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13 Environmental Monitoring and Auditing Requirements

13.1 Introduction

13.1.1.1 The section summarises the requirements on environmental monitoring and audits for the construction and operation of the Schedule 2 DP item, i.e. the ultimate Sewage Pumping Station (SPS), based on the assessment results of various environmental issues. Details of the Environmental Monitoring and Auditing (EM&A) programme can be referred to the separate EM&A Manual.

13.2 Project Organisation

13.2.1.1 A project organisation consisting of the Engineer's Representative (ER), Independent Environmental Checker (IEC), Environmental Team (ET), Project Proponent (MTR Corporation Limited) and Contractor should be established to take on the responsibilities for environmental protection for the Schedule 2 DP item, i.e. ultimate SPS. The IEC will be appointed by the Project Proponent to conduct independent auditing on the overall EM&A programme including environmental and operation auditing, implementation of mitigation measures, EM&A submissions, and any other submission required under the Environmental Permit (EP). The organisation, responsibilities of respective parties and lines of communication with respect to environmental protection works are given in the EM&A Manual.

13.3 EM&A Manual

13.3.1.1 EM&A is an important aspect in the EIA process which specifies the timeframe and responsibilities for the implementation of environmental mitigation measures. The requirements on environmental monitoring (including baseline and impact monitoring) are given in the EM&A Manual.

13.3.1.2 A project specific EM&A Manual to the Schedule 2 DP item, i.e. ultimate SPS has been prepared as part of the EIAO submission with reference to the latest design information available and EPD's generic EM&A Manual. The project specific EM&A Manual highlights the following issues:

- Organisation, hierarchy and responsibilities of the Contractor, the Engineer or ER, ET and IEC with respect to the EM&A requirements during construction phase of the ultimate SPS;
- Information on project organisation and programming of construction activities for the ultimate SPS;

- Requirements with respect to the construction schedule and necessary EM&A programme to track the varying environmental impacts;
- Full details of methodologies to be adopted, including all field, laboratory and analytical procedures, and details on quality assurance;
- Procedure for undertaking on-site environmental monitoring and audits;
- Requirements of reviewing pollution sources and working procedures required in the event of complaints;
- Requirements for reviewing the implementation of mitigation measures, and effectiveness of environmental protection and pollution control measures adopted; and
- Presentation of requirements for EM&A data and appropriate reporting procedures.

13.3.1.3 The Contractor shall be requested to review the mitigation measures and Environmental Mitigation Implementation Schedule (EMIS) with respect to the design developments and construction methodology. Any proposed changes to the mitigation measures shall be certified by the ET Leader and verified by the IEC as conforming to the relevant information and recommendations contained in the EIA Report.

13.4 Project Implementation Schedule

13.4.1.1 An EMIS has been prepared and included in the EM&A Manual to summarise all the required mitigation measures need to be implemented during the design, the construction and operational phases of the ultimate SPS. The implementation responsibilities have also been identified in the EMIS. The EM&A Manual has also presented the requirements for environmental auditing.

13.5 EM&A Programme

13.5.1.1 Detailed requirements of the EM&A programme has been described in the EM&A Manual. Measurements and activities that shall be conducted in accordance with the requirements in the EM&A Manual are summarised as follows:

- Site monitoring and auditing;
- Commissioning tests for the operation of the ultimate SPS (fixed noise impact);
- Logging and keeping records of monitoring and auditing results; and
- Preparation and submission of monthly and final monitoring and auditing reports.

13.6 EM&A Requirement

13.6.1 Air Quality

Construction Phase

13.6.1.1 With the implementation of dust suppression measures, no adverse environmental impact anticipated during the construction phase. However, construction dust monitoring, regular audits and site inspections at least once per week should be carried out during construction phase to ensure that dust level will comply with the relevant criterion and the recommended best management practices as recommended in this EIA Report and the EM&A Manual are properly implemented by the Contractor.

Operational Phase

13.6.1.2 With the implementation of mitigation measures for odour sources, operational phase impact is not anticipated. Hence monitoring and audit requirements are not required.

13.6.2 Noise

Construction Phase

13.6.2.1 Given adverse construction noise impacts are not anticipated and the construction of the ultimate SPS will be completed before the population intake of the proposed development, noise monitoring for construction noise is not necessary during the construction phase. However, regular audits and site inspections at least once per week should be carried out during construction phase to ensure that the mitigation measures recommended in this EIA Report and the EM&A Manual are properly implemented by the Contractor.

Operational Phase

13.6.2.2 The Contractor should carry out a fixed noise commissioning test for planned fixed noise at the ultimate SPS before its operation. The test should be carried out by a qualified person possessing at least 7 years of noise control experience and a corporate membership of Hong Kong Institute of Acoustic or equivalent. The Contractor should implement all necessary measures to ensure compliances with the noise standards stipulated in the NCO for fixed plant operations.

