

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 <sub>2</sub>	0.63 gs <sup>-1</sup>
CO	<0.01 gs <sup>-1</sup>
SO <sub>2</sub>	<0.01 gs <sup>-1</sup>
Benzene	<6 x 10 <sup>-4</sup> gs <sup>-1</sup>
Vinyl chloride	<2 x 10 <sup>-5</sup> gs <sup>-1</sup>
Exhaust gas velocity	6.6 ms <sup>-1</sup>

**Table D7.2 Thermal Oxidiser Stack Continuous Monitoring Results**

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)
1-Apr-22	980	1238	
2-Apr-22	964	1242	
3-Apr-22	955	1236	
4-Apr-22	973	1224	
5-Apr-22	956	1231	
6-Apr-22	980	1216	
7-Apr-22	955	1233	
8-Apr-22	956	1217	
9-Apr-22	972	1200	
10-Apr-22	950	1244	
11-Apr-22	974	1234	
12-Apr-22	949	1220	
13-Apr-22		Under Maintenance	
14-Apr-22	961	1232	
15-Apr-22	946	1242	
16-Apr-22	935	1225	6.6
17-Apr-22	942	1225	
18-Apr-22	965	1231	
19-Apr-22	928	1235	
20-Apr-22	920	1214	
21-Apr-22	958	1213	
22-Apr-22	978	1247	
23-Apr-22	929	1237	
24-Apr-22	928	1225	
25-Apr-22	970	1215	
26-Apr-22	972	1325	
27-Apr-22	944	1241	
28-Apr-22		Under Maintenance	
29-Apr-22	955	1215	
30-Apr-22	930	1234	
<b>Average</b>	954	1232	-
<b>Min</b>	920	1200	-
<b>Max</b>	980	1325	-

**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 <sub>2</sub>	0.03 gs <sup>-1</sup>
CO	<0.005 gs <sup>-1</sup>
SO <sub>2</sub>	<0.005 gs <sup>-1</sup>
Benzene	<1.3 x 10 <sup>-5</sup> gs <sup>-1</sup>
Vinyl chloride	<1 x 10 <sup>-5</sup> gs <sup>-1</sup>
Exhaust gas velocity	4.5 ms <sup>-1</sup>

**Table D7.4 Landfill Gas Flare Stack Continuous Monitoring Results**

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
<b>Flare 1 - F601</b>				
1 Apr 22	-	-		Standby
2-Apr-22	-	-		Standby
3-Apr-22	870	1113		In Operation
4-Apr-22	-	-		Standby
5-Apr-22	-	-		Standby
6-Apr-22	-	-		Standby
7-Apr-22	-	-		Standby
8-Apr-22	840	1093		In Operation
9-Apr-22	-	-		Standby
10-Apr-22	-	-		Standby
11-Apr-22	-	-		Standby
12-Apr-22	860	1103		In Operation
13-Apr-22	860	1103		In Operation
14-Apr-22	-	-		Standby
15-Apr-22	-	-	4.5	Standby
16-Apr-22	-	-		Standby
17-Apr-22	880	1123		In Operation
18-Apr-22	-	-		Standby
19-Apr-22	-	-		Standby
20-Apr-22	850	1113		In Operation
21-Apr-22	-	-		Standby
22-Apr-22	900	1093		In Operation
23-Apr-22	920	1123		In Operation
24-Apr-22	-	-		Standby
25-Apr-22	988	1203		In Operation
26-Apr-22	930	1103		In Operation
27-Apr-22	820	1078		In Operation
28-Apr-22	870	1093		In Operation
29-Apr-22	840	1083		In Operation
30-Apr-22	860	1033		In Operation
<b>Average</b>	878	1104	-	
<b>Min</b>	820	1033	-	
<b>Max</b>	988	1203	-	
<b>Flare 2 - F602</b>				
1 Apr 22	873	1083		In Operation
2 Apr 22	876	1073		In Operation
3 Apr 22	870	1123		In Operation
4 Apr 22	880	1093		In Operation
5 Apr 22	950	1203	4.5	In Operation
6 Apr 22	844	1093		In Operation
7 Apr 22	-	-		Standby
8 Apr 22	-	-		Standby
9 Apr 22	-	-		Standby

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
10 Apr 22	880	1123		In Operation
11 Apr 22	850	1073		In Operation
12 Apr 22	870	1133		In Operation
13 Apr 22	850	1103		In Operation
14 Apr 22	860	1103		In Operation
15 Apr 22	890	1123		In Operation
16 Apr 22	880	1103		In Operation
17 Apr 22	870	1103		In Operation
18 Apr 22	850	1073		In Operation
19 Apr 22	840	1073		In Operation
20 Apr 22	870	1128		In Operation
21 Apr 22	875	1103		In Operation
22 Apr 22	-	-		Standby
23 Apr 22	850	1093		In Operation
24 Apr 22	-	-		Standby
25 Apr 22	880	1103		In Operation
26 Apr 22	840	1093		In Operation
27 Apr 22	850	1103		In Operation
28 Apr 22	870	1113		In Operation
29 Apr 22	910	1143		In Operation
30 Apr 22	875	1113		In Operation
<b>Average</b>	870	1107	-	
<b>Min</b>	840	1073	-	
<b>Max</b>	950	1203	-	

**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 <sub>2</sub>	0.25 gs <sup>-1</sup>
CO	0.094 gs <sup>-1</sup>
SO <sub>2</sub>	<0.001 gs <sup>-1</sup>
Benzene	<3 x 10 <sup>-6</sup> gs <sup>-1</sup>
Vinyl chloride	<2.3 x 10 <sup>-6</sup> gs <sup>-1</sup>
Exhaust gas velocity	13.3 ms <sup>-1</sup>

**Table D7.6 Landfill Gas Generator Stack Continuous Monitoring Results**

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status (Landfill Gas Generator in Operation)
01-Apr-22	843		In Operation (ENGB)
02-Apr-22	841		In Operation (ENGB)
03-Apr-22	844		In Operation (ENGB)
04-Apr-22	843		In Operation (ENGB)
05-Apr-22	842		In Operation (ENGB)
06-Apr-22	846		In Operation (ENGB)
07-Apr-22	843		In Operation (ENGB)
08-Apr-22	848		In Operation (ENGB)
09-Apr-22	847		In Operation (ENGB)
10-Apr-22	845		In Operation (ENGB)
11-Apr-22	847		In Operation (ENGB)
12-Apr-22	849		In Operation (ENGB)
13-Apr-22	848		In Operation (ENGB)
14-Apr-22	851		In Operation (ENGB)
15-Apr-22	850	13.3	In Operation (ENGB)
16-Apr-22	845		In Operation (ENGB)
17-Apr-22	846		In Operation (ENGB)
18-Apr-22	846		In Operation (ENGB)
19-Apr-22	846		In Operation (ENGB)
20-Apr-22	848		In Operation (ENGB)
21-Apr-22	851		In Operation (ENGB)
22-Apr-22	852		In Operation (ENGB)
23-Apr-22	853		In Operation (ENGB)
24-Apr-22	852		In Operation (ENGB)
25-Apr-22	854		In Operation (ENGB)
26-Apr-22	862		In Operation (ENGB)
27-Apr-22	855		In Operation (ENGB)
28-Apr-22	843		In Operation (ENGB)
29-Apr-22	870		In Operation (ENGB)
30-Apr-22	851		In Operation (ENGB)
<b>Average</b>	849	-	
<b>Min</b>	841	-	
<b>Max</b>	870	-	

**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.