

Annex J

## Investigation Report

**Investigation Report of CEMS Exceedances**

Date	1 – 31 August 2019
Time	Continuous monitoring throughout July 2019
Monitoring Location	Continuous Environmental Monitoring System (CEMS)
Parameter	Various emission parameters of the Centralised Air Pollution Unit (CAPCS), Cogeneration Units (CHP) and Ammonia Stripping Plan (ASP)
Exceedance Description	<ol style="list-style-type: none"> <li>1. Continuous monitoring was carried out for 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 E) 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>• Odour (including NH<sub>3</sub> &amp; H<sub>2</sub>S) in the CAPCS;</li> <li>• Dust (or TSP), NO<sub>x</sub>, SO<sub>2</sub>, HCl and HF in the CHP; and</li> <li>• Carbon Monoxide, NO<sub>x</sub>, SO<sub>2</sub>, VOCs (including methane) and NH<sub>3</sub> in the ASP.</li> </ul> </li> <li>2. According to the Contractor, the plant was receiving around 100 tonnes of SSOW daily and was operated normally.</li> <li>3. The chemical dosing system of the CAPCS was undergoing optimisation. The new setting of the chemical dosing system could not effectively remove the odourous gas (mainly NH<sub>3</sub>) and caused exceedances of odour limits in the CAPCS.</li> <li>4. CHP setting was undergoing fine-tuning for performance optimisation which leads to the ineffective removal of NO<sub>x</sub> and VOC (including methane) at a certain period of time.</li> <li>5. The Contractor explained that the exceedances recorded in the ASP was because the thermal combustion unit of the ASP still require tuning to optimise the combustion efficiency.</li> </ol>
Action Taken / Action to be Taken	<ul style="list-style-type: none"> <li>• The setting of the chemical dosing system has been revised to its original during this reporting period; the chemical dosing system can effectively remove odourous gases at the CAPCS.</li> <li>• It was arranged with the supplier of CHPs to check the performance of CHPs onsite during the reporting period. The supplier will conduct a detailed investigation of the remaining exceedance recorded on</li> </ul>

	<p>the CHPs. After the investigation, the Contractor will perform the maintenance work according to suggestions raised by the supplier. The maintenance work is expected to complete in the next reporting period.</p> <ul style="list-style-type: none"> <li>• It was arranged with the supplier of the ASP to modify the system onsite. . The supplier suggested that main components required for the modification work, i.e. an air cooler, will be delivered to Hong Kong by early October 2019. Meanwhile, the supplier will perform some minor modification work, such as the replacement of control valves in the next reporting period. The Contractor is developing a detailed schedule with the supplier to ensure preparatory works are completed for the major modification work to take place. The operation team of the Contractor will also liaise and agree with the supplier for any shutdown period required to replace and install the equipment.</li> </ul>
<p>Remedial Works and Follow-up Actions</p>	<p>The Contractor is recommended to closely monitor the processes, including the combustion of biogas in the ASP to avoid the reoccurrence of similar problems. MT will carry out follow-up audit regarding the progress next month.</p>

Prepared by: Bonia Leung, MT Representative

Date 10 September 2019