

Annex F6

Investigation Reports of  
Environmental Quality  
Limit Exceedance

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	30 September 2022 – 3 October 2022
Monitoring Location	Pump Station No. 4X (Cell 4X)
Parameter	Leachate level
Limit Levels	> 186 cm
Measured Level	<u>Average of Meter No. X-7 and No. X-8</u> 30 Sep 2022: 246 cm 1 Oct 2022: 254 cm 2 Oct 2022: 234 cm 3 Oct 2022: 212 cm
Possible reason	<p>As confirmed by the Contractor, the leachate collection system and leachate treatment plant were under normal operating conditions during the reporting period. From the on-site rainfall record of September and October 2022, heavy rainfall events (up to 98 mm per day) were recorded from 30 September to 3 October 2022. Amber rainstorm warning signal was also issued by the Hong Kong Observatory on 30 September 2022.</p> <p>Accumulation of surface water at Cell 4X basin was observed during the reporting period, which could contribute to the leachate level exceedances. Based on this observation, the leachate level exceedances at Pump Station No. 4X were deemed to Project-related activities.</p> <p>It is understood that the large volume of leachate (contaminated surface runoff) accumulated at Cell 4X has exceeded the leachate treatment capacity (daily maximum effluent discharge volume of 1,964 m<sup>3</sup> recorded from 30 September to 3 October 2022, with daily effluent discharge limit of 2,000 m<sup>3</sup> as stipulated in the WPCO license).</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 monitor the operating conditions of the leachate collection system (e.g. set alarm when the leachate level reach about 80% of the Limit Level) and pump out the leachate for treatment to avoid any exceedance of the Limit Level.
Remarks	-

Prepared by: Abbey Lau  
 Designation: Environmental Team  
 Date: 23 November 2022

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	3 November 2022 (Pump Station No. 3X) 3 - 4 November 2022 (Pump Station No. 4X)
Monitoring Location	Pump Station No. 3X (Cell 3X) and No. 4X (Cell 4X)
Parameter	Leachate level
Limit Levels	Pump Station No. 3X: > 175 cm Pump Station No. 4X: > 186 cm
Measured Level	<u>Pump Station No. 3X (Average of Meter No. X-5 and No. X-6)</u> 3 Nov 2022: 182 cm  <u>Pump Station No. 4X (Average of Meter No. X-7 and No. X-8)</u> 3 Nov 2022: 235 cm 4 Nov 2022: 195 cm
Possible reason	<p>From the on-site rainfall record of November 2022, heavy rainfall events (up to 39 mm per day) were recorded from 1 to 4 November 2022. Amber rainstorm warning signal was also issued by the Hong Kong Observatory on 3 November 2022. As confirmed by the Contractor, the leachate collection system and leachate treatment plant were under normal operating conditions during the reporting period. However, effluent discharge pipe relocation works were conducted from 31 October to 2 November 2022 (before the monitoring event) and effluent could not be discharged during the period, which could contribute to the leachate level exceedances. Based on the above, the leachate level exceedances at Pump Station No. 3X and 4X were deemed to Project-related activities.</p> <p>It is understood that the large volume of leachate (contaminated surface runoff) accumulated at Cell 3X and 4X has exceeded the leachate treatment capacity (daily maximum effluent discharge volume of 1,996 m<sup>3</sup> recorded from 3 to 4 November 2022, with daily effluent discharge limit of 2,000 m<sup>3</sup> as stipulated in the WPCO license).</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 monitor the operating conditions of the leachate collection system (e.g. set alarm when the leachate level reach about 80% of the Limit Level) and pump out the leachate for treatment to avoid any exceedance of the Limit Level. The Contractor is also reminded to schedule LTP-related maintenance works during the dry season to ensure full operation of the LTP during rainy days.

Remarks	-
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Date: 27 December 2022

## Investigation Report of Environmental Quality Limit Exceedance

Project	South East New Territories (SENT) Landfill Extension
Date	6 December 2022
Time	14:10
Monitoring Location	Effluent discharged from Leachate Treatment Plant
Parameter	Chromium
Limit Levels	>300 µg/L
Measured Level	343 µg/L
Possible reason	<p>As confirmed by the Contractor, the Leachate Treatment Plant (LTP) was under normal operating conditions before and during the sampling event. The other leachate quality monitoring results at LTP on 6 December 2022 were well within the respective limit levels. It is possible that the slight exceedance of chromium limit level measured on 6 December 2022 could be due to treatment instability (e.g. short retention time or fluctuation of pH/temperature during the treatment process) which limit the chromium removal efficiency. Hence, the chromium exceedance at LTP on 6 December 2022 is considered to be Project related.</p> <p>In accordance with Table 4.5b of the updated EM&amp;A Manual, repeat measurement was conducted on 4 January 2023 to confirm findings. Chromium concentration of 133 µg/L (below the Limit Level) was measured during the sampling event, which demonstrate no consecutive leachate quality impact at the LTP.</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 and Limit Levels.</p> <p>ET will continue to closely monitor the leachate quality monitoring results and collect additional data for investigation and further review, if necessary.</p>
Remarks	-

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 Date: 20 February 2023