Annex D7

Thermal Oxidizer, Landfill Gas Flare and Landfill Gas Generator Stack Emission Monitoring Results

Table D7.1 Thermal Oxidiser Stack Emission Monitoring Results

Parameters	Monitoring Results
NO_2	0.39 gs^{-1}
CO	<0.01 gs^{-1}
SO_2	0.04 gs^{-1}
Benzene	<2 x 10^{-4} gs^{-1}
Vinyl chloride	<1.3 x 10^{-4} gs^{-1}
Exhaust gas velocity	11.9 ms^{-1}

Table D7.2 Thermal Oxidiser Stack Continuous Monitoring Results

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]
1-Oct-22	920	1240	
2-Oct-22	924	1246	
3-Oct-22	921	1238	
4-Oct-22	928	1444	
5-Oct-22	921	1593	
6-Oct-22	928	1486	
7-Oct-22	934	1334	
8-Oct-22	930	1280	
9-Oct-22	926	1272	
10-Oct-22	926	1243	
11-Oct-22	930	1264	
12-Oct-22	928	1206	
13-Oct-22	922	1205	
14-Oct-22	935	1205	
15-Oct-22	931	1206	
16-Oct-22	927	1204	11.9
17-Oct-22	931	1206	
18-Oct-22	928	1208	
19-Oct-22	901	1189	
20-Oct-22	934	1210	
21-Oct-22	934	1215	
22-Oct-22	927	1207	
23-Oct-22	917	1184	
24-Oct-22	927	1212	
25-Oct-22	912	1193	
26-Oct-22	920	1207	
27-Oct-22	931	1206	
28-Oct-22	937	1210	
29-Oct-22	933	1209	
30-Oct-22	933	1204	
31-Oct-22	912	1147	
Average	926	1248	-
Min	901	1147	-
Max	937	1593	-

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.

Table D7.3 Landfill Gas Flare Stack Emission Monitoring Results

Parameters	Monitoring Results (Flare 1 – F601)
NO_2	0.013 gs^{-1}
CO	<0.01 gs^{-1}
SO_2	0.26 gs^{-1}
Benzene	<1.22 x 10^{-4} gs^{-1}
Vinyl chloride	<9.8 x 10^{-5} gs^{-1}
Exhaust gas velocity	6.5 ms^{-1}

Table D7.4 Landfill Gas Flare Stack Continuous Monitoring Results

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) (a)	Operation Status
Flare 1 – F601				
1-Oct-22	924	1074		In Operation
2-Oct-22	910	988		In Operation
3-Oct-22	954	1183		In Operation
4-Oct-22	-	-		Under Maintenance
5-Oct-22	945	1006		In Operation
6-Oct-22	820	1023		In Operation
7-Oct-22	990	1013		In Operation
8-Oct-22	880	1073		In Operation
9-Oct-22	990	1163		In Operation
10-Oct-22	880	1083		In Operation
11-Oct-22	990	1083		In Operation
12-Oct-22	970	1093		In Operation
13-Oct-22	830	993		In Operation
14-Oct-22	830	1073		In Operation
15-Oct-22	900	1033		In Operation
16-Oct-22	890	1003	6.5	In Operation
17-Oct-22	980	1083		In Operation
18-Oct-22	900	1063		In Operation
19-Oct-22	900	1153		In Operation
20-Oct-22	935	1073		In Operation
21-Oct-22	950	1113		In Operation
22-Oct-22	925	1073		In Operation
23-Oct-22	890	1063		In Operation
24-Oct-22	820	1023		In Operation
25-Oct-22	960	1103		In Operation
26-Oct-22	880	1023		In Operation
27-Oct-22	960	1073		In Operation
28-Oct-22	890	1033		In Operation
29-Oct-22	850	1013		In Operation
30-Oct-22	870	1023		In Operation
31-Oct-22	820	1003		In Operation
Average	908	1060	-	
Min	820	988	-	
Max	990	1183	-	
Flare 2 – F602				
1-Oct-22	890	1103		In Operation
2-Oct-22	890	1098		In Operation
3-Oct-22	890	1053		In Operation
4-Oct-22	860	1093	6.5	In Operation
5-Oct-22	890	1083		In Operation
6-Oct-22	890	1083		In Operation
7-Oct-22	830	1053		In Operation

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status
8-Oct-22	880	1093		In Operation
9-Oct-22	840	1053		In Operation
10-Oct-22	890	1073		In Operation
11-Oct-22	880	1093		In Operation
12-Oct-22	825	1033		In Operation
13-Oct-22	890	1093		In Operation
14-Oct-22	820	993		In Operation
15-Oct-22	880	1043		In Operation
16-Oct-22	880	1103		In Operation
17-Oct-22	880	1073		In Operation
18-Oct-22	830	1083		In Operation
19-Oct-22	830	1043		In Operation
20-Oct-22	910	1133		In Operation
21-Oct-22	880	1103		In Operation
22-Oct-22	890	1053		In Operation
23-Oct-22	900	1113		In Operation
24-Oct-22	890	1093		In Operation
25-Oct-22	840	1053		In Operation
26-Oct-22	860	1073		In Operation
27-Oct-22	900	1113		In Operation
28-Oct-22	860	1073		In Operation
29-Oct-22	890	1083		In Operation
30-Oct-22	880	1073		In Operation
31-Oct-22	870	1053		In Operation
Average	872	1076	-	
Min	820	993	-	
Max	910	1133	-	

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.

