



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>             | 1.59 gs <sup>-1</sup>                    |
| CO                          | 0.03 gs <sup>-1</sup>                    |
| SO <sub>2</sub>             | <0.01 gs <sup>-1</sup>                   |
| Benzene                     | 0.0018 gs <sup>-1</sup>                  |
| Vinyl chloride              | <1.5 x 10 <sup>-4</sup> gs <sup>-1</sup> |
| Non-Methane Organic Carbons | 0.004 gs <sup>-1</sup>                   |
| Ammonia                     | 0.0945 gs <sup>-1</sup>                  |
| Exhaust gas velocity        | 11.0 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> ) <sup>(a)</sup> |
|-----------|---------------------------------|-------------------------|---|
| 1 Feb 25  | 902                             | 1161                    | 11.0  |
| 2 Feb 25  | 901                             | 1136                    |   |
| 3 Feb 25  | 897                             | 1139                    |   |
| 4 Feb 25  | 901                             | 1157                    |   |
| 5 Feb 25  | 900                             | 1195                    |   |
| 6 Feb 25  | 901                             | 1200                    |   |
| 7 Feb 25  | 900                             | 1203                    |   |
| 8 Feb 25  | 897                             | 1196                    |   |
| 9 Feb 25  | 901                             | 1199                    |   |
| 10 Feb 25 | 898                             | 1197                    |   |
| 11 Feb 25 | 895                             | 1197                    |   |
| 12 Feb 25 | 901                             | 1201                    |   |
| 13 Feb 25 | 900                             | 1189                    |   |
| 14 Feb 25 | 898                             | 1139                    |   |
| 15 Feb 25 | Under Maintenance               |                         |   |
| 16 Feb 25 | Under Maintenance               |                         |   |
| 17 Feb 25 | Under Maintenance               |                         |   |
| 18 Feb 25 | Under Maintenance               |                         |   |
| 19 Feb 25 | Under Maintenance               |                         |   |
| 20 Feb 25 | Under Maintenance               |                         |   |
| 21 Feb 25 | Under Maintenance               |                         |   |
| 22 Feb 25 | Under Maintenance               |                         |   |
| 23 Feb 25 | Under Maintenance               |                         |   |
| 24 Feb 25 | 905                             | 1181                    |   |
| 25 Feb 25 | 899                             | 1193                    |   |
| 26 Feb 25 | 902                             | 1198                    |   |
| 27 Feb 25 | 899                             | 1192                    |   |
| 28 Feb 25 | 898                             | 1200                    |   |
| Average   | 900                             | 1183                    | -   |
| Min       | 895                             | 1136                    | -   |
| Max       | 905                             | 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 D7.3 LANDFILL GAS FLARE STACK EMISSION MONITORING RESULTS

| Parameters                  | Monitoring Results                        |
|-----------------------------|---|
| NO <sub>2</sub>             | 0.02 gs <sup>-1</sup>                     |
| CO                          | <0.01 gs <sup>-1</sup>                    |
| SO <sub>2</sub>             | <0.01 gs <sup>-1</sup>                    |
| Benzene                     | 2.065 x 10 <sup>-3</sup> gs <sup>-1</sup> |
| Vinyl chloride              | <1.13 x 10 <sup>-4</sup> gs <sup>-1</sup> |
| Non-Methane Organic Carbons | 0.004 gs <sup>-1</sup>                    |
| Exhaust gas velocity        | 7.9 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 Feb 25              | 874                             | 1118                    | 7.9  | In Operation     |
| 2 Feb 25              | 930                             | 1128                    |  | In Operation     |
| 3 Feb 25              | 884                             | 1118                    |  | In Operation     |
| 4 Feb 25              | 894                             | 1106                    |  | In Operation     |
| 5 Feb 25              | 895                             | 1127                    |  | In Operation     |
| 6 Feb 25              | 915                             | 1146                    |  | In Operation     |
| 7 Feb 25              | 915                             | 1136                    |  | In Operation     |
| 8 Feb 25              | 873                             | 1108                    |  | In Operation     |
| 9 Feb 25              | 865                             | 1106                    |  | In Operation     |
| 10 Feb 25             | 895                             | 1097                    |  | In Operation     |
| 11 Feb 25             | 885                             | 1097                    |  | In Operation     |
| 12 Feb 25             | 855                             | 1096                    |  | In Operation     |
| 13 Feb 25             | 874                             | 1117                    |  | In Operation     |
| 14 Feb 25             | 865                             | 1106                    |  | In Operation     |
| 15 Feb 25             | 845                             | 1096                    |  | In Operation     |
| 16 Feb 25             | 923                             | 1158                    |  | In Operation     |
| 17 Feb 25             | 855                             | 1096                    |  | In Operation     |
| 18 Feb 25             | 855                             | 1101                    |  | In Operation     |
| 19 Feb 25             | 854                             | 1101                    |  | In Operation     |
| 20 Feb 25             | 863                             | 1097                    |  | In Operation     |
| 21 Feb 25             | 843                             | 1097                    |  | In Operation     |
| 22 Feb 25             | 875                             | 1107                    |  | In Operation     |
| 23 Feb 25             | 873                             | 1106                    |  | In Operation     |
| 24 Feb 25             | 855                             | 1096                    |  | In Operation     |
| 25 Feb 25             | 884                             | 1096                    |  | In Operation     |
| 26 Feb 25             | 895                             | 1108                    |  | In Operation     |
| 27 Feb 25             | 874                             | 1097                    |  | In Operation     |
| 28 Feb 25             | 843                             | 1098                    |  | In Operation     |
| <b>Average</b>        | 877                             | 1109                    | -  |                  |
| <b>Min</b>            | 843                             | 1096                    | -  |                  |
| <b>Max</b>            | 930                             | 1158                    | -  |                  |

