

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>	0.23 gs <sup>-1</sup>
CO	0.03 gs <sup>-1</sup>
SO <sub>2</sub>	0.92 gs <sup>-1</sup>
Benzene	<1.0 x 10 <sup>-4</sup> gs <sup>-1</sup>
Vinyl chloride	<1.0 x 10 <sup>-4</sup> gs <sup>-1</sup>
Exhaust gas velocity	8.1 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 Sep 23	917	1194	
2 Sep 23	911	1183	
3 Sep 23	921	1204	
4 Sep 23	917	1206	
5 Sep 23	914	1204	
6 Sep 23	915	1194	
7 Sep 23	933	1216	
8 Sep 23	907	1188	
9 Sep 23	913	1204	
10 Sep 23	927	1209	
11 Sep 23	922	1204	
12 Sep 23	924	1200	
13 Sep 23	926	1207	
14 Sep 23	934	1210	
15 Sep 23	918	1203	8.1
16 Sep 23	926	1201	
17 Sep 23	939	1207	
18 Sep 23	903	1199	
19 Sep 23	912	1202	
20 Sep 23	908	1200	
21 Sep 23	920	1201	
22 Sep 23	924	1209	
23 Sep 23	939	1208	
24 Sep 23	910	1206	
25 Sep 23	921	1209	
26 Sep 23	916	1208	
27 Sep 23	869	1193	
28 Sep 23	925	1191	
29 Sep 23	939	1214	
30 Sep 23	918	1218	
<b>Average</b>	919	1203	-
<b>Min</b>	869	1183	-
<b>Max</b>	939	1218	-

**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>	<0.01 gs <sup>-1</sup>
CO	0.20 gs <sup>-1</sup>
SO <sub>2</sub>	0.02 gs <sup>-1</sup>
Benzene	<1.22 x 10 <sup>-4</sup> gs <sup>-1</sup>
Vinyl chloride	<9.7 x 10 <sup>-5</sup> gs <sup>-1</sup>
Exhaust gas velocity	9.1 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 Sep 23	843	1029		In Operation
2 Sep 23	852	1041		In Operation
3 Sep 23	859	1023		In Operation
4 Sep 23	954	1034		In Operation
5 Sep 23	874	979		In Operation
6 Sep 23	880	1003		In Operation
7 Sep 23	946	1074		In Operation
8 Sep 23	936	1106		In Operation
9 Sep 23	876	1047		In Operation
10 Sep 23	990	1151		In Operation
11 Sep 23	901	1127		In Operation
12 Sep 23	988	1149		In Operation
13 Sep 23	897	1055		In Operation
14 Sep 23	935	1024		In Operation
15 Sep 23	856	1046	9.1	In Operation
16 Sep 23	971	1085		In Operation
17 Sep 23	881	1012		In Operation
18 Sep 23	900	1082		In Operation
19 Sep 23	845	979		In Operation
20 Sep 23	844	1047		In Operation
21 Sep 23	892	1035		In Operation
22 Sep 23	833	1027		In Operation
23 Sep 23	861	1008		In Operation
24 Sep 23	848	1010		In Operation
25 Sep 23	849	1041		In Operation
26 Sep 23	858	1037		In Operation
27 Sep 23	843	1025		In Operation
28 Sep 23	841	1034		In Operation
29 Sep 23	972	1044		In Operation
30 Sep 23	847	1032		In Operation
<b>Average</b>	889	1046	-	
<b>Min</b>	833	979	-	
<b>Max</b>	990	1151	-	
<b>Flare 2 - F602</b>				
1 Sep 23	939	1142		In Operation
2 Sep 23	917	1091		In Operation
3 Sep 23	953	1110		In Operation
4 Sep 23	948	1126		In Operation
5 Sep 23	988	1178		In Operation
6 Sep 23	946	1128		In Operation

