

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>	1.21 gs <sup>-1</sup>
CO	<0.01 gs <sup>-1</sup>
SO <sub>2</sub>	0.21 gs <sup>-1</sup>
Benzene	<2.0 x 10 <sup>-4</sup> gs <sup>-1</sup>
Vinyl chloride	<1.6 x 10 <sup>-4</sup> gs <sup>-1</sup>
Exhaust gas velocity	11.4 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 Jan 23	926	1238	
2 Jan 23	939	1234	
3 Jan 23	934	1239	
4 Jan 23	920	1231	
5 Jan 23	912	1230	
6 Jan 23	927	1238	
7 Jan 23	923	1233	
8 Jan 23	923	1231	
9 Jan 23	925	1227	
10 Jan 23	926	1233	
11 Jan 23	936	1239	
12 Jan 23	938	1243	
13 Jan 23	917	1234	
14 Jan 23	941	1246	
15 Jan 23	965	1245	
16 Jan 23	947	1221	11.4
17 Jan 23	927	1232	
18 Jan 23	911	1228	
19 Jan 23	942	1255	
20 Jan 23	925	1237	
21 Jan 23	918	1229	
22 Jan 23	Under Maintenance		
23 Jan 23	Under Maintenance		
24 Jan 23	Under Maintenance		
25 Jan 23	929	1236	
26 Jan 23	910	1227	
27 Jan 23	939	1242	
28 Jan 23	942	1251	
29 Jan 23	941	1252	
30 Jan 23	927	1226	
31 Jan 23	911	1229	
<b>Average</b>	929	1236	-
<b>Min</b>	910	1221	-
<b>Max</b>	965	1255	-

**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>	0.024 gs <sup>-1</sup>
CO	0.111 gs <sup>-1</sup>
SO <sub>2</sub>	<0.012 gs <sup>-1</sup>
Benzene	<1.8 x 10 <sup>-4</sup> gs <sup>-1</sup>
Vinyl chloride	<1.44 x 10 <sup>-4</sup> gs <sup>-1</sup>
Exhaust gas velocity	12.5 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 Jan 23	-	-		Under Maintenance
2 Jan 23	820	1035		In Operation
3 Jan 23	830	1060		In Operation
4 Jan 23	865	1069		In Operation
5 Jan 23	887	1037		In Operation
6 Jan 23	880	1058		In Operation
7 Jan 23	890	1073		In Operation
8 Jan 23	870	1023		In Operation
9 Jan 23	870	1068		In Operation
10 Jan 23	830	1043		In Operation
11 Jan 23	880	1063		In Operation
12 Jan 23	830	1053		In Operation
13 Jan 23	890	1073		In Operation
14 Jan 23	880	1053		In Operation
15 Jan 23	880	1073	12.5	In Operation
16 Jan 23	900	1073		In Operation
17 Jan 23	890	1073		In Operation
18 Jan 23	830	1053		In Operation
19 Jan 23	860	963		In Operation
20 Jan 23	890	1053		In Operation
21 Jan 23	820	973		In Operation
22 Jan 23	910	1093		In Operation
23 Jan 23	880	1073		In Operation
24 Jan 23	870	1073		In Operation
25 Jan 23	880	1073		In Operation
26 Jan 23	870	1063		In Operation
27 Jan 23	930	1153		In Operation
28 Jan 23	860	1083		In Operation
29 Jan 23	860	1063		In Operation
30 Jan 23	870	1063		In Operation
31 Jan 23	840	1043		In Operation
<b>Average</b>	869	1058	-	
<b>Min</b>	820	963	-	
<b>Max</b>	930	1153	-	
<b>Flare 2 - F602</b>				
1 Jan 23	-	-		Under Maintenance
2 Jan 23	-	-		Under Maintenance
3 Jan 23	-	-		Under Maintenance
4 Jan 23	-	-		Under Maintenance
5 Jan 23	-	-		Under Maintenance
6 Jan 23	830	1053		In Operation
7 Jan 23	860	1103		In Operation

