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January 23, 2025 23:15:09
B-RISK Fire Simulator and Design Fire Tool (Ver 2024.3)

Input Filename : input1.xml
Base File : C:\Users\franc\CSTBGroup\These_Francois_Consigny - Documents\Calculs Feu\Programmes\python\Brisk_pre_calculated\McGregor 1\basemodel_Iter0.xml

User Mode : Risk Simulator
Simulation Time = 7140.00 seconds.
Initial Time-Step = 1.00 seconds.

==========
Description of Rooms
==========
Room 1 : McGregor 1

Room Length (m) =	3.45
Room Width (m) =	4.45
Maximum Room Height (m) =	2.45
Minimum Room Height (m) =	2.45
Floor Elevation (m) =	0.000
Absolute X Position (m) =	0.000
Absolute Y Position (m) =	0.000

Room 1 has a flat ceiling.

Shape Factor (Af/H^2) =	2.6

Wall Surface is GYP1/2

Wall Density (kg/m3) =	790.0
Wall Conductivity (W/m.K) =	0.160
Wall Specific Heat (J/kg.K) =	900
Wall Emissivity =	0.90
Wall Thickness (mm) =	25.4
SQROOT Thermal Inertia (J.m-2.s-1/2.K-1) =	337

Wall Substrate is CLT

Wall Substrate Density (kg/m3) =	515.0
Wall Substrate Conductivity (W/m.K) =	0.130
Wall Substrate Specific Heat (J/kg.K) =	1600
Wall Substrate Thickness (mm) =	105.0

Ceiling Surface is GYP1/2

Ceiling Density (kg/m3) =	790.0
Ceiling Conductivity (W/m.K) =	0.160
Ceiling Specific Heat (J/kg.K) =	900
Ceiling Emissivity =	0.90
Ceiling Thickness (mm) =	25.4
SQROOT Thermal Inertia (J.m-2.s-1/2.K-1) =	337

Ceiling Substrate is CLT

Ceiling Substrate Density (kg/m3) =	515.0
Ceiling Substrate Conductivity (W/m.K) =	0.130
Ceiling Substrate Specific Heat (J/kg.K) =	1600
Ceiling Substrate Thickness (mm) =	105.0

Floor Surface is fibre cement sheet

Floor Density (kg/m3) =	1490.0
Floor Conductivity (W/m.K) =	0.720
Floor Specific Heat (J/kg.K) =	840
Floor Emissivity =	0.88
Floor Thickness = (mm)	12.7
SQROOT Thermal Inertia (J.m-2.s-1/2.K-1) =	949

Floor Substrate is GYP1/2

Floor Substrate Density (kg/m3) =	790.0
Floor Substrate Conductivity (W/m.K) =	0.160
Floor Substrate Specific Heat (J/kg.K) =	900
Floor Substrate Thickness (mm) =	15.9

==========
Wall Vents

```
================================================================
Vent  1 : McGregor 1_O1
                  From room 1 to 2
                  Front face of room 1
                  Offset (m) =                          1.190
                  Vent Width (m) =                      1.069
                  Vent Height (m) =                     2.000
                  Vent Sill Height (m) =                0.000
                  Vent Soffit Height (m) =              2.000
                  Opening Time (sec) =                  0
                  Closing Time (sec) =                  0
                  Discharge Coefficient (-) =           0.680

================================================================
Ceiling/Floor Vents
================================================================
================================================================
Ambient Conditions
================================================================
Interior Temp (C) =                                     5.5
Exterior Temp (C) =                                     5.5
Relative Humidity (%) =                                 50

================================================================
Tenability Parameters
================================================================
Monitoring Height for Visibility and FED (m) =          2.00
Asphyxiant gas model =                                  FED(CO) C/VM2
Visibility calculations assume:                         reflective signs
Egress path segments for FED calculations
1. Start Time (sec)                                     0
1. End Time (sec)                                       600
1. Room                                                 1
2. Start Time (sec)                                     0
2. End Time (sec)                                       0
2. Room                                                 0
3. Start Time (sec)                                     0
3. End Time (sec)                                       0
3. Room                                                 0

================================================================
Sprinkler / Detector Parameters
================================================================
         Ceiling Jet model used is NIST JET.
         Sprinkler System Reliability                   1.000
         Sprinkler Probability of Suppression           0.000
         Sprinkler Cooling Coefficient                  1.000

================================================================
Smoke Detector Parameters
================================================================
         Smoke Detection System Reliability             1.000


================================================================
Mechanical Ventilation (to/from outside)
================================================================
Mechanical Ventilation not installed.
         Mech ventilation system reliability            1.000


================================================================
Description of the Fire
================================================================
CO Yield pre-flashover(g/g) =                           0.040
Soot Alpha Coefficient =                                2.50
Smoke Epsilon Coefficient =                             1.20
Flame Emission Coefficient (1/m) =                      13.32
Fuel - Carbon Moles                                     3.00
Fuel - Hydrogen Moles                                   8.00
Fuel - Oxygen Moles                                     0.00
Fuel - Nitrogen Moles                                   0.00
Stoichiometric air/fuel ratio                           0.0
```

