



40/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong
香港灣仔告士打道5號稅務大樓40樓

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For Advice

Environmental Impact Assessment Ordinance (Cap.499)
Environmental Impact Assessment Report
Development of an EcoPark in Tuen Mun Area 38

Purpose

This paper presents the key findings and recommendations of the Environmental Impact Assessment (EIA) report for the Development of an EcoPark in Tuen Mun Area 38 (hereafter known as the Project), submitted under section 6(2) of the Environmental Impact Assessment Ordinance (EIAO). Waste Management Policy Division of the Environmental Protection Department (the applicant) and their consultants will make a presentation. Comments from the public and the ACE will be taken into account by the Director of Environmental Protection when he makes the decision on the approval of the EIA report under the EIAO.

Advice Sought

2. Members' views are sought on the findings and recommendations of the EIA report.

Need for the Project

3. The long-term availability of affordable land with basic infrastructure would help promote the growth of waste recycling industry in Hong Kong. Thus, the Government proposes to construct and operate an EcoPark in Tuen Mun Area 38 for recycling and environmental industries. With mitigation measures in place, the potential environmental problems arising from the recycling activities to the nearby sensitive receivers would be controlled to within the established standards.

Description of the Project

4. The EcoPark is located on a piece of reclaimed land (about 19.5 ha) in Tuen Mun Area 38 (Figure 1). It will be developed in two phases, with Phase I (8.3 ha)

scheduled for commissioning in late 2006 and Phase II (11.2 ha) in late 2009. The Project comprises the following key items of works:

- (i) provision of infrastructure including marine loading/unloading areas, roads, drains, sewers and utilities;
- (ii) construction of buildings and facilities for accommodating office and recycling operations;
- (iii) provision of on-site wastewater treatment facility to treat industrial wastewater prior to discharging to the public sewer;
- (iv) allocation of sites for waste recyclers for construction of recycling facilities;
- (v) delivery and unloading of recyclable materials; and
- (vi) recycling operations and loading and transportation of finished products by road and sea.

5. The Project is classified as a designated project under Item G.4, Part I, Schedule 2 of the EIAO (i.e. "A waste disposal facility, or waste disposal activity, for chemical, industrial or special wastes").

Consideration of Alternative Sites and Recovery Methods

Site Selection

6. Five proposed sites were considered having the potential for accommodating material recycling activities, namely Tuen Mun Area 38, Pillar Point Valley Landfill, Ma Yau Tong Central Landfill, Tseung Kwan O Stage II/III Landfill and Siu Lang Shui Landfill.

7. Various factors, including environmental issues, have been taken into consideration during the site selection process. The preferred site at Tuen Mun Area 38 was selected with the major considerations as follows:

- (i) remote from existing residential developments (over 2 km from the site);
- (ii) compatible with the surrounding industrialised area (zoned "Other Specified Uses" annotated "Special Industries Area");
- (iii) proximity to existing sewerage infrastructure;
- (iv) close to existing access road and direct marine access; and
- (v) land availability.

Recovery Methods

8. Types of recovery processes, air pollutant emission rates and chimney parameters etc. are the main factors in determining the preferred development option for the EcoPark. Some of the initially proposed recovery processes are screened out due to anticipated unacceptable air quality impacts e.g. inedible rendering and melting of shredded ferrous metals are dropped due to significant odour and air emission impacts respectively.

Specific Environmental Aspects to Highlight

9. The environmental issues identified for the Project including air quality, risk to life and water quality are highlighted below.

Air Quality Impact

10. In order to allow flexibility for the development yet meeting the relevant environmental standards, the EIA has adopted an overall acceptable emission approach in assessing a comprehensive range of recovery methods without exact configuration of each recycling lot.

11. With the implementation of mitigation measures set out in Air Pollution Control (Construction Dust) Regulation, adverse air quality impacts are not anticipated during construction of the Project.

12. For operational air quality impact, three scenarios covering different recovery activities have been assessed by air quality modelling:

- (i) Scenario 1 is the all embraced scenario, i.e. accept most types of recycling business, which are subsequently found to have a potential to exceed significantly the criteria of Air Quality Objectives and thus is not recommended;
- (ii) Scenario 2 is the recommended scenario which further reduces the throughput of non-ferrous metal melting process to avoid potential unacceptable air quality impacts; and
- (iii) Scenario 3 is a conservative scenario in which total fuel consumption is further reduced as compared to Scenario 2 and non-ferrous metal melting process is excluded. This scenario could only be achieved by significantly limiting the types of recovery processes and throughput of materials and thus is not recommended.

13. With the implementation of mitigation measures in Scenario 2, such as fabric filters to control air pollutants emissions, wet scrubber to mitigate sulphur dioxide emission, chimney location restrictions and fresh air intake restrictions, adverse air quality impacts are not anticipated.

Risk to Life

14. The EIA has addressed the off-site fatality risk issue arising from the seven dangerous goods (DGs) which are likely to be used and stored on site (i.e. battery fluid, oxygen and acetylene, zinc dust, hydrogen peroxide, rubber tyres, sludge/spent acid and ultra low sulphur diesel). The EIA has recommended that chlorine shall not be used or stored in the EcoPark. In addition, those DGs (including oxygen and acetylene, tyres, and diesel) that would support combustion are recommended to be located at least 10 m from the perimeter of the EcoPark such that radiant heat would not be life threatening to off-site populations in case of fire. With the recommendations, the EIA concluded that no off-site risk of fatality would be resulted from the Project.

Water Quality Impact

15. During operation of the EcoPark, domestic sewage would be connected to the public sewer leading to the Pillar Point Sewage Treatment Works. However, the industrial effluent from the recycling lots would be pretreated to the required standards by an on-site wastewater treatment facility prior to discharging into the public sewer. Based on this, adverse water quality impact is not anticipated from the Project.

Other Environmental Impacts

16. The EIA report also addressed waste, land contamination, landfill gas hazard, noise, and landscape and visual impacts. The report concluded that, with appropriate mitigation measures in place, the environmental impacts are considered acceptable.

Environmental Monitoring and Audit (EM&A)

17. There will be an operator to manage and to oversee the operational matters of the EcoPark. An Environmental Team and an Independent Environmental Checker will be employed and be responsible for carrying out and to verify the environmental performance of the EcoPark. In future, each recycling process and type of dangerous goods to be stored/transported would be checked and reviewed against the development parameters and design assumptions recommended in the EIA report. If there are any deviations, a design audit would be carried out to assess the

potential impacts and identify additional mitigation measures, if any, to ensure compliance with the EIA findings.

Public Consultation

18. The applicant has made the EIA report, EM&A Manual and Executive Summary available for public comment under the EIAO on 29 April 2005. Members will be briefed about any comments received from the public at the meeting.

May 2005
Environmental Assessment Division
Environmental Protection Department