



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	2 January 2024
Time	8:00 (2 January 2024) – 8:00 (3 January 2024)
Monitoring Location	AM1
Parameter	24-hour Total Suspended Particulates (TSP)
Action / Limit Levels	Action level: $>260 \mu\text{g}/\text{m}^3$ Limit level: $>260 \mu\text{g}/\text{m}^3$
Measured Level	337 $\mu\text{g}/\text{m}^3$
Possible reason	<p>From the meteorological data obtained from the SENTX on-site meteorological monitoring station, a predominantly northeasterly to east-northeasterly wind with highest wind speed 3.6 m/s was recorded on 2 and 3 January 2024 during the sampling event.</p> <p>On 2 January 2024, dust and traffic emission from the SENT landfill in vicinity and located at the east of dust monitoring station AM1 were observed. The sample taken at AM1 on the day might not represent the operation dust emission from SENTX.</p> <p>In addition, no SENTX works which may lead to potential dust emission was conducted in the vicinity of dust monitoring location AM1 on the sampling day based on ET's representative on-site observations and construction and operation activities as described by the Contractor. Environmental deficiency was not observed during the weekly site inspection on 4 January 2024. The Contractor has implemented the dust control and mitigation measures recommended in the updated EM&amp;A Manual.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 8 January 2024 to confirm findings. Exceedance of TSP Action and Limit Levels was recorded at AM1 (<math>301 \mu\text{g}/\text{m}^3</math>) during the sampling event. AM1 showed consecutive exceedance of the TSP level.</p> <p>Due to presence of the influencing factor SENT landfill and no potential source from the Project-related activities in the vicinity of AM1 which may lead to the high TSP level was identified, there is no adequate evidence showing that the TSP exceedance at AM1 was deemed to Project-related activities.</p>
Action Taken / Action to be Taken	<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>The Contractor is also reminded to implement additional dust</p>

	control measures to minimize the dust impact from SENT Landfill to the SENTX boundary.
Remarks	-

Prepared by: Abbey Lau  
Designation: Environmental Team  
Date: 18 January 2024

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	8 January 2024
Time	8:00 (8 January 2024) – 8:00 (9 January 2024)
Monitoring Location	AM1
Parameter	24-hour Total Suspended Particulates (TSP)
Action / Limit Levels	Action level: $>260 \mu\text{g}/\text{m}^3$ Limit level: $>260 \mu\text{g}/\text{m}^3$
Measured Level	301 $\mu\text{g}/\text{m}^3$
Possible reason	<p>From the meteorological data obtained from the SENTX on-site meteorological monitoring station, a predominantly southeasterly to east-southeasterly wind with highest wind speed 2.3 m/s was recorded on 8 and 9 January 2024 during the sampling event.</p> <p>On 8 January 2024, dust and traffic emission from the SENT landfill in vicinity and located at the east of dust monitoring station AM1 were observed. The sample taken at AM1 on the day might not represent the operation dust emission from SENTX.</p> <p>In addition, no SENTX works which may lead to potential dust emission was conducted in the vicinity of dust monitoring location AM1 on the sampling day based on ET's representative on-site observations and construction and operation activities as described by the Contractor. Environmental deficiency was not observed during the weekly site inspection on 11 January 2024. The Contractor has implemented the dust control and mitigation measures recommended in the updated EM&amp;A Manual.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 14 January 2024 to confirm findings. 24-hour TSP level of <math>110 \mu\text{g}/\text{m}^3</math> (below Action and Limit Levels) was measured during the sampling event, which demonstrate no consecutive dust impact at AM1.</p> <p>Due to presence of the influencing factor SENT landfill and no potential source from the Project-related activities in the vicinity of AM1 which may lead to the high TSP level was identified, there is no adequate evidence showing that the TSP exceedance at AM1 was deemed to Project-related activities.</p>
Action Taken / Action to be Taken	<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>The Contractor is also reminded to implement additional dust</p>

	control measures to minimize the dust impact from SENT Landfill to the SENTX boundary.
Remarks	-