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
8 Jan 23	840	1073		In Operation
9 Jan 23	870	1073		In Operation
10 Jan 23	840	1073		In Operation
11 Jan 23	820	1043		In Operation
12 Jan 23	900	1113		In Operation
13 Jan 23	860	1113		In Operation
14 Jan 23	820	1073		In Operation
15 Jan 23	820	1053	12.5	In Operation
16 Jan 23	840	1063		In Operation
17 Jan 23	920	1113		In Operation
18 Jan 23	880	1073		In Operation
19 Jan 23	860	1073		In Operation
20 Jan 23	840	1063		In Operation
21 Jan 23	840	1053		In Operation
22 Jan 23	860	1053		In Operation
23 Jan 23	-	-		Under Maintenance
24 Jan 23	-	-		Under Maintenance
25 Jan 23	-	-		Under Maintenance
26 Jan 23	-	-		Under Maintenance
27 Jan 23	880	1103		In Operation
28 Jan 23	830	1028		In Operation
29 Jan 23	870	1063		In Operation
30 Jan 23	-	-		Under Maintenance
31 Jan 23	840	1043		In Operation
<b>Average</b>	853	1071	-	
<b>Min</b>	820	1028	-	
<b>Max</b>	920	1113	-	

**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>	0.044 gs <sup>-1</sup>
CO	0.731 gs <sup>-1</sup>
SO <sub>2</sub>	<0.001 gs <sup>-1</sup>
Benzene	<7.0 x 10 <sup>-5</sup> gs <sup>-1</sup>
Vinyl chloride	<9.6 x 10 <sup>-6</sup> gs <sup>-1</sup>
Exhaust gas velocity	10.0 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 Jan 23	-		Standby
2 Jan 23	-		Standby
3 Jan 23	-		Standby
4 Jan 23	-		Standby
5 Jan 23	860		In Operation
6 Jan 23	860		In Operation
7 Jan 23	-		Standby
8 Jan 23	-		Standby
9 Jan 23	-		Standby
10 Jan 23	-		Standby
11 Jan 23	-		Standby
12 Jan 23	-		Standby
13 Jan 23	-		Standby
14 Jan 23	-		Standby
15 Jan 23	-		Standby
16 Jan 23	-	10.0	Standby
17 Jan 23	856		In Operation
18 Jan 23	849		In Operation
19 Jan 23	856		In Operation
20 Jan 23	860		In Operation
21 Jan 23	869		In Operation
22 Jan 23	-		Standby
23 Jan 23	-		Standby
24 Jan 23	-		Standby
25 Jan 23	-		Standby
26 Jan 23	860		In Operation
27 Jan 23	860		In Operation
28 Jan 23	860		In Operation
29 Jan 23	861		In Operation
30 Jan 23	865		In Operation
31 Jan 23	865		In Operation
	<b>Average</b> 860	-	
	<b>Min</b> 849	-	
	<b>Max</b> 869	-	
<b>ENGB</b>			
1 Jan 23	836		In Operation
2 Jan 23	834		In Operation
3 Jan 23	853		In Operation
4 Jan 23	843		In Operation
5 Jan 23	870		In Operation
6 Jan 23	852		In Operation

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
7 Jan 23	853		In Operation
8 Jan 23	855		In Operation
9 Jan 23	862		In Operation
10 Jan 23	862		In Operation
11 Jan 23	863		In Operation
12 Jan 23	865	10.0	In Operation
13 Jan 23	868		In Operation
14 Jan 23	868		In Operation
15 Jan 23	861		In Operation
16 Jan 23	861		In Operation
17 Jan 23	871		In Operation
18 Jan 23	-		Under Maintenance
19 Jan 23	-		Under Maintenance
20 Jan 23	-		Under Maintenance
21 Jan 23	859		In Operation
22 Jan 23	861		In Operation
23 Jan 23	862		In Operation
24 Jan 23	857		In Operation
25 Jan 23	859		In Operation
26 Jan 23	873		In Operation
27 Jan 23	-		Standby
28 Jan 23	-		Standby
29 Jan 23	-		Standby
30 Jan 23	-		Standby
31 Jan 23	-		Standby
<b>Average</b>	859	-	
<b>Min</b>	834	-	
<b>Max</b>	873	-	

**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.