13 HAZARD TO LIFE

13.1 Introduction

13.1.1 This project comprises construction of the following key structures:
- an approximately 10.5km long drainage tunnel with portals at both ends;
- 35 intake shafts;
- adits connecting the main tunnel and the intake shafts; and
- an outfall structure

13.1.2 The main drainage tunnel will be constructed by Tunnel Boring Machine (TBM). Conventional excavation methods (e.g. raising boring method or reverse circulation drilling method) will be adopted for construction of the intake shafts. Drill and blast methods will be used for excavation of most of the adits.

13.1.3 This section of the report addresses the issues with regard to the Hazard Assessment as specified in the EIA Study Brief (ESB-070/2001).

13.2 Technical Requirement for Hazard to Life Assessment

13.2.1 The EIA Study Brief for this project requires an assessment to be carried out if there is overnight storage of explosives on site, and the location of which is in close vicinity of populated areas. The assessment must follow the criteria for evaluating hazard to life as stated in Annexes 4 and 22 of the TM to the EIAO. The hazard assessment needs to address the following:

(i) Identification of all hazardous scenarios associated with the transport, storage and use of explosives for blasting operation;
(ii) Execution of a Quantitative Risk Assessment expressing population risks in both individual and societal terms;
(iii) Comparison of individual risk and societal risks with the Criteria for Evaluating Hazard to Life as stipulated in Annex 4 of the TM to the EIAO; and
(iv) Identification and assessment of practicable and cost-effective risk mitigation measures.

13.3 Hazard Identification

13.3.1 Potential hazards relate to the storage and use of explosives for the construction of the adits.

13.3.2 For the adits construction, drill and blast method will be adopted for the majority of the works. As the storage of explosives relates to the extent of the drill and blast component of works, it is important to review the rate of work, storage/delivery arrangements and the duration of the works. The blasting works will require about 30 months to complete. Based on the proposed construction programme and the blasting frequencies, there will be no requirement for overnight storage of explosive on site. The delivery of the explosive will be once per day. The delivery of explosives from Government Explosives Depots to the blasting site is controlled by the Explosives Delivery Unit of the Mines Division. Explosives are classified as Category 1 Dangerous Goods and use of explosives is controlled under the Dangerous Goods Ordinance (Chapter 295). Since there will be no overnight storage of explosive on site, no Quantitative Risk Assessment is required for this study.
13.4 Conclusion

13.4.1 There will be no overnight storage of explosives for this project. Transportation of explosives to site for the construction of adit will be undertaken on a daily basis. The contractor is required to destroy any unused explosives before nightfall.