Prepared by: Abbey Lau  
Designation: Environmental Team  
Date: 29 January 2024

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	14 March 2024
Time	8:00 (14 March 2024) – 8:00 (15 March 2024)
Monitoring Location	AM1
Parameter	24-hour Total Suspended Particulates (TSP)
Action / Limit Levels	Action level: $>260 \mu\text{g}/\text{m}^3$ Limit level: $>260 \mu\text{g}/\text{m}^3$
Measured Level	354 $\mu\text{g}/\text{m}^3$
Possible reason	<p>From the meteorological data obtained from the SENTX on-site meteorological monitoring station, a predominantly easterly to east-southeasterly wind with highest wind speed 1.6 m/s was recorded on 14 and 15 March 2024 during the sampling event.</p> <p>On 14 March 2024, dust and traffic emission from the SENT landfill in vicinity and located at the east of dust monitoring station AM1 were observed. The sample taken at AM1 on the day might not represent the operation dust emission from SENTX.</p> <p>In addition, no SENTX works which may lead to potential dust emission was conducted in the vicinity of dust monitoring location AM1 on the sampling day based on ET's representative on-site observations and construction and operation activities as described by the Contractor. Environmental deficiency was not observed during the weekly site inspection on 14 March 2024. The Contractor has implemented the dust control and mitigation measures recommended in the updated EM&amp;A Manual.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 20 March 2024 to confirm findings. 24-hour TSP level of <math>184 \mu\text{g}/\text{m}^3</math> (below Action and Limit Levels) was measured during the sampling event, which demonstrate no consecutive dust impact at AM1.</p> <p>Due to presence of the influencing factor i.e. SENT landfill and no potential source from the Project-related activities in the vicinity of AM1 which may lead to the high TSP level was identified, there is no adequate evidence showing that the TSP exceedance at AM1 was deemed to Project-related activities.</p>
Action Taken / Action to be Taken	<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>The Contractor is also reminded to implement additional dust</p>

	control measures to minimize the dust impact from SENT Landfill to the SENTX boundary.
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Remarks	-
Prepared by:	<u>Abbey Lau</u>
Designation:	<u>Environmental Team</u>
Date:	<u>2 April 2024</u>

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	26 March 2024
Time	8:00 (26 March 2024) – 8:00 (27 March 2024)
Monitoring Location	AM1
Parameter	24-hour Total Suspended Particulates (TSP)
Action / Limit Levels	Action level: $>260 \mu\text{g}/\text{m}^3$ Limit level: $>260 \mu\text{g}/\text{m}^3$
Measured Level	282 $\mu\text{g}/\text{m}^3$
Possible reason	<p>From the meteorological data obtained from the SENTX on-site meteorological monitoring station, a predominantly easterly to southeasterly wind with highest wind speed 2.2 m/s was recorded on 26 and 27 March 2024 during the sampling event.</p> <p>On 26 March 2024, dust and traffic emission from the SENT landfill in vicinity and located at the east of dust monitoring station AM1 were observed. The sample taken at AM1 on the day might not represent the operation dust emission from SENTX.</p> <p>In addition, no SENTX works which may lead to potential dust emission was conducted in the vicinity of dust monitoring location AM1 on the sampling day based on ET's representative on-site observations and construction and operation activities as described by the Contractor. Environmental deficiency was not observed during the weekly site inspection on 28 March 2024. The Contractor has implemented the dust control and mitigation measures recommended in the updated EM&amp;A Manual.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 1 April 2024 to confirm findings. 24-hour TSP level of 79 <math>\mu\text{g}/\text{m}^3</math> (below Action and Limit Levels) was measured during the sampling event, which demonstrate no consecutive dust impact at AM1.</p> <p>Due to presence of the influencing factor i.e. SENT landfill and no potential source from the Project-related activities in the vicinity of AM1 which may lead to the high TSP level was identified, there is no adequate evidence showing that the TSP exceedance at AM1 was deemed to Project-related activities.</p>
Action Taken / Action to be Taken	<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>The Contractor is also reminded to implement additional dust</p>

	control measures to minimize the dust impact from SENT Landfill to the SENTX boundary.
Remarks	-

