

*Annex D7*

## Investigation Reports of Environmental Quality Limit Exceedance

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	29 July 2022
Time	9:00 (29 July 2022) – 9:00 (30 July 2022)
Monitoring Location	AM2, AM4
Parameter	24-hour Total Suspended Particulates (TSP)
Action / Limit Levels	Action level: >260 µg/ m <sup>3</sup> Limit level: >260 µg/ m <sup>3</sup>
Measured Level	AM2: 312 µg / m <sup>3</sup> AM4: 364 µg / m <sup>3</sup>
Possible reason	<p>From the meteorological data obtained from the SENTX on-site meteorological monitoring station, a predominantly southwesterly to west-southwesterly wind with highest wind speed 7.5 m/s was recorded on 29 and 30 July 2022 during the sampling event.</p> <p><u>AM2</u> On 29 July 2022, the ET site representative observed that dust emitted from Cell 4X and the unpaved areas in the vicinity was blown toward dust monitoring station AM2. This could be the potential cause for the exceedance. Based on this observation, the TSP exceedance at AM2 was deemed to Project-related activities.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted at AM2 on 4 August 2022 to confirm findings. The 24-hour TSP level was 36 µg/ m<sup>3</sup>, which is well below Action/Limit Level. There is no consecutive exceedance at this dust monitoring location.</p> <p><u>AM4</u> On 29 July 2022, the ET site representative observed that dust emitted from the public fill stockpiling areas and active earthworks from another project site in close vicinity of dust monitoring station AM4. No works from SENTX which may generate dust emission were conducted in the vicinity of AM4 on the sampling day based on the ET site representative on-site observations and the Contractor’s record of the construction and operation activities carried out on that day.</p> <p>Due to presence of the influencing factor from another project site and no Project-related dust emission source was identified in the vicinity of AM4, there is no adequate evidence showing that the exceedance at AM4 was due to Project-related activities.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted at AM4 on 4 August 2022 to confirm findings. The 24-hour TSP level was 35 µg/ m<sup>3</sup>, which is</p>

	well below the Action/Limit Level. There is no consecutive exceedance at this dust monitoring location.
Action Taken / Action to be Taken	<p>In accordance with Table 3.8b of the updated EM&amp;A Manual, the monitoring frequency at AM2 shall be increased to daily, until no exceedance of the Action/Limit Level. It should be noted that the turnaround time for the laboratory analysis of the dust filter paper is 5 working days and the preliminary results for the monitoring event conducted on 29 to 30 July 2022 were available on 4 August 2022. Repeat measurement was conducted on 4 August 2022 and the TSP monitoring result at AM2 is well below the Action/Limit Level. Hence, the daily TSP monitoring at AM2 shall not be triggered.</p> <p>Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to implement relevant and appropriate mitigation measures according to the updated EM&amp;A Manual to avoid any exceedance of the Action/Limit Level.</p> <p>In addition, the Contractor was reminded to discuss the dust control measures with CEDD to minimize the dust impact from the other project site to proximity to the SENTX boundary.</p>
Remarks	-

Prepared by: Abbey Lau  
Designation: Environmental Team  
Date: 17 August 2022

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	14 October 2022
Time	12:09 – 12:39
Monitoring Location	Landfill Gas Flare 1 (F601)
Parameter	Sulphur Dioxide (SO <sub>2</sub> )
Limit Levels	>0.22 g/s
Measured Level	0.26 g/s
Possible reason	<p>As confirmed by the Contractor, Landfill Gas Flare 1 (F601) was under normal operating conditions during the sampling event. The landfill gas flare emission monitoring results (NO<sub>2</sub>, CO, Benzene, Vinyl chloride, gas combustion temperature, exhaust temperature and exhaust gas velocity) at Landfill Gas Flare 1 (F601) on 14 October 2022 were well within the respective limit levels. It is possible that the slight exceedance of SO<sub>2</sub> limit level measured on 14 October 2022 could be due to some short-term system instability (e.g. insufficient air, short gas residence time or ineffective mixing of landfill gas and air during the combustion) during the sampling event and excess SO<sub>2</sub> was formed from the oxidation of trace quantities of sulphur compounds in the landfill gas. Hence, the SO<sub>2</sub> exceedance at Landfill Gas Flare 1 (F601) on 14 October 2022 is considered to be Project related.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 17 November 2022 (it should be noted that the turnaround time of the laboratory analysis of the flue gas sample is 3 weeks and the results were available on 6 December 2022) to confirm findings. Exceedance of SO<sub>2</sub> Limit Level was recorded at Landfill Gas Flare 1 (F601) (1.27 mg/L) during the sampling event. Landfill Gas Flare 1 (F601) showed consecutive exceedance of the landfill gas flare stack emission limit (SO<sub>2</sub>).</p> <p>It should be noted that although the measured SO<sub>2</sub> level exceeded the limit level of the EM&amp;A programme (which was set based on the stack design parameters), the slight exceedance of SO<sub>2</sub> on 14 October 2022 will not cause adverse air quality impact to the identified ASRs as the anticipated SO<sub>2</sub> concentrations at the identified ASRs will still be well below the respective AQO criteria with reference to the findings of the operational air quality impact assessment of the SENTX Environmental Review Report.</p>
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to closely monitoring the operating conditions of the

