Early Pool Fire Report

Workspace: 72438-4InvioGNL-12Rc

Study: Riempimento FSRU-ME4

Equipment Item: 12Rc Meteo avverso+ERS

72438-4InvioGNL-12Rc\Riempimento FSRU-ME4\12Rc Meteo avverso+ERS

Material	**GAS NATURALE**	
East	0	m
North	0	m

Scenario (User defined source) : 300mm-Q63,6

72438-4InvioGNL-12Rc\Riempimento FSRU-ME4\12Rc Meteo avverso+ERS\300mm-Q63,6

Weather: Category 2/F

Wind speed [m/s]	**2**
Pasquill stability	**F stable - night with moderate clouds and light/moderate wind**
Atmospheric temperature [degC]	**25**
Relative humidity [fraction]	**0,75**
Solar radiation flux [kW/m2]	0,5

Pool fire model results

Early pool fires are assumed to occur at a time when the initial PVAP rainout rate equals the pool fire burn rate, unless the thus calculated pool fire radius exceeds the maximum PVAP pool radius. For the latter case the early pool fire radius is assumed to be the maximum PVAP pool radius. The pool fire centre is located at the rainout point.

INPUT DATA

Correlation Type: Thomas / Johnson

Surface type	Land	
Pool fire elevation	0	m
Maximum exposure duration	20	s
Downwind distance of liquid rainout	0	m
Use two zone pool fire model	No	

OUTPUT DATA

Pool fire diameter	24,4137	m
Downwind distance of pool fire centre	0	m
Pool fire flame length	41,1622	m
Angle between pool fire axis and vertical	28,5665	deg
Flame emissive power	205,313	kW/m2
Total burn rate	43,6778	kg/s
Radiative fraction	0,345575	fraction

Radiation Intensity Ellipse Results

INPUT DATA

For ellipses 'observer direction' refers to whether inclination is 'fixed' or 'variable'. Orientation is always variable.

Observer direction	Variable	
Exposure duration	20	s
Height of interest	**1,7**	m

OUTPUT DATA

Radiation intensity

Incident radiation [kW/m2]	Lethality [%]	View factor	Probit	Dose [(W/m2)^ProbitN.s]	Hazard information	Ellipse half-length [m]	Ellipse half-width [m]	Ellipse centre downwind distance [m]	Effect downwind distance [m]	Ellipse area [m2]
3	0	0,0146119	-1,38321	865.119	-	116,436	119,106	13,8258	130,262	43568,3
5	0,000174704	0,0243531	0,360367	1.709.491	-	91,176	93,2396	13,5799	104,756	26707,3
7	0,02405	0,034	1,508	2.677.313	-	77,4	79,0	13,446	90,886	1922

		0943	83			401	16	7	8	3,4
12,5	6,52536	0,0608827	3,48789	5.800.162	-	58,2833	58,6068	13,3058	71,5892	1073 1,1
37,5	98,7381	0,182648	7,23773	25.094.924	-	31,8502	30,2629	10,0257	41,8759	3028 ,11

Radiation v Distance Results

INPUT DATA

Maximum distance	130,262	m
Angle from wind direction	0	deg
Observer direction	Variable	
Height of interest	**1,7**	m

OUTPUT DATA

Downwind distance [m]	Maximum incident radiation [kW/m2]	Lethality level [fraction]
0	205,313	1
2,6584	205,313	1
5,3168	205,313	1
7,97521	205,313	1
10,6336	205,313	1
13,292	205,313	1
15,9504	133,07	1
18,6088	105,595	1
21,2672	88,6571	1
23,9256	76,9983	0,999999
26,584	68,0017	0,99999
29,2424	60,9056	0,99995
31,9008	55,1481	0,99981
34,5592	49,8643	0,999337
37,2176	44,9756	0,99787
39,876	40,5452	0,993864
42,5344	36,5444	0,984208
45,1928	32,9395	0,963684

47,8512	29,699	0,925302
50,5096	26,7935	0,8622
53,168	24,1947	0,770962
55,8264	21,8752	0,654697
58,4848	19,8083	0,523631
61,1432	17,9686	0,392252
63,8016	16,3317	0,274426
66,46	14,8751	0,179224
69,1184	13,5784	0,109412
71,7768	12,4227	0,062603
74,4352	11,3914	0,0336917
77,0937	10,4695	0,0171241
79,7521	9,64409	0,00825489
82,4105	8,9035	0,00379071
85,0689	8,23766	0,00166526
87,7273	7,63774	0,000702708
90,3857	7,09604	0,00028594
93,0441	6,60584	0,000112605
95,7025	6,16706	4,36378E-05
98,3609	5,78844	1,73866E-05
101,019	5,44112	6,77954E-06
103,678	5,12202	2,59289E-06
106,336	4,82836	9,74653E-07
108,994	4,55769	3,60754E-07
111,653	4,3078	1,31708E-07
114,311	4,07675	4,75048E-08
116,97	3,86278	1,69515E-08
119,628	3,66434	0
122,286	3,48002	0
124,945	3,30859	0
127,603	3,14891	0
130,262	2,99998	0