Date	Gas Combustion Temperature (°C)	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
7 Sep 23	968	1134		In Operation
8 Sep 23	948	1121		In Operation
9 Sep 23	926	1097		In Operation
10 Sep 23	952	1128		In Operation
11 Sep 23	889	1076		In Operation
12 Sep 23	899	1076		In Operation
13 Sep 23	922	1098		In Operation
14 Sep 23	931	1109		In Operation
15 Sep 23	914	1098	9.1	In Operation
16 Sep 23	929	1110		In Operation
17 Sep 23	931	1111		In Operation
18 Sep 23	938	1109		In Operation
19 Sep 23	942	1121		In Operation
20 Sep 23	948	1118		In Operation
21 Sep 23	941	1114		In Operation
22 Sep 23	931	1109		In Operation
23 Sep 23	941	1110		In Operation
24 Sep 23	952	1124		In Operation
25 Sep 23	928	1104		In Operation
26 Sep 23	943	1104		In Operation
27 Sep 23	940	1119		In Operation
28 Sep 23	950	1121		In Operation
29 Sep 23	919	1085		In Operation
30 Sep 23	912	1084		In Operation
<b>Average</b>	936	1112	-	
<b>Min</b>	889	1076	-	
<b>Max</b>	988	1178	-	

**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>	0.007 gs <sup>-1</sup>
CO	0.89 gs <sup>-1</sup>
SO <sub>2</sub>	0.001 gs <sup>-1</sup>
Benzene	1.5 x 10 <sup>-4</sup> gs <sup>-1</sup>
Vinyl chloride	<1.07 x 10 <sup>-5</sup> gs <sup>-1</sup>
Exhaust gas velocity	13.0 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 Sep 23	872		In Operation
2 Sep 23	845		In Operation
3 Sep 23	853		In Operation
4 Sep 23	875		In Operation
5 Sep 23	876		In Operation
6 Sep 23	878		In Operation
7 Sep 23	895		In Operation
8 Sep 23	877		In Operation
9 Sep 23	879		In Operation
10 Sep 23	886		In Operation
11 Sep 23	884		In Operation
12 Sep 23	876		In Operation
13 Sep 23	877		In Operation
14 Sep 23	878		In Operation
15 Sep 23	876		In Operation
16 Sep 23	877	13.0	In Operation
17 Sep 23	876		In Operation
18 Sep 23	877		In Operation
19 Sep 23	881		In Operation
20 Sep 23	877		In Operation
21 Sep 23	877		In Operation
22 Sep 23	847		In Operation
23 Sep 23	846		In Operation
24 Sep 23	847		In Operation
25 Sep 23	845		In Operation
26 Sep 23	844		In Operation
27 Sep 23	844		In Operation
28 Sep 23	844		In Operation
29 Sep 23	844		In Operation
30 Sep 23	844		In Operation
	<b>Average</b> 867	-	
	<b>Min</b> 844	-	
	<b>Max</b> 895	-	
<b>ENGB</b>			
1 Sep 23	871		In Operation
2 Sep 23	843		In Operation
3 Sep 23	-		Under Maintenance
4 Sep 23	-		Under Maintenance
5 Sep 23	-		Under Maintenance

Date	Exhaust Temperature (K)	Exhaust Gas Velocity (ms <sup>-1</sup> ) (a)	Operation Status
6 Sep 23	-		Under Maintenance
7 Sep 23	-		Under Maintenance
8 Sep 23	-		Under Maintenance
9 Sep 23	-		Under Maintenance
10 Sep 23	-		Under Maintenance
11 Sep 23	-		Under Maintenance
12 Sep 23	-		Under Maintenance
13 Sep 23	-		Under Maintenance
14 Sep 23	-		Under Maintenance
15 Sep 23	-	13.0	Under Maintenance
16 Sep 23	-		Under Maintenance
17 Sep 23	-		Under Maintenance
18 Sep 23	-		Under Maintenance
19 Sep 23	-		Under Maintenance
20 Sep 23	-		Under Maintenance
21 Sep 23	845		In Operation
22 Sep 23	844		In Operation
23 Sep 23	843		In Operation
24 Sep 23	843		In Operation
25 Sep 23	841		In Operation
26 Sep 23	841		In Operation
27 Sep 23	841		In Operation
28 Sep 23	869		In Operation
29 Sep 23	869		In Operation
30 Sep 23	841		In Operation
<b>Average</b>	849	-	
<b>Min</b>	841	-	
<b>Max</b>	871	-	

**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.