.131	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	4.8	69.414	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	5.1	66.911	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	5.4	63.254	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	5.7	58.782	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_973	400	0.91	0.30	6	56.053	BASE_308	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_974	500	0.91	0.30	2.4	303.21	BASE_309	TRUE	Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	2.7	185.97	BASE_309	TRUE	Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	3	144.03	BASE_309	TRUE	Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	3.3	120.84	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	3.6	110.2	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	3.9	101.09	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	4.2	92.989	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	4.5	85.945	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	4.8	82.585	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	5.1	78.139	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	5.4	72.292	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	5.7	65.906	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_974	500	0.91	0.30	6	61.784	BASE_309	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_975	600	0.91	0.30	2.4	351.27	BASE_310	TRUE	Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	2.7	208.86	BASE_310	TRUE	Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	3	165.74	BASE_310	TRUE	Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	3.3	142	BASE_310	TRUE	Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	3.6	128.21	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	3.9	116.86	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	4.2	106	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	4.5	95.935	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	4.8	89.561	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	5.1	85.5	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	5.4	81.763	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	5.7	77.857	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground
THREEWALL_975	600	0.91	0.30	6	74.923	BASE_310	TRUE	Temperature < 130 C , Source Located 1 ft. above Ground

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_979	300	0.91	1.14	2.4	310.52	BASE_318	FALSE	Not Filtered
THREEWALL_979	300	0.91	1.14	2.7	184.64	BASE_318	FALSE	Not Filtered
THREEWALL_979	300	0.91	1.14	3	146.48	BASE_318	FALSE	Not Filtered
THREEWALL_979	300	0.91	1.14	3.3	124.98	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	3.6	112.59	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	3.9	100.44	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	4.2	91.793	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	4.5	84.386	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	4.8	78.823	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	5.1	74.82	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	5.4	69.589	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	5.7	65.922	BASE_318	TRUE	Temperature < 130 C
THREEWALL_979	300	0.91	1.14	6	63.23	BASE_318	TRUE	Temperature < 130 C
THREEWALL_980	400	0.91	1.14	2.4	380.97	BASE_319	FALSE	Not Filtered
THREEWALL_980	400	0.91	1.14	2.7	231.62	BASE_319	FALSE	Not Filtered
THREEWALL_980	400	0.91	1.14	3	184.42	BASE_319	FALSE	Not Filtered
THREEWALL_980	400	0.91	1.14	3.3	151.59	BASE_319	FALSE	Not Filtered
THREEWALL_980	400	0.91	1.14	3.6	134.53	BASE_319	FALSE	Not Filtered
THREEWALL_980	400	0.91	1.14	3.9	121.09	BASE_319	TRUE	Temperature < 130 C
THREEWALL_980	400	0.91	1.14	4.2	111.18	BASE_319	TRUE	Temperature < 130 C
THREEWALL_980	400	0.91	1.14	4.5	103.03	BASE_319	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_980	400	0.91	1.14	4.8	97.236	BASE_319	TRUE	Temperature < 130 C
THREEWALL_980	400	0.91	1.14	5.1	91.365	BASE_319	TRUE	Temperature < 130 C
THREEWALL_980	400	0.91	1.14	5.4	84.422	BASE_319	TRUE	Temperature < 130 C
THREEWALL_980	400	0.91	1.14	5.7	79.351	BASE_319	TRUE	Temperature < 130 C
THREEWALL_980	400	0.91	1.14	6	75.216	BASE_319	TRUE	Temperature < 130 C
THREEWALL_981	500	0.91	1.14	2.4	522.3	BASE_320	FALSE	Not Filtered
THREEWALL_981	500	0.91	1.14	2.7	283.14	BASE_320	FALSE	Not Filtered
THREEWALL_981	500	0.91	1.14	3	223.96	BASE_320	FALSE	Not Filtered
THREEWALL_981	500	0.91	1.14	3.3	187.48	BASE_320	FALSE	Not Filtered
THREEWALL_981	500	0.91	1.14	3.6	163.06	BASE_320	FALSE	Not Filtered
THREEWALL_981	500	0.91	1.14	3.9	146.31	BASE_320	FALSE	Not Filtered
THREEWALL_981	500	0.91	1.14	4.2	133.8	BASE_320	FALSE	Not Filtered
THREEWALL_981	500	0.91	1.14	4.5	122.56	BASE_320	TRUE	Temperature < 130 C
THREEWALL_981	500	0.91	1.14	4.8	112.15	BASE_320	TRUE	Temperature < 130 C
THREEWALL_981	500	0.91	1.14	5.1	104.23	BASE_320	TRUE	Temperature < 130 C
THREEWALL_981	500	0.91	1.14	5.4	96.185	BASE_320	TRUE	Temperature < 130 C
THREEWALL_981	500	0.91	1.14	5.7	90.141	BASE_320	TRUE	Temperature < 130 C
THREEWALL_981	500	0.91	1.14	6	84.866	BASE_320	TRUE	Temperature < 130 C
THREEWALL_982	600	0.91	1.14	2.4	604.51	BASE_321	FALSE	Not Filtered
THREEWALL_982	600	0.91	1.14	2.7	350.93	BASE_321	FALSE	Not Filtered
THREEWALL_982	600	0.91	1.14	3	268.81	BASE_321	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_982	600	0.91	1.14	3.3	221.1	BASE_321	FALSE	Not Filtered
THREEWALL_982	600	0.91	1.14	3.6	193.38	BASE_321	FALSE	Not Filtered
THREEWALL_982	600	0.91	1.14	3.9	171.54	BASE_321	FALSE	Not Filtered
THREEWALL_982	600	0.91	1.14	4.2	153.52	BASE_321	FALSE	Not Filtered
THREEWALL_982	600	0.91	1.14	4.5	138.27	BASE_321	FALSE	Not Filtered
THREEWALL_982	600	0.91	1.14	4.8	126.36	BASE_321	TRUE	Temperature < 130 C
THREEWALL_982	600	0.91	1.14	5.1	116.64	BASE_321	TRUE	Temperature < 130 C
THREEWALL_982	600	0.91	1.14	5.4	108.26	BASE_321	TRUE	Temperature < 130 C
THREEWALL_982	600	0.91	1.14	5.7	100.09	BASE_321	TRUE	Temperature < 130 C
THREEWALL_982	600	0.91	1.14	6	94.122	BASE_321	TRUE	Temperature < 130 C
THREEWALL_986	300	0.91	1.98	2.4	844.4	BASE_329	TRUE	Temperature > 800 C
THREEWALL_986	300	0.91	1.98	2.7	681.25	BASE_329	FALSE	Not Filtered
THREEWALL_986	300	0.91	1.98	3	490.11	BASE_329	FALSE	Not Filtered
THREEWALL_986	300	0.91	1.98	3.3	353.3	BASE_329	FALSE	Not Filtered
THREEWALL_986	300	0.91	1.98	3.6	278.73	BASE_329	FALSE	Not Filtered
THREEWALL_986	300	0.91	1.98	3.9	227.21	BASE_329	FALSE	Not Filtered
THREEWALL_986	300	0.91	1.98	4.2	182.1	BASE_329	FALSE	Not Filtered
THREEWALL_986	300	0.91	1.98	4.5	148.46	BASE_329	FALSE	Not Filtered
THREEWALL_986	300	0.91	1.98	4.8	126.79	BASE_329	TRUE	Temperature < 130 C
THREEWALL_986	300	0.91	1.98	5.1	112.9	BASE_329	TRUE	Temperature < 130 C
THREEWALL_986	300	0.91	1.98	5.4	99.758	BASE_329	TRUE	Temperature < 130 C

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_986	300	0.91	1.98	5.7	88.638	BASE_329	TRUE	Temperature < 130 C
THREEWALL_986	300	0.91	1.98	6	81.318	BASE_329	TRUE	Temperature < 130 C
THREEWALL_987	400	0.91	1.98	2.4	909.89	BASE_330	TRUE	Temperature > 800 C
THREEWALL_987	400	0.91	1.98	2.7	857.59	BASE_330	TRUE	Temperature > 800 C
THREEWALL_987	400	0.91	1.98	3	676.43	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	3.3	441.27	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	3.6	339.87	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	3.9	266.42	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	4.2	220.39	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	4.5	182.32	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	4.8	164.19	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	5.1	148.53	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	5.4	135.35	BASE_330	FALSE	Not Filtered
THREEWALL_987	400	0.91	1.98	5.7	121.94	BASE_330	TRUE	Temperature < 130 C
THREEWALL_987	400	0.91	1.98	6	113.94	BASE_330	TRUE	Temperature < 130 C
THREEWALL_988	500	0.91	1.98	2.4	973.68	BASE_331	TRUE	Temperature > 800 C
THREEWALL_988	500	0.91	1.98	2.7	891.03	BASE_331	TRUE	Temperature > 800 C
THREEWALL_988	500	0.91	1.98	3	799.43	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	3.3	606.92	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	3.6	454.55	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	3.9	343.91	BASE_331	FALSE	Not Filtered

Table E-1
Obstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Baseline Test	Data Filtered	Filtration Criteria
THREEWALL_988	500	0.91	1.98	4.2	282.91	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	4.5	229.44	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	4.8	198.62	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	5.1	177.02	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	5.4	157.24	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	5.7	137.4	BASE_331	FALSE	Not Filtered
THREEWALL_988	500	0.91	1.98	6	125.87	BASE_331	TRUE	Temperature < 130 C
THREEWALL_989	600	0.91	1.98	2.4	1027.7	BASE_332	TRUE	Temperature > 800 C
THREEWALL_989	600	0.91	1.98	2.7	965.5	BASE_332	TRUE	Temperature > 800 C
THREEWALL_989	600	0.91	1.98	3	918.36	BASE_332	TRUE	Temperature > 800 C
THREEWALL_989	600	0.91	1.98	3.3	752.38	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	3.6	582.49	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	3.9	431.65	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	4.2	349.02	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	4.5	270.92	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	4.8	233.27	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	5.1	202.93	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	5.4	176.71	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	5.7	151.1	BASE_332	FALSE	Not Filtered
THREEWALL_989	600	0.91	1.98	6	137.61	BASE_332	FALSE	Not Filtered

Unobstructed Simulation Results

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_404	1000	0.91	0.30	2.4	795.4	819.38	TRUE	Source Located 1 ft. above Ground , Heskestad > 800 C
BASE_404	1000	0.91	0.30	2.7	698.73	626.09	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	3	605.33	496.65	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	3.3	507.53	405.28	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	3.6	423.26	338.12	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	3.9	338.41	287.15	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	4.2	282.38	247.45	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	4.5	235.94	215.85	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	4.8	211.9	190.25	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	5.1	189.94	169.19	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	5.4	166.35	151.62	TRUE	Source Located 1 ft. above Ground
BASE_404	1000	0.91	0.30	5.7	146.53	136.80	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_404	1000	0.91	0.30	6	133.59	124.17	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_400	1000	0.91	1.14	2.4	883.35	1000.00	TRUE	Heskestad > 800 C
BASE_400	1000	0.91	1.14	2.7	869.76	1000.00	TRUE	Heskestad > 800 C
BASE_400	1000	0.91	1.14	3	821.26	1000.00	TRUE	Heskestad > 800 C
BASE_400	1000	0.91	1.14	3.3	737.09	772.37	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	3.6	641.71	595.31	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	3.9	540.23	475.29	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	4.2	442.68	389.79	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	4.5	364.05	326.49	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	4.8	309.85	278.17	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	5.1	266.48	240.36	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	5.4	227.22	210.14	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	5.7	187.04	185.58	FALSE	Not Filtered
BASE_400	1000	0.91	1.14	6	162.96	165.31	FALSE	Not Filtered
BASE_401	1000	0.91	1.98	2.4	867.85	1000.00	TRUE	Heskestad > 800 C
BASE_401	1000	0.91	1.98	2.7	821.69	1000.00	TRUE	Heskestad > 800 C
BASE_401	1000	0.91	1.98	3	843.29	1000.00	TRUE	Heskestad > 800 C
BASE_401	1000	0.91	1.98	3.3	863.68	1000.00	TRUE	Heskestad > 800 C
BASE_401	1000	0.91	1.98	3.6	847.71	1000.00	TRUE	Heskestad > 800 C
BASE_401	1000	0.91	1.98	3.9	778.57	982.15	TRUE	Heskestad > 800 C
BASE_401	1000	0.91	1.98	4.2	712.61	729.52	FALSE	Not Filtered

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_401	1000	0.91	1.98	4.5	619.77	566.88	FALSE	Not Filtered
BASE_401	1000	0.91	1.98	4.8	546.09	455.37	FALSE	Not Filtered
BASE_401	1000	0.91	1.98	5.1	448.48	375.23	FALSE	Not Filtered
BASE_401	1000	0.91	1.98	5.4	362.78	315.49	FALSE	Not Filtered
BASE_401	1000	0.91	1.98	5.7	297.95	269.64	FALSE	Not Filtered
BASE_401	1000	0.91	1.98	6	255.43	233.59	FALSE	Not Filtered
BASE_405	1000	1.22	0.30	2.4	781.27	819.38	TRUE	Source Located 1 ft. above Ground , Heskestad > 800 C
BASE_405	1000	1.22	0.30	2.7	709.22	626.09	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	3	615.79	496.65	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	3.3	498.02	405.28	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	3.6	410.4	338.12	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	3.9	327.49	287.15	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	4.2	278.55	247.45	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	4.5	237.14	215.85	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	4.8	206.01	190.25	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_405	1000	1.22	0.30	5.1	182.4	169.19	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	5.4	160.44	151.62	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	5.7	142.62	136.80	TRUE	Source Located 1 ft. above Ground
BASE_405	1000	1.22	0.30	6	129.63	124.17	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_402	1000	1.22	1.14	2.4	884.72	1000.00	TRUE	Heskestad > 800 C
BASE_402	1000	1.22	1.14	2.7	872.06	1000.00	TRUE	Heskestad > 800 C
BASE_402	1000	1.22	1.14	3	844.23	764.70	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	3.3	780	590.25	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	3.6	703.37	471.76	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	3.9	609.22	387.22	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	4.2	536.91	324.55	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	4.5	442.2	276.67	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	4.8	371.59	239.17	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	5.1	319.12	209.19	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	5.4	270.59	184.79	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	5.7	231.36	164.65	FALSE	Not Filtered
BASE_402	1000	1.22	1.14	6	203.95	147.81	FALSE	Not Filtered
BASE_403	1000	1.22	1.98	2.4	832.64	1000.00	TRUE	Heskestad > 800 C
BASE_403	1000	1.22	1.98	2.7	849.5	1000.00	TRUE	Heskestad > 800 C

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_403	1000	1.22	1.98	3	881.01	1000.00	TRUE	Heskestad > 800 C
BASE_403	1000	1.22	1.98	3.3	897.01	1000.00	TRUE	Heskestad > 800 C
BASE_403	1000	1.22	1.98	3.6	882.44	970.90	TRUE	Heskestad > 800 C
BASE_403	1000	1.22	1.98	3.9	843.66	722.52	FALSE	Not Filtered
BASE_403	1000	1.22	1.98	4.2	798.56	562.20	FALSE	Not Filtered
BASE_403	1000	1.22	1.98	4.5	714.56	452.07	FALSE	Not Filtered
BASE_403	1000	1.22	1.98	4.8	619.77	372.81	FALSE	Not Filtered
BASE_403	1000	1.22	1.98	5.1	524.43	313.65	FALSE	Not Filtered
BASE_403	1000	1.22	1.98	5.4	430.81	268.21	FALSE	Not Filtered
BASE_403	1000	1.22	1.98	5.7	350.83	232.45	FALSE	Not Filtered
BASE_403	1000	1.22	1.98	6	294.37	203.75	FALSE	Not Filtered
BASE_300	50	0.30	0.30	2.4	78.578	85.19	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_300	50	0.30	0.30	2.7	62.259	67.56	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_300	50	0.30	0.30	3	51.393	55.11	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_300	50	0.30	0.30	3.3	42.918	45.97	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_300	50	0.30	0.30	3.6	38.301	39.03	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_300	50	0.30	0.30	3.9	33.654	33.63	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_301	100	0.30	0.30	2.4	144.68	150.77	TRUE	Source Located 1 ft. above Ground
BASE_301	100	0.30	0.30	2.7	115.38	117.84	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_301	100	0.30	0.30	3	94.51	95.07	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_301	100	0.30	0.30	3.3	78.22	78.61	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_301	100	0.30	0.30	3.6	66.281	66.27	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_301	100	0.30	0.30	3.9	54.636	56.77	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_301	100	0.30	0.30	4.2	48.663	49.27	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_301	100	0.30	0.30	4.5	44.269	43.24	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_301	100	0.30	0.30	4.8	41.438	38.31	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_311	50	0.30	1.14	2.4	191.73	209.49	FALSE	Not Filtered
BASE_311	50	0.30	1.14	2.7	132.04	143.24	FALSE	Not Filtered
BASE_311	50	0.30	1.14	3	103.75	105.13	TRUE	Heskestad < 130 C
BASE_311	50	0.30	1.14	3.3	80.93	81.00	TRUE	Heskestad < 130 C
BASE_311	50	0.30	1.14	3.6	66.604	64.65	TRUE	Heskestad < 130 C
BASE_311	50	0.30	1.14	3.9	54.69	53.01	TRUE	Heskestad < 130 C
BASE_311	50	0.30	1.14	4.2	47.827	44.39	TRUE	Heskestad < 130 C

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_312	100	0.30	1.14	2.4	362.7	402.61	FALSE	Not Filtered
BASE_312	100	0.30	1.14	2.7	221.13	264.28	FALSE	Not Filtered
BASE_312	100	0.30	1.14	3	162.78	188.91	FALSE	Not Filtered
BASE_312	100	0.30	1.14	3.3	123.92	142.87	FALSE	Not Filtered
BASE_312	100	0.30	1.14	3.6	99.71	112.48	TRUE	Heskestad < 130 C
BASE_312	100	0.30	1.14	3.9	82.29	91.25	TRUE	Heskestad < 130 C
BASE_312	100	0.30	1.14	4.2	70.911	75.78	TRUE	Heskestad < 130 C
BASE_312	100	0.30	1.14	4.5	58.39	64.12	TRUE	Heskestad < 130 C
BASE_312	100	0.30	1.14	4.8	51.09	55.08	TRUE	Heskestad < 130 C
BASE_312	100	0.30	1.14	5.1	44.749	47.92	TRUE	Heskestad < 130 C
BASE_312	100	0.30	1.14	5.4	39.094	42.15	TRUE	Heskestad < 130 C
BASE_322	50	0.30	1.98	2.4	790.05	1000.00	TRUE	Heskestad > 800 C
BASE_322	50	0.30	1.98	2.7	434.88	584.26	FALSE	Not Filtered
BASE_322	50	0.30	1.98	3	242.82	306.03	FALSE	Not Filtered
BASE_322	50	0.30	1.98	3.3	154.53	192.28	FALSE	Not Filtered
BASE_322	50	0.30	1.98	3.6	115.32	133.75	FALSE	Not Filtered
BASE_322	50	0.30	1.98	3.9	89.33	99.29	TRUE	Heskestad < 130 C
BASE_322	50	0.30	1.98	4.2	71.831	77.12	TRUE	Heskestad < 130 C
BASE_322	50	0.30	1.98	4.5	56.449	61.93	TRUE	Heskestad < 130 C
BASE_322	50	0.30	1.98	4.8	46.519	51.02	TRUE	Heskestad < 130 C
BASE_322	50	0.30	1.98	5.1	40.578	42.89	TRUE	Heskestad < 130 C

