

2. AIR QUALITY

2.1 Introduction

2.1.1 Dust impacts would be the major air quality impacts during the construction phase of the project. There might also be odour impacts if dredging operation is required for the proposed reclamation in SEKD. During operational phase of the project, there would be potential odour impacts associated with the maintenance operation of the box culverts within SEKD. Sections 2.2 and 2.3 detailed the approaches, criteria and guidelines on monitoring and managing dust and odour impacts respectively.

2.2 Dust Monitoring

2.2.1 General

2.2.1.1 Dust would be the key environmental issue during construction. It is necessary to monitor the dust generated from the construction activities after timely implementation of the mitigation measures listed in Section 2.2.9 in the Manual. The purpose of the monitoring is to ascertain that the dust levels would comply with the 1-hour average and 24-hour average Total Suspended Particulates (TSP) criteria at nearby sensitive receivers, and that the recommended mitigation measures are effective in suppressing dust levels.

2.2.2 Monitoring Parameters

2.2.2.1 Monitoring and audit of the TSP levels should be carried out by the ENPOs to ensure that any deteriorating air quality could be readily detected and timely and appropriate action be undertaken to rectify the situation.

2.2.2.2 1-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The TSP levels should be measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B. Upon approval of the ER, 1-hour TSP levels can be measured by direct reading methods which are capable of producing comparable results as that by the high volume sampling method, to indicate short event impacts.

2.2.2.3 All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and other special phenomena and work progress of the concerned site etc. should be recorded down in details. A sample data record sheet is shown in **Appendix B** for reference.

2.2.3 Monitoring Equipment

2.2.3.1 High volume sampler (HVS) in compliance with the following specifications should be used for carrying out the 1-hour and 24-hour TSP monitoring:

- (a) 0.6-1.7m³/min (20-60 SCFM) adjustable flow range;
- (b) equipped with a timing/control device with +/- 5 minutes accuracy for 24 hours operation;
- (c) installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
- (d) capable of providing a minimum exposed area of 406cm² (63in²);
- (e) flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
- (f) equipped with a shelter to protect the filter and sampler;
- (g) incorporated with an electronic mass flow rate controller or other equivalent devices;