

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>	0.98 gs <sup>-1</sup>
CO	<0.01 gs <sup>-1</sup>
SO <sub>2</sub>	<0.01 gs <sup>-1</sup>
Benzene	<2.0 x 10 <sup>-4</sup> gs <sup>-1</sup>
Vinyl chloride	<1.2 x 10 <sup>-4</sup> gs <sup>-1</sup>
Exhaust gas velocity	10.4 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 23	926	1214	
2 Apr 23	923	1216	
3 Apr 23	922	1212	
4 Apr 23	937	1218	
5 Apr 23	926	1221	
6 Apr 23	Under Maintenance		
7 Apr 23	932	1215	
8 Apr 23	924	1217	
9 Apr 23	924	1217	
10 Apr 23	919	1198	
11 Apr 23	923	1218	
12 Apr 23	928	1217	
13 Apr 23	927	1219	
14 Apr 23	925	1218	
15 Apr 23	927	1230	10.4
16 Apr 23	925	1228	
17 Apr 23	920	1235	
18 Apr 23	922	1236	
19 Apr 23	923	1239	
20 Apr 23	924	1240	
21 Apr 23	921	1246	
22 Apr 23	928	1253	
23 Apr 23	925	1254	
24 Apr 23	923	1254	
25 Apr 23	923	1261	
26 Apr 23	925	1267	
27 Apr 23	922	1272	
28 Apr 23	926	1274	
29 Apr 23	925	1275	
30 Apr 23	924	1281	
<b>Average</b>	925	1236	-
<b>Min</b>	919	1198	-
<b>Max</b>	937	1281	-

**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>	0.02 gs <sup>-1</sup>
CO	2.16 gs <sup>-1</sup>
SO <sub>2</sub>	0.02 gs <sup>-1</sup>
Benzene	<1.6 x 10 <sup>-4</sup> gs <sup>-1</sup>
Vinyl chloride	<1.3 x 10 <sup>-4</sup> gs <sup>-1</sup>
Exhaust gas velocity	11.6 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 23	872	1049		In Operation
2 Apr 23	875	1093		In Operation
3 Apr 23	895	1063		In Operation
4 Apr 23	900	1020		In Operation
5 Apr 23	942	1068		In Operation
6 Apr 23	880	1063		In Operation
7 Apr 23	860	1053		In Operation
8 Apr 23	860	1063		In Operation
9 Apr 23	850	1033		In Operation
10 Apr 23	890	1073		In Operation
11 Apr 23	880	1063		In Operation
12 Apr 23	880	1093		In Operation
13 Apr 23	890	1063		In Operation
14 Apr 23	860	1053	11.6	In Operation
15 Apr 23	920	1073		In Operation
16 Apr 23	880	1093		In Operation
17 Apr 23	840	1093		In Operation
18 Apr 23	870	1093		In Operation
19 Apr 23	880	1033		In Operation
20 Apr 23	890	1043		In Operation
21 Apr 23	870	1093		In Operation
22 Apr 23	870	1063		In Operation
23 Apr 23	880	1093		In Operation
24 Apr 23	890	1083		In Operation
25 Apr 23	830	1023		In Operation
26 Apr 23	930	1133		In Operation
27 Apr 23	940	1153		In Operation
28 Apr 23	890	1063		In Operation
29 Apr 23	900	1083		In Operation
30 Apr 23	930	1033		In Operation
<b>Average</b>	885	1070	-	
<b>Min</b>	830	1020	-	
<b>Max</b>	942	1153	-	
<b>Flare 2 - F602</b>				
1 Apr 23	-	-		Under Maintenance
2 Apr 23	-	-		Under Maintenance
3 Apr 23	840	1083		In Operation
4 Apr 23	-	-		Under Maintenance
5 Apr 23	840	983		In Operation
6 Apr 23	880	1103		In Operation
7 Apr 23	890	1123		In Operation
8 Apr 23	-	-		Under Maintenance

