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	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	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. The landfill gas flare emission monitoring results (NO_2, SO_2, 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. In accordance with Table 3.8b of the updated EM&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). It should be noted that although the measured CO and Benzene level exceeded the limit level of the EM&A programme (which was set based on the stack design parameters), the exceedances of CO

	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	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_2, CO, SO_2, 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. In accordance with Table 3.8b of the updated EM&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 (<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). It should be noted that although the measured Benzene level exceeded the limit level of the EM&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.
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