

3c. AIR QUALITY IMPACT (CO-EXIST SCENARIO)

3c.1 Introduction

3c.1.1.1 This section presents the assessment of the potential air quality impacts associated with the construction and operation phases of the IWMF located at both Tsang Tsui Ash Lagoon (TTAL) site and an artificial island near SKC concurrently (i.e. co-exist scenario). A key environmental issue would be the cumulative aerial emission impacts during operation phase in the vicinity of the IWMFs at both sites.

3c.1.1.2 Other potential air quality impacts arising from construction dust emissions and odour emissions would be localized within the close proximity of the respective project site and no cumulative dust or odour impact is expected under the co-exist scenario. The predicted air quality results arising from construction dust and odour emission presented in the **Section 3a & 3b** are still valid for the co-exist scenario. Therefore, this section only presents the results of the cumulative aerial emission impact during operation phase.

3c.2 Prediction and Evaluation of Environmental Impacts

3c.2.1 Operation Phase - Gaseous Pollutants

3c.2.1.1 The methodology for the air quality assessment for this scenario is the same as in **Sections 3a** and **3b**. The predicted cumulative NO₂ and RSP concentrations at the representative ASRs within the identified hot spot areas using PATH and Gaussian models are summarized in **Appendix 3.12**. The hourly and/or daily and annual average contour plots for NO₂ and RSP at 1.5m above ground are presented in **Figures 3c.3 to 3c.7**. From the contour plots, exceedances of the hourly NO₂ of 300µg/m³ are predicted in Nim Wan & Lung Kwu Sheung Tan and Airport Island at 1.5m above ground. However, no existing or planned ASR is identified within these predicted exceedance areas. The modelling results indicated that the predicted cumulative concentrations of NO₂ and RSP at all representative ASRs would comply with the respective AQO.

3c.2.1.2 The other potential air pollutants (individual chemicals) covered in Annex 1 of EPD's "A Guidance Note on the Best Practicable Means for Incinerator (Municipal Waste Incineration) BPM 12/1(08)" are identified as non-criteria air pollutants. The predicted short-term and long-term concentrations of these non-criteria air pollutants and their health impacts are assessed in **Section 9c** of this EIA Report.

3c.3 Mitigation Measures

3c.3.1 Operation Phase - Gaseous Pollutants

3c.3.1.1 As mentioned in **Section 3a & 3b** of this EIA Report, air pollution control and stack monitoring system will be installed for the IWMF to ensure that the emissions from the IWMF stacks will meet the proposed target emission limits that is more stringent than those stipulated in Hong Kong and the European Commission for waste incineration. According to the assessment results, all the representative ASRs would comply with the AQO limit and thus no further mitigation measure would be required.

3c.4 Residual Environmental Impact

3c.4.1 Operation Phase - Gaseous Pollutants

- 3c.4.1.1 With the implementation of practicable air pollution control and stack monitoring system for the IWMF, emissions from the IWMF stacks will meet the proposed target emission limits that is more stringent than those stipulated in Hong Kong and the European Commission for waste incineration and no adverse residual air quality impact due to IWMF stack emission is expected.

3c.5 Environmental Monitoring and Audit Requirements

3c.5.1 Operation Phase - Gaseous Pollutants

- 3c.5.1.1 The monitoring requirement for each site stated in the **Section 3a & 3b** will strictly follow. Air pollution control and stack monitoring system will be installed for the IWMF to ensure that the emissions from the IWMF stack will meet the stringent target emission limits and all the potential odour emissions associated with the operation of the IWMF will be collected and destroyed by the incineration process or ventilated to deodorizer before discharge to the atmosphere. Monitoring of air quality parameters of concern due to stack emissions has to be conducted in accordance with the requirements similar to those stipulated in the "A Guidance Note on the Best Practicable Means for Incinerator (Municipal Waste Incineration) BPM 12/1(08)".

3c.6 Conclusion

3c.6.1 Operation Phase - Gaseous Pollutants

- 3c.6.1.1 With the implementation of practicable air pollution control, the cumulative air quality impact assessment results show that all the air sensitive receivers in the vicinity of the Project sites would comply with the Air Quality Objectives (AQOs).