| Date                  | Gas Combustion Temperature (°C) | Exhaust Temperature (K) | Exhaust Gas Velocity (ms <sup>-1</sup> ) (a) | Operation Status |
|-----------------------|---------------------------------|-------------------------|--|------------------|
| <b>Flare 2 – F602</b> |                                 |                         |  |                  |
| 1 Feb 25              | 863                             | 1098                    | 7.9  | In Operation     |
| 2 Feb 25              | 893                             | 1128                    |  | In Operation     |
| 3 Feb 25              | 893                             | 1116                    |  | In Operation     |
| 4 Feb 25              | 883                             | 1098                    |  | In Operation     |
| 5 Feb 25              | 894                             | 1098                    |  | In Operation     |
| 6 Feb 25              | 874                             | 1097                    |  | In Operation     |
| 7 Feb 25              | 885                             | 1098                    |  | In Operation     |
| 8 Feb 25              | 914                             | 1126                    |  | In Operation     |
| 9 Feb 25              | 905                             | 1118                    |  | In Operation     |
| 10 Feb 25             | 903                             | 1098                    |  | In Operation     |
| 11 Feb 25             | 884                             | 1118                    |  | In Operation     |
| 12 Feb 25             | 903                             | 1108                    |  | In Operation     |
| 13 Feb 25             | 895                             | 1098                    |  | In Operation     |
| 14 Feb 25             | 874                             | 1108                    |  | In Operation     |
| 15 Feb 25             | 894                             | 1101                    |  | In Operation     |
| 16 Feb 25             | 894                             | 1096                    |  | In Operation     |
| 17 Feb 25             | 903                             | 1108                    |  | In Operation     |
| 18 Feb 25             | 863                             | 1097                    |  | In Operation     |
| 19 Feb 25             | 885                             | 1107                    |  | In Operation     |
| 20 Feb 25             | 914                             | 1146                    |  | In Operation     |
| 21 Feb 25             | 905                             | 1108                    |  | In Operation     |
| 22 Feb 25             | 913                             | 1136                    |  | In Operation     |
| 23 Feb 25             | 925                             | 1148                    |  | In Operation     |
| 24 Feb 25             | 903                             | 1147                    |  | In Operation     |
| 25 Feb 25             | 923                             | 1147                    |  | In Operation     |
| 26 Feb 25             | 923                             | 1156                    |  | In Operation     |
| 27 Feb 25             | 915                             | 1128                    |  | In Operation     |
| 28 Feb 25             | 893                             | 1097                    |  | In Operation     |
| <b>Average</b>        | 897                             | 1115                    | -  |                  |
| <b>Min</b>            | 863                             | 1096                    | -  |                  |
| <b>Max</b>            | 925                             | 1156                    | -  |                  |