Burning objects are manually positioned in room.
Enhanced burning submodel is OFF

Burning Object No 1
3 MW propane gas burner

Located in Room	1
Energy Yield (kJ/g) =	43.7
CO2 Yield (kg/kg fuel) =	2.340
HCN Yield (kg/kg fuel) =	0.000
H2O Yield (kg/kg fuel) =	1.636
Soot Yield (kg/kg fuel) =	0.024
Heat Release Rate Per Unit Area (kW/m2) =	250.0
Radiant Loss Fraction =	0.30
Fire Elevation (m) =	0.000
Fire Object Length (m) =	1.700
Fire Object Width (m) =	1.300
Fire Object Height (m) =	0.000
Location, X-coordinate (m) =	2.150
Location, Y-coordinate (m) =	3.350
Fire Location (for entrainment)=	CORNER
Plume behaviour is	UNDISTURBED

Time (sec)	Heat Release (kW)
0	0
75	68
150	270
225	608
300	1080
375	1688
450	2430
525	3308
600	4320
675	0
750	0
825	0
900	0
975	0
1050	0
1125	0
1200	0
1275	68
1350	270
1425	608
1500	1080
1575	1688
1650	2430
1725	3308
1800	4247
1875	3000
1950	3000
2025	3000
2100	3000
2175	3000
2250	3000
2325	3000
2400	3000
2475	3000
2550	3000
2625	3000
2700	3000
2775	3000
2850	3000
2925	3000
3000	3000
3075	3000
3150	3000
3225	3000
3300	3000
3375	2750
3450	2500
3525	2250
3600	2000

3675	1750
3750	1500
3825	1250
3900	1000
3975	750
4050	500
4125	250
4200	0
4275	0
4350	0
4425	0
4500	0
4575	0
4650	0
4725	0
4800	0
4875	0
4950	0
5025	0
5100	0
5175	0
5250	0
5325	0
5400	0
5475	0
5550	0
5625	0
5700	0
5775	0
5850	0
5925	0
6000	0
6075	0
6150	0
6225	0
6300	0
6375	0
6450	0
6525	0
6600	0
6675	0
6750	0
6825	0
6900	0
6975	0
7050	0
7125	0
7200	0

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======================================================================
Postflashover Inputs
======================================================================
Postflashover model is OFF.


======================================================================
Results from Fire Simulation
======================================================================

0 min    00 sec
         (0 sec)                     Room 1    Outside

         Layer (m)                   2.446
         Upper Temp (C)              5.5
         Lower Temp (C)              5.5
         HRR (kW)                    0.0
         Visibility (m) at 2m        20+
         FED gases on egress path = 0.000
         FED thermal on egress path = 0.000

1 min    11 sec
         (71 sec)                    Room 1    Outside
```

```
         Layer (m)                    1.633
         Upper Temp (C)               72.1
         Lower Temp (C)               7.2
         HRR (kW)                     63.9
         Visibility (m) at 2m         4.50
         FED gases on egress path = 0.002
         FED thermal on egress path = 0.012

