

# 13 Environmental Monitoring and Audit Requirements

## 13.1 General

The following Section presents a summary of Environmental Monitoring and Audit (EM&A) requirements for each impact assessment described in this EIA Report.

## 13.2 Air Quality Impact

Regular dust monitoring is considered necessary during the carrying out of the Project and regular site audits are also required to ensure the dust control measures are properly implemented. Details of the EM&A programme will be presented in the separate EM&A Manual.

## 13.3 Noise Impact

Although no residual construction noise impact is predicted during the carrying out of the Project, to ensure that the nearby Noise Sensitive Receivers (NSRs) will not be subjected to unacceptable noise impact, an EM&A programme is recommended. Details on the construction noise monitoring requirements, methodology and action plans would be described in the separate EM&A Manual.

No adverse road traffic noise impact is anticipated from operation of the Project, hence no environmental monitoring and audit is proposed.

Prior to the operation phase of the project, as part of the design process, commissioning tests should be conducted to ensure the operation noise from the fixed plant within KNP (i.e. ventilation openings, sewage pumping station and petrol/ diesel filling station) would comply with the relevant EIAO-TM noise criteria. Details of the commissioning test requirements are specified in the EM&A Manual.

This study has incorporated all practicable means to avoid the helicopter noise impacts, including treatment of source, restricting approach / taking-off flight paths and flight angles, and implementing at least 2.5m perimeter wall / boundary wall at the Project site without compromising flight safety. Hence, no environmental monitoring and audit is proposed.

## 13.4 Water Quality Impact

Adverse water quality impact was not predicted during the construction and operation phase of the Project. Thus water quality monitoring is not considered necessary. Nevertheless, appropriate mitigation measures are recommended to minimise potential water quality impacts, and regular site audits are recommended to ensure that the water quality mitigation measures are properly implemented. Details of the EM&A programme are specified in the EM&A Manual.

### **13.5 Sewerage and Sewage Treatment Implications**

With the implementation of the recommended design and operation measures, all potential impacts would be adequately controlled. Therefore, no adverse sewerage and sewage treatment implications are expected, and no specific monitoring is required.

### **13.6 Waste Management Implications**

It would be the Contractor's responsibility to ensure that all wastes produced during the construction phase of the Project are handled, stored and disposed of in accordance with good waste management practices and EPD's regulations and requirement. The recommended mitigation measures should form the basis of the Waste Management Plan (WMP) to be developed by the Contractor throughout the construction period. The WMP shall be prepared and implemented in accordance with ETWB TC (W) No. 19/2005 Environmental Management on Construction Site.

Throughout the construction phase of the Project, regular site inspections as part of the EM&A procedures should be carried out to determine if wastes are being managed in accordance with approved procedures and the WMP. Different aspects of waste management including waste generation, storage, recycling, treatment, transport and disposal would be included in the programme.

With the implementation of the recommended mitigation measures for handling, transportation and disposal of the identified waste arisings, no adverse impacts are anticipated during operation phase of the Project. Therefore, no specific waste monitoring during operation phase is required.

### **13.7 Land Contamination**

No potential land contamination issues have been identified for the construction and operation phases of the Project. Therefore, no adverse impacts are anticipated and no specific monitoring is required.

Nevertheless, in any case where contaminated soil is identified after the commencement of works, the requisite land contamination assessment process under EIAO should be conducted and if contamination is confirmed, remediation works should be carried out. In such an event, bulk excavation of soil for decontamination works would take place and environmental monitoring of decontamination works should be considered, with such monitoring to include regular site inspections.

### **13.8 Ecological Impact**

The implementation, monitoring and audit of the precautionary and mitigation measures, including a detailed vegetation survey, erection and maintenance of protective fence for flora species of conservation interest and subsequent monitoring, should be conducted as described in the standalone EM&A Manual. In addition, the mitigation measures for air, noise, water and landscape aspects proposed in respective sections which are indirectly beneficial to the local ecology shall be checked as part of the environmental monitoring and audit procedures during construction period.

### 13.9 Landscape and Visual Impacts

The implementation of the landscape and visual mitigation measures proposed in **Table 10.11** and **Table 10.12** should be checked as part of the EM&A procedures during the construction phase and the first year of operation phase during the establishment period of proposed planting as presented in the separate EM&A Manual.

### 13.10 Impact of Hazard to Life

The hazard to life assessment has concluded that individual risk and societal risk of SSWTW, OWTF2 and the proposed facility itself are of the 'acceptable' range for both construction stage and operation stage. Therefore, implementation of further risk mitigation measures is not required, and no specific environmental monitoring and audit is necessary.

Although risk mitigation measures are not required for this project, some measures / good practices are recommended and summarized below:

1. All DG stores should be constructed according to the standards and recommendations by FSD, having adequate fire-fighting facilities, proper ventilation and fire-proofing requirement.
2. All DGs such as paints and solvents should be stored in their respective DG rooms.
3. Adequate fire-fighting equipment, such as fire extinguishers, fire sand etc. should be present during kerosene refuelling operation at the helipad.
4. Proper earthing equipment and procedures should be in place to prevent accumulation of static electricity during kerosene refuelling operation.
5. GFS kerosene road tanker and the helicopter pilot should follow the established protocol for arriving at the helipad to prevent helicopter crashing on the road tanker.
6. Refuelling will only be performed in daytime
7. Underground storage tanks will be used for petrol/diesel storage
8. Kerosene pump will be equipped with pressure switch to prevent overfilling