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_323	100	0.30	1.98	2.4	1020.6	1000.00	TRUE	Heskestad > 800 C
BASE_323	100	0.30	1.98	2.7	908.31	1000.00	TRUE	Heskestad > 800 C
BASE_323	100	0.30	1.98	3	614.44	619.87	FALSE	Not Filtered
BASE_323	100	0.30	1.98	3.3	348.63	365.81	FALSE	Not Filtered
BASE_323	100	0.30	1.98	3.6	238.38	245.21	FALSE	Not Filtered
BASE_323	100	0.30	1.98	3.9	165.26	177.64	FALSE	Not Filtered
BASE_323	100	0.30	1.98	4.2	127.9	135.61	FALSE	Not Filtered
BASE_323	100	0.30	1.98	4.5	99.95	107.50	TRUE	Heskestad < 130 C
BASE_323	100	0.30	1.98	4.8	84.38	87.67	TRUE	Heskestad < 130 C
BASE_323	100	0.30	1.98	5.1	70.453	73.11	TRUE	Heskestad < 130 C
BASE_323	100	0.30	1.98	5.4	58.577	62.07	TRUE	Heskestad < 130 C
BASE_323	100	0.30	1.98	5.7	50.134	53.47	TRUE	Heskestad < 130 C
BASE_323	100	0.30	1.98	6	43.943	46.64	TRUE	Heskestad < 130 C
BASE_302	200	0.61	0.30	2.4	213.45	211.71	TRUE	Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	2.7	170.01	168.19	TRUE	Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	3	142.96	137.40	TRUE	Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	3.3	121.27	114.73	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	3.6	105.52	97.51	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_302	200	0.61	0.30	3.9	88.62	84.08	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	4.2	76.736	73.38	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	4.5	67.501	64.71	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	4.8	61.141	57.56	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	5.1	56.723	51.60	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	5.4	51.975	46.57	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	5.7	45.998	42.28	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_302	200	0.61	0.30	6	43.08	38.59	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	2.4	296.14	307.62	TRUE	Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	2.7	220.38	241.06	TRUE	Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	3	183.17	194.88	TRUE	Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	3.3	148.23	161.39	TRUE	Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	3.6	128.16	136.24	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_303	300	0.61	0.30	3.9	108.27	116.82	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	4.2	93.85	101.48	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	4.5	81.84	89.13	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	4.8	74.599	79.02	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	5.1	67.063	70.63	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	5.4	60.342	63.57	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	5.7	53.847	57.58	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_303	300	0.61	0.30	6	50.33	52.45	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	2.4	411.81	407.41	TRUE	Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	2.7	304.43	315.31	TRUE	Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	3	247.49	252.53	TRUE	Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	3.3	200.37	207.60	TRUE	Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	3.6	162.17	174.22	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_304	400	0.61	0.30	3.9	133.24	148.67	TRUE	Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	4.2	115.82	128.63	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	4.5	101.45	112.58	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	4.8	90.29	99.52	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	5.1	82.61	88.72	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	5.4	75.416	79.68	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	5.7	69.567	72.03	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_304	400	0.61	0.30	6	64.731	65.49	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	2.4	521.63	512.32	TRUE	Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	2.7	399.1	391.90	TRUE	Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	3	316.2	311.14	TRUE	Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	3.3	246.46	254.06	TRUE	Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	3.6	196.89	212.07	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_305	500	0.61	0.30	3.9	156	180.17	TRUE	Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	4.2	135.57	155.31	TRUE	Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	4.5	118.31	135.52	TRUE	Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	4.8	101.09	119.48	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	5.1	90.49	106.27	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	5.4	82.81	95.25	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	5.7	77.621	85.96	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_305	500	0.61	0.30	6	72.416	78.03	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	2.4	621.32	623.47	TRUE	Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	2.7	493.05	471.55	TRUE	Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	3	392.91	371.26	TRUE	Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	3.3	300.99	301.22	TRUE	Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	3.6	239.8	250.16	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_306	600	0.61	0.30	3.9	196.28	211.66	TRUE	Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	4.2	168.47	181.84	TRUE	Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	4.5	143.2	158.21	TRUE	Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	4.8	127.89	139.14	TRUE	Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	5.1	116.33	123.50	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	5.4	106.77	110.49	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	5.7	95.54	99.55	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_306	600	0.61	0.30	6	87.35	90.24	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_313	200	0.61	1.14	2.4	600.42	515.47	FALSE	Not Filtered
BASE_313	200	0.61	1.14	2.7	414.5	354.17	FALSE	Not Filtered
BASE_313	200	0.61	1.14	3	309.8	260.78	FALSE	Not Filtered
BASE_313	200	0.61	1.14	3.3	229.95	201.37	FALSE	Not Filtered
BASE_313	200	0.61	1.14	3.6	175.92	160.99	FALSE	Not Filtered
BASE_313	200	0.61	1.14	3.9	133.61	132.18	FALSE	Not Filtered
BASE_313	200	0.61	1.14	4.2	112.07	110.81	TRUE	Heskestad < 130 C
BASE_313	200	0.61	1.14	4.5	97.7	94.47	TRUE	Heskestad < 130 C

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_313	200	0.61	1.14	4.8	86.66	81.68	TRUE	Heskestad < 130 C
BASE_313	200	0.61	1.14	5.1	76.924	71.45	TRUE	Heskestad < 130 C
BASE_313	200	0.61	1.14	5.4	69.128	63.12	TRUE	Heskestad < 130 C
BASE_313	200	0.61	1.14	5.7	62.155	56.25	TRUE	Heskestad < 130 C
BASE_313	200	0.61	1.14	6	57.725	50.50	TRUE	Heskestad < 130 C
BASE_314	300	0.61	1.14	2.4	794.04	808.95	TRUE	Heskestad > 800 C
BASE_314	300	0.61	1.14	2.7	633.17	535.11	FALSE	Not Filtered
BASE_314	300	0.61	1.14	3	494.2	384.36	FALSE	Not Filtered
BASE_314	300	0.61	1.14	3.3	355.45	291.68	FALSE	Not Filtered
BASE_314	300	0.61	1.14	3.6	273.81	230.20	FALSE	Not Filtered
BASE_314	300	0.61	1.14	3.9	207.36	187.12	FALSE	Not Filtered
BASE_314	300	0.61	1.14	4.2	174.38	155.63	FALSE	Not Filtered
BASE_314	300	0.61	1.14	4.5	143.36	131.83	FALSE	Not Filtered
BASE_314	300	0.61	1.14	4.8	125.13	113.37	TRUE	Heskestad < 130 C
BASE_314	300	0.61	1.14	5.1	106.46	98.72	TRUE	Heskestad < 130 C
BASE_314	300	0.61	1.14	5.4	91.29	86.88	TRUE	Heskestad < 130 C
BASE_314	300	0.61	1.14	5.7	81.09	77.16	TRUE	Heskestad < 130 C
BASE_314	300	0.61	1.14	6	73.481	69.07	TRUE	Heskestad < 130 C
BASE_315	400	0.61	1.14	2.4	894.49	1000.00	TRUE	Heskestad > 800 C
BASE_315	400	0.61	1.14	2.7	791.96	735.01	FALSE	Not Filtered
BASE_315	400	0.61	1.14	3	664.52	515.78	FALSE	Not Filtered

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_315	400	0.61	1.14	3.3	488.44	385.18	FALSE	Not Filtered
BASE_315	400	0.61	1.14	3.6	370.93	300.47	FALSE	Not Filtered
BASE_315	400	0.61	1.14	3.9	277.21	242.07	FALSE	Not Filtered
BASE_315	400	0.61	1.14	4.2	223.36	199.93	FALSE	Not Filtered
BASE_315	400	0.61	1.14	4.5	175.71	168.41	FALSE	Not Filtered
BASE_315	400	0.61	1.14	4.8	149.38	144.15	FALSE	Not Filtered
BASE_315	400	0.61	1.14	5.1	132.48	125.03	TRUE	Heskestad < 130 C
BASE_315	400	0.61	1.14	5.4	116.77	109.68	TRUE	Heskestad < 130 C
BASE_315	400	0.61	1.14	5.7	102.83	97.13	TRUE	Heskestad < 130 C
BASE_315	400	0.61	1.14	6	93.62	86.73	TRUE	Heskestad < 130 C
BASE_316	500	0.61	1.14	2.4	879.86	1000.00	TRUE	Heskestad > 800 C
BASE_316	500	0.61	1.14	2.7	792.75	957.56	TRUE	Heskestad > 800 C
BASE_316	500	0.61	1.14	3	694.1	656.81	FALSE	Not Filtered
BASE_316	500	0.61	1.14	3.3	573.87	483.05	FALSE	Not Filtered
BASE_316	500	0.61	1.14	3.6	456.09	372.71	FALSE	Not Filtered
BASE_316	500	0.61	1.14	3.9	339.35	297.80	FALSE	Not Filtered
BASE_316	500	0.61	1.14	4.2	277.73	244.38	FALSE	Not Filtered
BASE_316	500	0.61	1.14	4.5	223.54	204.79	FALSE	Not Filtered
BASE_316	500	0.61	1.14	4.8	182.29	174.55	FALSE	Not Filtered
BASE_316	500	0.61	1.14	5.1	155.41	150.87	FALSE	Not Filtered
BASE_316	500	0.61	1.14	5.4	133.98	131.94	FALSE	Not Filtered

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_316	500	0.61	1.14	5.7	119.94	116.55	TRUE	Heskestad < 130 C
BASE_316	500	0.61	1.14	6	108.39	103.84	TRUE	Heskestad < 130 C
BASE_317	600	0.61	1.14	2.4	908.01	1000.00	TRUE	Heskestad > 800 C
BASE_317	600	0.61	1.14	2.7	864.94	1000.00	TRUE	Heskestad > 800 C
BASE_317	600	0.61	1.14	3	781.95	809.22	TRUE	Heskestad > 800 C
BASE_317	600	0.61	1.14	3.3	647.71	586.29	FALSE	Not Filtered
BASE_317	600	0.61	1.14	3.6	534.14	447.60	FALSE	Not Filtered
BASE_317	600	0.61	1.14	3.9	416.5	354.83	FALSE	Not Filtered
BASE_317	600	0.61	1.14	4.2	328.89	289.41	FALSE	Not Filtered
BASE_317	600	0.61	1.14	4.5	264.69	241.36	FALSE	Not Filtered
BASE_317	600	0.61	1.14	4.8	222.42	204.91	FALSE	Not Filtered
BASE_317	600	0.61	1.14	5.1	186.54	176.53	FALSE	Not Filtered
BASE_317	600	0.61	1.14	5.4	158.69	153.95	FALSE	Not Filtered
BASE_317	600	0.61	1.14	5.7	136.29	135.67	FALSE	Not Filtered
BASE_317	600	0.61	1.14	6	123.49	120.63	TRUE	Heskestad < 130 C
BASE_324	200	0.61	1.98	2.4	802.19	1000.00	TRUE	Heskestad > 800 C
BASE_324	200	0.61	1.98	2.7	812.66	1000.00	TRUE	Heskestad > 800 C
BASE_324	200	0.61	1.98	3	680.91	748.51	FALSE	Not Filtered
BASE_324	200	0.61	1.98	3.3	486.99	473.69	FALSE	Not Filtered
BASE_324	200	0.61	1.98	3.6	354.53	330.95	FALSE	Not Filtered
BASE_324	200	0.61	1.98	3.9	255.02	246.42	FALSE	Not Filtered

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_324	200	0.61	1.98	4.2	205.62	191.81	FALSE	Not Filtered
BASE_324	200	0.61	1.98	4.5	166.23	154.28	FALSE	Not Filtered
BASE_324	200	0.61	1.98	4.8	136.56	127.26	TRUE	Heskestad < 130 C
BASE_324	200	0.61	1.98	5.1	115.36	107.09	TRUE	Heskestad < 130 C
BASE_324	200	0.61	1.98	5.4	98.47	91.59	TRUE	Heskestad < 130 C
BASE_324	200	0.61	1.98	5.7	83.73	79.39	TRUE	Heskestad < 130 C
BASE_324	200	0.61	1.98	6	73.846	69.59	TRUE	Heskestad < 130 C
BASE_325	300	0.61	1.98	2.4	834.33	1000.00	TRUE	Heskestad > 800 C
BASE_325	300	0.61	1.98	2.7	924.98	1000.00	TRUE	Heskestad > 800 C
BASE_325	300	0.61	1.98	3	881.51	1000.00	TRUE	Heskestad > 800 C
BASE_325	300	0.61	1.98	3.3	729.09	736.43	FALSE	Not Filtered
BASE_325	300	0.61	1.98	3.6	570.95	497.07	FALSE	Not Filtered
BASE_325	300	0.61	1.98	3.9	413.79	361.73	FALSE	Not Filtered
BASE_325	300	0.61	1.98	4.2	313.04	277.01	FALSE	Not Filtered
BASE_325	300	0.61	1.98	4.5	224.91	220.11	FALSE	Not Filtered
BASE_325	300	0.61	1.98	4.8	177.16	179.84	FALSE	Not Filtered
BASE_325	300	0.61	1.98	5.1	150.9	150.19	FALSE	Not Filtered
BASE_325	300	0.61	1.98	5.4	129.86	127.65	TRUE	Heskestad < 130 C
BASE_325	300	0.61	1.98	5.7	107.49	110.08	TRUE	Heskestad < 130 C
BASE_325	300	0.61	1.98	6	94.42	96.08	TRUE	Heskestad < 130 C
BASE_326	400	0.61	1.98	2.4	847.41	1000.00	TRUE	Heskestad > 800 C

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_326	400	0.61	1.98	2.7	909.47	1000.00	TRUE	Heskestad > 800 C
BASE_326	400	0.61	1.98	3	917.03	1000.00	TRUE	Heskestad > 800 C
BASE_326	400	0.61	1.98	3.3	850.04	1000.00	TRUE	Heskestad > 800 C
BASE_326	400	0.61	1.98	3.6	715.9	678.92	FALSE	Not Filtered
BASE_326	400	0.61	1.98	3.9	558.26	483.57	FALSE	Not Filtered
BASE_326	400	0.61	1.98	4.2	402.99	364.83	FALSE	Not Filtered
BASE_326	400	0.61	1.98	4.5	294.05	286.71	FALSE	Not Filtered
BASE_326	400	0.61	1.98	4.8	235.69	232.29	FALSE	Not Filtered
BASE_326	400	0.61	1.98	5.1	201.69	192.70	FALSE	Not Filtered
BASE_326	400	0.61	1.98	5.4	168.14	162.90	FALSE	Not Filtered
BASE_326	400	0.61	1.98	5.7	139.4	139.84	FALSE	Not Filtered
BASE_326	400	0.61	1.98	6	119.04	121.60	TRUE	Heskestad < 130 C
BASE_327	500	0.61	1.98	2.4	869.39	1000.00	TRUE	Heskestad > 800 C
BASE_327	500	0.61	1.98	2.7	904.4	1000.00	TRUE	Heskestad > 800 C
BASE_327	500	0.61	1.98	3	946.1	1000.00	TRUE	Heskestad > 800 C
BASE_327	500	0.61	1.98	3.3	913.68	1000.00	TRUE	Heskestad > 800 C
BASE_327	500	0.61	1.98	3.6	812.4	879.58	TRUE	Heskestad > 800 C
BASE_327	500	0.61	1.98	3.9	650.44	613.57	FALSE	Not Filtered
BASE_327	500	0.61	1.98	4.2	526.14	456.37	FALSE	Not Filtered
BASE_327	500	0.61	1.98	4.5	415.12	354.97	FALSE	Not Filtered
BASE_327	500	0.61	1.98	4.8	327.36	285.36	FALSE	Not Filtered

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_327	500	0.61	1.98	5.1	261.93	235.27	FALSE	Not Filtered
BASE_327	500	0.61	1.98	5.4	213.41	197.91	FALSE	Not Filtered
BASE_327	500	0.61	1.98	5.7	181.16	169.21	FALSE	Not Filtered
BASE_327	500	0.61	1.98	6	158.89	146.63	FALSE	Not Filtered
BASE_328	600	0.61	1.98	2.4	896.1	-20.00	TRUE	Heskestad < 130 C
BASE_328	600	0.61	1.98	2.7	892.48	1000.00	TRUE	Heskestad > 800 C
BASE_328	600	0.61	1.98	3	908.94	1000.00	TRUE	Heskestad > 800 C
BASE_328	600	0.61	1.98	3.3	936.98	1000.00	TRUE	Heskestad > 800 C
BASE_328	600	0.61	1.98	3.6	907.68	1000.00	TRUE	Heskestad > 800 C
BASE_328	600	0.61	1.98	3.9	782.46	753.25	FALSE	Not Filtered
BASE_328	600	0.61	1.98	4.2	650.93	552.54	FALSE	Not Filtered
BASE_328	600	0.61	1.98	4.5	501.29	425.53	FALSE	Not Filtered
BASE_328	600	0.61	1.98	4.8	397.92	339.54	FALSE	Not Filtered
BASE_328	600	0.61	1.98	5.1	314.02	278.32	FALSE	Not Filtered
BASE_328	600	0.61	1.98	5.4	250.3	233.04	FALSE	Not Filtered
BASE_328	600	0.61	1.98	5.7	213.26	198.49	FALSE	Not Filtered
BASE_328	600	0.61	1.98	6	176.59	171.46	FALSE	Not Filtered
BASE_307	300	0.91	0.30	2.4	294.61	239.11	TRUE	Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	2.7	233.57	193.49	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_307	300	0.91	0.30	3	194.58	160.36	TRUE	Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	3.3	158.8	135.45	TRUE	Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	3.6	133.72	116.21	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	3.9	110.18	100.99	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	4.2	97.21	88.73	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	4.5	84.82	78.69	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	4.8	76.364	70.35	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	5.1	68.72	63.34	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	5.4	61.382	57.39	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	5.7	56.444	52.28	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_307	300	0.91	0.30	6	52.33	47.86	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	2.4	378.29	312.56	TRUE	Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	2.7	287.23	250.60	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_308	400	0.91	0.30	3	227.12	206.19	TRUE	Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	3.3	180.15	173.15	TRUE	Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	3.6	154.74	147.84	TRUE	Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	3.9	130.12	127.97	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	4.2	112.85	112.05	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	4.5	99.44	99.08	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	4.8	89.37	88.36	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	5.1	80.38	79.38	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	5.4	72.991	71.77	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	5.7	66.197	65.27	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_308	400	0.91	0.30	6	62.1	59.66	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	2.4	530.61	388.34	TRUE	Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	2.7	399.64	308.67	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_309	500	0.91	0.30	3	316.36	252.27	TRUE	Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	3.3	253.48	210.73	TRUE	Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	3.6	211.54	179.14	TRUE	Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	3.9	173.13	154.50	TRUE	Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	4.2	149.53	134.87	TRUE	Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	4.5	131.51	118.94	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	4.8	116.85	105.83	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	5.1	100.39	94.88	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	5.4	89.79	85.64	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	5.7	81.01	77.76	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_309	500	0.91	0.30	6	75.255	70.98	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	2.4	596.83	467.23	TRUE	Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	2.7	462.19	368.31	TRUE	Source Located 1 ft. above Ground

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_310	600	0.91	0.30	3	379.52	299.11	TRUE	Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	3.3	298.51	248.59	TRUE	Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	3.6	243.35	210.46	TRUE	Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	3.9	196.5	180.89	TRUE	Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	4.2	172.41	157.46	TRUE	Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	4.5	150.21	138.53	TRUE	Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	4.8	136	122.99	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	5.1	121.42	110.07	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	5.4	106.73	99.19	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	5.7	96.21	89.93	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_310	600	0.91	0.30	6	87.94	81.98	TRUE	Heskestad < 130 C , Source Located 1 ft. above Ground
BASE_318	300	0.91	1.14	2.4	692.22	528.15	FALSE	Not Filtered
BASE_318	300	0.91	1.14	2.7	538.13	380.26	FALSE	Not Filtered
BASE_318	300	0.91	1.14	3	417.48	289.03	FALSE	Not Filtered
BASE_318	300	0.91	1.14	3.3	314.68	228.39	FALSE	Not Filtered

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_318	300	0.91	1.14	3.6	259.57	185.82	FALSE	Not Filtered
BASE_318	300	0.91	1.14	3.9	205.38	154.66	FALSE	Not Filtered
BASE_318	300	0.91	1.14	4.2	170.6	131.09	FALSE	Not Filtered
BASE_318	300	0.91	1.14	4.5	142.25	112.79	TRUE	Heskestad < 130 C
BASE_318	300	0.91	1.14	4.8	125.76	98.25	TRUE	Heskestad < 130 C
BASE_318	300	0.91	1.14	5.1	109.41	86.50	TRUE	Heskestad < 130 C
BASE_318	300	0.91	1.14	5.4	97.66	76.85	TRUE	Heskestad < 130 C
BASE_318	300	0.91	1.14	5.7	88.61	68.81	TRUE	Heskestad < 130 C
BASE_318	300	0.91	1.14	6	79.48	62.04	TRUE	Heskestad < 130 C
BASE_319	400	0.91	1.14	2.4	776.45	724.41	FALSE	Not Filtered
BASE_319	400	0.91	1.14	2.7	661.63	509.75	FALSE	Not Filtered
BASE_319	400	0.91	1.14	3	527.06	381.39	FALSE	Not Filtered
BASE_319	400	0.91	1.14	3.3	401.4	297.92	FALSE	Not Filtered
BASE_319	400	0.91	1.14	3.6	320.13	240.27	FALSE	Not Filtered
BASE_319	400	0.91	1.14	3.9	245.06	198.60	FALSE	Not Filtered
BASE_319	400	0.91	1.14	4.2	201.27	167.40	FALSE	Not Filtered
BASE_319	400	0.91	1.14	4.5	164.98	143.36	FALSE	Not Filtered
BASE_319	400	0.91	1.14	4.8	140.84	124.41	TRUE	Heskestad < 130 C
BASE_319	400	0.91	1.14	5.1	123.14	109.17	TRUE	Heskestad < 130 C
BASE_319	400	0.91	1.14	5.4	104.51	96.71	TRUE	Heskestad < 130 C
BASE_319	400	0.91	1.14	5.7	91.71	86.38	TRUE	Heskestad < 130 C