2 min    22 sec
         (142 sec)                    Room 1    Outside

         Layer (m)                    1.573
         Upper Temp (C)               194.2
         Lower Temp (C)               14.9
         HRR (kW)                     248.4
         Visibility (m) at 2m         1.68
         FED gases on egress path = 0.013
         FED thermal on egress path = 0.498

3 min    33 sec
         (213 sec)                    Room 1    Outside

         Layer (m)                    1.549
         Upper Temp (C)               324.9
         Lower Temp (C)               33.4
         HRR (kW)                     553.5
         Visibility (m) at 2m         1.04
         FED gases on egress path = 0.055
         FED thermal on egress path = 1.000

4 min    44 sec
         (284 sec)                    Room 1    Outside

         Layer (m)                    1.521
         Upper Temp (C)               453.4
         Lower Temp (C)               63.3
         HRR (kW)                     979.2
         Visibility (m) at 2m         0.79
         FED gases on egress path = 0.229
         FED thermal on egress path = 1.000

5 min    55 sec
         (355 sec)                    Room 1    Outside

         Layer (m)                    1.488
         Upper Temp (C)               585.4
         Lower Temp (C)               98.6
         HRR (kW)                     1525.5
         Visibility (m) at 2m         0.62
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

7 min    06 sec
         (426 sec)                    Room 1    Outside

         Layer (m)                    1.459
         Upper Temp (C)               714.9
         Lower Temp (C)               150.9
         HRR (kW)                     2069.5
         Visibility (m) at 2m         0.48
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

8 min    17 sec
         (497 sec)                    Room 1    Outside

         Layer (m)                    1.419
         Upper Temp (C)               785.0
         Lower Temp (C)               180.6
         HRR (kW)                     2186.9
         Visibility (m) at 2m         0.36
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000
```

9 min 28 sec
(568 sec) Room 1 Outside

Layer (m) 1.384
Upper Temp (C) 839.8
Lower Temp (C) 212.5
HRR (kW) 2293.1
Visibility (m) at 2m 0.27
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

10 min 39 sec
(639 sec) Room 1 Outside

Layer (m) 1.472
Upper Temp (C) 853.7
Lower Temp (C) 233.7
HRR (kW) 2061.4
Visibility (m) at 2m 0.47
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

11 min 50 sec
(710 sec) Room 1 Outside

Layer (m) 2.030
Upper Temp (C) 501.2
Lower Temp (C) 129.5
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

13 min 01 sec
(781 sec) Room 1 Outside

Layer (m) 2.083
Upper Temp (C) 413.6
Lower Temp (C) 100.6
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

14 min 12 sec
(852 sec) Room 1 Outside

Layer (m) 2.112
Upper Temp (C) 364.5
Lower Temp (C) 89.6
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

15 min 23 sec
(923 sec) Room 1 Outside

Layer (m) 2.131
Upper Temp (C) 330.2
Lower Temp (C) 80.5
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

16 min 34 sec
(994 sec) Room 1 Outside

Layer (m) 2.147
Upper Temp (C) 303.3
Lower Temp (C) 76.4

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         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

17 min   45 sec
         (1065 sec)                    Room 1    Outside

         Layer (m)                     2.158
         Upper Temp (C)                283.0
         Lower Temp (C)                71.3
         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

18 min   56 sec
         (1136 sec)                    Room 1    Outside

         Layer (m)                     2.168
         Upper Temp (C)                266.8
         Lower Temp (C)                66.9
         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

20 min   07 sec
         (1207 sec)                    Room 1    Outside

         Layer (m)                     2.095
         Upper Temp (C)                227.4
         Lower Temp (C)                63.4
         HRR (kW)                      6.3
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

21 min   18 sec
         (1278 sec)                    Room 1    Outside

         Layer (m)                     1.766
         Upper Temp (C)                232.9
         Lower Temp (C)                56.9
         HRR (kW)                      75.6
         Visibility (m) at 2m          3.95
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

22 min   29 sec
         (1349 sec)                    Room 1    Outside

         Layer (m)                     1.660
         Upper Temp (C)                316.6
         Lower Temp (C)                61.0
         HRR (kW)                      267.3
         Visibility (m) at 2m          1.92
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

23 min   40 sec
         (1420 sec)                    Room 1    Outside

         Layer (m)                     1.592
         Upper Temp (C)                420.7
         Lower Temp (C)                77.0
         HRR (kW)                      585.0
         Visibility (m) at 2m          1.18
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

24 min   51 sec
         (1491 sec)                    Room 1    Outside
```

