

Annex F

Investigation Report

Investigation Report of CEMS Exceedances

Date	1 – 31 May 2023
Time	Continuous monitoring throughout May 2023
Monitoring Location	Continuous Environmental Monitoring System (CEMS)
Parameter	Various emission parameters of the Cogeneration Units (CHP) and Ammonia Stripping Plant (ASP)
Exceedance Description	<p>1. Continuous monitoring was carried out at the CAPCS, CHP and ASP throughout the reporting period using the CEMS. According to the EM&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&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:</p> <ul style="list-style-type: none"> • Dust, VOCs, NO_x and SO₂ from the CHP1; • Dust, NO_x and SO₂ from the CHP2; • NO_x and SO₂ from the CHP3; and • CO, NO_x, SO₂, NH₃ and HF from ASP. <p>2. The Contractor has investigated the cause of the exceedance and identified that</p> <ul style="list-style-type: none"> • The exceedances of SO₂ from the CHPs and ASP occurred due to tripping of the de-sulphurisation system. • The potential cause of exceedances of Dust, VOCs and NO_x from CHPs, as well as the exceedances of CO, NO_x, NH₃ and HF from ASP was system instability. • The underlining reasons for the exceedances are still under investigation. This investigation report will be updated once more information is available.
Action Taken / Action to be Taken	The Contractor investigated the reason for the exceedance and arranged Remedial Works and Follow-up Actions (see below).
Remedial Works and Follow-up Actions	<p>The Contractor has arranged the CHP supplier to inspect, analyse and improve CHP performance from the end of May to early June 2023. Improvement recommendation will be provided once the report is completed.</p> <p>The Contractor has also arranged cleaning of the ASP in early June 2023 to restore the treatment efficiency of the ASP.</p>

Prepared by: Angela Yung, MT Representative

Date: 23 June 2023

Investigation Report of Discharged Sample Exceedances

Date	5 May 2023
Monitoring Location	Outlet Chamber of the Effluent Storage Tank
Parameter	Total Nitrogen
Exceedance Description	<ol style="list-style-type: none"> 1. According to EM&A Manual, the monitoring of the effluent discharge from the outlet chamber of the Effluent Storage Tank and Petrol Interceptors shall be carried out monthly and bi-monthly, respectively, under Section 21 of the Water Pollution Control Ordinance (WPCO) license. Exceedance is considered if the concentration of discharged effluent sample from the Effluent Storage Tank and Interceptors is higher than the discharge limits stated in Part B2 of the WPCO. Exceedances of discharge parameter was recorded during the monitoring of effluent discharge from the outlet chamber of the Effluent Storage Tank. 2. The Contractor has investigated the cause of the exceedances and found that the exceedance of Total Nitrogen from the effluent discharge from the outlet chamber of Effluent Storage Tank was potentially caused by the poor performance of the Sequential Batch Reactor (SBR), leading to an increased level of Nitrogen in the Treated Effluent sampled on 5 May 2023.
Action Taken / Action to be Taken	The Contractor investigated the reason for the exceedance. New effluent sample has been taken on 31 May 2023.
Remedial Works and Follow-up Actions	The Contractors has arranged thorough cleaning of all tanks and the replacement of diffusers of the SBR.

Prepared by: Angela Yung, MT Representative

Date 21 June 2023