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_319	400	0.91	1.14	6	81.9	77.71	TRUE	Heskestad < 130 C
BASE_320	500	0.91	1.14	2.4	840.34	942.74	TRUE	Heskestad > 800 C
BASE_320	500	0.91	1.14	2.7	756.11	648.67	FALSE	Not Filtered
BASE_320	500	0.91	1.14	3	644.4	478.07	FALSE	Not Filtered
BASE_320	500	0.91	1.14	3.3	513.15	369.41	FALSE	Not Filtered
BASE_320	500	0.91	1.14	3.6	405.57	295.50	FALSE	Not Filtered
BASE_320	500	0.91	1.14	3.9	313.67	242.70	FALSE	Not Filtered
BASE_320	500	0.91	1.14	4.2	259.89	203.52	FALSE	Not Filtered
BASE_320	500	0.91	1.14	4.5	213.94	173.57	FALSE	Not Filtered
BASE_320	500	0.91	1.14	4.8	176.05	150.10	FALSE	Not Filtered
BASE_320	500	0.91	1.14	5.1	151.54	131.32	FALSE	Not Filtered
BASE_320	500	0.91	1.14	5.4	128.29	116.03	TRUE	Heskestad < 130 C
BASE_320	500	0.91	1.14	5.7	109.45	103.41	TRUE	Heskestad < 130 C
BASE_320	500	0.91	1.14	6	96.93	92.85	TRUE	Heskestad < 130 C
BASE_321	600	0.91	1.14	2.4	889.62	1000.00	TRUE	Heskestad > 800 C
BASE_321	600	0.91	1.14	2.7	821.75	799.00	FALSE	Not Filtered
BASE_321	600	0.91	1.14	3	702.23	580.18	FALSE	Not Filtered
BASE_321	600	0.91	1.14	3.3	572.03	443.62	FALSE	Not Filtered
BASE_321	600	0.91	1.14	3.6	458.85	352.09	FALSE	Not Filtered
BASE_321	600	0.91	1.14	3.9	366.35	287.43	FALSE	Not Filtered
BASE_321	600	0.91	1.14	4.2	299.58	239.87	FALSE	Not Filtered

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_321	600	0.91	1.14	4.5	246.77	203.76	FALSE	Not Filtered
BASE_321	600	0.91	1.14	4.8	205.76	175.63	FALSE	Not Filtered
BASE_321	600	0.91	1.14	5.1	181.11	153.23	FALSE	Not Filtered
BASE_321	600	0.91	1.14	5.4	153.17	135.08	FALSE	Not Filtered
BASE_321	600	0.91	1.14	5.7	130.5	120.14	TRUE	Heskestad < 130 C
BASE_321	600	0.91	1.14	6	116.01	107.67	TRUE	Heskestad < 130 C
BASE_329	300	0.91	1.98	2.4	786.08	1000.00	TRUE	Heskestad > 800 C
BASE_329	300	0.91	1.98	2.7	833.93	1000.00	TRUE	Heskestad > 800 C
BASE_329	300	0.91	1.98	3	779.18	724.86	FALSE	Not Filtered
BASE_329	300	0.91	1.98	3.3	642.61	490.88	FALSE	Not Filtered
BASE_329	300	0.91	1.98	3.6	503.08	358.00	FALSE	Not Filtered
BASE_329	300	0.91	1.98	3.9	371.31	274.58	FALSE	Not Filtered
BASE_329	300	0.91	1.98	4.2	288.47	218.42	FALSE	Not Filtered
BASE_329	300	0.91	1.98	4.5	214	178.62	FALSE	Not Filtered
BASE_329	300	0.91	1.98	4.8	173.05	149.28	FALSE	Not Filtered
BASE_329	300	0.91	1.98	5.1	148.51	126.95	TRUE	Heskestad < 130 C
BASE_329	300	0.91	1.98	5.4	127.52	109.52	TRUE	Heskestad < 130 C
BASE_329	300	0.91	1.98	5.7	112.57	95.63	TRUE	Heskestad < 130 C
BASE_329	300	0.91	1.98	6	97.15	84.36	TRUE	Heskestad < 130 C
BASE_330	400	0.91	1.98	2.4	774.29	1000.00	TRUE	Heskestad > 800 C
BASE_330	400	0.91	1.98	2.7	859.64	1000.00	TRUE	Heskestad > 800 C

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_330	400	0.91	1.98	3	856.89	1000.00	TRUE	Heskestad > 800 C
BASE_330	400	0.91	1.98	3.3	771.36	669.58	FALSE	Not Filtered
BASE_330	400	0.91	1.98	3.6	659.28	478.13	FALSE	Not Filtered
BASE_330	400	0.91	1.98	3.9	496.43	361.36	FALSE	Not Filtered
BASE_330	400	0.91	1.98	4.2	394.1	284.35	FALSE	Not Filtered
BASE_330	400	0.91	1.98	4.5	308.32	230.60	FALSE	Not Filtered
BASE_330	400	0.91	1.98	4.8	249.53	191.45	FALSE	Not Filtered
BASE_330	400	0.91	1.98	5.1	198.13	161.94	FALSE	Not Filtered
BASE_330	400	0.91	1.98	5.4	160.84	139.09	FALSE	Not Filtered
BASE_330	400	0.91	1.98	5.7	138.31	121.00	TRUE	Heskestad < 130 C
BASE_330	400	0.91	1.98	6	120.88	106.40	TRUE	Heskestad < 130 C
BASE_331	500	0.91	1.98	2.4	788.64	1000.00	TRUE	Heskestad > 800 C
BASE_331	500	0.91	1.98	2.7	857.78	1000.00	TRUE	Heskestad > 800 C
BASE_331	500	0.91	1.98	3	859.73	1000.00	TRUE	Heskestad > 800 C
BASE_331	500	0.91	1.98	3.3	814.29	866.63	TRUE	Heskestad > 800 C
BASE_331	500	0.91	1.98	3.6	722.21	606.27	FALSE	Not Filtered
BASE_331	500	0.91	1.98	3.9	590.36	451.82	FALSE	Not Filtered
BASE_331	500	0.91	1.98	4.2	478.39	351.92	FALSE	Not Filtered
BASE_331	500	0.91	1.98	4.5	385.71	283.21	FALSE	Not Filtered
BASE_331	500	0.91	1.98	4.8	308.82	233.69	FALSE	Not Filtered
BASE_331	500	0.91	1.98	5.1	257.61	196.71	FALSE	Not Filtered

Table E-2
Unobstructed Simulation Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Heskestad Plume Temperature (Equation 4-3)	Data Filtered	Filtration Criteria
BASE_331	500	0.91	1.98	5.4	203.98	168.27	FALSE	Not Filtered
BASE_331	500	0.91	1.98	5.7	161.05	145.89	FALSE	Not Filtered
BASE_331	500	0.91	1.98	6	135.64	127.92	TRUE	Heskestad < 130 C
BASE_332	600	0.91	1.98	2.4	805.72	1000.00	TRUE	Heskestad > 800 C
BASE_332	600	0.91	1.98	2.7	850.96	1000.00	TRUE	Heskestad > 800 C
BASE_332	600	0.91	1.98	3	885.48	1000.00	TRUE	Heskestad > 800 C
BASE_332	600	0.91	1.98	3.3	870.38	1000.00	TRUE	Heskestad > 800 C
BASE_332	600	0.91	1.98	3.6	811.98	744.13	FALSE	Not Filtered
BASE_332	600	0.91	1.98	3.9	691.37	546.97	FALSE	Not Filtered
BASE_332	600	0.91	1.98	4.2	589.37	421.86	FALSE	Not Filtered
BASE_332	600	0.91	1.98	4.5	462.96	336.98	FALSE	Not Filtered
BASE_332	600	0.91	1.98	4.8	366.56	276.46	FALSE	Not Filtered
BASE_332	600	0.91	1.98	5.1	290.06	231.64	FALSE	Not Filtered
BASE_332	600	0.91	1.98	5.4	232.74	197.40	FALSE	Not Filtered
BASE_332	600	0.91	1.98	5.7	198.21	170.60	FALSE	Not Filtered
BASE_332	600	0.91	1.98	6	174.61	149.18	FALSE	Not Filtered

Determination of Bias and Uncertainty

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
ARCH_1055	251.35	772.37	-1.12
ARCH_1055	207.5	595.31	-1.05
ARCH_1055	181.32	475.29	-0.96
ARCH_1055	158.36	389.79	-0.90
ARCH_1055	139.08	326.49	-0.85
ARCH_1055	123.06	278.17	-0.82
ARCH_1056	384.48	729.52	-0.64
ARCH_1056	307.37	566.88	-0.61
ARCH_1056	259.4	455.37	-0.56
ARCH_1056	223.14	375.23	-0.52
ARCH_1056	197.29	315.49	-0.47
ARCH_1056	177.62	269.64	-0.42
ARCH_1056	161.65	233.59	-0.37
ARCH_1064	228.02	764.70	-1.21
ARCH_1064	180.07	590.25	-1.19
ARCH_1064	153.69	471.76	-1.12
ARCH_1064	132.29	387.22	-1.07
ARCH_1064	119.64	324.55	-1.00
ARCH_1065	322.39	722.52	-0.81
ARCH_1065	255.39	562.20	-0.79
ARCH_1065	208.68	452.07	-0.77
ARCH_1065	180.89	372.81	-0.72
ARCH_1065	159.61	313.65	-0.68
ARCH_1065	138.36	268.21	-0.66
ARCH_1065	120.7	232.45	-0.66
ARCH_1065	112.26	203.75	-0.60
ARCH_830	198.07	402.61	-0.71
ARCH_830	112.16	264.28	-0.86
ARCH_836	126.04	584.26	-1.53
ARCH_837	171.73	619.87	-1.28

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
ARCH_837	118.23	365.81	-1.13
ARCH_894	239.92	515.47	-0.76
ARCH_894	120.83	354.17	-1.08
ARCH_895	172.02	535.11	-1.13
ARCH_895	125.64	384.36	-1.12
ARCH_896	253.67	735.01	-1.06
ARCH_896	172.71	515.78	-1.09
ARCH_896	135.45	385.18	-1.05
ARCH_896	115.42	300.47	-0.96
ARCH_897	255.53	656.81	-0.94
ARCH_897	187.46	483.05	-0.95
ARCH_897	155.04	372.71	-0.88
ARCH_897	131.32	297.80	-0.82
ARCH_897	114.1	244.38	-0.76
ARCH_898	232	586.29	-0.93
ARCH_898	193.7	447.60	-0.84
ARCH_898	158.56	354.83	-0.81
ARCH_898	134.6	289.41	-0.77
ARCH_898	113.8	241.36	-0.75
ARCH_901	233.64	748.51	-1.16
ARCH_901	174.13	473.69	-1.00
ARCH_901	141.03	330.95	-0.85
ARCH_901	110.93	246.42	-0.80
ARCH_902	325.15	736.43	-0.82
ARCH_902	252.2	497.07	-0.68
ARCH_902	194.8	361.73	-0.62
ARCH_902	158.08	277.01	-0.56
ARCH_902	126.34	220.11	-0.56
ARCH_903	367.41	678.92	-0.61
ARCH_903	269.44	483.57	-0.58
ARCH_903	212.59	364.83	-0.54
ARCH_903	163.52	286.71	-0.56

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
ARCH_903	137.37	232.29	-0.53
ARCH_903	118.3	192.70	-0.49
ARCH_904	414.66	613.57	-0.39
ARCH_904	314.39	456.37	-0.37
ARCH_904	236.69	354.97	-0.41
ARCH_904	193.59	285.36	-0.39
ARCH_904	162.15	235.27	-0.37
ARCH_904	138.1	197.91	-0.36
ARCH_904	115.49	169.21	-0.38
ARCH_905	513.68	753.25	-0.38
ARCH_905	398.77	552.54	-0.33
ARCH_905	299.55	425.53	-0.35
ARCH_905	243.95	339.54	-0.33
ARCH_905	198.04	278.32	-0.34
ARCH_905	162.57	233.04	-0.36
ARCH_905	134.08	198.49	-0.39
ARCH_905	116.82	171.46	-0.38
ARCH_958	201.52	528.15	-0.96
ARCH_958	115.52	380.26	-1.19
ARCH_959	254.49	724.41	-1.05
ARCH_959	150.19	509.75	-1.22
ARCH_959	115.72	381.39	-1.19
ARCH_960	186.86	648.67	-1.24
ARCH_960	146.01	478.07	-1.19
ARCH_960	117.15	369.41	-1.15
ARCH_961	164.16	580.18	-1.26
ARCH_961	132.43	443.62	-1.21
ARCH_961	113.03	352.09	-1.14
ARCH_965	212.09	724.86	-1.23
ARCH_965	157.64	490.88	-1.14
ARCH_965	126.25	358.00	-1.04
ARCH_966	255.26	669.58	-0.96

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
ARCH_966	199.12	478.13	-0.88
ARCH_966	160.14	361.36	-0.81
ARCH_966	134.08	284.35	-0.75
ARCH_966	110.46	230.60	-0.74
ARCH_967	232.72	606.27	-0.96
ARCH_967	196.54	451.82	-0.83
ARCH_967	163.63	351.92	-0.77
ARCH_967	133.81	283.21	-0.75
ARCH_967	114.52	233.69	-0.71
ARCH_968	291.81	744.13	-0.94
ARCH_968	225.14	546.97	-0.89
ARCH_968	189.01	421.86	-0.80
ARCH_968	153.48	336.98	-0.79
ARCH_968	129.83	276.46	-0.76
ARCH_968	111.62	231.64	-0.73
OBST_1052	360.12	772.37	-0.76
OBST_1052	318.6	595.31	-0.63
OBST_1052	299.22	475.29	-0.46
OBST_1052	286.21	389.79	-0.31
OBST_1052	268.02	326.49	-0.20
OBST_1052	250.8	278.17	-0.10
OBST_1052	235.33	240.36	-0.02
OBST_1052	216.32	210.14	0.03
OBST_1052	199.16	185.58	0.07
OBST_1052	184.84	165.31	0.11
OBST_1053	514.31	729.52	-0.35
OBST_1053	450.83	566.88	-0.23
OBST_1053	404.86	455.37	-0.12
OBST_1053	362.82	375.23	-0.03
OBST_1053	313	315.49	-0.01
OBST_1053	273.13	269.64	0.01
OBST_1053	238.54	233.59	0.02

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
OBST_1061	376.9	764.70	-0.71
OBST_1061	300.69	590.25	-0.67
OBST_1061	259.7	471.76	-0.60
OBST_1061	235.99	387.22	-0.50
OBST_1061	219.89	324.55	-0.39
OBST_1061	206.26	276.67	-0.29
OBST_1061	196.94	239.17	-0.19
OBST_1061	187.38	209.19	-0.11
OBST_1061	176.74	184.79	-0.04
OBST_1061	164	164.65	0.00
OBST_1061	152.26	147.81	0.03
OBST_1062	474.5	722.52	-0.42
OBST_1062	426.72	562.20	-0.28
OBST_1062	385.71	452.07	-0.16
OBST_1062	347.67	372.81	-0.07
OBST_1062	313.88	313.65	0.00
OBST_1062	275.56	268.21	0.03
OBST_1062	239.91	232.45	0.03
OBST_1062	213	203.75	0.04
OBST_808	118.47	209.49	-0.57
OBST_809	215.87	402.61	-0.62
OBST_809	135.85	264.28	-0.67
OBST_815	122.51	584.26	-1.56
OBST_816	150.7	619.87	-1.41
OBST_816	125.87	365.81	-1.07
OBST_816	110.11	245.21	-0.80
OBST_873	232.79	515.47	-0.79
OBST_873	158.78	354.17	-0.80
OBST_873	119.76	260.78	-0.78
OBST_874	225.86	535.11	-0.86
OBST_874	164.52	384.36	-0.85
OBST_874	136.76	291.68	-0.76

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
OBST_874	126.93	230.20	-0.60
OBST_874	121.51	187.12	-0.43
OBST_874	116.21	155.63	-0.29
OBST_875	331.26	735.01	-0.80
OBST_875	234.18	515.78	-0.79
OBST_875	181.11	385.18	-0.75
OBST_875	168.81	300.47	-0.58
OBST_875	157.84	242.07	-0.43
OBST_875	149.98	199.93	-0.29
OBST_875	142.77	168.41	-0.17
OBST_875	134.43	144.15	-0.07
OBST_875	126.06	125.03	0.01
OBST_876	305.36	656.81	-0.77
OBST_876	226.23	483.05	-0.76
OBST_876	210.64	372.71	-0.57
OBST_876	200.37	297.80	-0.40
OBST_876	189.08	244.38	-0.26
OBST_876	176.49	204.79	-0.15
OBST_876	165.18	174.55	-0.06
OBST_876	154.3	150.87	0.02
OBST_876	142.71	131.94	0.08
OBST_876	130.55	116.55	0.11
OBST_877	279.89	586.29	-0.74
OBST_877	247.2	447.60	-0.59
OBST_877	232.02	354.83	-0.42
OBST_877	218.02	289.41	-0.28
OBST_877	200.1	241.36	-0.19
OBST_877	186.1	204.91	-0.10
OBST_877	174.77	176.53	-0.01
OBST_877	163.24	153.95	0.06
OBST_877	150.25	135.67	0.10
OBST_877	137.23	120.63	0.13

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
OBST_880	261.92	748.51	-1.05
OBST_880	186.03	473.69	-0.93
OBST_880	143.97	330.95	-0.83
OBST_880	115.19	246.42	-0.76
OBST_881	253.32	736.43	-1.07
OBST_881	214.24	497.07	-0.84
OBST_881	193.54	361.73	-0.63
OBST_881	179.06	277.01	-0.44
OBST_881	159.94	220.11	-0.32
OBST_881	145.89	179.84	-0.21
OBST_881	133.19	150.19	-0.12
OBST_881	118.07	127.65	-0.08
OBST_882	336	678.92	-0.70
OBST_882	295.04	483.57	-0.49
OBST_882	265.76	364.83	-0.32
OBST_882	233.9	286.71	-0.20
OBST_882	203.38	232.29	-0.13
OBST_882	180.05	192.70	-0.07
OBST_882	155.4	162.90	-0.05
OBST_882	134.3	139.84	-0.04
OBST_882	119.3	121.60	-0.02
OBST_883	376.41	613.57	-0.49
OBST_883	329.43	456.37	-0.33
OBST_883	285.67	354.97	-0.22
OBST_883	252.27	285.36	-0.12
OBST_883	227.61	235.27	-0.03
OBST_883	200	197.91	0.01
OBST_883	174.5	169.21	0.03
OBST_883	155.45	146.63	0.06
OBST_884	480.69	753.25	-0.45
OBST_884	428.14	552.54	-0.26
OBST_884	374.23	425.53	-0.13

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
OBST_884	327.72	339.54	-0.04
OBST_884	284.84	278.32	0.02
OBST_884	242.25	233.04	0.04
OBST_884	210.22	198.49	0.06
OBST_884	186.23	171.46	0.08
OBST_937	236.44	528.15	-0.80
OBST_937	170.78	380.26	-0.80
OBST_937	126.6	289.03	-0.83
OBST_938	325.72	724.41	-0.80
OBST_938	212.8	509.75	-0.87
OBST_938	162.85	381.39	-0.85
OBST_938	136.65	297.92	-0.78
OBST_938	127.22	240.27	-0.64
OBST_938	121.22	198.60	-0.49
OBST_938	116.82	167.40	-0.36
OBST_938	110.48	143.36	-0.26
OBST_939	285.96	648.67	-0.82
OBST_939	204.42	478.07	-0.85
OBST_939	166.46	369.41	-0.80
OBST_939	156.39	295.50	-0.64
OBST_939	149.66	242.70	-0.48
OBST_939	144.02	203.52	-0.35
OBST_939	136.28	173.57	-0.24
OBST_939	129.36	150.10	-0.15
OBST_939	121.6	131.32	-0.08
OBST_939	112.1	116.03	-0.03
OBST_940	272.81	580.18	-0.75
OBST_940	220.08	443.62	-0.70
OBST_940	194.75	352.09	-0.59
OBST_940	176.25	287.43	-0.49
OBST_940	167.07	239.87	-0.36
OBST_940	159.33	203.76	-0.25