	Layer (m)	1.540	
	Upper Temp (C)	541.0	
	Lower Temp (C)	100.8	
	HRR (kW)	1023.3	
	Visibility (m) at 2m	0.87	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
26 min	02 sec		
	(1562 sec)	Room 1	Outside
	Layer (m)	1.500	
	Upper Temp (C)	673.1	
	Lower Temp (C)	143.7	
	HRR (kW)	1582.2	
	Visibility (m) at 2m	0.67	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
27 min	13 sec		
	(1633 sec)	Room 1	Outside
	Layer (m)	1.463	
	Upper Temp (C)	799.1	
	Lower Temp (C)	194.8	
	HRR (kW)	2098.8	
	Visibility (m) at 2m	0.51	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
28 min	24 sec		
	(1704 sec)	Room 1	Outside
	Layer (m)	1.425	
	Upper Temp (C)	863.9	
	Lower Temp (C)	239.2	
	HRR (kW)	2224.4	
	Visibility (m) at 2m	0.38	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
29 min	35 sec		
	(1775 sec)	Room 1	Outside
	Layer (m)	1.389	
	Upper Temp (C)	917.1	
	Lower Temp (C)	273.2	
	HRR (kW)	2316.4	
	Visibility (m) at 2m	0.29	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
30 min	46 sec		
	(1846 sec)	Room 1	Outside
	Layer (m)	1.403	
	Upper Temp (C)	947.4	
	Lower Temp (C)	277.1	
	HRR (kW)	2260.4	
	Visibility (m) at 2m	0.32	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
31 min	57 sec		
	(1917 sec)	Room 1	Outside
	Layer (m)	1.429	
	Upper Temp (C)	958.9	
	Lower Temp (C)	290.9	
	HRR (kW)	2218.1	
	Visibility (m) at 2m	0.41	
	FED gases on egress path = 1.000		

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        FED thermal on egress path = 1.000

33 min  08 sec
        (1988 sec)                  Room 1    Outside

        Layer (m)                   1.430
        Upper Temp (C)              977.3
        Lower Temp (C)              306.1
        HRR (kW)                    2221.4
        Visibility (m) at 2m        0.41
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

34 min  19 sec
        (2059 sec)                  Room 1    Outside

        Layer (m)                   1.431
        Upper Temp (C)              992.0
        Lower Temp (C)              318.3
        HRR (kW)                    2223.1
        Visibility (m) at 2m        0.42
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

35 min  30 sec
        (2130 sec)                  Room 1    Outside

        Layer (m)                   1.431
        Upper Temp (C)              1005.7
        Lower Temp (C)              329.8
        HRR (kW)                    2224.7
        Visibility (m) at 2m        0.42
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

36 min  41 sec
        (2201 sec)                  Room 1    Outside

        Layer (m)                   1.432
        Upper Temp (C)              1017.7
        Lower Temp (C)              339.9
        HRR (kW)                    2226.1
        Visibility (m) at 2m        0.43
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

37 min  52 sec
        (2272 sec)                  Room 1    Outside

        Layer (m)                   1.432
        Upper Temp (C)              1028.2
        Lower Temp (C)              349.0
        HRR (kW)                    2227.2
        Visibility (m) at 2m        0.43
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

39 min  03 sec
        (2343 sec)                  Room 1    Outside

        Layer (m)                   1.433
        Upper Temp (C)              1037.5
        Lower Temp (C)              357.1
        HRR (kW)                    2228.1
        Visibility (m) at 2m        0.43
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

40 min  14 sec
        (2414 sec)                  Room 1    Outside

        Layer (m)                   1.433
        Upper Temp (C)              1045.8
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        Lower Temp (C)               364.4
        HRR (kW)                     2228.9
        Visibility (m) at 2m         0.44
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