Table D7.5 Landfill Gas Generator Stack Emission Monitoring Results

Parameters	Monitoring Results
NO_2	0.08 gs^{-1}
CO	0.56 gs^{-1}
SO_2	0.006 gs^{-1}
Benzene	<1.12 x 10^{-4} gs^{-1}
Vinyl chloride	<9.7 x 10^{-6} gs^{-1}
Exhaust gas velocity	10.3 ms^{-1}

Table D7.6 Landfill Gas Generator Stack Continuous Monitoring Results

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status (Landfill Gas Generator in Operation)
1-Oct-22	861		In Operation (ENGA)
2-Oct-22	867		In Operation (ENGA)
3-Oct-22	865		In Operation (ENGA)
4-Oct-22	865		In Operation (ENGA)
5-Oct-22	865		In Operation (ENGA)
6-Oct-22	865		In Operation (ENGA)
7-Oct-22	864		In Operation (ENGA)
8-Oct-22	863		In Operation (ENGA)
9-Oct-22	860		In Operation (ENGA)
10-Oct-22	856		In Operation (ENGA)
11-Oct-22	855		In Operation (ENGA)
12-Oct-22	864		In Operation (ENGA)
13-Oct-22	865		In Operation (ENGA)
14-Oct-22	865		In Operation (ENGA)
15-Oct-22	851		In Operation (ENGA)
16-Oct-22	852	10.3	In Operation (ENGA)
17-Oct-22	855		In Operation (ENGA)
18-Oct-22	859		In Operation (ENGA)
19-Oct-22	865		In Operation (ENGA)
20-Oct-22	866		In Operation (ENGA)
21-Oct-22	867		In Operation (ENGA)
22-Oct-22	869		In Operation (ENGA)
23-Oct-22	874		In Operation (ENGA)
24-Oct-22	871		In Operation (ENGA)
25-Oct-22	873		In Operation (ENGA)
26-Oct-22	869		In Operation (ENGA)
27-Oct-22	874		In Operation (ENGA)
28-Oct-22	877		In Operation (ENGA)
29-Oct-22	877		In Operation (ENGA)
30-Oct-22	875		In Operation (ENGA)
31-Oct-22	893		In Operation (ENGA)
Average	866	-	
Min	851	-	
Max	893	-	
1-Oct-22	847		In Operation (ENGB)
2-Oct-22	863		In Operation (ENGB)
3-Oct-22	861		In Operation (ENGB)
4-Oct-22	858		In Operation (ENGB)
5-Oct-22	860		In Operation (ENGB)
6-Oct-22	857		In Operation (ENGB)
7-Oct-22	864		In Operation (ENGB)
8-Oct-22	862		In Operation (ENGB)
9-Oct-22	859		In Operation (ENGB)
10-Oct-22	855		In Operation (ENGB)

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms^{-1}) [(a)]	Operation Status (Landfill Gas Generator in Operation)
11-Oct-22	856		In Operation (ENGB)
12-Oct-22	858	10.3	In Operation (ENGB)
13-Oct-22	862		In Operation (ENGB)
14-Oct-22	859		In Operation (ENGB)
15-Oct-22	858		In Operation (ENGB)
16-Oct-22	848		In Operation (ENGB)
17-Oct-22	859		In Operation (ENGB)
18-Oct-22	858		In Operation (ENGB)
19-Oct-22	857		In Operation (ENGB)
20-Oct-22	857		In Operation (ENGB)
21-Oct-22	861		In Operation (ENGB)
22-Oct-22	862		In Operation (ENGB)
23-Oct-22	867		In Operation (ENGB)
24-Oct-22	865		In Operation (ENGB)
25-Oct-22	865		In Operation (ENGB)
26-Oct-22	863		In Operation (ENGB)
27-Oct-22	864		In Operation (ENGB)
28-Oct-22	866		In Operation (ENGB)
29-Oct-22	866		In Operation (ENGB)
30-Oct-22	863		In Operation (ENGB)
31-Oct-22	865		In Operation (ENGB)
Average	860	-	
Min	847	-	
Max	867	-	

Notes:

(a) The exhaust gas velocity was calculated based on the cross-section area of the stack and the gas flow and combustion temperature data measured during the stack emission monitoring.