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
OBST_940	152.41	175.63	-0.14
OBST_940	145.68	153.23	-0.05
OBST_940	136.24	135.08	0.01
OBST_940	125.56	120.14	0.04
OBST_944	210.14	724.86	-1.24
OBST_944	178.17	490.88	-1.01
OBST_944	170.23	358.00	-0.74
OBST_944	162.18	274.58	-0.53
OBST_944	152.71	218.42	-0.36
OBST_944	141.02	178.62	-0.24
OBST_944	130.26	149.28	-0.14
OBST_944	119.52	126.95	-0.06
OBST_945	251.01	669.58	-0.98
OBST_945	236.39	478.13	-0.70
OBST_945	222.45	361.36	-0.49
OBST_945	204.26	284.35	-0.33
OBST_945	182.73	230.60	-0.23
OBST_945	165.73	191.45	-0.14
OBST_945	149.17	161.94	-0.08
OBST_945	131.88	139.09	-0.05
OBST_945	115.11	121.00	-0.05
OBST_946	303.72	606.27	-0.69
OBST_946	282.66	451.82	-0.47
OBST_946	260.58	351.92	-0.30
OBST_946	235.83	283.21	-0.18
OBST_946	213.31	233.69	-0.09
OBST_946	190.86	196.71	-0.03
OBST_946	168.4	168.27	0.00
OBST_946	145.77	145.89	0.00
OBST_946	130.43	127.92	0.02
OBST_947	390.02	744.13	-0.65
OBST_947	351.04	546.97	-0.44

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
OBST_947	318.75	421.86	-0.28
OBST_947	279.61	336.98	-0.19
OBST_947	246.02	276.46	-0.12
OBST_947	217.54	231.64	-0.06
OBST_947	189.53	197.40	-0.04
OBST_947	164.54	170.60	-0.04
OBST_947	147.13	149.18	-0.01
THREEWALL_1058	381.71	772.37	-0.70
THREEWALL_1058	319.8	595.31	-0.62
THREEWALL_1058	264.72	475.29	-0.59
THREEWALL_1058	230.82	389.79	-0.52
THREEWALL_1058	195.58	326.49	-0.51
THREEWALL_1058	168.42	278.17	-0.50
THREEWALL_1058	146.49	240.36	-0.50
THREEWALL_1058	126.15	210.14	-0.51
THREEWALL_1058	115.05	185.58	-0.48
THREEWALL_1059	527.72	729.52	-0.32
THREEWALL_1059	411.6	566.88	-0.32
THREEWALL_1059	334.89	455.37	-0.31
THREEWALL_1059	286.67	375.23	-0.27
THREEWALL_1059	244.2	315.49	-0.26
THREEWALL_1059	207.16	269.64	-0.26
THREEWALL_1059	186.73	233.59	-0.22
THREEWALL_1067	343.31	764.70	-0.80
THREEWALL_1067	279.81	590.25	-0.75
THREEWALL_1067	235.01	471.76	-0.70
THREEWALL_1067	190.95	387.22	-0.71
THREEWALL_1067	167.89	324.55	-0.66
THREEWALL_1067	141.24	276.67	-0.67
THREEWALL_1067	125.62	239.17	-0.64
THREEWALL_1067	112.94	209.19	-0.62
THREEWALL_1068	496.14	722.52	-0.38

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
THREEWALL_1068	397.07	562.20	-0.35
THREEWALL_1068	318.85	452.07	-0.35
THREEWALL_1068	272.29	372.81	-0.31
THREEWALL_1068	234.15	313.65	-0.29
THREEWALL_1068	204.04	268.21	-0.27
THREEWALL_1068	179.74	232.45	-0.26
THREEWALL_1068	161.86	203.75	-0.23
THREEWALL_850	155.3	209.49	-0.30
THREEWALL_851	255.53	402.61	-0.45
THREEWALL_851	139.25	264.28	-0.64
THREEWALL_857	235.48	584.26	-0.91
THREEWALL_857	157.34	306.03	-0.67
THREEWALL_857	111.29	192.28	-0.55
THREEWALL_858	327.37	619.87	-0.64
THREEWALL_858	218.83	365.81	-0.51
THREEWALL_858	169.87	245.21	-0.37
THREEWALL_858	135.33	177.64	-0.27
THREEWALL_915	300.06	515.47	-0.54
THREEWALL_915	159.86	354.17	-0.80
THREEWALL_915	134.36	260.78	-0.66
THREEWALL_916	250.02	535.11	-0.76
THREEWALL_916	174.28	384.36	-0.79
THREEWALL_916	141.38	291.68	-0.72
THREEWALL_916	123.99	230.20	-0.62
THREEWALL_916	110.29	187.12	-0.53
THREEWALL_917	370.31	735.01	-0.69
THREEWALL_917	250.68	515.78	-0.72
THREEWALL_917	183.21	385.18	-0.74
THREEWALL_917	152.33	300.47	-0.68
THREEWALL_917	132.92	242.07	-0.60
THREEWALL_917	118.8	199.93	-0.52
THREEWALL_918	313.59	656.81	-0.74

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
THREEWALL_918	222.06	483.05	-0.78
THREEWALL_918	184.52	372.71	-0.70
THREEWALL_918	155.58	297.80	-0.65
THREEWALL_918	134.38	244.38	-0.60
THREEWALL_918	110.96	204.79	-0.61
THREEWALL_919	305.81	586.29	-0.65
THREEWALL_919	248	447.60	-0.59
THREEWALL_919	203.92	354.83	-0.55
THREEWALL_919	176.1	289.41	-0.50
THREEWALL_919	152.14	241.36	-0.46
THREEWALL_919	138.53	204.91	-0.39
THREEWALL_919	123.64	176.53	-0.36
THREEWALL_922	418.25	748.51	-0.58
THREEWALL_922	309.14	473.69	-0.43
THREEWALL_922	236.87	330.95	-0.33
THREEWALL_922	183.85	246.42	-0.29
THREEWALL_922	148.83	191.81	-0.25
THREEWALL_922	125.65	154.28	-0.21
THREEWALL_923	490.62	736.43	-0.41
THREEWALL_923	368.3	497.07	-0.30
THREEWALL_923	270.83	361.73	-0.29
THREEWALL_923	210.29	277.01	-0.28
THREEWALL_923	162.55	220.11	-0.30
THREEWALL_923	137.83	179.84	-0.27
THREEWALL_923	120.83	150.19	-0.22
THREEWALL_924	499.42	678.92	-0.31
THREEWALL_924	368.24	483.57	-0.27
THREEWALL_924	286.26	364.83	-0.24
THREEWALL_924	226.33	286.71	-0.24
THREEWALL_924	193.8	232.29	-0.18
THREEWALL_924	163.16	192.70	-0.17
THREEWALL_924	137.27	162.90	-0.17

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
THREEWALL_924	117.47	139.84	-0.17
THREEWALL_925	498.6	613.57	-0.21
THREEWALL_925	385.1	456.37	-0.17
THREEWALL_925	290.44	354.97	-0.20
THREEWALL_925	242.34	285.36	-0.16
THREEWALL_925	201.57	235.27	-0.15
THREEWALL_925	172.52	197.91	-0.14
THREEWALL_925	146.57	169.21	-0.14
THREEWALL_925	126.18	146.63	-0.15
THREEWALL_926	541.53	753.25	-0.33
THREEWALL_926	420.71	552.54	-0.27
THREEWALL_926	320.56	425.53	-0.28
THREEWALL_926	264.69	339.54	-0.25
THREEWALL_926	224.92	278.32	-0.21
THREEWALL_926	188.27	233.04	-0.21
THREEWALL_926	163.19	198.49	-0.20
THREEWALL_926	146.48	171.46	-0.16
THREEWALL_979	290.52	528.15	-0.60
THREEWALL_979	164.64	380.26	-0.84
THREEWALL_979	126.48	289.03	-0.83
THREEWALL_980	360.97	724.41	-0.70
THREEWALL_980	211.62	509.75	-0.88
THREEWALL_980	164.42	381.39	-0.84
THREEWALL_980	131.59	297.92	-0.82
THREEWALL_980	114.53	240.27	-0.74
THREEWALL_981	263.14	648.67	-0.90
THREEWALL_981	203.96	478.07	-0.85
THREEWALL_981	167.48	369.41	-0.79
THREEWALL_981	143.06	295.50	-0.73
THREEWALL_981	126.31	242.70	-0.65
THREEWALL_981	113.8	203.52	-0.58
THREEWALL_982	248.81	580.18	-0.85

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
THREEWALL_982	201.1	443.62	-0.79
THREEWALL_982	173.38	352.09	-0.71
THREEWALL_982	151.54	287.43	-0.64
THREEWALL_982	133.52	239.87	-0.59
THREEWALL_982	118.27	203.76	-0.54
THREEWALL_986	470.11	724.86	-0.43
THREEWALL_986	333.3	490.88	-0.39
THREEWALL_986	258.73	358.00	-0.32
THREEWALL_986	207.21	274.58	-0.28
THREEWALL_986	162.1	218.42	-0.30
THREEWALL_986	128.46	178.62	-0.33
THREEWALL_987	421.27	669.58	-0.46
THREEWALL_987	319.87	478.13	-0.40
THREEWALL_987	246.42	361.36	-0.38
THREEWALL_987	200.39	284.35	-0.35
THREEWALL_987	162.32	230.60	-0.35
THREEWALL_987	144.19	191.45	-0.28
THREEWALL_987	128.53	161.94	-0.23
THREEWALL_987	115.35	139.09	-0.19
THREEWALL_988	434.55	606.27	-0.33
THREEWALL_988	323.91	451.82	-0.33
THREEWALL_988	262.91	351.92	-0.29
THREEWALL_988	209.44	283.21	-0.30
THREEWALL_988	178.62	233.69	-0.27
THREEWALL_988	157.02	196.71	-0.23
THREEWALL_988	137.24	168.27	-0.20
THREEWALL_988	117.4	145.89	-0.22
THREEWALL_989	562.49	744.13	-0.28
THREEWALL_989	411.65	546.97	-0.28
THREEWALL_989	329.02	421.86	-0.25
THREEWALL_989	250.92	336.98	-0.29
THREEWALL_989	213.27	276.46	-0.26

Table E-3
Determination of Bias and Uncertainty

Test	Obstructed FDS Temperature (C)	Heskestad Temperature (C)	Ln(ΔFDS/ΔHeskestad)
THREEWALL_989	182.93	231.64	-0.24
THREEWALL_989	156.71	197.40	-0.23
THREEWALL_989	131.1	170.60	-0.26
THREEWALL_989	117.61	149.18	-0.24

USING EQUATIONS FROM SECTION 5.2.4.5

$$\overline{\ln\left(\frac{M}{E}\right)} = \frac{1}{n}\sum_{i=1}^{n} \ln\left(\frac{M_i}{E_i}\right) = -0.50 \quad (5\text{-}11)$$

$$\tilde{\sigma}_M^2 + \tilde{\sigma}_E^2 = \frac{1}{1-n}\sum_{i=1}^{n}\left[\ln\left(\frac{M_i}{E_i}\right) - \overline{\ln\left(\frac{M}{E}\right)}\right]^2 = 0.11 \quad (5\text{-}12)$$

$$\tilde{\sigma}_E = 0.20$$

$$\tilde{\sigma}_M = 0.28$$

$$\delta = \exp\left(\overline{\ln\left(\frac{M}{E}\right)} + \frac{\tilde{\sigma}_M^2}{2} - \frac{\tilde{\sigma}_E^2}{2}\right) = 0.62 \quad (5\text{-}13)$$

Opening Sensitivity Cases

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
ARCH_1101	200	0.61	1.98	2.4	937.56	6
ARCH_1101	200	0.61	1.98	2.7	804.3	6
ARCH_1101	200	0.61	1.98	3	530.41	6
ARCH_1101	200	0.61	1.98	3.3	327	6
ARCH_1101	200	0.61	1.98	3.6	228.87	6
ARCH_1101	200	0.61	1.98	3.9	164.39	6
ARCH_1101	200	0.61	1.98	4.2	128.92	6
ARCH_1101	200	0.61	1.98	4.5	103.83	6
ARCH_1101	200	0.61	1.98	4.8	89.37	6
ARCH_1101	200	0.61	1.98	5.1	79.014	6
ARCH_1101	200	0.61	1.98	5.4	70.186	6
ARCH_1101	200	0.61	1.98	5.7	63.806	6
ARCH_1101	200	0.61	1.98	6	57.845	6
ARCH_1104	200	0.61	1.98	2.4	938.78	10
ARCH_1104	200	0.61	1.98	2.7	797.27	10
ARCH_1104	200	0.61	1.98	3	538.71	10
ARCH_1104	200	0.61	1.98	3.3	306.25	10
ARCH_1104	200	0.61	1.98	3.6	219.26	10
ARCH_1104	200	0.61	1.98	3.9	172.2	10
ARCH_1104	200	0.61	1.98	4.2	143.44	10
ARCH_1104	200	0.61	1.98	4.5	117.38	10

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
ARCH_1104	200	0.61	1.98	4.8	103.22	10
ARCH_1104	200	0.61	1.98	5.1	91.39	10
ARCH_1104	200	0.61	1.98	5.4	78.053	10
ARCH_1104	200	0.61	1.98	5.7	69.999	10
ARCH_1104	200	0.61	1.98	6	66.112	10
ARCH_1107	200	0.61	1.98	2.4	936.64	14
ARCH_1107	200	0.61	1.98	2.7	809.41	14
ARCH_1107	200	0.61	1.98	3	558.92	14
ARCH_1107	200	0.61	1.98	3.3	338.16	14
ARCH_1107	200	0.61	1.98	3.6	250.38	14
ARCH_1107	200	0.61	1.98	3.9	186.33	14
ARCH_1107	200	0.61	1.98	4.2	148.42	14
ARCH_1107	200	0.61	1.98	4.5	124.24	14
ARCH_1107	200	0.61	1.98	4.8	107.65	14
ARCH_1107	200	0.61	1.98	5.1	93.37	14
ARCH_1107	200	0.61	1.98	5.4	80.35	14
ARCH_1107	200	0.61	1.98	5.7	69.691	14
ARCH_1107	200	0.61	1.98	6	60.263	14
ARCH_1110	600	0.91	1.98	2.4	864.32	7
ARCH_1110	600	0.91	1.98	2.7	811.89	7
ARCH_1110	600	0.91	1.98	3	712.42	7
ARCH_1110	600	0.91	1.98	3.3	619.63	7

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
ARCH_1110	600	0.91	1.98	3.6	537.1	7
ARCH_1110	600	0.91	1.98	3.9	410.59	7
ARCH_1110	600	0.91	1.98	4.2	313.78	7
ARCH_1110	600	0.91	1.98	4.5	239.77	7
ARCH_1110	600	0.91	1.98	4.8	192.91	7
ARCH_1110	600	0.91	1.98	5.1	170.72	7
ARCH_1110	600	0.91	1.98	5.4	149.15	7
ARCH_1110	600	0.91	1.98	5.7	135.01	7
ARCH_1110	600	0.91	1.98	6	121.85	7
ARCH_1113	600	0.91	1.98	2.4	935.11	10
ARCH_1113	600	0.91	1.98	2.7	879.75	10
ARCH_1113	600	0.91	1.98	3	808.18	10
ARCH_1113	600	0.91	1.98	3.3	684.08	10
ARCH_1113	600	0.91	1.98	3.6	597.73	10
ARCH_1113	600	0.91	1.98	3.9	456.27	10
ARCH_1113	600	0.91	1.98	4.2	367.47	10
ARCH_1113	600	0.91	1.98	4.5	297.95	10
ARCH_1113	600	0.91	1.98	4.8	245.22	10
ARCH_1113	600	0.91	1.98	5.1	199.07	10
ARCH_1113	600	0.91	1.98	5.4	168.48	10
ARCH_1113	600	0.91	1.98	5.7	146.04	10
ARCH_1113	600	0.91	1.98	6	128.03	10

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
ARCH_1116	600	0.91	1.98	2.4	938.2	12
ARCH_1116	600	0.91	1.98	2.7	893.53	12
ARCH_1116	600	0.91	1.98	3	792.6	12
ARCH_1116	600	0.91	1.98	3.3	662.2	12
ARCH_1116	600	0.91	1.98	3.6	551	12
ARCH_1116	600	0.91	1.98	3.9	440.94	12
ARCH_1116	600	0.91	1.98	4.2	332.47	12
ARCH_1116	600	0.91	1.98	4.5	261.76	12
ARCH_1116	600	0.91	1.98	4.8	232.45	12
ARCH_1116	600	0.91	1.98	5.1	190.96	12
ARCH_1116	600	0.91	1.98	5.4	158.47	12
ARCH_1116	600	0.91	1.98	5.7	141.04	12
ARCH_1116	600	0.91	1.98	6	123.93	12
OBST_1100	200	0.61	1.98	2.4	901.43	6
OBST_1100	200	0.61	1.98	2.7	602.1	6
OBST_1100	200	0.61	1.98	3	389.92	6
OBST_1100	200	0.61	1.98	3.3	270.13	6
OBST_1100	200	0.61	1.98	3.6	216.79	6
OBST_1100	200	0.61	1.98	3.9	177.04	6
OBST_1100	200	0.61	1.98	4.2	151.64	6
OBST_1100	200	0.61	1.98	4.5	127.06	6
OBST_1100	200	0.61	1.98	4.8	109.56	6

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
OBST_1100	200	0.61	1.98	5.1	96.42	6
OBST_1100	200	0.61	1.98	5.4	85.68	6
OBST_1100	200	0.61	1.98	5.7	76.722	6
OBST_1100	200	0.61	1.98	6	69.612	6
OBST_1103	200	0.61	1.98	2.4	965.45	10
OBST_1103	200	0.61	1.98	2.7	768.83	10
OBST_1103	200	0.61	1.98	3	559.68	10
OBST_1103	200	0.61	1.98	3.3	391	10
OBST_1103	200	0.61	1.98	3.6	297.69	10
OBST_1103	200	0.61	1.98	3.9	228.19	10
OBST_1103	200	0.61	1.98	4.2	187.49	10
OBST_1103	200	0.61	1.98	4.5	152.8	10
OBST_1103	200	0.61	1.98	4.8	133.98	10
OBST_1103	200	0.61	1.98	5.1	115.76	10
OBST_1103	200	0.61	1.98	5.4	98.46	10
OBST_1103	200	0.61	1.98	5.7	85.02	10
OBST_1103	200	0.61	1.98	6	75.158	10
OBST_1106	200	0.61	1.98	2.4	918.35	14
OBST_1106	200	0.61	1.98	2.7	728.72	14
OBST_1106	200	0.61	1.98	3	533.61	14
OBST_1106	200	0.61	1.98	3.3	370.73	14
OBST_1106	200	0.61	1.98	3.6	286.68	14

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
OBST_1106	200	0.61	1.98	3.9	217.32	14
OBST_1106	200	0.61	1.98	4.2	172.61	14
OBST_1106	200	0.61	1.98	4.5	136.16	14
OBST_1106	200	0.61	1.98	4.8	111.35	14
OBST_1106	200	0.61	1.98	5.1	95.45	14
OBST_1106	200	0.61	1.98	5.4	82.94	14
OBST_1106	200	0.61	1.98	5.7	73.083	14
OBST_1106	200	0.61	1.98	6	67.295	14
OBST_1109	600	0.91	1.98	2.4	854.62	7
OBST_1109	600	0.91	1.98	2.7	849.81	7
OBST_1109	600	0.91	1.98	3	785.25	7
OBST_1109	600	0.91	1.98	3.3	695.57	7
OBST_1109	600	0.91	1.98	3.6	592.45	7
OBST_1109	600	0.91	1.98	3.9	473.33	7
OBST_1109	600	0.91	1.98	4.2	390.05	7
OBST_1109	600	0.91	1.98	4.5	318.33	7
OBST_1109	600	0.91	1.98	4.8	274	7
OBST_1109	600	0.91	1.98	5.1	239.74	7
OBST_1109	600	0.91	1.98	5.4	204.37	7
OBST_1109	600	0.91	1.98	5.7	175.5	7
OBST_1109	600	0.91	1.98	6	151.72	7
OBST_1112	600	0.91	1.98	2.4	923.28	10

