

Annex G

## Investigation Report

**Investigation Report of CEMS Exceedances**

Date	1 – 28 February 2021
Time	Continuous monitoring throughout February 2021
Monitoring Location	Continuous Environmental Monitoring System (CEMS)
Parameter	Various emission parameters of the Cogeneration Unit (CHP) and Ammonia Stripping Plan (ASP)
Exceedance Description	<ol style="list-style-type: none"> <li>1. Continuous monitoring was carried out at the CAPCS, CHP and ASP throughout the reporting period using the CEMS. According to the EM&amp;A Manual, exceedance is considered if the emission concentration of the concerned pollutants is higher than the emission limits stated in Tables 2.2, 2.3 and 2.5 of the EM&amp;A Manual (Version F) for CAPCS, CHP and ASP respectively. The concentration of the concerned air pollutants were monitored on-line by the CEMS. Exceedances of various emission parameters were recorded on the CEMS including:           <ul style="list-style-type: none"> <li>• NO<sub>x</sub> and SO<sub>2</sub> in the CHP</li> <li>• NO<sub>x</sub> and NH<sub>3</sub> in the ASP.</li> </ul> </li> <li>2. According to the Contractor, exceedance is observed to occur mainly at CHPs operated at loading with 40-60% of the optimal loading (1400KW)</li> <li>3. The Contractor explained that exceedances recorded in the CHP was due to the low biogas loading which results in the poor performance efficiency in CHP. Exceedances in ASP was caused by unstable column temperature in biogas combustion.</li> </ol>
Action Taken / Action to be Taken	<ul style="list-style-type: none"> <li>• The Contractor will actively liaise with EPD with an aim to increase the quantity of SSOW that can be treated daily, such that sufficient biogas can be generated for the CHP to be able to operate at optimal efficiency.</li> <li>• The Contractor is negotiating a routine maintenance contract with the CHP supplier to allow the CHP supplier to rectify any exceedances.</li> <li>• The Contractor has established a regular communication channel with the overseas ASP supplier, to overcome the fact that the supplier cannot travel to Hong Kong due to travel restriction.</li> <li>• The Contractor arranged for remote fine-tuning of the ASP with the overseas ASP supplier during this reporting period.</li> <li>• Daily meetings have been held to review ASP operational and emission data.</li> <li>• Improvement has been observed in ASP emission performance with a reduction of no. of hours of exceedance compared with last reporting period.</li> </ul>

	<ul style="list-style-type: none"> <li>• The Contractor will continue to arrange for remote fine-tuning of the ASP with the overseas contractor in the upcoming reporting period. The Contractor will continue to carry out maintenance measures as per the supplier’s manual.</li> <li>• The Contractor in consultation with the overseas ASP supplier will investigate the reasons for the occasional equipment tripping that has led to unstable column temperature of the thermal oxidizer. The Contractor may carry out replacement of some ASP equipment and/or increase maintenance frequency, subject to their investigations.</li> <li>• The Contractor and the MT have held a meeting in this reporting period to explore the underlying reasons for exceedances in the CAPCS, CHPs and the ASP, with an aim to formulate future remedial plan(s).</li> </ul>
<p>Remedial Works and Follow-up Actions</p>	<p>The Contractor is recommended to closely monitor the processes, including the modification work and follow-up emission monitoring of the CHP and ASP to avoid exceedance. MT has advised that the issue of emission exceedances should be prioritised in up-coming meetings. MT will carry out follow-up audit regarding the progress next month.</p>

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