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
9 Apr 23	-	-		Under Maintenance
10 Apr 23	840	1093		In Operation
11 Apr 23	-	-		Under Maintenance
12 Apr 23	-	-		Under Maintenance
13 Apr 23	-	-		Under Maintenance
14 Apr 23	-	-		Under Maintenance
15 Apr 23	-	-	11.6	Under Maintenance
16 Apr 23	860	1103		In Operation
17 Apr 23	860	1073		In Operation
18 Apr 23	830	1083		In Operation
19 Apr 23	840	1078		In Operation
20 Apr 23	880	1103		In Operation
21 Apr 23	840	1088		In Operation
22 Apr 23	-	-		Under Maintenance
23 Apr 23	-	-		Under Maintenance
24 Apr 23	880	1113		In Operation
25 Apr 23	-	-		Under Maintenance
26 Apr 23	-	-		Under Maintenance
27 Apr 23	-	-		Under Maintenance
28 Apr 23	-	-		Under Maintenance
29 Apr 23	-	-		Under Maintenance
30 Apr 23	860	1113		In Operation
<b>Average</b>	857	1088	-	
<b>Min</b>	830	983	-	
<b>Max</b>	890	1123	-	

**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>	0.018 gs <sup>-1</sup>
CO	0.694 gs <sup>-1</sup>
SO <sub>2</sub>	0.001 gs <sup>-1</sup>
Benzene	3.0 x 10 <sup>-5</sup> gs <sup>-1</sup>
Vinyl chloride	<0.8 x 10 <sup>-5</sup> gs <sup>-1</sup>
Exhaust gas velocity	9.1 ms <sup>-1</sup>

(a) The Landfill Gas Generator was under maintenance in the reporting period.

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

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
<b>ENGA</b>			
1 Apr 23	865		In Operation
2 Apr 23	864		In Operation
3 Apr 23	862		In Operation
4 Apr 23	-		Under Maintenance
5 Apr 23	-		Under Maintenance
6 Apr 23	-		Under Maintenance
7 Apr 23	-		Under Maintenance
8 Apr 23	-		Under Maintenance
9 Apr 23	-		Under Maintenance
10 Apr 23	-		Under Maintenance
11 Apr 23	-		Under Maintenance
12 Apr 23	-		Under Maintenance
13 Apr 23	-		Under Maintenance
14 Apr 23	-	9.1	Under Maintenance
15 Apr 23	-		Under Maintenance
16 Apr 23	-		Under Maintenance
17 Apr 23	-		Under Maintenance
18 Apr 23	-		Under Maintenance
19 Apr 23	-		Under Maintenance
20 Apr 23	-		Under Maintenance
21 Apr 23	-		Under Maintenance
22 Apr 23	-		Under Maintenance
23 Apr 23	-		Under Maintenance
24 Apr 23	-		Under Maintenance
25 Apr 23	861		In Operation
26 Apr 23	858		In Operation
27 Apr 23	-		Under Maintenance
28 Apr 23	-		Under Maintenance
29 Apr 23	-		Under Maintenance
30 Apr 23	-		Under Maintenance
	<b>Average</b> 862	-	
	<b>Min</b> 858	-	
	<b>Max</b> 865	-	
<b>ENGB</b>			
1 Apr 23	863		In Operation
2 Apr 23	-		Under Maintenance
3 Apr 23	858		In Operation
4 Apr 23	867		In Operation
5 Apr 23	867		In Operation
6 Apr 23	847		In Operation
7 Apr 23	858		In Operation

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
8 Apr 23	858		In Operation
9 Apr 23	858		In Operation
10 Apr 23	859		In Operation
11 Apr 23	868		In Operation
12 Apr 23	873	9.1	In Operation
13 Apr 23	871		In Operation
14 Apr 23	870		In Operation
15 Apr 23	871		In Operation
16 Apr 23	856		In Operation
17 Apr 23	873		In Operation
18 Apr 23	873		In Operation
19 Apr 23	872		In Operation
20 Apr 23	874		In Operation
21 Apr 23	872		In Operation
22 Apr 23	871		In Operation
23 Apr 23	870		In Operation
24 Apr 23	868		In Operation
25 Apr 23	864		In Operation
26 Apr 23	868		In Operation
27 Apr 23	866		In Operation
28 Apr 23	869		In Operation
29 Apr 23	869		In Operation
30 Apr 23	863		In Operation
<b>Average</b>	866	-	
<b>Min</b>	847	-	
<b>Max</b>	874	-	

**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.