

Environmental Impact Assessment Ordinance (Cap. 499), Section 5 (7)

Environmental Impact Assessment Study Brief No. ESB-164/2007

Project Title : **Decommissioning of the Co-Combustion Pilot Plant at Tap Shek Kok**
 (hereinafter known as the "Project")

Name of Applicant : **Green Island Cement Company Limited**
 (hereinafter known as the "Applicant")

1. BACKGROUND

1.1 An application (No. ESB-164/2007) for an Environmental Impact Assessment (EIA) study brief under section 5(1) of the Environmental Impact Assessment Ordinance (EIAO) was submitted by the Applicant on 26 April 2007 with a project profile (No. PP-315/2007) (the Project Profile).

1.2 The Project is to demolish the existing Co-Combustion Pilot Plant (CCPP), to remove its used equipment and waste materials as well as to clean up the CCPP site.

1.3 As part of the research programme in collaboration with the Hong Kong University of Science and Technology to develop a new thermal treatment process for the municipal solid waste (MSW), the CCPP was constructed at the Green Island Cement site. The CCPP which treated 24 tonnes of MSW per day was constructed in 2004 and has been permanently shutdown after completion of the pilot plant study.

1.4 The Project is a designated project under Schedule 3, Item 3 of Part II, Schedule 2 of the EIAO : "*Decommissioning Projects: A municipal, chemical or clinical waste incinerator*".

1.5 The site, with an area of 4,000 m², is within the Green Island Cement Plant (see Figure 1 in Appendix A) surrounded by the Castle Peak Power Station and the Shiu Wing Steel Company steel manufacturing plant.

1.6 Pursuant to section 5(7)(a) of the EIAO, the Director of Environmental Protection (the Director) issues this EIA study brief to the Applicant to carry out an EIA study.

1.7 The purpose of this EIA study is to provide information on the nature and extent of environmental impacts arising from the proposed decommissioning works and related activities, if any, that take place concurrently. This information will contribute to decisions by the Director on :

- (i) the overall acceptability of any adverse environmental consequences that are likely to arise as a result of the Project;
- (ii) the conditions and requirements for the detailed design and/or proposed decommissioning works to mitigate against adverse environmental consequences wherever practicable; and
- (iii) the acceptability of residual impacts after the proposed mitigation measures are implemented.

2. OBJECTIVES OF THE EIA STUDY

2.1 The objectives of the EIA study are as follows :

- (i) to describe the Project and associated works together with the requirements for carrying out the Project;
- (ii) to identify and describe elements of community and environment likely to be affected by the Project, including natural and man-made environment and the associated environmental constraints;
- (iii) to provide information on the consideration of alternative decommissioning methods; to provide reasons for selecting the preferred method(s) and to describe the part environmental factors played in the selection of preferred method(s);
- (iv) to propose the provision of mitigation measures so as to minimize pollution, environmental disturbance and nuisance during the decommissioning activities;
- (v) to investigate the feasibility, practicability, effectiveness and implications of the proposed mitigation measures;
- (vi) to identify, assess and specify methods, measures and standards, to be included in the proposed decommissioning works which are necessary to mitigate these environmental impacts and cumulative effects and reduce them to acceptable levels;
- (vii) to design and specify environmental monitoring and audit requirements to ensure the effective implementation of the recommended environmental protection and pollution control measures.

3. DETAILED REQUIREMENTS OF THE EIA STUDY

3.1 The Purpose

The purpose of this study brief is to scope the key issues of the EIA study. The Applicant has to demonstrate in the EIA report that the criteria in the relevant sections of the Technical Memorandum on the Environmental Impact Assessment Process of the Environmental Impact Assessment Ordinance (hereinafter referred to as “the TM”) are fully complied with.

3.2 The Scope

3.2.1 The scope of this EIA study shall cover the Project mentioned in sub-section 1.2 above. The EIA study shall address the likely key issues described below, together with any other key issues identified during the course of the EIA study:

- (i) release of pollutants, such as dioxins in residual ash, into air and dust impact during decommissioning;
- (ii) the land contamination due to the past land uses in the site;
- (iii) the waste management (including handling, storage, collection, transport treatment and final disposal) of building debris to be generated from the decommissioning works, contaminated soil and various types of chemical wastes/hazardous materials to be cleaned up and generated from decontamination and site clearance; and
- (iv) the potential water quality impacts and sewerage infrastructure impacts due to the Project.

3.3 Consideration of Alternatives

3.3.1 The Need of the Project

The Applicant shall provide information on the need of the Project, including the purpose and objectives of the Project, and describe the scenarios with and without the Project.

3.3.2 Consideration of Alternative Decommissioning Methods

Taking into consideration the combined effect with respect to the decommissioning duration and the severity of the environmental impacts, the EIA study shall explore

alternative decommissioning methods (including demolition and decontamination methods), with a view to shortening decommissioning period and avoiding prolonged adverse environmental impacts to the maximum practicable extent. A comparison of the environmental benefits and dis-benefits of applying different decommissioning methods shall be made.