41 min  25 sec
        (2485 sec)                   Room 1    Outside

        Layer (m)                    1.433
        Upper Temp (C)               1053.2
        Lower Temp (C)               371.0
        HRR (kW)                     2229.6
        Visibility (m) at 2m         0.44
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

42 min  36 sec
        (2556 sec)                   Room 1    Outside

        Layer (m)                    1.432
        Upper Temp (C)               1061.4
        Lower Temp (C)               373.7
        HRR (kW)                     2225.0
        Visibility (m) at 2m         0.44
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

43 min  47 sec
        (2627 sec)                   Room 1    Outside

        Layer (m)                    1.433
        Upper Temp (C)               1066.2
        Lower Temp (C)               375.9
        HRR (kW)                     2227.6
        Visibility (m) at 2m         0.44
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

44 min  58 sec
        (2698 sec)                   Room 1    Outside

        Layer (m)                    1.432
        Upper Temp (C)               1072.0
        Lower Temp (C)               375.3
        HRR (kW)                     2225.5
        Visibility (m) at 2m         0.45
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

46 min  09 sec
        (2769 sec)                   Room 1    Outside

        Layer (m)                    1.432
        Upper Temp (C)               1074.1
        Lower Temp (C)               375.8
        HRR (kW)                     2225.7
        Visibility (m) at 2m         0.45
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

47 min  20 sec
        (2840 sec)                   Room 1    Outside

        Layer (m)                    1.432
        Upper Temp (C)               1076.0
        Lower Temp (C)               376.7
        HRR (kW)                     2225.9
        Visibility (m) at 2m         0.45
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

