

**Environmental Impact Assessment Ordinance (Cap.499)
Environmental Impact Assessment
Reprovisioning of Diamond Hill Crematorium**

Purpose

This paper presents the key findings and recommendations of the Environmental Impact Assessment (EIA) report for the Reprovisioning of Diamond Hill Crematorium (hereafter known as the Project), submitted under section 6(2) of the Environmental Impact Assessment Ordinance (EIAO). Architectural Service Department 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. After long years of operation, there have been frequent breakdowns of the existing crematorium over the past year. Complaints have been received from the local community regarding the air quality nuisance (smoke and odour) of the existing operation. FEHD proposes the replacement of the existing crematorium by a new crematorium at Diamond Hill to meet the cremation demand in the Kowloon area.

Description of the Project

4. The Project is to construct a new crematorium of 6 cremators in-situ to replace the existing Diamond Hill crematorium (DHC) also with 6 cremators (See Figure 1). Construction of a new crematorium is a Designated Project under Item N4, Part I of Schedule 2. As the existing crematorium has been used for the handling of pathological / clinical wastes in the past, the decommissioning of the existing

crematorium is also a Designated Project under Item 3, Part II of Schedule 2 (i.e. “decommissioning of a clinical waste incinerator”).

5. In order to maintain continuous cremation services to the public, the Project will be constructed in two phases. Phase I works (i.e. construction of the main facilities of the new crematorium at the southern part of the site) and Phase II works (i.e. demolition of the existing crematorium and construction of the remaining new facilities at the northern part of the site) are scheduled to commence from September 2004 to February 2006 and from October 2006 to November 2007, respectively.

6. The DHC is located along Po Kong Village Road, between Hammer Hill Road and Po Leung Lane. The nearest air sensitive receivers as residential building and school are 78 m and 234 m from the new facility (see Figure 1).

Specific Key Aspects to Highlight

7. The major environmental issues identified for the project are: air quality, contaminated land and materials.

Air Quality Impact

8. With the implementation of mitigation measures set out in Air Pollution Control (Construction Dust) Regulation, no adverse air quality impacts are anticipated during the construction and demolition works and the Air Quality Objective and criteria in the EIAO-TM would be met.

9. During the new crematorium commissioning phase, the total number of cremators (new and old) operating at any one time will be limited to no more than 6 to avoid the introduction of additional air pollution emissions.

10. During operation, the potential air quality impacts arise mainly from chimney emissions from the new cremators. The new cremators will be designed to comply with the EPD’s *Best Practical Means for Incinerators (cremators) BPM 12/2* and will adopt the following mitigation measures:

- an Air Pollution Control (APC) system will be installed to remove air pollutants from the flue gas stream before discharge to atmosphere.
- routine chimney monitoring will be carried out to monitor the performance of the new cremators
- an Environmental Management Plan will be established and implemented to ensure the upkeep performance of cremators.

11. With the above measures in place, the EIA predicted that the operational air quality impacts at the existing, planned and committed air sensitive receivers (ASRs) would comply with the Air Quality Objectives (AQO) and other international standards for non-AQO pollutants to include HCl, mercury and dioxin.

12. To avoid potential adverse air quality impacts upon any possible future redevelopment not envisaged on current plans due to the operation of the new crematorium, building height constraints at the small areas affected by 1 hour NO₂ and odour impacts were identified and recommendations made in the EIA report to review the height constraint at the planning stage of a redevelopment proposal by the future developer.

13. Overall, the Project is anticipated to bring improvement to the local air quality given that new cremators with advanced technology would be installed with APC system will replace existing outdated ones that are known to have caused smoke and odour nuisance to the nearest air sensitive receivers .

Land Contamination

14. An estimated small amounts of about 80 m³ of soil contaminated with heavy metal were identified in localized areas within the site and will be disposed off at landfill. The 'Dutch' criteria and the United States Environmental Protection Agency (USEPA) dioxin criteria of 1 part per billion toxicity equivalent (1 ppb TEQ) for residential use were used for the contamination assessment and subsequent remediation. Although dioxin contaminated soil was not detected, on precautionary ground the EIA recommends confirmatory soil sampling / testing within the site area after the decommissioning of the existing facility. The EIA also proposes supplementary contamination assessment to be carried out to ascertain the extent of soil contamination at currently inaccessible areas. If confirmed to be present, soil contaminated with Polychlorinated Biphenyl (PCB) and total petroleum hydrocarbon (TPH) will be landfilled, with the former first stabilized with cement.

Contaminated Materials

15. Demolition of the existing cremators could give rise to contaminated materials. The EIA recommends sampling of ashes inside the cremators, chimney and flues be conducted once the facility is decommissioned. Based on similar EIA project experience, the EIA identifies dioxin could be present in the ash wastes deposited on walls and at the bottom of cremators, chimney and flues but estimated the volume is likely small (<< 20m³). The EIA proposes to either immobilize the

dioxin containing ashes with cement for disposal to landfill or dispose directly to CWTC. Precautionary measures, including covering / containment of the works area with the provision of decontamination chambers will be adopted to avoid fugitive emissions of dioxin contaminated ashes during demolition.

16. Asbestos was found at certain parts of the existing crematorium building to include adhesive for floor tiles, chimney lining and gaskets. An asbestos consultant employed by the proponent will supervise the contractor to ensure that asbestos containing materials is removed in line with the requirements of the Air Pollution Control Ordinance.

Environmental Monitoring and Audit (EM&A)

17. An EM&A programme is proposed in the EM&A Manual submitted with the EIA report. Supplementary contaminated soil / materials sampling is proposed in the EM&A programme. The EM&A requirements, except chimney emissions monitoring (which is enforced under a Specified Process License issued under Air Pollution Control Ordinance), will be enforced as Environmental Permit Conditions.

Comments received so far from the public during the Public Inspection Period

18. The applicant has made the EIA report, EM&A manual and Executive Summary available for public comment under the EIAO on 12 January 2004. Members will be briefed about any comments received from the public at the meeting.

Environmental Protection Department.
January 2004