**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>             | 0.079 gs <sup>-1</sup>                   |
| CO                          | 1.085 gs <sup>-1</sup>                   |
| SO <sub>2</sub>             | <0.001 gs <sup>-1</sup>                  |
| Benzene                     | 1.50 x 10 <sup>-4</sup> gs <sup>-1</sup> |
| Vinyl chloride              | <1.0 x 10 <sup>-5</sup> gs <sup>-1</sup> |
| Non-Methane Organic Carbons | 0.0048 gs <sup>-1</sup>                  |
| Exhaust gas velocity        | 10.3 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> ) <sup>(a)</sup> | Operation Status  |
|----------------|-------------------------|---|-------------------|
| <b>ENGA</b>    |                         |   |                   |
| 1 Feb 25       | 872                     | 10.3  | In Operation      |
| 2 Feb 25       | 861                     |   | In Operation      |
| 3 Feb 25       | 871                     |   | In Operation      |
| 4 Feb 25       | 878                     |   | In Operation      |
| 5 Feb 25       | 873                     |   | In Operation      |
| 6 Feb 25       | 875                     |   | In Operation      |
| 7 Feb 25       | 873                     |   | In Operation      |
| 8 Feb 25       | 872                     |   | In Operation      |
| 9 Feb 25       | 875                     |   | In Operation      |
| 10 Feb 25      | 877                     |   | In Operation      |
| 11 Feb 25      | 878                     |   | In Operation      |
| 12 Feb 25      | 881                     |   | In Operation      |
| 13 Feb 25      | -                       |   | Under Maintenance |
| 14 Feb 25      | -                       |   | Under Maintenance |
| 15 Feb 25      | -                       |   | Under Maintenance |
| 16 Feb 25      | -                       |   | Under Maintenance |
| 17 Feb 25      | -                       |   | Under Maintenance |
| 18 Feb 25      | -                       |   | Under Maintenance |
| 19 Feb 25      | -                       |   | Under Maintenance |
| 20 Feb 25      | -                       |   | Under Maintenance |
| 21 Feb 25      | -                       |   | Under Maintenance |
| 22 Feb 25      | -                       |   | Under Maintenance |
| 23 Feb 25      | -                       |   | Under Maintenance |
| 24 Feb 25      | -                       |   | Under Maintenance |
| 25 Feb 25      | -                       |   | Under Maintenance |
| 26 Feb 25      | -                       |   | Under Maintenance |
| 27 Feb 25      | -                       |   | Under Maintenance |
| 28 Feb 25      | -                       |   | Under Maintenance |
| <b>Average</b> | 874                     | -   |                   |
| <b>Min</b>     | 861                     | -   |                   |
| <b>Max</b>     | 881                     | -   |                   |



| Date           | Exhaust Temperature (K) | Exhaust Gas Velocity (ms <sup>-1</sup> ) <sup>(a)</sup> | Operation Status  |
|----------------|-------------------------|---|-------------------|
| <b>ENGB</b>    |                         |   |                   |
| 1 Feb 25       | -                       | 10.3  | Under Maintenance |
| 2 Feb 25       | -                       |   | Under Maintenance |
| 3 Feb 25       | -                       |   | Under Maintenance |
| 4 Feb 25       | -                       |   | Under Maintenance |
| 5 Feb 25       | -                       |   | Under Maintenance |
| 6 Feb 25       | -                       |   | Under Maintenance |
| 7 Feb 25       | -                       |   | Under Maintenance |
| 8 Feb 25       | -                       |   | Under Maintenance |
| 9 Feb 25       | -                       |   | Under Maintenance |
| 10 Feb 25      | -                       |   | Under Maintenance |
| 11 Feb 25      | -                       |   | Under Maintenance |
| 12 Feb 25      | -                       |   | Under Maintenance |
| 13 Feb 25      | -                       |   | Under Maintenance |
| 14 Feb 25      | -                       |   | Under Maintenance |
| 15 Feb 25      | -                       |   | Under Maintenance |
| 16 Feb 25      | -                       |   | Under Maintenance |
| 17 Feb 25      | -                       |   | Under Maintenance |
| 18 Feb 25      | -                       |   | Under Maintenance |
| 19 Feb 25      | -                       |   | Under Maintenance |
| 20 Feb 25      | -                       |   | Under Maintenance |
| 21 Feb 25      | -                       |   | Under Maintenance |
| 22 Feb 25      | -                       |   | Under Maintenance |
| 23 Feb 25      | -                       |   | Under Maintenance |
| 24 Feb 25      | 863                     |   | In Operation      |
| 25 Feb 25      | 865                     |   | In Operation      |
| 26 Feb 25      | 865                     |   | In Operation      |
| 27 Feb 25      | 867                     |   | In Operation      |
| 28 Feb 25      | 870                     |   | In Operation      |
| <b>Average</b> | 866                     | -   |                   |
| <b>Min</b>     | 863                     | -   |                   |
| <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.