48 min  31 sec
```

	(2911 sec)	Room 1	Outside
	Layer (m)	1.430	
	Upper Temp (C)	1086.3	
	Lower Temp (C)	378.4	
	HRR (kW)	2221.8	
	Visibility (m) at 2m	0.45	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
49 min	42 sec		
	(2982 sec)	Room 1	Outside
	Layer (m)	1.431	
	Upper Temp (C)	1088.6	
	Lower Temp (C)	378.3	
	HRR (kW)	2222.5	
	Visibility (m) at 2m	0.45	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
50 min	53 sec		
	(3053 sec)	Room 1	Outside
	Layer (m)	1.430	
	Upper Temp (C)	1090.6	
	Lower Temp (C)	378.1	
	HRR (kW)	2221.9	
	Visibility (m) at 2m	0.45	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
52 min	04 sec		
	(3124 sec)	Room 1	Outside
	Layer (m)	1.429	
	Upper Temp (C)	1096.1	
	Lower Temp (C)	377.5	
	HRR (kW)	2219.4	
	Visibility (m) at 2m	0.45	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
53 min	15 sec		
	(3195 sec)	Room 1	Outside
	Layer (m)	1.429	
	Upper Temp (C)	1099.8	
	Lower Temp (C)	376.9	
	HRR (kW)	2217.3	
	Visibility (m) at 2m	0.45	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
54 min	26 sec		
	(3266 sec)	Room 1	Outside
	Layer (m)	1.429	
	Upper Temp (C)	1102.7	
	Lower Temp (C)	377.8	
	HRR (kW)	2217.3	
	Visibility (m) at 2m	0.45	
	FED gases on egress path = 1.000		
	FED thermal on egress path = 1.000		
55 min	37 sec		
	(3337 sec)	Room 1	Outside
	Layer (m)	1.435	
	Upper Temp (C)	1105.0	
	Lower Temp (C)	378.6	
	HRR (kW)	2201.9	
	Visibility (m) at 2m	0.47	

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         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

56 min   48 sec
         (3408 sec)                    Room 1    Outside

         Layer (m)                     1.447
         Upper Temp (C)                1104.9
         Lower Temp (C)                378.3
         HRR (kW)                      2171.4
         Visibility (m) at 2m          0.53
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

57 min   59 sec
         (3479 sec)                    Room 1    Outside

         Layer (m)                     1.461
         Upper Temp (C)                1103.7
         Lower Temp (C)                377.1
         HRR (kW)                      2137.6
         Visibility (m) at 2m          0.59
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

59 min   10 sec
         (3550 sec)                    Room 1    Outside

         Layer (m)                     1.477
         Upper Temp (C)                1101.1
         Lower Temp (C)                378.7
         HRR (kW)                      2101.8
         Visibility (m) at 2m          0.66
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

60 min   21 sec
         (3621 sec)                    Room 1    Outside

         Layer (m)                     1.493
         Upper Temp (C)                1084.1
         Lower Temp (C)                377.1
         HRR (kW)                      1930.0
         Visibility (m) at 2m          0.75
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

61 min   32 sec
         (3692 sec)                    Room 1    Outside

         Layer (m)                     1.513
         Upper Temp (C)                1044.0
         Lower Temp (C)                371.2
         HRR (kW)                      1693.3
         Visibility (m) at 2m          0.85
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

62 min   43 sec
         (3763 sec)                    Room 1    Outside

         Layer (m)                     1.531
         Upper Temp (C)                998.6
         Lower Temp (C)                338.6
         HRR (kW)                      1456.7
         Visibility (m) at 2m          0.95
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

63 min   54 sec
         (3834 sec)                    Room 1    Outside

         Layer (m)                     1.550
```

```
         Upper Temp (C)               949.6
         Lower Temp (C)               306.0
         HRR (kW)                     1220.0
         Visibility (m) at 2m         1.08
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

65 min   05 sec
         (3905 sec)                   Room 1    Outside

         Layer (m)                    1.575
         Upper Temp (C)               892.7
         Lower Temp (C)               277.6
         HRR (kW)                     983.3
         Visibility (m) at 2m         1.23
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

66 min   16 sec
         (3976 sec)                   Room 1    Outside

         Layer (m)                    1.605
         Upper Temp (C)               831.7
         Lower Temp (C)               259.9
         HRR (kW)                     746.7
         Visibility (m) at 2m         1.45
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

67 min   27 sec
         (4047 sec)                   Room 1    Outside

         Layer (m)                    1.641
         Upper Temp (C)               766.0
         Lower Temp (C)               226.9
         HRR (kW)                     510.0
         Visibility (m) at 2m         1.80
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

68 min   38 sec
         (4118 sec)                   Room 1    Outside

         Layer (m)                    1.694
         Upper Temp (C)               689.7
         Lower Temp (C)               195.2
         HRR (kW)                     273.3
         Visibility (m) at 2m         2.54
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

69 min   49 sec
         (4189 sec)                   Room 1    Outside

         Layer (m)                    1.817
         Upper Temp (C)               605.3
         Lower Temp (C)               176.9
         HRR (kW)                     36.7
         Visibility (m) at 2m         6.21
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

71 min   00 sec
         (4260 sec)                   Room 1    Outside

         Layer (m)                    2.007
         Upper Temp (C)               630.8
         Lower Temp (C)               176.1
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000
```

72 min 11 sec
(4331 sec) Room 1 Outside

Layer (m) 2.019
Upper Temp (C) 607.8
Lower Temp (C) 166.6
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

73 min 22 sec
(4402 sec) Room 1 Outside

Layer (m) 2.031
Upper Temp (C) 586.8
Lower Temp (C) 158.2
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

74 min 33 sec
(4473 sec) Room 1 Outside

Layer (m) 2.041
Upper Temp (C) 567.9
Lower Temp (C) 150.9
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

75 min 44 sec
(4544 sec) Room 1 Outside

Layer (m) 2.050
Upper Temp (C) 550.9
Lower Temp (C) 144.6
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

76 min 55 sec
(4615 sec) Room 1 Outside

Layer (m) 2.058
Upper Temp (C) 535.4
Lower Temp (C) 139.0
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

78 min 06 sec
(4686 sec) Room 1 Outside

Layer (m) 2.066
Upper Temp (C) 521.1
Lower Temp (C) 133.9
HRR (kW) 0.0
Visibility (m) at 2m 20+
FED gases on egress path = 1.000
FED thermal on egress path = 1.000