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
OBST_1112	600	0.91	1.98	2.7	915.92	10
OBST_1112	600	0.91	1.98	3	864.74	10
OBST_1112	600	0.91	1.98	3.3	774.66	10
OBST_1112	600	0.91	1.98	3.6	662.67	10
OBST_1112	600	0.91	1.98	3.9	565.45	10
OBST_1112	600	0.91	1.98	4.2	481.41	10
OBST_1112	600	0.91	1.98	4.5	382.74	10
OBST_1112	600	0.91	1.98	4.8	316	10
OBST_1112	600	0.91	1.98	5.1	262.73	10
OBST_1112	600	0.91	1.98	5.4	216.83	10
OBST_1112	600	0.91	1.98	5.7	183.67	10
OBST_1112	600	0.91	1.98	6	160.17	10
OBST_1115	600	0.91	1.98	2.4	951.08	12
OBST_1115	600	0.91	1.98	2.7	897.98	12
OBST_1115	600	0.91	1.98	3	892.86	12
OBST_1115	600	0.91	1.98	3.3	794.16	12
OBST_1115	600	0.91	1.98	3.6	690.03	12
OBST_1115	600	0.91	1.98	3.9	577.49	12
OBST_1115	600	0.91	1.98	4.2	458.86	12
OBST_1115	600	0.91	1.98	4.5	368.8	12
OBST_1115	600	0.91	1.98	4.8	307.16	12
OBST_1115	600	0.91	1.98	5.1	253.02	12

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
OBST_1115	600	0.91	1.98	5.4	212.6	12
OBST_1115	600	0.91	1.98	5.7	177.64	12
OBST_1115	600	0.91	1.98	6	157.52	12
THREEWALL_1102	200	0.61	1.98	2.4	948.99	6
THREEWALL_1102	200	0.61	1.98	2.7	824.5	6
THREEWALL_1102	200	0.61	1.98	3	625.36	6
THREEWALL_1102	200	0.61	1.98	3.3	381.42	6
THREEWALL_1102	200	0.61	1.98	3.6	255.08	6
THREEWALL_1102	200	0.61	1.98	3.9	178.07	6
THREEWALL_1102	200	0.61	1.98	4.2	135.23	6
THREEWALL_1102	200	0.61	1.98	4.5	106.91	6
THREEWALL_1102	200	0.61	1.98	4.8	90.78	6
THREEWALL_1102	200	0.61	1.98	5.1	78.946	6
THREEWALL_1102	200	0.61	1.98	5.4	70.587	6
THREEWALL_1102	200	0.61	1.98	5.7	60.087	6
THREEWALL_1102	200	0.61	1.98	6	53.403	6
THREEWALL_1105	200	0.61	1.98	2.4	955.95	10
THREEWALL_1105	200	0.61	1.98	2.7	780.37	10
THREEWALL_1105	200	0.61	1.98	3	569.42	10
THREEWALL_1105	200	0.61	1.98	3.3	358.73	10
THREEWALL_1105	200	0.61	1.98	3.6	252.27	10
THREEWALL_1105	200	0.61	1.98	3.9	177.91	10

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
THREEWALL_1105	200	0.61	1.98	4.2	136.88	10
THREEWALL_1105	200	0.61	1.98	4.5	113.62	10
THREEWALL_1105	200	0.61	1.98	4.8	94.94	10
THREEWALL_1105	200	0.61	1.98	5.1	81.84	10
THREEWALL_1105	200	0.61	1.98	5.4	71.209	10
THREEWALL_1105	200	0.61	1.98	5.7	63.762	10
THREEWALL_1105	200	0.61	1.98	6	57.409	10
THREEWALL_1108	200	0.61	1.98	2.4	928.8	14
THREEWALL_1108	200	0.61	1.98	2.7	751.6	14
THREEWALL_1108	200	0.61	1.98	3	583.09	14
THREEWALL_1108	200	0.61	1.98	3.3	395.52	14
THREEWALL_1108	200	0.61	1.98	3.6	280.94	14
THREEWALL_1108	200	0.61	1.98	3.9	203.94	14
THREEWALL_1108	200	0.61	1.98	4.2	160.04	14
THREEWALL_1108	200	0.61	1.98	4.5	128.85	14
THREEWALL_1108	200	0.61	1.98	4.8	112.91	14
THREEWALL_1108	200	0.61	1.98	5.1	97.66	14
THREEWALL_1108	200	0.61	1.98	5.4	85.96	14
THREEWALL_1108	200	0.61	1.98	5.7	71.963	14
THREEWALL_1108	200	0.61	1.98	6	64.651	14
THREEWALL_1111	600	0.91	1.98	2.4	792.68	7
THREEWALL_1111	600	0.91	1.98	2.7	782.33	7

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
THREEWALL_1111	600	0.91	1.98	3	806.99	7
THREEWALL_1111	600	0.91	1.98	3.3	686.87	7
THREEWALL_1111	600	0.91	1.98	3.6	597.97	7
THREEWALL_1111	600	0.91	1.98	3.9	461.87	7
THREEWALL_1111	600	0.91	1.98	4.2	344.28	7
THREEWALL_1111	600	0.91	1.98	4.5	260.38	7
THREEWALL_1111	600	0.91	1.98	4.8	221.84	7
THREEWALL_1111	600	0.91	1.98	5.1	188.45	7
THREEWALL_1111	600	0.91	1.98	5.4	164.6	7
THREEWALL_1111	600	0.91	1.98	5.7	144.27	7
THREEWALL_1111	600	0.91	1.98	6	129.47	7
THREEWALL_1114	600	0.91	1.98	2.4	911.41	10
THREEWALL_1114	600	0.91	1.98	2.7	869.36	10
THREEWALL_1114	600	0.91	1.98	3	834.75	10
THREEWALL_1114	600	0.91	1.98	3.3	702.84	10
THREEWALL_1114	600	0.91	1.98	3.6	591.34	10
THREEWALL_1114	600	0.91	1.98	3.9	464.06	10
THREEWALL_1114	600	0.91	1.98	4.2	370.37	10
THREEWALL_1114	600	0.91	1.98	4.5	300.22	10
THREEWALL_1114	600	0.91	1.98	4.8	243.72	10
THREEWALL_1114	600	0.91	1.98	5.1	206.52	10
THREEWALL_1114	600	0.91	1.98	5.4	172.52	10

Table E-4
Opening Sensitivity Results

Test	HRR (kW)	Diameter (m)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Opening Percentage
THREEWALL_1114	600	0.91	1.98	5.7	151.32	10
THREEWALL_1114	600	0.91	1.98	6	136.66	10
THREEWALL_1117	600	0.91	1.98	2.4	905	12
THREEWALL_1117	600	0.91	1.98	2.7	892.38	12
THREEWALL_1117	600	0.91	1.98	3	865.65	12
THREEWALL_1117	600	0.91	1.98	3.3	722.89	12
THREEWALL_1117	600	0.91	1.98	3.6	603.73	12
THREEWALL_1117	600	0.91	1.98	3.9	511.39	12
THREEWALL_1117	600	0.91	1.98	4.2	406.63	12
THREEWALL_1117	600	0.91	1.98	4.5	321.86	12
THREEWALL_1117	600	0.91	1.98	4.8	259.92	12
THREEWALL_1117	600	0.91	1.98	5.1	212.13	12
THREEWALL_1117	600	0.91	1.98	5.4	179.44	12
THREEWALL_1117	600	0.91	1.98	5.7	154.98	12
THREEWALL_1117	600	0.91	1.98	6	139.12	12

Vertical Source Sensitivity Results

Table E-5
Vertical Fire Source Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
ARCH_1201	200	1.96	2.4	268.98
ARCH_1201	200	1.96	2.7	144.1
ARCH_1201	200	1.96	3	113.12
ARCH_1201	200	1.96	3.3	96.37
ARCH_1201	200	1.96	3.6	78.483
ARCH_1201	200	1.96	3.9	71.331
ARCH_1201	200	1.96	4.2	65.5
ARCH_1201	200	1.96	4.5	53.038
ARCH_1201	200	1.96	4.8	46.024
ARCH_1201	200	1.96	5.1	42.5
ARCH_1201	200	1.96	5.4	37.767
ARCH_1201	200	1.96	5.7	33.437
ARCH_1201	200	1.96	6	31.546
ARCH_1204	600	1.96	2.4	373.37
ARCH_1204	600	1.96	2.7	208.88
ARCH_1204	600	1.96	3	159.73
ARCH_1204	600	1.96	3.3	127.46
ARCH_1204	600	1.96	3.6	111.86
ARCH_1204	600	1.96	3.9	93.95
ARCH_1204	600	1.96	4.2	81.8
ARCH_1204	600	1.96	4.5	70.262
ARCH_1204	600	1.96	4.8	61.122
ARCH_1204	600	1.96	5.1	55.523
ARCH_1204	600	1.96	5.4	49.187
ARCH_1204	600	1.96	5.7	45.015
ARCH_1204	600	1.96	6	41.931
ARCH_1207	1000	1.96	2.4	548.76
ARCH_1207	1000	1.96	2.7	333.12
ARCH_1207	1000	1.96	3	244.24
ARCH_1207	1000	1.96	3.3	193.98
ARCH_1207	1000	1.96	3.6	165.92

Table E-5
Vertical Fire Source Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
ARCH_1207	1000	1.96	3.9	134.32
ARCH_1207	1000	1.96	4.2	116.62
ARCH_1207	1000	1.96	4.5	102.34
ARCH_1207	1000	1.96	4.8	93.31
ARCH_1207	1000	1.96	5.1	84.96
ARCH_1207	1000	1.96	5.4	76.94
ARCH_1207	1000	1.96	5.7	71.158
ARCH_1207	1000	1.96	6	67.532
OBST_1200	200	1.96	2.4	278.25
OBST_1200	200	1.96	2.7	191.68
OBST_1200	200	1.96	3	137.65
OBST_1200	200	1.96	3.3	116.8
OBST_1200	200	1.96	3.6	106.52
OBST_1200	200	1.96	3.9	103.48
OBST_1200	200	1.96	4.2	96.76
OBST_1200	200	1.96	4.5	93.14
OBST_1200	200	1.96	4.8	85.47
OBST_1200	200	1.96	5.1	82.24
OBST_1200	200	1.96	5.4	77.125
OBST_1200	200	1.96	5.7	68.407
OBST_1200	200	1.96	6	67.908
OBST_1203	600	1.96	2.4	395.28
OBST_1203	600	1.96	2.7	269.3
OBST_1203	600	1.96	3	200.42
OBST_1203	600	1.96	3.3	168.84
OBST_1203	600	1.96	3.6	162.48
OBST_1203	600	1.96	3.9	152.5
OBST_1203	600	1.96	4.2	142.48
OBST_1203	600	1.96	4.5	132.94
OBST_1203	600	1.96	4.8	124.94
OBST_1203	600	1.96	5.1	118.76
OBST_1203	600	1.96	5.4	112.77

Table E-5
Vertical Fire Source Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
OBST_1203	600	1.96	5.7	105.93
OBST_1203	600	1.96	6	99.98
OBST_1206	1000	1.96	2.4	571.45
OBST_1206	1000	1.96	2.7	426.7
OBST_1206	1000	1.96	3	324.5
OBST_1206	1000	1.96	3.3	250.95
OBST_1206	1000	1.96	3.6	218.76
OBST_1206	1000	1.96	3.9	203.03
OBST_1206	1000	1.96	4.2	194.93
OBST_1206	1000	1.96	4.5	184.31
OBST_1206	1000	1.96	4.8	176.19
OBST_1206	1000	1.96	5.1	167.67
OBST_1206	1000	1.96	5.4	157.48
OBST_1206	1000	1.96	5.7	147.61
OBST_1206	1000	1.96	6	138.06
THREEWALL_1202	200	1.96	2.4	389.57
THREEWALL_1202	200	1.96	2.7	196.97
THREEWALL_1202	200	1.96	3	166.17
THREEWALL_1202	200	1.96	3.3	127.37
THREEWALL_1202	200	1.96	3.6	108.9
THREEWALL_1202	200	1.96	3.9	100.05
THREEWALL_1202	200	1.96	4.2	87.32
THREEWALL_1202	200	1.96	4.5	75.058
THREEWALL_1202	200	1.96	4.8	66.517
THREEWALL_1202	200	1.96	5.1	61.544
THREEWALL_1202	200	1.96	5.4	61.094
THREEWALL_1202	200	1.96	5.7	53.701
THREEWALL_1202	200	1.96	6	49.642
THREEWALL_1205	600	1.96	2.4	656.67
THREEWALL_1205	600	1.96	2.7	324.79
THREEWALL_1205	600	1.96	3	246.83
THREEWALL_1205	600	1.96	3.3	193.16

Table E-5
Vertical Fire Source Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
THREEWALL_1205	600	1.96	3.6	166.46
THREEWALL_1205	600	1.96	3.9	144.38
THREEWALL_1205	600	1.96	4.2	127.18
THREEWALL_1205	600	1.96	4.5	114.05
THREEWALL_1205	600	1.96	4.8	104.54
THREEWALL_1205	600	1.96	5.1	95.21
THREEWALL_1205	600	1.96	5.4	84.74
THREEWALL_1205	600	1.96	5.7	78.468
THREEWALL_1205	600	1.96	6	74.278
THREEWALL_1208	1000	1.96	2.4	851.7
THREEWALL_1208	1000	1.96	2.7	522.48
THREEWALL_1208	1000	1.96	3	381.06
THREEWALL_1208	1000	1.96	3.3	293.78
THREEWALL_1208	1000	1.96	3.6	241
THREEWALL_1208	1000	1.96	3.9	203.84
THREEWALL_1208	1000	1.96	4.2	176.73
THREEWALL_1208	1000	1.96	4.5	151.32
THREEWALL_1208	1000	1.96	4.8	136.85
THREEWALL_1208	1000	1.96	5.1	123.86
THREEWALL_1208	1000	1.96	5.4	113.06
THREEWALL_1208	1000	1.96	5.7	106.48
THREEWALL_1208	1000	1.96	6	102.17

Wall Surface Source Sensitivity Results

Table E-6
Wall Surface Fire Source Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
ARCH_1300	200	N/A	2.4	217.1
ARCH_1300	200	N/A	2.7	138.23
ARCH_1300	200	N/A	3	112.58
ARCH_1300	200	N/A	3.3	86.48
ARCH_1300	200	N/A	3.6	70.548
ARCH_1300	200	N/A	3.9	59.215
ARCH_1300	200	N/A	4.2	50.1
ARCH_1300	200	N/A	4.5	40.591
ARCH_1300	200	N/A	4.8	38.02
ARCH_1300	200	N/A	5.1	32.326
ARCH_1300	200	N/A	5.4	30.396
ARCH_1300	200	N/A	5.7	26.979
ARCH_1300	200	N/A	6	25.194
ARCH_1301	600	N/A	2.4	393.79
ARCH_1301	600	N/A	2.7	209.47
ARCH_1301	600	N/A	3	151.92
ARCH_1301	600	N/A	3.3	116.88
ARCH_1301	600	N/A	3.6	103.04
ARCH_1301	600	N/A	3.9	94.12
ARCH_1301	600	N/A	4.2	86.7
ARCH_1301	600	N/A	4.5	77.009
ARCH_1301	600	N/A	4.8	69.681
ARCH_1301	600	N/A	5.1	63.48
ARCH_1301	600	N/A	5.4	57.863
ARCH_1301	600	N/A	5.7	53.021
ARCH_1301	600	N/A	6	48.236
ARCH_1302	1000	N/A	2.4	536.82
ARCH_1302	1000	N/A	2.7	273.11
ARCH_1302	1000	N/A	3	195.72
ARCH_1302	1000	N/A	3.3	151.17
ARCH_1302	1000	N/A	3.6	130.34
ARCH_1302	1000	N/A	3.9	119.55
ARCH_1302	1000	N/A	4.2	109.61
ARCH_1302	1000	N/A	4.5	99.71
ARCH_1302	1000	N/A	4.8	92.99

Table E-6
Wall Surface Fire Source Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
ARCH_1302	1000	N/A	5.1	86.59
ARCH_1302	1000	N/A	5.4	79.901
ARCH_1302	1000	N/A	5.7	74.873
ARCH_1302	1000	N/A	6	69.845
THREEWALL_1303	200	N/A	2.4	194.03
THREEWALL_1303	200	N/A	2.7	111.49
THREEWALL_1303	200	N/A	3	86.47
THREEWALL_1303	200	N/A	3.3	72.89
THREEWALL_1303	200	N/A	3.6	58.965
THREEWALL_1303	200	N/A	3.9	53.597
THREEWALL_1303	200	N/A	4.2	48.005
THREEWALL_1303	200	N/A	4.5	41.282
THREEWALL_1303	200	N/A	4.8	37.605
THREEWALL_1303	200	N/A	5.1	34.67
THREEWALL_1303	200	N/A	5.4	34.316
THREEWALL_1303	200	N/A	5.7	29.146
THREEWALL_1303	200	N/A	6	28.554
THREEWALL_1304	600	N/A	2.4	351.26
THREEWALL_1304	600	N/A	2.7	202.93
THREEWALL_1304	600	N/A	3	160.17
THREEWALL_1304	600	N/A	3.3	124.65
THREEWALL_1304	600	N/A	3.6	108.96
THREEWALL_1304	600	N/A	3.9	94.17
THREEWALL_1304	600	N/A	4.2	86.77
THREEWALL_1304	600	N/A	4.5	79.251
THREEWALL_1304	600	N/A	4.8	70.232
THREEWALL_1304	600	N/A	5.1	63.272
THREEWALL_1304	600	N/A	5.4	56.567
THREEWALL_1304	600	N/A	5.7	50.222
THREEWALL_1304	600	N/A	6	48.415
THREEWALL_1306	1000	N/A	2.4	462.11
THREEWALL_1306	1000	N/A	2.7	283.33
THREEWALL_1306	1000	N/A	3	229.63
THREEWALL_1306	1000	N/A	3.3	185.73
THREEWALL_1306	1000	N/A	3.6	159.07
THREEWALL_1306	1000	N/A	3.9	133.87

Table E-6
Wall Surface Fire Source Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
THREEWALL_1306	1000	N/A	4.2	119.87
THREEWALL_1306	1000	N/A	4.5	103.54
THREEWALL_1306	1000	N/A	4.8	94.86
THREEWALL_1306	1000	N/A	5.1	86.99
THREEWALL_1306	1000	N/A	5.4	80.12
THREEWALL_1306	1000	N/A	5.7	73.768
THREEWALL_1306	1000	N/A	6	68.647

Soffit Sensitivity Results

Table E-7
Soffit Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
ARCH_1401	200	1.14	2.4	171.43
ARCH_1401	200	1.14	2.7	107.11
ARCH_1401	200	1.14	3	92.4
ARCH_1401	200	1.14	3.3	74.129
ARCH_1401	200	1.14	3.6	68.538
ARCH_1401	200	1.14	3.9	53.736
ARCH_1401	200	1.14	4.2	49.268
ARCH_1401	200	1.14	4.5	43.278
ARCH_1401	200	1.14	4.8	38.74
ARCH_1401	200	1.14	5.1	35.033
ARCH_1401	200	1.14	5.4	30.479
ARCH_1401	200	1.14	5.7	29.695
ARCH_1401	200	1.14	6	26.62
ARCH_1404	600	1.14	2.4	271.05
ARCH_1404	600	1.14	2.7	177.17
ARCH_1404	600	1.14	3	143.77
ARCH_1404	600	1.14	3.3	115.75
ARCH_1404	600	1.14	3.6	102.35
ARCH_1404	600	1.14	3.9	90.26
ARCH_1404	600	1.14	4.2	79.924
ARCH_1404	600	1.14	4.5	71.303
ARCH_1404	600	1.14	4.8	66.625
ARCH_1404	600	1.14	5.1	60.925
ARCH_1404	600	1.14	5.4	53.258
ARCH_1404	600	1.14	5.7	46.84
ARCH_1404	600	1.14	6	44.228
ARCH_1407	1000	1.14	2.4	411.81
ARCH_1407	1000	1.14	2.7	257.94
ARCH_1407	1000	1.14	3	204.41
ARCH_1407	1000	1.14	3.3	171.02
ARCH_1407	1000	1.14	3.6	146.92
ARCH_1407	1000	1.14	3.9	124.11
ARCH_1407	1000	1.14	4.2	110.35
ARCH_1407	1000	1.14	4.5	95.13
ARCH_1407	1000	1.14	4.8	85.1