Prepared by: Abbey Lau  
Designation: Environmental Team  
Date: 23 April 2024

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	18 April 2024
Time	11:15 – 11:50
Monitoring Location	Landfill Gas Flare 1 (F601)
Parameter	Carbon Monoxide (CO), Benzene
Limit Levels	CO: >2.43 g/s Benzene: >0.000414 g/s
Measured Level	CO: 2.61 g/s Benzene: 0.006479 g/s
Possible reason	<p>As confirmed by the Contractor, Landfill Gas Flare 1 (F601) was under normal operating conditions during the sampling event. However, it was shut down for a short period (around 5 minutes) due to adverse weather condition and thunderstorm warning signal during the sampling event.</p> <p>The landfill gas flare emission monitoring results (NO<sub>2</sub>, SO<sub>2</sub>, Vinyl chloride, gas combustion temperature, exhaust temperature and exhaust gas velocity) at Landfill Gas Flare 1 (F601) on 18 April 2024 were well within the respective limit levels. It is possible that the slight exceedances of CO and Benzene limit levels measured on 18 April 2024 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) and the accumulation of landfill gas without complete combustion due to temporary shutdown of Landfill Gas Flare 1 (F601) during the sampling event. Hence, the CO and Benzene exceedances at Landfill Gas Flare 1 (F601) on 18 April 2024 are considered Project related.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 9 May 2024 (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 27 May 2024) to confirm findings. The CO concentration (0.02g/s) measured on 9 May 2024 is well below Limit Level. There is no consecutive exceedance of CO concentrations in the flue gas emission of Landfill Gas Flare 1 (F601). However, Benzene concentration of 0.000673 g/s was measured at Landfill Gas Flare 1 (F601) during the sampling event. Landfill Gas Flare 1 (F601) showed consecutive exceedance of the landfill gas flare stack emission limit (Benzene).</p> <p>It should be noted that although the measured CO and Benzene level exceeded the limit level of the EM&amp;A programme (which was set based on the stack design parameters), the exceedances of CO</p>

	and Benzene on 18 April 2024 will not cause adverse air quality impact to the identified ASRs as the anticipated CO and Benzene 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.
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.  ET will continue to closely monitor the landfill gas flare stack emission monitoring results and collect additional data for investigation and further review, if necessary.
Remarks	-

Prepared by:

Abbey Lau

Designation:

Environmental Team

Date:

27 May 2024

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	9 May 2024
Time	13:34 – 14:26
Monitoring Location	Landfill Gas Flare 1 (F601)
Parameter	Benzene
Limit Levels	>0.000414 g/s
Measured Level	0.000673 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, SO<sub>2</sub>, Vinyl chloride, gas combustion temperature, exhaust temperature and exhaust gas velocity) at Landfill Gas Flare 1 (F601) on 9 May 2024 were well within the respective limit levels. It is possible that the slight exceedances of Benzene limit level measured on 9 May 2024 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). Hence, the Benzene exceedance at Landfill Gas Flare 1 (F601) on 9 May 2024 is considered Project related.</p> <p>In accordance with Table 3.8b of the updated EM&amp;A Manual, repeat measurement was conducted on 17 June 2024 (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 8 July 2024) to confirm findings. The Benzene concentration (&lt;0.000121g/s) measured on 17 June 2024 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> <p>It should be noted that although the measured Benzene level exceeded the limit level of the EM&amp;A programme (which was set based on the stack design parameters), the exceedance of Benzene on 9 May 2024 will not cause adverse air quality impact to the identified ASRs as the anticipated Benzene 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.

	ET will continue to closely monitor the landfill gas flare stack emission monitoring results and collect additional data for investigation and further review, if necessary.
Remarks	-

Prepared by: Abbey Lau  
Designation: Environmental Team  
Date: 11 July 2024