79 min 17 sec
(4757 sec) Room 1 Outside

Layer (m) 2.073
Upper Temp (C) 507.9
Lower Temp (C) 129.4
HRR (kW) 0.0

```
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

80 min   28 sec
         (4828 sec)                    Room 1    Outside

         Layer (m)                     2.080
         Upper Temp (C)                495.5
         Lower Temp (C)                125.3
         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

81 min   39 sec
         (4899 sec)                    Room 1    Outside

         Layer (m)                     2.086
         Upper Temp (C)                484.0
         Lower Temp (C)                121.5
         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

82 min   50 sec
         (4970 sec)                    Room 1    Outside

         Layer (m)                     2.092
         Upper Temp (C)                473.0
         Lower Temp (C)                117.9
         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

84 min   01 sec
         (5041 sec)                    Room 1    Outside

         Layer (m)                     2.097
         Upper Temp (C)                462.7
         Lower Temp (C)                114.7
         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

85 min   12 sec
         (5112 sec)                    Room 1    Outside

         Layer (m)                     2.102
         Upper Temp (C)                452.9
         Lower Temp (C)                111.6
         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

86 min   23 sec
         (5183 sec)                    Room 1    Outside

         Layer (m)                     2.107
         Upper Temp (C)                443.6
         Lower Temp (C)                108.8
         HRR (kW)                      0.0
         Visibility (m) at 2m          20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

87 min   34 sec
         (5254 sec)                    Room 1    Outside
```

```
         Layer (m)                    2.111
         Upper Temp (C)               434.7
         Lower Temp (C)               106.1
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

88 min   45 sec
         (5325 sec)                   Room 1    Outside

         Layer (m)                    2.116
         Upper Temp (C)               426.2
         Lower Temp (C)               103.5
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

89 min   56 sec
         (5396 sec)                   Room 1    Outside

         Layer (m)                    2.120
         Upper Temp (C)               417.6
         Lower Temp (C)               101.7
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

91 min   07 sec
         (5467 sec)                   Room 1    Outside

         Layer (m)                    2.124
         Upper Temp (C)               409.7
         Lower Temp (C)               100.0
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

92 min   18 sec
         (5538 sec)                   Room 1    Outside

         Layer (m)                    2.128
         Upper Temp (C)               402.3
         Lower Temp (C)               99.9
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

93 min   29 sec
         (5609 sec)                   Room 1    Outside

         Layer (m)                    2.132
         Upper Temp (C)               395.2
         Lower Temp (C)               98.6
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

94 min   40 sec
         (5680 sec)                   Room 1    Outside

         Layer (m)                    2.135
         Upper Temp (C)               388.3
         Lower Temp (C)               96.6
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000
```

95 min 51 sec
        (5751 sec)   Room 1   Outside

        Layer (m)   2.138
        Upper Temp (C)   381.6
        Lower Temp (C)   94.7
        HRR (kW)   0.0
        Visibility (m) at 2m   20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

97 min 02 sec
        (5822 sec)   Room 1   Outside

        Layer (m)   2.142
        Upper Temp (C)   375.1
        Lower Temp (C)   92.8
        HRR (kW)   0.0
        Visibility (m) at 2m   20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

98 min 13 sec
        (5893 sec)   Room 1   Outside

        Layer (m)   2.145
        Upper Temp (C)   368.8
        Lower Temp (C)   91.0
        HRR (kW)   0.0
        Visibility (m) at 2m   20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

99 min 24 sec
        (5964 sec)   Room 1   Outside

        Layer (m)   2.148
        Upper Temp (C)   362.7
        Lower Temp (C)   89.3
        HRR (kW)   0.0
        Visibility (m) at 2m   20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

100 min 35 sec
        (6035 sec)   Room 1   Outside

        Layer (m)   2.151
        Upper Temp (C)   356.7
        Lower Temp (C)   87.7
        HRR (kW)   0.0
        Visibility (m) at 2m   20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