Weather: Category 5/D

Wind speed [m/s]	**5**
Pasquill stability	**D neutral - little sun and high wind or overcast/windy night**
Atmospheric temperature [degC]	25
Relative humidity [fraction]	0,75
Solar radiation flux [kW/m2]	0,5

Pool fire model results

Early pool fires are assumed to occur at a time when the initial PVAP rainout rate equals the pool fire burn rate, unless the thus calculated pool fire radius exceeds the maximum PVAP pool radius. For the latter case the early pool fire radius is assumed to be the maximum PVAP pool radius. The pool fire centre is located at the rainout point.

INPUT DATA

Correlation Type: Thomas / Johnson

Surface type	Land	
Pool fire elevation	0	m
Maximum exposure duration	20	s
Downwind distance of liquid rainout	0	m
Use two zone pool fire model	No	

OUTPUT DATA

Pool fire diameter	24,2659	m
Downwind distance of pool fire centre	0	m
Pool fire flame length	40,9721	m
Angle between pool fire axis and vertical	46,165	deg
Flame emissive power	205,227	kW/m2
Total burn rate	43,1217	kg/s
Radiative fraction	0,346097	fraction

Radiation Intensity Ellipse Results

INPUT DATA

For ellipses 'observer direction' refers to whether inclination is 'fixed' or 'variable'. Orientation is always variable.

Observer direction	Variable	
Exposure duration	20	s
Height of interest	**1,7**	m

OUTPUT DATA

Radiation intensity

Incident radiation [kW/m2]	Lethality [%]	View factor	Probit	Dose [(W/m2)^ProbitN.s]	Hazard information	Ellipse half-length [m]	Ellipse half-width [m]	Ellipse centre downwind distance [m]	Effect downwind distance [m]	Ellipse area [m2]
3	0	0,014618	-1,38321	865.119	-	109,741	116,312	20,4542	130,195	40099,9
5	0,000174704	0,0243633	0,360367	1.709.491	-	86,8379	91,6762	20,2306	107,068	25010,1
7	0,02405	0,0341086	1,50883	2.677.313	-	74,3989	78,1838	19,9466	94,3455	18274
12,5	6,52536	0,0609082	3,48789	5.800.162	-	56,8498	58,9261	18,99	75,8398	10524,1
37,5	98,7381	0,182725	7,23773	25.094.924	-	34,7321	32,217	15,5512	50,2833	3515,33

Radiation v Distance Results

INPUT DATA

Maximum distance	130,195	m
Angle from wind direction	0	deg
Observer direction	Variable	
Height of interest	**1,7**	m

OUTPUT DATA

Downwind distance [m]	Maximum incident radiation [kW/m2]	Lethality level [fraction]
0	205,227	1
2,65704	205,227	1
5,31408	205,227	1
7,97112	205,227	1
10,6282	205,227	1
13,2852	205,227	1
15,9422	140,561	1
18,5993	117,842	1
21,2563	102,509	1
23,9134	91,1168	1
26,5704	82,2134	1
29,2275	75,0964	0,999998
31,8845	68,744	0,999992
34,5415	63,5962	0,999973
37,1986	58,9734	0,999923
39,8556	55,0491	0,999806
42,5127	51,3721	0,999537
45,1697	46,6645	0,998577
47,8267	41,8096	0,99546
50,4838	37,1589	0,986327
53,1408	32,8611	0,963031
55,7979	28,9817	0,912803
58,4549	25,538	0,822894
61,1119	22,5164	0,690279
63,769	19,8859	0,528937
66,426	17,6066	0,365835
69,0831	15,8674	0,242614
71,7401	14,4269	0,153208
74,3972	13,1397	0,0898377
77,0542	11,9917	0,0490829
79,7112	10,9683	0,0250988
82,3683	10,0557	0,0120735
85,0253	9,24102	0,00549268

87,6824	8,51256	0,00237571
90,3394	7,85996	0,000981904
92,9964	7,27409	0,000389665
95,6535	6,74693	0,000149139
98,3105	6,27149	5,52766E-05
100,968	5,84168	1,99141E-05
103,625	5,45218	6,99709E-06
106,282	5,0984	2,40511E-06
108,939	4,77632	8,10977E-07
111,596	4,48243	2,68913E-07
114,253	4,21367	8,7884E-08
116,91	3,96737	2,83641E-08
119,567	3,74119	9,05663E-09
122,224	3,53307	0
124,881	3,3412	0
127,538	3,16398	0
130,195	3	0