Table E-7
Soffit Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
ARCH_1407	1000	1.14	5.1	78.778
ARCH_1407	1000	1.14	5.4	70.232
ARCH_1407	1000	1.14	5.7	65.497
ARCH_1410	200	1.98	2.4	738.18
ARCH_1410	200	1.98	2.7	531.25
ARCH_1410	200	1.98	3	321.95
ARCH_1410	200	1.98	3.3	231.67
ARCH_1410	200	1.98	3.6	200.36
ARCH_1410	200	1.98	3.9	165.42
ARCH_1410	200	1.98	4.2	132.76
ARCH_1410	200	1.98	4.5	96.17
ARCH_1410	200	1.98	4.8	86.44
ARCH_1410	200	1.98	5.1	85.38
ARCH_1410	200	1.98	5.4	70.331
ARCH_1410	200	1.98	5.7	57.028
ARCH_1410	200	1.98	6	53.461
ARCH_1413	600	1.98	2.4	954.42
ARCH_1413	600	1.98	2.7	789.76
ARCH_1413	600	1.98	3	604.22
ARCH_1413	600	1.98	3.3	423.99
ARCH_1413	600	1.98	3.6	326.94
ARCH_1413	600	1.98	3.9	257.85
ARCH_1413	600	1.98	4.2	212.79
ARCH_1413	600	1.98	4.5	172.49
ARCH_1413	600	1.98	4.8	146.63
ARCH_1413	600	1.98	5.1	127.04
ARCH_1413	600	1.98	5.4	111.77
ARCH_1413	600	1.98	5.7	99.91
ARCH_1413	600	1.98	6	91.55
ARCH_1416	1000	1.98	2.4	994.8
ARCH_1416	1000	1.98	2.7	962.81
ARCH_1416	1000	1.98	3	785.87
ARCH_1416	1000	1.98	3.3	592.31
ARCH_1416	1000	1.98	3.6	444.35
ARCH_1416	1000	1.98	3.9	331.3
ARCH_1416	1000	1.98	4.2	266.22

Table E-7
Soffit Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
ARCH_1416	1000	1.98	4.5	223.96
ARCH_1416	1000	1.98	4.8	197.1
ARCH_1416	1000	1.98	5.1	175.42
ARCH_1416	1000	1.98	5.4	151.29
ARCH_1416	1000	1.98	5.7	130.44
ARCH_1416	1000	1.98	6	121.45
OBST_1400	200	1.14	2.4	184.04
OBST_1400	200	1.14	2.7	118.62
OBST_1400	200	1.14	3	91.06
OBST_1400	200	1.14	3.3	85.89
OBST_1400	200	1.14	3.6	79.421
OBST_1400	200	1.14	3.9	72.139
OBST_1400	200	1.14	4.2	71.684
OBST_1400	200	1.14	4.5	62.392
OBST_1400	200	1.14	4.8	58.739
OBST_1400	200	1.14	5.1	60.088
OBST_1400	200	1.14	5.4	50.108
OBST_1400	200	1.14	5.7	47.747
OBST_1400	200	1.14	6	41.442
OBST_1403	600	1.14	2.4	158.1
OBST_1403	600	1.14	2.7	95.82
OBST_1403	600	1.14	3	80.94
OBST_1403	600	1.14	3.3	75.894
OBST_1403	600	1.14	3.6	72.973
OBST_1403	600	1.14	3.9	68.895
OBST_1403	600	1.14	4.2	65.861
OBST_1403	600	1.14	4.5	60.361
OBST_1403	600	1.14	4.8	55.75
OBST_1403	600	1.14	5.1	52.542
OBST_1403	600	1.14	5.4	49.347
OBST_1403	600	1.14	5.7	46.011
OBST_1403	600	1.14	6	43.146
OBST_1406	1000	1.14	2.4	556.48
OBST_1406	1000	1.14	2.7	305.76
OBST_1406	1000	1.14	3	234.27
OBST_1406	1000	1.14	3.3	209.24

Table E-7
Soffit Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
OBST_1406	1000	1.14	3.6	194.4
OBST_1406	1000	1.14	3.9	182.5
OBST_1406	1000	1.14	4.2	173.52
OBST_1406	1000	1.14	4.5	164.84
OBST_1406	1000	1.14	4.8	156.91
OBST_1406	1000	1.14	5.1	148.39
OBST_1406	1000	1.14	5.4	138.98
OBST_1406	1000	1.14	5.7	128.8
OBST_1409	200	1.98	2.4	402.02
OBST_1409	200	1.98	2.7	256.32
OBST_1409	200	1.98	3	190.56
OBST_1409	200	1.98	3.3	147.92
OBST_1409	200	1.98	3.6	132.96
OBST_1409	200	1.98	3.9	126.64
OBST_1409	200	1.98	4.2	114.66
OBST_1409	200	1.98	4.5	109.51
OBST_1409	200	1.98	4.8	96.45
OBST_1409	200	1.98	5.1	86.48
OBST_1409	200	1.98	5.4	80.21
OBST_1409	200	1.98	5.7	76.865
OBST_1409	200	1.98	6	58.705
OBST_1412	600	1.98	2.4	370.99
OBST_1412	600	1.98	2.7	223.24
OBST_1412	600	1.98	3	176.23
OBST_1412	600	1.98	3.3	147.97
OBST_1412	600	1.98	3.6	143.57
OBST_1412	600	1.98	3.9	135.99
OBST_1412	600	1.98	4.2	125.67
OBST_1412	600	1.98	4.5	113.93
OBST_1412	600	1.98	4.8	104.76
OBST_1412	600	1.98	5.1	97.8
OBST_1412	600	1.98	5.4	88.74
OBST_1412	600	1.98	5.7	77.893
OBST_1412	600	1.98	6	69.543
OBST_1415	1000	1.98	2.4	905.23
OBST_1415	1000	1.98	2.7	642.45

Table E-7
Soffit Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
OBST_1415	1000	1.98	3	470.26
OBST_1415	1000	1.98	3.3	424.23
OBST_1415	1000	1.98	3.6	397.15
OBST_1415	1000	1.98	3.9	357.09
OBST_1415	1000	1.98	4.2	327.61
OBST_1415	1000	1.98	4.5	301.04
OBST_1415	1000	1.98	4.8	275.26
OBST_1415	1000	1.98	5.1	249.89
OBST_1415	1000	1.98	5.4	222.05
OBST_1415	1000	1.98	5.7	192.79
OBST_1415	1000	1.98	6	169.22
THREEWALL_1402	200	1.14	2.4	193.98
THREEWALL_1402	200	1.14	2.7	145.26
THREEWALL_1402	200	1.14	3	125.38
THREEWALL_1402	200	1.14	3.3	101.96
THREEWALL_1402	200	1.14	3.6	84.66
THREEWALL_1402	200	1.14	3.9	72.809
THREEWALL_1402	200	1.14	4.2	60.607
THREEWALL_1402	200	1.14	4.5	54.012
THREEWALL_1402	200	1.14	4.8	51.346
THREEWALL_1402	200	1.14	5.1	41.729
THREEWALL_1402	200	1.14	5.4	36.629
THREEWALL_1402	200	1.14	5.7	35.579
THREEWALL_1402	200	1.14	6	32.219
THREEWALL_1405	600	1.14	2.4	476.72
THREEWALL_1405	600	1.14	2.7	316.14
THREEWALL_1405	600	1.14	3	233.69
THREEWALL_1405	600	1.14	3.3	189.15
THREEWALL_1405	600	1.14	3.6	163.93
THREEWALL_1405	600	1.14	3.9	138.63
THREEWALL_1405	600	1.14	4.2	121.14
THREEWALL_1405	600	1.14	4.5	105.84
THREEWALL_1405	600	1.14	4.8	94.26
THREEWALL_1405	600	1.14	5.1	87.32
THREEWALL_1405	600	1.14	5.4	80.06
THREEWALL_1405	600	1.14	5.7	72.691

Table E-7
Soffit Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
THREEWALL_1405	600	1.14	6	67.461
THREEWALL_1408	1000	1.14	2.4	625.88
THREEWALL_1408	1000	1.14	3	379.77
THREEWALL_1408	1000	1.14	3.3	307.8
THREEWALL_1408	1000	1.14	3.6	254.14
THREEWALL_1408	1000	1.14	3.9	206.26
THREEWALL_1408	1000	1.14	4.2	177.04
THREEWALL_1408	1000	1.14	4.5	147.71
THREEWALL_1408	1000	1.14	4.8	132.24
THREEWALL_1408	1000	1.14	5.1	115.84
THREEWALL_1408	1000	1.14	5.4	102.15
THREEWALL_1408	1000	1.14	5.7	95.34
THREEWALL_1408	1000	1.14	6	91.38
THREEWALL_1411	200	1.98	2.4	878.98
THREEWALL_1411	200	1.98	2.7	769.44
THREEWALL_1411	200	1.98	3	459.87
THREEWALL_1411	200	1.98	3.3	320.98
THREEWALL_1411	200	1.98	3.6	277.11
THREEWALL_1411	200	1.98	3.9	225.03
THREEWALL_1411	200	1.98	4.2	158.3
THREEWALL_1411	200	1.98	4.5	136.72
THREEWALL_1411	200	1.98	4.8	105.45
THREEWALL_1411	200	1.98	5.1	91.15
THREEWALL_1411	200	1.98	5.4	89.57
THREEWALL_1411	200	1.98	5.7	67.042
THREEWALL_1411	200	1.98	6	65.321
THREEWALL_1414	600	1.98	2.4	1004.1
THREEWALL_1414	600	1.98	2.7	1018.4
THREEWALL_1414	600	1.98	3	889.06
THREEWALL_1414	600	1.98	3.3	677.2
THREEWALL_1414	600	1.98	3.6	549.32
THREEWALL_1414	600	1.98	3.9	393.67
THREEWALL_1414	600	1.98	4.2	311.25
THREEWALL_1414	600	1.98	4.5	250.77
THREEWALL_1414	600	1.98	4.8	208.71
THREEWALL_1414	600	1.98	5.1	176.82

Table E-7
Soffit Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)
THREEWALL_1414	600	1.98	5.4	151.71
THREEWALL_1414	600	1.98	5.7	129
THREEWALL_1414	600	1.98	6	117.24
THREEWALL_1417	1000	1.98	2.4	985.6
THREEWALL_1417	1000	1.98	3	1016.6
THREEWALL_1417	1000	1.98	3.3	878.92
THREEWALL_1417	1000	1.98	3.6	749.52
THREEWALL_1417	1000	1.98	3.9	564.62
THREEWALL_1417	1000	1.98	4.2	441.37
THREEWALL_1417	1000	1.98	4.5	331.07
THREEWALL_1417	1000	1.98	4.8	264.23
THREEWALL_1417	1000	1.98	5.1	231.36
THREEWALL_1417	1000	1.98	5.4	198.27
THREEWALL_1417	1000	1.98	5.7	175.81
THREEWALL_1417	1000	1.98	6	160.01

Thickness of Steel Enclosure Sensitivity Results

Table E-8
Thickness of Steel Enclosure Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Thickness (m)
ARCH_1501	200	1.14	2.4	250.82	0.001
ARCH_1501	200	1.14	2.7	122.91	0.001
ARCH_1501	200	1.14	3	91.45	0.001
ARCH_1501	200	1.14	3.3	73.979	0.001
ARCH_1501	200	1.14	3.6	65.335	0.001
ARCH_1501	200	1.14	3.9	57.142	0.001
ARCH_1501	200	1.14	4.2	51.134	0.001
ARCH_1501	200	1.14	4.5	44.485	0.001
ARCH_1501	200	1.14	4.8	40.524	0.001
ARCH_1501	200	1.14	5.1	35.815	0.001
ARCH_1501	200	1.14	5.4	30.292	0.001
ARCH_1501	200	1.14	5.7	26.372	0.001
ARCH_1501	200	1.14	6	23.782	0.001
ARCH_1504	600	1.14	2.4	435.35	0.001
ARCH_1504	600	1.14	2.7	224.49	0.001
ARCH_1504	600	1.14	3	170.42	0.001
ARCH_1504	600	1.14	3.3	138.38	0.001
ARCH_1504	600	1.14	3.6	118.28	0.001
ARCH_1504	600	1.14	3.9	101.34	0.001
ARCH_1504	600	1.14	4.2	88.47	0.001
ARCH_1504	600	1.14	4.5	77.319	0.001
ARCH_1504	600	1.14	4.8	70.064	0.001
ARCH_1504	600	1.14	5.1	63.279	0.001
ARCH_1504	600	1.14	5.4	55.88	0.001
ARCH_1504	600	1.14	5.7	49.069	0.001
ARCH_1504	600	1.14	6	46.318	0.001
ARCH_1507	1000	1.14	2.4	492.48	0.001
ARCH_1507	1000	1.14	2.7	277.71	0.001
ARCH_1507	1000	1.14	3	204.56	0.001
ARCH_1507	1000	1.14	3.3	167.04	0.001
ARCH_1507	1000	1.14	3.6	141.3	0.001
ARCH_1507	1000	1.14	3.9	122.79	0.001
ARCH_1507	1000	1.14	4.2	108.05	0.001
ARCH_1507	1000	1.14	4.5	96.97	0.001
ARCH_1507	1000	1.14	4.8	87.07	0.001

Table E-8
Thickness of Steel Enclosure Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Thickness (m)
ARCH_1507	1000	1.14	5.1	80.05	0.001
ARCH_1507	1000	1.14	5.4	72.417	0.001
ARCH_1507	1000	1.14	5.7	66.252	0.001
OBST_1500	200	1.14	2.4	221.43	0.001
OBST_1500	200	1.14	2.7	142.99	0.001
OBST_1500	200	1.14	3	111.06	0.001
OBST_1500	200	1.14	3.3	96.39	0.001
OBST_1500	200	1.14	3.6	91.29	0.001
OBST_1500	200	1.14	3.9	86.53	0.001
OBST_1500	200	1.14	4.2	82.34	0.001
OBST_1500	200	1.14	4.5	76.998	0.001
OBST_1500	200	1.14	4.8	72.526	0.001
OBST_1500	200	1.14	5.1	68.481	0.001
OBST_1500	200	1.14	5.4	63.629	0.001
OBST_1500	200	1.14	5.7	59.183	0.001
OBST_1500	200	1.14	6	55.542	0.001
OBST_1503	600	1.14	2.4	527.39	0.001
OBST_1503	600	1.14	2.7	357.75	0.001
OBST_1503	600	1.14	3	259.18	0.001
OBST_1503	600	1.14	3.3	207.71	0.001
OBST_1503	600	1.14	3.6	192.77	0.001
OBST_1503	600	1.14	3.9	185.88	0.001
OBST_1503	600	1.14	4.2	178.84	0.001
OBST_1503	600	1.14	4.5	167.41	0.001
OBST_1503	600	1.14	4.8	156.9	0.001
OBST_1503	600	1.14	5.1	147.64	0.001
OBST_1503	600	1.14	5.4	136.39	0.001
OBST_1503	600	1.14	5.7	127.67	0.001
OBST_1503	600	1.14	6	119.2	0.001
OBST_1506	1000	1.14	2.4	644.94	0.001
OBST_1506	1000	1.14	2.7	476.7	0.001
OBST_1506	1000	1.14	3	361.87	0.001
OBST_1506	1000	1.14	3.3	282.67	0.001
OBST_1506	1000	1.14	3.6	247.17	0.001
OBST_1506	1000	1.14	3.9	232.76	0.001
OBST_1506	1000	1.14	4.2	222.02	0.001

Table E-8
Thickness of Steel Enclosure Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Thickness (m)
OBST_1506	1000	1.14	4.5	209.18	0.001
OBST_1506	1000	1.14	4.8	200.17	0.001
OBST_1506	1000	1.14	5.1	189.85	0.001
OBST_1506	1000	1.14	5.4	178.66	0.001
OBST_1506	1000	1.14	5.7	168.58	0.001
THREEWALL_1502	200	1.14	2.4	303.37	0.001
THREEWALL_1502	200	1.14	2.7	165.48	0.001
THREEWALL_1502	200	1.14	3	121.14	0.001
THREEWALL_1502	200	1.14	3.3	98	0.001
THREEWALL_1502	200	1.14	3.6	88.09	0.001
THREEWALL_1502	200	1.14	3.9	79.77	0.001
THREEWALL_1502	200	1.14	4.2	72.972	0.001
THREEWALL_1502	200	1.14	4.5	64.726	0.001
THREEWALL_1502	200	1.14	4.8	59.19	0.001
THREEWALL_1502	200	1.14	5.1	54.454	0.001
THREEWALL_1502	200	1.14	5.4	47.665	0.001
THREEWALL_1502	200	1.14	5.7	42.54	0.001
THREEWALL_1502	200	1.14	6	39.323	0.001
THREEWALL_1505	600	1.14	2.4	623.89	0.001
THREEWALL_1505	600	1.14	2.7	350.4	0.001
THREEWALL_1505	600	1.14	3	267.62	0.001
THREEWALL_1505	600	1.14	3.3	212.45	0.001
THREEWALL_1505	600	1.14	3.6	185.57	0.001
THREEWALL_1505	600	1.14	3.9	155.18	0.001
THREEWALL_1505	600	1.14	4.2	131.07	0.001
THREEWALL_1505	600	1.14	4.5	113.77	0.001
THREEWALL_1505	600	1.14	4.8	100.05	0.001
THREEWALL_1505	600	1.14	5.1	86.74	0.001
THREEWALL_1505	600	1.14	5.4	75.044	0.001
THREEWALL_1505	600	1.14	5.7	67.165	0.001
THREEWALL_1505	600	1.14	6	63.244	0.001
THREEWALL_1508	1000	1.14	2.4	715.92	0.001
THREEWALL_1508	1000	1.14	2.7	476.43	0.001
THREEWALL_1508	1000	1.14	3	360.41	0.001
THREEWALL_1508	1000	1.14	3.3	278.18	0.001
THREEWALL_1508	1000	1.14	3.6	231.1	0.001

Table E-8
Thickness of Steel Enclosure Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Thickness (m)
THREEWALL_1508	1000	1.14	3.9	195.64	0.001
THREEWALL_1508	1000	1.14	4.2	166.35	0.001
THREEWALL_1508	1000	1.14	4.5	147.25	0.001
THREEWALL_1508	1000	1.14	4.8	134.56	0.001
THREEWALL_1508	1000	1.14	5.1	123.22	0.001
THREEWALL_1508	1000	1.14	5.4	110.95	0.001
THREEWALL_1508	1000	1.14	5.7	104.12	0.001
THREEWALL_1511	200	1.14	2.4	304.79	0.01
THREEWALL_1511	200	1.14	2.7	160.73	0.01
THREEWALL_1511	200	1.14	3	119.09	0.01
THREEWALL_1511	200	1.14	3.3	97.25	0.01
THREEWALL_1511	200	1.14	3.6	85.38	0.01
THREEWALL_1511	200	1.14	3.9	74.484	0.01
THREEWALL_1511	200	1.14	4.2	66.641	0.01
THREEWALL_1511	200	1.14	4.5	60.376	0.01
THREEWALL_1511	200	1.14	4.8	52.668	0.01
THREEWALL_1511	200	1.14	5.1	47.908	0.01
THREEWALL_1511	200	1.14	5.4	43.55	0.01
THREEWALL_1511	200	1.14	5.7	39.752	0.01
THREEWALL_1511	200	1.14	6	35.703	0.01
THREEWALL_1514	600	1.14	2.4	595.67	0.01
THREEWALL_1514	600	1.14	2.7	324.91	0.01
THREEWALL_1514	600	1.14	3	240.21	0.01
THREEWALL_1514	600	1.14	3.3	187.97	0.01
THREEWALL_1514	600	1.14	3.6	163.55	0.01
THREEWALL_1514	600	1.14	3.9	139.83	0.01
THREEWALL_1514	600	1.14	4.2	120.71	0.01
THREEWALL_1514	600	1.14	4.5	104.05	0.01
THREEWALL_1514	600	1.14	4.8	92.7	0.01
THREEWALL_1514	600	1.14	5.1	85.08	0.01
THREEWALL_1514	600	1.14	5.4	76.946	0.01
THREEWALL_1514	600	1.14	5.7	70.893	0.01
THREEWALL_1514	600	1.14	6	67.715	0.01
THREEWALL_1517	1000	1.14	2.4	701.19	0.01
THREEWALL_1517	1000	1.14	2.7	470.49	0.01
THREEWALL_1517	1000	1.14	3	346.27	0.01

