

## 8 Environmental Monitoring and Audit Requirements

### 8.1 Introduction

8.1.1.1 In addition to the assessment for the various environmental parameters in this report, programme and methodologies for Environmental Monitoring and Audit (EM&A) are recommended to evaluate the environmental performance and implementation of the Project. This section summarises the requirements for EM&A.

8.1.1.2 The EM&A programme provides a systematic procedure for monitoring, auditing to minimise environmental impacts during the construction and operation phases of the Project. Major objectives of the EM&A are listed as follows:

- Ensure compliance with relevant requirement, standard, Government policies and recommendation listed in this EIA Study;
- Enhance the implementation of proposed mitigation measures through monitoring and auditing;
- Raise warning to any possible breach of environmental compliance;
- Establish appropriate procedures for handling of environmental complaints; and
- Determine the scope and extent of remedial actions when they are required.

### 8.2 Air Quality

#### 8.2.1 Construction Phase

8.2.1.1 No adverse construction dust impact is anticipated upon the representative ASRs given that the proposed helipad will likely be constructed by prefabrication. However, relevant dust control measures as recommended in the Air Pollution Control (Construction Dust) Regulation shall be implemented. Hence, regular site environmental audits shall be conducted to ensure proper implementation of dust control measures.

#### 8.2.2 Operation Phase

8.2.2.1 Results from the air quality impact assessment show that there will be no adverse impact due to the operation of the proposed helipad. Therefore, EM&A works is not necessary.

## 8.3 Noise Impact

### 8.3.1 Construction Phase

8.3.1.1 Results from the construction noise impact assessment indicate no exceedance of the noise criterion at the representative NSR. Noise monitoring and audit in construction phase is not required.

### 8.3.2 Operation Phase

8.3.2.1 This EIA Study has considered all practicable means of minimising potential operational helicopter noise impact upon identified NSRs. These measures include set back of helipad, adoption of quiet approaching/departure procedures and erection of noise barriers and noise reducers. The helicopter noise impact has been assessed. No noise exceedance of the relevant daytime helicopter noise criteria in [Table 4.1](#) was anticipated at the representative NSRs.

8.3.2.2 With the implementation of all practicable noise mitigation measures, the predicted helicopter noise levels of the worst operation mode at the representative NSRs range from  $L_{max}$  79 - 85dB(A) which comply with the noise criterion. It is expected the helicopter operation at the Proposed Helipad occurs randomly over the year and the average daily operation is less than one. The noise event of helicopter during flyover at 1500ft above mean sea level is about 2-3 seconds. Under normal circumstances, the duration of helicopter idling is not more than 5 minutes for casualty handover at the Proposed Helipad. Hovering will be within 5 seconds before touchdown or after lift-off. With the rare occurrence of emergency helicopter operations and the short duration of each flight event at the Proposed Helipad, all practicable noise mitigation measures have been exhausted to minimise the noise impact. Thus, operational noise monitoring, in particular real-time reporting, is not required.

8.3.2.3 The local community may lodge noise complaints with the relevant authority. Upon receipt of any complaints from public or any concerned parties, the HA/QMH shall undertake the following procedures:

- 1) Record the complaint in a central complaint database by the HA/QMH and the GFS;
- 2) Investigate the complaint and determine its validity as well as source of the problem by the HA/QMH and the GFS;
- 3) Identify mitigation measure by the HA/QMH and the GFS; and
- 4) Report the findings and follow-up action to the complainant or the concerned parties by the HA/QMH.

## **8.4 Waste Management**

### **8.4.1 Construction Phase**

#### **8.4.1.1**

Given that no demolition, site formation or dredging works will be involved in this Project, limited quantity of waste would be generated during the construction stage. While no specific EM&A requirements have been identified, it is recommended that site inspection and supervision of waste management procedures should be conducted. The Contractor shall be responsible for preparing a Waste Management Plan (WMP) in accordance with ETWB TC(W) 19/2005 and submitted for approval. Regular site audits shall be carried out to ensure the effectiveness of the implemented mitigation measures.

## 8.4.2 Operation Phase

- 8.4.2.1 The operation of the helipad would not generate waste. As such, there will be no EM&A requirements for the operational phase of the Project.

## 8.5 Ecological Impact – Terrestrial

### 8.5.1 Construction Phase

- 8.5.1.1 The construction works will be carried out on the rooftop and some material delivery at ground level by trucks on designated haul road. No works will be allowed outside the site boundary. Findings from site survey also indicate that there will be no significant adverse ecological impact upon the environment. In connection of the above, no monitoring requirements is needed for the Project.

### 8.5.2 Operation Phase

- 8.5.2.1 The proposed flight sector provides GFS with the flexibility to adopt an alternative route in the case where avifauna is present in the original planned flight path. GFS would also excise precautionary measures to avoid bird strike event as much as possible. Identified avifauna species within the study area are highly mobile and should be able to utilise the surrounding beyond the study area in the event of an incoming helicopter flight.
- 8.5.2.2 Based on the assessment, identified avifauna species within the study area are highly mobile and their use of the environment within the study area is transient. In view of the daily operation of the helipad is expected not more than once in average and that of there are no scheduled flights, no ecology-specific monitoring during operational phase is considered necessary.

## 8.6 Visual Impact

### 8.6.1 Operation Phase

- 8.6.1.1 There will be no direct line of sight from the identified VSRs to the lighting of Proposed Helipad. Hence, adverse visual impact of lights during night-time operation of the Project is not anticipated, and monitoring will not be necessary.

**8.7****Summary of Environmental Monitoring and Audit Requirements**

## 8.7.1.1

The required environmental monitoring and audit is summarised in [Table 8.1](#).

**Table 8.1 Summary of Required EM&A**

Environmental Aspect	Construction Phase		Operational Phase	
	Monitoring	Audit	Monitoring	Audit
Air Quality	N	Y	N	N
Noise Impact	N	Y	N	N
Waste Management	N	Y	N	N
Ecological Impact - Terrestrial	N	N	N	N
Visual Impact	N/A	N/A	N	N

Notes:

Y - Required

N - Not required

N/A - Not applicable