13.6.3 Water Quality

Construction Phase

13.6.3.1 With the implementation of good site practices to control site runoff, no adverse environmental impact anticipated during the construction phase. However, regular audits and site inspections at least once per week should be carried out during construction phase to ensure that the

mitigation measures recommended in this EIA Report and EM&A Manual are properly implemented by the Contractor.

- 13.6.3.2** A compliance audit for effluent discharge against valid discharge license should be carried out through scheduled on-site measurement in accordance with the monitoring frequency and parameter stipulated in the Water Pollution Control Ordinance (WPCO).

Operational Phase

- 13.6.3.3** With the implementation of 100% standby pumping capacity, twin rising mains, emergency storage facilities up to 3-hour ADWF capacity, etc., any potential environmental impact would be minimised during the operational phase. Hence, monitoring and audit requirements are not required.

13.6.4 Sewerage and Sewage Treatment

Operational Phase

- 13.6.4.1** With the provision of twin rising mains, adoption of high density polyethylene (HDPE) or ductile iron pipe and mitigation measures to minimise the chances of emergency discharge are proposed to enhance the sewerage network reliability and minimise environmental impacts due to system failure or in case of emergency situations during the operation phase. Emergency discharge would be minimised. Hence, monitoring and audit requirements are not required.

13.6.5 Waste Management

Construction Phase

- 13.6.5.1** During construction phase, the Contractor shall manage all the wastes to be generated in accordance with relevant legislation and guidelines. The recommended mitigation measures, including good site practice, waste reduction measures, employing trucks with mechanical cover and GPS system for transportation, and maintaining record of trip-tickets etc. should be implemented.

- 13.6.5.2** Regular audits and site inspections should be carried out to ensure proper waste management measures recommended in this EIA Report and EM&A Manual are implemented by the Contractor.

Operational Phase

- 13.6.5.3** As it is anticipated that there would not be any insurmountable impacts during the operational phase, monitoring and audit requirements are not required.

13.6.6 Land Contamination

- 13.6.6.1** As potential land contamination is not anticipated in the ultimate SPS location, monitoring and audit requirements are not required.

13.6.7 Ecology

Construction Phase

13.6.7.1 Good site practices are required to minimise the potential indirect impact. Regular audits and site inspections should be carried out to ensure that no unacceptable ecological impact on the conservation important sites/ species is resulted by the noise, dust, site run-off, and other pollutions from the construction sites and ensure that the mitigation measures recommended in this EIA Report and EM&A Manual are properly implemented by the Contractor.

Operational Phase

13.6.7.2 As there is no anticipated adverse impact during operation phase, monitoring and audit requirements are not required.

13.6.8 Fisheries

Construction Phase

13.6.8.1 No fisheries specific mitigation measures and monitoring would be required and mitigation measures recommended in the water quality impacts will also minimize any adverse impacts on fisheries. Though fisheries impact is unlikely, precautionary practices to prevent fisheries impacts due to the deterioration of marine water quality should be implemented. Good site practices should be maintained to mitigate the surface runoff generated from the construction works.

Operational Phase

13.6.8.2 As there is no anticipated adverse impact during operation phase, monitoring and audit requirements are not required.

13.6.9 Landscape and Visual

Construction Phase

13.6.9.1 The landscape and visual mitigation measures proposed should be incorporated in the landscape and engineering design. Mitigation measures to be implemented during construction should be adopted from the start of construction and be in place throughout the entire construction period. Site audits should be undertaken during the construction phase of the Project to check that the proposed landscape and visual mitigation measures are properly implemented and maintained as per their intended objectives. Site inspections should be undertaken at least once every two weeks during the construction period to ensure that the mitigation measures recommended in this EIA Report and EM&A Manual are properly implemented by the Contractor.

Operational Phase

13.6.9.2 Mitigation measures to be implemented during operation should be integrated into the detailed design and built as part of the construction

works so that they are in place on commissioning of the ultimate SPS. As there is no anticipated adverse impact during operation phase, monitoring and audit requirements are not required.

13.6.10 Hazard to Life

Construction Phase

13.6.10.1 The societal risk plots indicate that F-N curves of the overall risk cases for the cumulative impacts from SHWWTW would fall into the “ALARP” region and during both construction and operational phases. However, emergency planning, training and drill under the chlorine release scenario from SHWWTW for construction workers will be provided during construction phase.

Operational Phase

13.6.10.2 As discussed in **Section 13.6.10.1**, societal risk contribution from the Project is not significant, monitoring and audit requirements are therefore not required.