Table E-8
Thickness of Steel Enclosure Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Thickness (m)
THREEWALL_1517	1000	1.14	3.3	262.03	0.01
THREEWALL_1517	1000	1.14	3.6	220.57	0.01
THREEWALL_1517	1000	1.14	3.9	185.24	0.01
THREEWALL_1517	1000	1.14	4.2	163.31	0.01
THREEWALL_1517	1000	1.14	4.5	140.66	0.01
THREEWALL_1517	1000	1.14	4.8	125.6	0.01
THREEWALL_1517	1000	1.14	5.1	116.23	0.01
THREEWALL_1517	1000	1.14	5.4	104.95	0.01
THREEWALL_1517	1000	1.14	5.7	93.75	0.01
ARCH_1510	200	1.14	2.4	228.86	0.01
ARCH_1510	200	1.14	2.7	116.86	0.01
ARCH_1510	200	1.14	3	86.34	0.01
ARCH_1510	200	1.14	3.3	69.641	0.01
ARCH_1510	200	1.14	3.6	61.122	0.01
ARCH_1510	200	1.14	3.9	52.889	0.01
ARCH_1510	200	1.14	4.2	46.881	0.01
ARCH_1510	200	1.14	4.5	41.449	0.01
ARCH_1510	200	1.14	4.8	37.267	0.01
ARCH_1510	200	1.14	5.1	33.707	0.01
ARCH_1510	200	1.14	5.4	30.218	0.01
ARCH_1510	200	1.14	5.7	26.702	0.01
ARCH_1510	200	1.14	6	24.662	0.01
ARCH_1513	600	1.14	2.4	377.92	0.01
ARCH_1513	600	1.14	2.7	209.24	0.01
ARCH_1513	600	1.14	3	155.21	0.01
ARCH_1513	600	1.14	3.3	124.19	0.01
ARCH_1513	600	1.14	3.6	107.66	0.01
ARCH_1513	600	1.14	3.9	95.51	0.01
ARCH_1513	600	1.14	4.2	85.55	0.01
ARCH_1513	600	1.14	4.5	74.663	0.01
ARCH_1513	600	1.14	4.8	67.36	0.01
ARCH_1513	600	1.14	5.1	60.475	0.01
ARCH_1513	600	1.14	5.4	53.375	0.01
ARCH_1513	600	1.14	5.7	48.259	0.01
ARCH_1513	600	1.14	6	43.989	0.01
ARCH_1516	1000	1.14	2.4	474.54	0.01

Table E-8
Thickness of Steel Enclosure Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Thickness (m)
ARCH_1516	1000	1.14	2.7	274.81	0.01
ARCH_1516	1000	1.14	3	198.87	0.01
ARCH_1516	1000	1.14	3.3	153.78	0.01
ARCH_1516	1000	1.14	3.6	132.35	0.01
ARCH_1516	1000	1.14	3.9	112.46	0.01
ARCH_1516	1000	1.14	4.2	100.01	0.01
ARCH_1516	1000	1.14	4.5	89.47	0.01
ARCH_1516	1000	1.14	4.8	78.582	0.01
ARCH_1516	1000	1.14	5.1	73.207	0.01
ARCH_1516	1000	1.14	5.4	65.564	0.01
ARCH_1516	1000	1.14	5.7	61.595	0.01
OBST_1509	200	1.14	2.4	220.64	0.01
OBST_1509	200	1.14	2.7	143.53	0.01
OBST_1509	200	1.14	3	108.73	0.01
OBST_1509	200	1.14	3.3	93.59	0.01
OBST_1509	200	1.14	3.6	87.24	0.01
OBST_1509	200	1.14	3.9	81.81	0.01
OBST_1509	200	1.14	4.2	77.448	0.01
OBST_1509	200	1.14	4.5	71.911	0.01
OBST_1509	200	1.14	4.8	66.742	0.01
OBST_1509	200	1.14	5.1	61.984	0.01
OBST_1509	200	1.14	5.4	56.47	0.01
OBST_1509	200	1.14	5.7	52.427	0.01
OBST_1509	200	1.14	6	48.606	0.01
OBST_1512	600	1.14	2.4	500.81	0.01
OBST_1512	600	1.14	2.7	344.7	0.01
OBST_1512	600	1.14	3	248.73	0.01
OBST_1512	600	1.14	3.3	212.99	0.01
OBST_1512	600	1.14	3.6	191.17	0.01
OBST_1512	600	1.14	3.9	177.62	0.01
OBST_1512	600	1.14	4.2	171.53	0.01
OBST_1512	600	1.14	4.5	162.67	0.01
OBST_1512	600	1.14	4.8	155.08	0.01
OBST_1512	600	1.14	5.1	147.56	0.01
OBST_1512	600	1.14	5.4	136.28	0.01
OBST_1512	600	1.14	5.7	124.2	0.01

Table E-8
Thickness of Steel Enclosure Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Thickness (m)
OBST_1512	600	1.14	6	114.51	0.01
OBST_1515	1000	1.14	2.4	639.31	0.01
OBST_1515	1000	1.14	2.7	488.85	0.01
OBST_1515	1000	1.14	3	345.77	0.01
OBST_1515	1000	1.14	3.3	278.41	0.01
OBST_1515	1000	1.14	3.6	247.68	0.01
OBST_1515	1000	1.14	3.9	238.16	0.01
OBST_1515	1000	1.14	4.2	226.04	0.01
OBST_1515	1000	1.14	4.5	211.45	0.01
OBST_1515	1000	1.14	4.8	201.03	0.01
OBST_1515	1000	1.14	5.1	190.12	0.01
OBST_1515	1000	1.14	5.4	178.62	0.01

Horizontal Plume Shift and Angle Sensitivity Results

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
ARCH_1055	1000	1.14	2.4	686.62	0.91	0.7	2.40	1.88	13
ARCH_1055	1000	1.14	2.7	439.45	0.91	0.9	2.40	1.88	18
ARCH_1055	1000	1.14	3	317.19	0.91	1.02	2.40	1.88	18
ARCH_1055	1000	1.14	3.3	251.35	0.91	1.1	2.40	1.88	18
ARCH_1055	1000	1.14	3.6	207.5	0.91	1.22	2.40	1.88	18
ARCH_1055	1000	1.14	3.9	181.32	0.91	1.26	2.40	1.88	17
ARCH_1055	1000	1.14	4.2	158.36	0.91	1.3	2.40	1.88	16
ARCH_1055	1000	1.14	4.5	139.08	0.91	1.34	2.40	1.88	16
ARCH_1055	1000	1.14	4.8	123.06	0.91	1.38	2.40	1.88	15
ARCH_1056	1000	1.98	3.3	724.08	0.91	0.42	2.40	1.88	1
ARCH_1056	1000	1.98	3.6	603.99	0.91	0.42	2.40	1.88	1
ARCH_1064	1000	1.14	2.4	498.48	1.22	0.9	2.53	2.01	16
ARCH_1064	1000	1.14	2.7	290.87	1.22	1.1	2.53	2.01	20
ARCH_1064	1000	1.14	3	228.02	1.22	1.22	2.53	2.01	20
ARCH_1064	1000	1.14	3.3	180.07	1.22	1.38	2.53	2.01	21
ARCH_1064	1000	1.14	3.6	153.69	1.22	1.46	2.53	2.01	21
ARCH_1064	1000	1.14	3.9	132.29	1.22	1.54	2.53	2.01	20
ARCH_1064	1000	1.14	4.2	119.64	1.22	1.62	2.53	2.01	19
ARCH_1065	1000	1.98	3	697.19	1.22	0.62	2.53	2.01	4
ARCH_1065	1000	1.98	3.3	539.48	1.22	0.62	2.53	2.01	3
ARCH_1065	1000	1.98	3.6	429.2	1.22	0.58	2.53	2.01	1
ARCH_1065	1000	1.98	3.9	322.39	1.22	0.58	2.53	2.01	1

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
ARCH_830	100	1.14	2.4	198.07	0.30	0.34	0.77	0.60	9
ARCH_830	100	1.14	2.7	112.16	0.30	0.5	0.77	0.60	13
ARCH_836	50	1.98	2.4	246.03	0.30	0.3	0.58	0.46	22
ARCH_836	50	1.98	2.7	126.04	0.30	0.38	0.58	0.46	19
ARCH_837	100	1.98	2.4	511.44	0.30	0.22	0.77	0.60	11
ARCH_837	100	1.98	2.7	255.75	0.30	0.38	0.77	0.60	19
ARCH_837	100	1.98	3	171.73	0.30	0.42	0.77	0.60	16
ARCH_837	100	1.98	3.3	118.23	0.30	0.46	0.77	0.60	14
ARCH_894	200	1.14	2.4	239.92	0.61	0.54	1.16	0.93	12
ARCH_894	200	1.14	2.7	120.83	0.61	0.82	1.16	0.93	19
ARCH_895	300	1.14	2.4	330.38	0.61	0.5	1.36	1.08	10
ARCH_895	300	1.14	2.7	172.02	0.61	0.78	1.36	1.08	18
ARCH_895	300	1.14	3	125.64	0.61	0.9	1.36	1.08	19
ARCH_896	400	1.14	2.4	555.97	0.61	0.5	1.53	1.20	10
ARCH_896	400	1.14	2.7	253.67	0.61	0.7	1.53	1.20	15
ARCH_896	400	1.14	3	172.71	0.61	0.86	1.53	1.20	18
ARCH_896	400	1.14	3.3	135.45	0.61	0.94	1.53	1.20	17
ARCH_896	400	1.14	3.6	115.42	0.61	1.1	1.53	1.20	19
ARCH_897	500	1.14	2.4	685.87	0.61	0.46	1.68	1.31	9
ARCH_897	500	1.14	2.7	385.73	0.61	0.62	1.68	1.31	13
ARCH_897	500	1.14	3	255.53	0.61	0.7	1.68	1.31	13
ARCH_897	500	1.14	3.3	187.46	0.61	0.82	1.68	1.31	14
ARCH_897	500	1.14	3.6	155.04	0.61	0.98	1.68	1.31	16
ARCH_897	500	1.14	3.9	131.32	0.61	1.02	1.68	1.31	15
ARCH_897	500	1.14	4.2	114.1	0.61	1.06	1.68	1.31	14

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
ARCH_898	600	1.14	2.4	757.31	0.61	0.5	1.82	1.41	10
ARCH_898	600	1.14	2.7	435.11	0.61	0.66	1.82	1.41	14
ARCH_898	600	1.14	3	317.58	0.61	0.74	1.82	1.41	14
ARCH_898	600	1.14	3.3	232	0.61	0.86	1.82	1.41	15
ARCH_898	600	1.14	3.6	193.7	0.61	0.9	1.82	1.41	14
ARCH_898	600	1.14	3.9	158.56	0.61	0.94	1.82	1.41	14
ARCH_898	600	1.14	4.2	134.6	0.61	0.98	1.82	1.41	13
ARCH_898	600	1.14	4.5	113.8	0.61	1.02	1.82	1.41	13
ARCH_901	200	1.98	2.4	673.58	0.61	0.38	1.16	0.93	15
ARCH_901	200	1.98	2.7	349.88	0.61	0.46	1.16	0.93	15
ARCH_901	200	1.98	3	233.64	0.61	0.5	1.16	0.93	13
ARCH_901	200	1.98	3.3	174.13	0.61	0.5	1.16	0.93	10
ARCH_901	200	1.98	3.6	141.03	0.61	0.54	1.16	0.93	9
ARCH_901	200	1.98	3.9	110.93	0.61	0.54	1.16	0.93	8
ARCH_902	300	1.98	2.7	637.24	0.61	0.42	1.36	1.08	12
ARCH_902	300	1.98	3	430.61	0.61	0.42	1.36	1.08	8
ARCH_902	300	1.98	3.3	325.15	0.61	0.42	1.36	1.08	6
ARCH_902	300	1.98	3.6	252.2	0.61	0.42	1.36	1.08	5
ARCH_902	300	1.98	3.9	194.8	0.61	0.42	1.36	1.08	4
ARCH_902	300	1.98	4.2	158.08	0.61	0.42	1.36	1.08	4
ARCH_902	300	1.98	4.5	126.34	0.61	0.42	1.36	1.08	3
ARCH_903	400	1.98	3	692.12	0.61	0.42	1.53	1.20	8
ARCH_903	400	1.98	3.3	495.23	0.61	0.42	1.53	1.20	6
ARCH_903	400	1.98	3.6	367.41	0.61	0.42	1.53	1.20	5
ARCH_903	400	1.98	3.9	269.44	0.61	0.42	1.53	1.20	4

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
ARCH_903	400	1.98	4.2	212.59	0.61	0.38	1.53	1.20	3
ARCH_903	400	1.98	4.5	163.52	0.61	0.38	1.53	1.20	3
ARCH_903	400	1.98	4.8	137.37	0.61	0.38	1.53	1.20	2
ARCH_903	400	1.98	5.1	118.3	0.61	0.38	1.53	1.20	2
ARCH_904	500	1.98	3.3	733.53	0.61	0.38	1.68	1.31	5
ARCH_904	500	1.98	3.6	574.4	0.61	0.42	1.68	1.31	5
ARCH_904	500	1.98	3.9	414.66	0.61	0.42	1.68	1.31	4
ARCH_904	500	1.98	4.2	314.39	0.61	0.38	1.68	1.31	3
ARCH_904	500	1.98	4.5	236.69	0.61	0.38	1.68	1.31	3
ARCH_904	500	1.98	4.8	193.59	0.61	0.34	1.68	1.31	1
ARCH_904	500	1.98	5.1	162.15	0.61	0.34	1.68	1.31	1
ARCH_904	500	1.98	5.4	138.1	0.61	0.3	1.68	1.31	1
ARCH_904	500	1.98	5.7	115.49	0.61	0.3	1.68	1.31	0
ARCH_905	600	1.98	3.6	714.06	0.61	0.42	1.82	1.41	5
ARCH_905	600	1.98	3.9	513.68	0.61	0.42	1.82	1.41	4
ARCH_905	600	1.98	4.2	398.77	0.61	0.42	1.82	1.41	4
ARCH_905	600	1.98	4.5	299.55	0.61	0.42	1.82	1.41	3
ARCH_905	600	1.98	4.8	243.95	0.61	0.38	1.82	1.41	2
ARCH_905	600	1.98	5.1	198.04	0.61	0.38	1.82	1.41	2
ARCH_905	600	1.98	5.4	162.57	0.61	0.34	1.82	1.41	1
ARCH_905	600	1.98	5.7	134.08	0.61	0.34	1.82	1.41	1
ARCH_905	600	1.98	6	116.82	0.61	0.34	1.82	1.41	1
ARCH_958	300	1.14	2.4	201.52	0.91	0.78	1.50	1.21	17
ARCH_958	300	1.14	2.7	115.52	0.91	1.1	1.50	1.21	24
ARCH_959	400	1.14	2.4	254.49	0.91	0.74	1.67	1.34	15

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
ARCH_959	400	1.14	2.7	150.19	0.91	1.06	1.67	1.34	23
ARCH_959	400	1.14	3	115.72	0.91	1.22	1.67	1.34	24
ARCH_960	500	1.14	2.4	351.76	0.91	0.7	1.82	1.45	13
ARCH_960	500	1.14	2.7	186.86	0.91	0.98	1.82	1.45	20
ARCH_960	500	1.14	3	146.01	0.91	1.18	1.82	1.45	23
ARCH_960	500	1.14	3.3	117.15	0.91	1.3	1.82	1.45	23
ARCH_961	600	1.14	2.4	412.98	0.91	0.7	1.95	1.55	13
ARCH_961	600	1.14	2.7	217.42	0.91	0.98	1.95	1.55	20
ARCH_961	600	1.14	3	164.16	0.91	1.14	1.95	1.55	22
ARCH_961	600	1.14	3.3	132.43	0.91	1.26	1.95	1.55	22
ARCH_961	600	1.14	3.6	113.03	0.91	1.38	1.95	1.55	22
ARCH_965	300	1.98	2.4	587.47	0.91	0.54	1.50	1.21	18
ARCH_965	300	1.98	2.7	311.53	0.91	0.58	1.50	1.21	14
ARCH_965	300	1.98	3	212.09	0.91	0.58	1.50	1.21	10
ARCH_965	300	1.98	3.3	157.64	0.91	0.62	1.50	1.21	9
ARCH_965	300	1.98	3.6	126.25	0.91	0.66	1.50	1.21	9
ARCH_966	400	1.98	2.7	532.14	0.91	0.62	1.67	1.34	17
ARCH_966	400	1.98	3	348	0.91	0.58	1.67	1.34	10
ARCH_966	400	1.98	3.3	255.26	0.91	0.58	1.67	1.34	8
ARCH_966	400	1.98	3.6	199.12	0.91	0.62	1.67	1.34	8
ARCH_966	400	1.98	3.9	160.14	0.91	0.62	1.67	1.34	6
ARCH_966	400	1.98	4.2	134.08	0.91	0.62	1.67	1.34	6
ARCH_966	400	1.98	4.5	110.46	0.91	0.62	1.67	1.34	5
ARCH_967	500	1.98	2.7	622.57	0.91	0.62	1.82	1.45	17
ARCH_967	500	1.98	3	429.19	0.91	0.54	1.82	1.45	8

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
ARCH_967	500	1.98	3.3	304.39	0.91	0.54	1.82	1.45	6
ARCH_967	500	1.98	3.6	232.72	0.91	0.58	1.82	1.45	6
ARCH_967	500	1.98	3.9	196.54	0.91	0.58	1.82	1.45	5
ARCH_967	500	1.98	4.2	163.63	0.91	0.58	1.82	1.45	5
ARCH_967	500	1.98	4.5	133.81	0.91	0.58	1.82	1.45	4
ARCH_967	500	1.98	4.5	133.81	0.91	0.58	1.82	1.45	4
ARCH_967	500	1.98	4.8	114.52	0.91	0.58	1.82	1.45	4
ARCH_968	600	1.98	2.7	697.36	0.91	0.5	1.95	1.55	8
ARCH_968	600	1.98	3	529.99	0.91	0.54	1.95	1.55	8
ARCH_968	600	1.98	3.3	392.15	0.91	0.54	1.95	1.55	6
ARCH_968	600	1.98	3.6	291.81	0.91	0.54	1.95	1.55	5
ARCH_968	600	1.98	3.9	225.14	0.91	0.5	1.95	1.55	3
ARCH_968	600	1.98	4.2	189.01	0.91	0.5	1.95	1.55	2
ARCH_968	600	1.98	4.5	153.48	0.91	0.46	1.95	1.55	1
ARCH_968	600	1.98	4.8	129.83	0.91	0.42	1.95	1.55	0
ARCH_968	600	1.98	5.1	111.62	0.91	0.42	1.95	1.55	0
THREEWALL_1058	1000	1.14	2.7	620.76	0.91	1.06	2.40	1.88	23
THREEWALL_1058	1000	1.14	3	484.86	0.91	1.22	2.40	1.88	24
THREEWALL_1058	1000	1.14	3.3	381.71	0.91	1.34	2.40	1.88	23
THREEWALL_1058	1000	1.14	3.6	319.8	0.91	1.42	2.40	1.88	22
THREEWALL_1058	1000	1.14	3.9	264.72	0.91	1.46	2.40	1.88	21
THREEWALL_1058	1000	1.14	4.2	230.82	0.91	1.54	2.40	1.88	20
THREEWALL_1058	1000	1.14	4.5	195.58	0.91	1.58	2.40	1.88	19
THREEWALL_1058	1000	1.14	4.8	168.42	0.91	1.62	2.40	1.88	18
THREEWALL_1058	1000	1.14	5.1	146.49	0.91	1.66	2.40	1.88	18

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
THREEWALL_1058	1000	1.14	5.4	126.15	0.91	1.7	2.40	1.88	17
THREEWALL_1058	1000	1.14	5.7	115.05	0.91	1.58	2.40	1.88	14
THREEWALL_1059	1000	1.98	3.9	646.54	0.91	0.58	2.40	1.88	5
THREEWALL_1059	1000	1.98	4.2	527.72	0.91	0.58	2.40	1.88	5
THREEWALL_1059	1000	1.98	4.5	411.6	0.91	0.58	2.40	1.88	4
THREEWALL_1059	1000	1.98	4.8	334.89	0.91	0.58	2.40	1.88	4
THREEWALL_1059	1000	1.98	5.1	286.67	0.91	0.58	2.40	1.88	3
THREEWALL_1059	1000	1.98	5.4	244.2	0.91	0.58	2.40	1.88	3
THREEWALL_1059	1000	1.98	5.7	207.16	0.91	0.58	2.40	1.88	3
THREEWALL_1059	1000	1.98	6	186.73	0.91	0.58	2.40	1.88	2
THREEWALL_1067	1000	1.14	2.4	663.06	1.22	0.94	2.53	2.01	18
THREEWALL_1067	1000	1.14	2.7	440.84	1.22	1.22	2.53	2.01	24
THREEWALL_1067	1000	1.14	3	343.31	1.22	1.38	2.53	2.01	24
THREEWALL_1067	1000	1.14	3.3	279.81	1.22	1.5	2.53	2.01	24
THREEWALL_1067	1000	1.14	3.6	235.01	1.22	1.66	2.53	2.01	25
THREEWALL_1067	1000	1.14	3.9	190.95	1.22	1.74	2.53	2.01	24
THREEWALL_1067	1000	1.14	4.2	167.89	1.22	1.82	2.53	2.01	23
THREEWALL_1067	1000	1.14	4.5	141.24	1.22	1.82	2.53	2.01	21
THREEWALL_1067	1000	1.14	4.8	125.62	1.22	1.98	2.53	2.01	21
THREEWALL_1067	1000	1.14	5.1	112.94	1.22	1.86	2.53	2.01	18
THREEWALL_1068	1000	1.98	3.6	659.45	1.22	0.7	2.53	2.01	6
THREEWALL_1068	1000	1.98	3.9	496.14	1.22	0.78	2.53	2.01	7
THREEWALL_1068	1000	1.98	4.2	397.07	1.22	0.82	2.53	2.01	7
THREEWALL_1068	1000	1.98	4.5	318.85	1.22	0.78	2.53	2.01	5
THREEWALL_1068	1000	1.98	4.8	272.29	1.22	0.74	2.53	2.01	4