	flare to avoid any exceedance of the Limit Levels. The Contractor is also reminded to adjust the inlet flow and quality of the LFG during the routine gas well monitoring to ensure complete oxidation of the sulphur compounds (e.g. H <sub>2</sub> S) in the landfill gas during LFG flaring.
Remarks	-

Prepared by: Abbey Lau  
 Designation: Environmental Team  
 Date: 27 December 2022

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	17 November 2022
Time	13:25 – 13:55
Monitoring Location	Landfill Gas Flare 1 (F601)
Parameter	Sulphur Dioxide (SO <sub>2</sub> )
Limit Levels	>0.22 g/s
Measured Level	1.27 g/s
Possible reason	<p>As confirmed by the Contractor, Landfill Gas Flare 1 (F601) was under normal operating conditions during the sampling event. The landfill gas flare emission monitoring results (NO<sub>2</sub>, CO, Benzene, Vinyl chloride, gas combustion temperature, exhaust temperature and exhaust gas velocity) at Landfill Gas Flare 1 (F601) on 17 November 2022 were well within the respective limit levels. It is possible that the slight exceedance of SO<sub>2</sub> limit level measured on 17 November 2022 could be due to some short-term system instability (e.g. insufficient air, short gas residence time or ineffective mixing of landfill gas and air during the combustion) during the sampling event and excess SO<sub>2</sub> was formed from the oxidation of trace quantities of sulphur compounds in the landfill gas. Hence, the SO<sub>2</sub> exceedance at Landfill Gas Flare 1 (F601) on 17 November 2022 is considered to be Project related.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 13 December 2022 (it should be noted that the turnaround time of the laboratory analysis of the flue gas sample is 3 weeks and the results were available on 9 January 2023) to confirm findings. The SO<sub>2</sub> concentration (0.16 g/s) measured on 13 December 2022 is well below Limit Level. There is no consecutive exceedance of SO<sub>2</sub> concentrations in the flue gas emission of Landfill Gas Flare 1 (F601).</p>
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to closely monitoring the operating conditions of the flare to avoid any exceedance of the Limit Levels. The Contractor is also reminded to adjust the inlet flow and quality of the LFG during the routine gas well monitoring to ensure complete oxidation of the sulphur compounds (e.g. H <sub>2</sub> S) in the landfill gas during LFG flaring.
Remarks	-

Prepared by: Abbey Lau  
 Designation: Environmental Team  
 Date: 10 January 2023

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	13 December 2022
Time	13:24 - 13:54
Monitoring Location	Landfill Gas Flare 1 (F601)
Parameter	Benzene
Limit Levels	>0.000414 g/s
Measured Level	0.000661 g/s
Possible reason	<p>As confirmed by the Contractor, Landfill Gas Flare 1 (F601) was under normal operating conditions during the sampling event. The landfill gas flare emission monitoring results (SO<sub>2</sub>, NO<sub>2</sub>, CO, Vinyl chloride, gas combustion temperature, exhaust temperature and exhaust gas velocity) at Landfill Gas Flare 1 (F601) on 13 December 2022 were well within the respective limit levels. It is possible that the slight exceedance of benzene limit level measured on 13 December 2022 could be due to some short-term system instability (e.g. insufficient air, short gas residence time or ineffective mixing of landfill gas and air during the combustion) during the sampling event. Hence, the benzene exceedance at Landfill Gas Flare 1 (F601) on 13 December 2022 is considered to be Project related.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 17 January 2023 (it should be noted that the turnaround time of the laboratory analysis of the flue gas sample is 3 weeks and the results were available on 9 February 2023) to confirm findings. The benzene concentration (&lt;0.000180 g/s) measured on 17 January 2023 is well below Limit Level. There is no consecutive exceedance of benzene concentrations in the flue gas emission of Landfill Gas Flare 1 (F601).</p>
Action Taken / Action to be Taken	Examination of environmental performance of the Project will be continued during the weekly inspections. The Contractor is reminded to closely monitoring the operating conditions of the flare to avoid any exceedance of the Limit Levels.
Remarks	-

Prepared by: Abbey Lau

Designation: Environmental Team

Date: 20 February 2023