101 min 46 sec
        (6106 sec)   Room 1   Outside

        Layer (m)   2.154
        Upper Temp (C)   351.0
        Lower Temp (C)   86.1
        HRR (kW)   0.0
        Visibility (m) at 2m   20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

102 min 57 sec
        (6177 sec)   Room 1   Outside

        Layer (m)   2.157
        Upper Temp (C)   345.4
        Lower Temp (C)   84.6

```
        HRR (kW)                    0.0
        Visibility (m) at 2m        20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

104 min  08 sec
        (6248 sec)                  Room 1    Outside

        Layer (m)                   2.159
        Upper Temp (C)              339.9
        Lower Temp (C)              83.1
        HRR (kW)                    0.0
        Visibility (m) at 2m        20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

105 min  19 sec
        (6319 sec)                  Room 1    Outside

        Layer (m)                   2.162
        Upper Temp (C)              334.6
        Lower Temp (C)              81.7
        HRR (kW)                    0.0
        Visibility (m) at 2m        20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

106 min  30 sec
        (6390 sec)                  Room 1    Outside

        Layer (m)                   2.164
        Upper Temp (C)              329.5
        Lower Temp (C)              80.3
        HRR (kW)                    0.0
        Visibility (m) at 2m        20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

107 min  41 sec
        (6461 sec)                  Room 1    Outside

        Layer (m)                   2.167
        Upper Temp (C)              324.5
        Lower Temp (C)              79.0
        HRR (kW)                    0.0
        Visibility (m) at 2m        20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

108 min  52 sec
        (6532 sec)                  Room 1    Outside

        Layer (m)                   2.169
        Upper Temp (C)              319.6
        Lower Temp (C)              77.7
        HRR (kW)                    0.0
        Visibility (m) at 2m        20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

110 min  03 sec
        (6603 sec)                  Room 1    Outside

        Layer (m)                   2.172
        Upper Temp (C)              314.6
        Lower Temp (C)              77.1
        HRR (kW)                    0.0
        Visibility (m) at 2m        20+
        FED gases on egress path = 1.000
        FED thermal on egress path = 1.000

111 min  14 sec
        (6674 sec)                  Room 1    Outside
```

```
         Layer (m)                    2.174
         Upper Temp (C)               309.5
         Lower Temp (C)               77.0
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

112 min  25 sec
         (6745 sec)                   Room 1    Outside

         Layer (m)                    2.177
         Upper Temp (C)               304.3
         Lower Temp (C)               76.9
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

113 min  36 sec
         (6816 sec)                   Room 1    Outside

         Layer (m)                    2.179
         Upper Temp (C)               299.7
         Lower Temp (C)               75.8
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

114 min  47 sec
         (6887 sec)                   Room 1    Outside

         Layer (m)                    2.181
         Upper Temp (C)               295.3
         Lower Temp (C)               74.6
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

115 min  58 sec
         (6958 sec)                   Room 1    Outside

         Layer (m)                    2.184
         Upper Temp (C)               291.0
         Lower Temp (C)               73.5
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

117 min  09 sec
         (7029 sec)                   Room 1    Outside

         Layer (m)                    2.186
         Upper Temp (C)               286.8
         Lower Temp (C)               72.4
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
         FED thermal on egress path = 1.000

118 min  20 sec
         (7100 sec)                   Room 1    Outside

         Layer (m)                    2.188
         Upper Temp (C)               282.7
         Lower Temp (C)               71.3
         HRR (kW)                     0.0
         Visibility (m) at 2m         20+
         FED gases on egress path = 1.000
```

FED thermal on egress path = 1.000

```
======================================================================
Event Log
======================================================================
FED(thermal) Exceeded 0.3 at 131.0 Seconds.
FED(CO) Exceeded 0.3 at 296.0 Seconds.
409 sec. Ventilation Limit 2024 kW.
Fitted t2 alpha coefficient (kW/s2) = 0.012
311 sec. Flashover in Room 1.
32 sec. Visibility at 2m above floor reduced to 10 m in room 1
0 sec. Item 1 3 MW propane gas burner ignited.
Iteration 1


======================================================================
Computer Run-Time = 5.8 seconds.
======================================================================
```