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
THREEWALL_1068	1000	1.98	5.1	234.15	1.22	0.78	2.53	2.01	4
THREEWALL_1068	1000	1.98	5.4	204.04	1.22	0.7	2.53	2.01	3
THREEWALL_1068	1000	1.98	5.7	179.74	1.22	0.7	2.53	2.01	2
THREEWALL_1068	1000	1.98	6	161.86	1.22	0.7	2.53	2.01	2
THREEWALL_850	50	1.14	2.4	155.3	0.30	0.46	0.58	0.46	14
THREEWALL_851	100	1.14	2.4	255.53	0.30	0.46	0.77	0.60	14
THREEWALL_851	100	1.14	2.7	139.25	0.30	0.7	0.77	0.60	20
THREEWALL_857	50	1.98	2.4	415.6	0.30	0.26	0.58	0.46	17
THREEWALL_857	50	1.98	2.7	235.48	0.30	0.34	0.58	0.46	16
THREEWALL_857	50	1.98	3	157.34	0.30	0.38	0.58	0.46	14
THREEWALL_857	50	1.98	3.3	111.29	0.30	0.46	0.58	0.46	14
THREEWALL_858	100	1.98	2.7	510.25	0.30	0.34	0.77	0.60	16
THREEWALL_858	100	1.98	3	327.37	0.30	0.38	0.77	0.60	14
THREEWALL_858	100	1.98	3.3	218.83	0.30	0.38	0.77	0.60	11
THREEWALL_858	100	1.98	3.6	169.87	0.30	0.42	0.77	0.60	10
THREEWALL_858	100	1.98	3.9	135.33	0.30	0.42	0.77	0.60	8
THREEWALL_915	200	1.14	2.4	300.06	0.61	0.7	1.16	0.93	19
THREEWALL_915	200	1.14	2.7	159.86	0.61	0.94	1.16	0.93	23
THREEWALL_915	200	1.14	3	134.36	0.61	1.1	1.16	0.93	24
THREEWALL_916	300	1.14	2.4	488.54	0.61	0.66	1.36	1.08	17
THREEWALL_916	300	1.14	2.7	250.02	0.61	0.9	1.36	1.08	22
THREEWALL_916	300	1.14	3	174.28	0.61	1.02	1.36	1.08	22
THREEWALL_916	300	1.14	3.3	141.38	0.61	1.14	1.36	1.08	22
THREEWALL_916	300	1.14	3.6	123.99	0.61	1.26	1.36	1.08	22
THREEWALL_916	300	1.14	3.9	110.29	0.61	1.34	1.36	1.08	21

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
THREEWALL_917	400	1.14	2.4	663.59	0.61	0.62	1.53	1.20	16
THREEWALL_917	400	1.14	2.7	370.31	0.61	0.86	1.53	1.20	21
THREEWALL_917	400	1.14	3	250.68	0.61	0.98	1.53	1.20	21
THREEWALL_917	400	1.14	3.3	183.21	0.61	1.1	1.53	1.20	21
THREEWALL_917	400	1.14	3.6	152.33	0.61	1.18	1.53	1.20	20
THREEWALL_917	400	1.14	3.9	132.92	0.61	1.3	1.53	1.20	20
THREEWALL_917	400	1.14	4.2	118.8	0.61	1.34	1.53	1.20	19
THREEWALL_918	500	1.14	2.7	466.61	0.61	0.78	1.68	1.31	18
THREEWALL_918	500	1.14	3	313.59	0.61	0.86	1.68	1.31	18
THREEWALL_918	500	1.14	3.3	222.06	0.61	1.02	1.68	1.31	19
THREEWALL_918	500	1.14	3.6	184.52	0.61	1.14	1.68	1.31	19
THREEWALL_918	500	1.14	3.9	155.58	0.61	1.22	1.68	1.31	19
THREEWALL_918	500	1.14	4.2	134.38	0.61	1.3	1.68	1.31	19
THREEWALL_918	500	1.14	4.5	110.96	0.61	1.34	1.68	1.31	18
THREEWALL_919	600	1.14	2.7	562.28	0.61	0.78	1.82	1.41	18
THREEWALL_919	600	1.14	3	416.03	0.61	0.9	1.82	1.41	19
THREEWALL_919	600	1.14	3.3	305.81	0.61	1.02	1.82	1.41	19
THREEWALL_919	600	1.14	3.6	248	0.61	1.14	1.82	1.41	19
THREEWALL_919	600	1.14	3.9	203.92	0.61	1.18	1.82	1.41	18
THREEWALL_919	600	1.14	4.2	176.1	0.61	1.22	1.82	1.41	17
THREEWALL_919	600	1.14	4.5	152.14	0.61	1.26	1.82	1.41	16
THREEWALL_919	600	1.14	4.8	138.53	0.61	1.26	1.82	1.41	15
THREEWALL_919	600	1.14	5.1	123.64	0.61	1.3	1.82	1.41	15
THREEWALL_922	200	1.98	2.7	587.45	0.61	0.5	1.16	0.93	18
THREEWALL_922	200	1.98	3	418.25	0.61	0.54	1.16	0.93	15

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
THREEWALL_922	200	1.98	3.3	309.14	0.61	0.58	1.16	0.93	13
THREEWALL_922	200	1.98	3.6	236.87	0.61	0.62	1.16	0.93	12
THREEWALL_922	200	1.98	3.9	183.85	0.61	0.62	1.16	0.93	10
THREEWALL_922	200	1.98	4.2	148.83	0.61	0.62	1.16	0.93	9
THREEWALL_922	200	1.98	4.5	125.65	0.61	0.62	1.16	0.93	8
THREEWALL_923	300	1.98	3	706.09	0.61	0.54	1.36	1.08	15
THREEWALL_923	300	1.98	3.3	490.62	0.61	0.58	1.36	1.08	13
THREEWALL_923	300	1.98	3.6	368.3	0.61	0.58	1.36	1.08	11
THREEWALL_923	300	1.98	3.9	270.83	0.61	0.62	1.36	1.08	10
THREEWALL_923	300	1.98	4.2	210.29	0.61	0.62	1.36	1.08	9
THREEWALL_923	300	1.98	4.5	162.55	0.61	0.62	1.36	1.08	8
THREEWALL_923	300	1.98	4.8	137.83	0.61	0.62	1.36	1.08	7
THREEWALL_923	300	1.98	5.1	120.83	0.61	0.62	1.36	1.08	6
THREEWALL_924	400	1.98	3.3	661.79	0.61	0.58	1.53	1.20	13
THREEWALL_924	400	1.98	3.6	499.42	0.61	0.58	1.53	1.20	11
THREEWALL_924	400	1.98	3.9	368.24	0.61	0.58	1.53	1.20	9
THREEWALL_924	400	1.98	4.2	286.26	0.61	0.58	1.53	1.20	8
THREEWALL_924	400	1.98	4.5	226.33	0.61	0.58	1.53	1.20	7
THREEWALL_924	400	1.98	4.8	193.8	0.61	0.58	1.53	1.20	6
THREEWALL_924	400	1.98	5.1	163.16	0.61	0.58	1.53	1.20	6
THREEWALL_924	400	1.98	5.4	137.27	0.61	0.58	1.53	1.20	5
THREEWALL_924	400	1.98	5.7	117.47	0.61	0.62	1.53	1.20	5
THREEWALL_925	500	1.98	3.3	779.73	0.61	0.54	1.68	1.31	12
THREEWALL_925	500	1.98	3.6	644.76	0.61	0.54	1.68	1.31	9
THREEWALL_925	500	1.98	3.9	498.6	0.61	0.54	1.68	1.31	8

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
THREEWALL_925	500	1.98	4.2	385.1	0.61	0.58	1.68	1.31	8
THREEWALL_925	500	1.98	4.5	290.44	0.61	0.54	1.68	1.31	6
THREEWALL_925	500	1.98	4.8	242.34	0.61	0.54	1.68	1.31	5
THREEWALL_925	500	1.98	5.1	201.57	0.61	0.54	1.68	1.31	5
THREEWALL_925	500	1.98	5.4	172.52	0.61	0.58	1.68	1.31	5
THREEWALL_925	500	1.98	5.7	146.57	0.61	0.58	1.68	1.31	5
THREEWALL_925	500	1.98	6	126.18	0.61	0.58	1.68	1.31	4
THREEWALL_926	600	1.98	3.6	686.97	0.61	0.54	1.82	1.41	9
THREEWALL_926	600	1.98	3.9	541.53	0.61	0.54	1.82	1.41	8
THREEWALL_926	600	1.98	4.2	420.71	0.61	0.54	1.82	1.41	7
THREEWALL_926	600	1.98	4.5	320.56	0.61	0.54	1.82	1.41	6
THREEWALL_926	600	1.98	4.8	264.69	0.61	0.54	1.82	1.41	5
THREEWALL_926	600	1.98	5.1	224.92	0.61	0.54	1.82	1.41	5
THREEWALL_926	600	1.98	5.4	188.27	0.61	0.54	1.82	1.41	5
THREEWALL_926	600	1.98	5.7	163.19	0.61	0.5	1.82	1.41	4
THREEWALL_926	600	1.98	6	146.48	0.61	0.5	1.82	1.41	3
THREEWALL_979	300	1.14	2.4	290.52	0.91	0.9	1.50	1.21	21
THREEWALL_979	300	1.14	2.7	164.64	0.91	1.18	1.50	1.21	26
THREEWALL_979	300	1.14	3	126.48	0.91	1.34	1.50	1.21	27
THREEWALL_980	400	1.14	2.4	360.97	0.91	0.86	1.67	1.34	20
THREEWALL_980	400	1.14	2.7	211.62	0.91	1.18	1.67	1.34	26
THREEWALL_980	400	1.14	3	164.42	0.91	1.34	1.67	1.34	27
THREEWALL_980	400	1.14	3.3	131.59	0.91	1.5	1.67	1.34	27
THREEWALL_980	400	1.14	3.6	114.53	0.91	1.62	1.67	1.34	26
THREEWALL_981	500	1.14	2.4	502.3	0.91	0.86	1.82	1.45	20

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
THREEWALL_981	500	1.14	2.7	263.14	0.91	1.14	1.82	1.45	25
THREEWALL_981	500	1.14	3	203.96	0.91	1.34	1.82	1.45	27
THREEWALL_981	500	1.14	3.3	167.48	0.91	1.46	1.82	1.45	26
THREEWALL_981	500	1.14	3.6	143.06	0.91	1.54	1.82	1.45	25
THREEWALL_981	500	1.14	3.9	126.31	0.91	1.62	1.82	1.45	24
THREEWALL_981	500	1.14	4.2	113.8	0.91	1.66	1.82	1.45	22
THREEWALL_982	600	1.14	2.4	584.51	0.91	0.86	1.95	1.55	20
THREEWALL_982	600	1.14	2.7	330.93	0.91	1.14	1.95	1.55	25
THREEWALL_982	600	1.14	3	248.81	0.91	1.3	1.95	1.55	26
THREEWALL_982	600	1.14	3.3	201.1	0.91	1.42	1.95	1.55	25
THREEWALL_982	600	1.14	3.6	173.38	0.91	1.54	1.95	1.55	25
THREEWALL_982	600	1.14	3.9	151.54	0.91	1.62	1.95	1.55	24
THREEWALL_982	600	1.14	4.2	133.52	0.91	1.7	1.95	1.55	23
THREEWALL_982	600	1.14	4.5	118.27	0.91	1.78	1.95	1.55	22
THREEWALL_986	300	1.98	2.7	661.25	0.91	0.66	1.50	1.21	20
THREEWALL_986	300	1.98	3	470.11	0.91	0.66	1.50	1.21	14
THREEWALL_986	300	1.98	3.3	333.3	0.91	0.7	1.50	1.21	13
THREEWALL_986	300	1.98	3.6	258.73	0.91	0.7	1.50	1.21	10
THREEWALL_986	300	1.98	3.9	207.21	0.91	0.74	1.50	1.21	10
THREEWALL_986	300	1.98	4.2	162.1	0.91	0.74	1.50	1.21	9
THREEWALL_986	300	1.98	4.5	128.46	0.91	0.74	1.50	1.21	8
THREEWALL_987	400	1.98	3	656.43	0.91	0.7	1.67	1.34	16
THREEWALL_987	400	1.98	3.3	421.27	0.91	0.7	1.67	1.34	13
THREEWALL_987	400	1.98	3.6	319.87	0.91	0.74	1.67	1.34	12
THREEWALL_987	400	1.98	3.9	246.42	0.91	0.7	1.67	1.34	9

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
THREEWALL_987	400	1.98	4.2	200.39	0.91	0.74	1.67	1.34	9
THREEWALL_987	400	1.98	4.5	162.32	0.91	0.66	1.67	1.34	6
THREEWALL_987	400	1.98	4.8	144.19	0.91	0.7	1.67	1.34	6
THREEWALL_987	400	1.98	5.1	128.53	0.91	0.7	1.67	1.34	5
THREEWALL_987	400	1.98	5.4	115.35	0.91	0.7	1.67	1.34	5
THREEWALL_988	500	1.98	3	779.43	0.91	0.7	1.82	1.45	16
THREEWALL_988	500	1.98	3.3	586.92	0.91	0.7	1.82	1.45	13
THREEWALL_988	500	1.98	3.6	434.55	0.91	0.7	1.82	1.45	10
THREEWALL_988	500	1.98	3.9	323.91	0.91	0.7	1.82	1.45	9
THREEWALL_988	500	1.98	4.2	262.91	0.91	0.7	1.82	1.45	8
THREEWALL_988	500	1.98	4.5	209.44	0.91	0.66	1.82	1.45	6
THREEWALL_988	500	1.98	4.8	178.62	0.91	0.7	1.82	1.45	6
THREEWALL_988	500	1.98	5.1	157.02	0.91	0.7	1.82	1.45	5
THREEWALL_988	500	1.98	5.4	137.24	0.91	0.66	1.82	1.45	4
THREEWALL_988	500	1.98	5.7	117.4	0.91	0.7	1.82	1.45	5
THREEWALL_989	600	1.98	3.3	732.38	0.91	0.7	1.95	1.55	13
THREEWALL_989	600	1.98	3.6	562.49	0.91	0.74	1.95	1.55	12
THREEWALL_989	600	1.98	3.9	411.65	0.91	0.7	1.95	1.55	9
THREEWALL_989	600	1.98	4.2	329.02	0.91	0.7	1.95	1.55	8
THREEWALL_989	600	1.98	4.5	250.92	0.91	0.7	1.95	1.55	7
THREEWALL_989	600	1.98	4.8	213.27	0.91	0.7	1.95	1.55	6
THREEWALL_989	600	1.98	5.1	182.93	0.91	0.7	1.95	1.55	5
THREEWALL_989	600	1.98	5.4	156.71	0.91	0.7	1.95	1.55	5
THREEWALL_989	600	1.98	5.7	131.1	0.91	0.7	1.95	1.55	5
THREEWALL_989	600	1.98	6	117.61	0.91	0.62	1.95	1.55	3

Table E-9
Horizontal Plume Shift and Angle Sensitivity Results

Test	HRR (kW)	Source Height (m)	Elevation (m)	Maximum Plume Temperature Rise (C)	Diameter (m)	R_{PO} (m)	R_{rad}Thermoplastic (m)	R_{rad}Thermoset (m)	Angle
OBST_1052	1000	1.14	2.7	619.49	0.91	0.46	2.40	1.88	2
OBST_1061	1000	1.14	2.4	668.56	1.22	0.66	2.53	2.01	5
OBST_1061	1000	1.14	2.7	493.44	1.22	0.58	2.53	2.01	1
OBST_808	50	1.14	2.4	118.47	0.30	0.22	0.58	0.46	4
OBST_815	50	1.98	2.4	218.53	0.30	0.22	0.58	0.46	11
OBST_816	100	1.98	2.4	414.45	0.30	0.22	0.77	0.60	11
OBST_874	300	1.14	2.4	348.65	0.61	0.42	1.36	1.08	7
OBST_874	300	1.14	2.7	225.86	0.61	0.38	1.36	1.08	4
OBST_876	500	1.14	2.4	650.82	0.61	0.38	1.68	1.31	5
OBST_876	500	1.14	3	305.36	0.61	0.3	1.68	1.31	1
OBST_938	400	1.14	2.4	325.72	0.91	0.58	1.67	1.34	8
OBST_938	400	1.14	2.7	212.8	0.91	0.46	1.67	1.34	2
OBST_940	600	1.14	3	272.81	0.91	0.42	1.95	1.55	0
OBST_944	300	1.98	2.4	428.28	0.91	0.46	1.50	1.21	7
OBST_945	400	1.98	2.4	614.19	0.91	0.46	1.67	1.34	7

Index to Obstructed and Unobstructed Simulation Numbers

Table E-10
Index to Obstructed and Unobstructed Simulation Numbers

HRR (kW)	Source Height (m)	Source Diameter (m)	BASE_# (Unobstructed Plume)	OBST_# (Top Plate Only)	ARCH_# (Top Plate + 2 Walls)	THREEWALL_# (Top Plate + 3 Walls)
50	0.3048	0.3048	300	801	822	843
50	1.1430	0.3048	311	808	829	850
50	1.9812	0.3048	322	815	836	857
100	0.3048	0.3048	301	802	823	844
100	1.1430	0.3048	312	809	830	851
100	1.9812	0.3048	323	816	837	858
200	0.3048	0.6096	302	866	887	908
200	1.1430	0.6096	313	873	894	915
200	1.9812	0.6096	324	880	901	922
300	0.3048	0.6096	303	867	888	909
300	1.1430	0.6096	314	874	895	916
300	1.9812	0.6096	325	881	902	923
300	0.3048	0.9144	307	930	951	972
300	1.1430	0.9144	318	937	958	979
300	1.9812	0.9144	329	944	965	986
400	0.3048	0.6096	304	868	889	910
400	1.1430	0.6096	315	875	896	917
400	1.9812	0.6096	326	882	903	924
400	0.3048	0.9144	308	931	952	973
400	1.1430	0.9144	319	938	959	980
400	1.9812	0.9144	330	945	966	987
500	0.3048	0.6096	305	869	890	911
500	1.1430	0.6096	316	876	897	918
500	1.9812	0.6096	327	883	904	925
500	0.3048	0.9144	309	932	953	974
500	1.1430	0.9144	320	939	960	981
500	1.9812	0.9144	331	946	967	988
600	0.3048	0.6096	306	870	891	912
600	1.1430	0.6096	317	877	898	919
600	1.9812	0.6096	328	884	905	926
600	0.3048	0.9144	310	933	954	975
600	1.1430	0.9144	321	940	961	982
600	1.9812	0.9144	332	947	968	989
1000	0.3048	0.9144	404	1051	1054	1057
1000	1.1430	0.9144	400	1052	1055	1058

Table E-10
Index to Obstructed and Unobstructed Simulation Numbers

HRR (kW)	Source Height (m)	Source Diameter (m)	BASE_# (Unobstructed Plume)	OBST_# (Top Plate Only)	ARCH_# (Top Plate + 2 Walls)	THREEWALL_# (Top Plate + 3 Walls)
1000	1.9812	0.9144	401	1053	1056	1059
1000	0.3048	1.2192	405	1060	1063	1066
1000	1.1430	1.2192	402	1061	1064	1067
1000	1.9812	1.2192	403	1062	1065	1068

Index to Opening Sensitivity Simulation Numbers

Table E-11
Index to Opening Sensitivity Simulation Numbers

HRR (KW)	OPENING (%)	OBST_#	ARCH_#	THREEWALL_#
200	14	1106	1107	1108
600	12	1115	1116	1117
200	10	1103	1104	1105
600	10	1112	1113	1114
200	6.5	1100	1101	1102
600	7	1109	1110	1111