3.3.3 Selection of Preferred Decommissioning Method(s)

Taking into consideration of the findings in sub-section 3.3.2 above, the Applicant shall recommend/justify the adoption of the preferred decommissioning method(s) that will avoid or minimize adverse environmental effects arising from the Project, and adequately describe the part that environmental factors played in arriving at the final selection.

3.4 **Technical Requirements**

The Applicant shall conduct the EIA study to address all environmental aspects as described in sub-sections 3.1, 3.2 and 3.3 above. The EIA study shall include the following technical requirements on specific impacts.

3.4.1 **Air Quality Impact**

- 3.4.1.1 The Applicant shall assess the impacts of air pollutants such as dust and dioxins that may be emitted during decommissioning of the Project at the identified air sensitive receivers (ASRs). Air pollution control measures shall be proposed to abate any air pollution impact.
- 3.4.1.2 The Applicant shall follow the requirements of the Air Pollution Control (Construction Dust) Regulation to ensure dust impacts are controlled within the relevant standards as stipulated in section 1 of Annex 4 of the TM. An audit and monitoring program during decommissioning stage shall be devised to verify the effectiveness of the control measures and to ensure that the dust levels be brought under proper control.
- 3.4.1.3 If the Applicant anticipates a significant air quality impact during decommissioning stage that will likely cause exceedance of the recommended limits in section 1 of Annex 4 of the TM at the ASRs despite incorporation of the control measures proposed by the Applicant, a quantitative assessment shall be carried out to evaluate the air quality impact at the identified ASRs. The Applicant shall agree with the Director on details of carrying

out the quantitative assessment prior to the commencement of the assessment.

3.4.2 Contamination Impact

- 3.4.2.1 The Applicant shall follow the guidelines for evaluating and assessing potential contamination issues as stipulated in Sections 3 of Annex 19 of the TM.
- 3.4.2.2 The "Assessment Area" for the contamination impact shall include any potential contamination site(s) within the study boundary and any other potential contaminated site(s) identified in this EIA study.
- 3.4.2.3 The Applicant shall provide a clear and detailed account of the present land use (including description of the activities, chemicals and hazardous substances handled, with clear indication of their storage and location, by reference to a site map) and the relevant land use history in relation to possible land contamination (including accident records and change of land use(s) and the like). The Applicant shall also take into account the contamination due to residual ash or other associated by products.
- 3.4.2.4 During the course of the EIA study, the Applicant shall submit a Contamination Assessment Plan (CAP) to the Director for endorsement prior to conducting the contamination impact assessment of the relevant land or site(s). The CAP shall include a proposal with details on representative sampling and analysis required to determine the nature and the extent of the contamination of the relevant land or site(s).
- 3.4.2.5 Based on the endorsed CAP, the Applicant shall conduct a contamination impact assessment and submit a Contamination Assessment Report (CAR) to the Director for endorsement. If contamination is confirmed, a Remedial Action Plan (RAP) shall also be submitted to the Director for endorsement to formulate necessary remedial measures.
- 3.4.2.6 If there is/are potential contaminated site(s) is inaccessible for preparing sampling and analysis during the course of the EIA study, e.g. due to site access problem, the CAP to be submitted by the Applicant shall include :
- (i) A review of the available information;
 - (ii) An initial contamination evaluation of this/these site(s) and possible remediation methods;
 - (iii) A confirmation on whether the contamination problem at this/these site(s) would be surmountable;
 - (iv) A sampling and analysis proposal which shall aim at determining the nature and

the extent of the contamination of this/these site(s) ; and

- (v) A schedule of submission of revised CAP (if necessary), CAR and RAP upon this/these site(s) is/are accessible.

3.4.2.7 The Applicant shall complete the contamination assessment and remediation (if necessary) at the potential contaminated site(s) prior to the commencement of any subsequent construction works at the respective site(s).

3.4.3 Waste Management Implications

3.4.3.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing waste management implications as stated in Annexes 7 and 15 of the TM respectively.

3.4.3.2 The assessment of waste management implications shall cover the following:

- (i) Analysis of Activities and Waste Generation

The Applicant shall identify the quantity, quality and timing of the waste arising as a result of the Project, based on the sequence and duration of the decommissioning activities.

- (ii) Proposal for Waste Management

- (a) Prior to considering the disposal options for various types of wastes, opportunities for reducing waste generation, on-site or off-site re-use and recycling shall be fully evaluated. Measures which can be taken in the planning and design stages (e.g. by modifying the design approach) and in the decommissioning stage for maximizing waste reduction shall be separately considered.
- (b) After considering all the opportunities for reducing waste generation and maximizing re-use, the types and quantities of the wastes required to be disposed of as a consequence shall be estimated and the disposal options for each type of waste shall be described in details. The disposal methods/options recommended for each type of waste shall take into account of the result of the assessment in (c) below.

(c) The impact caused by handling (including stocking, labelling, packaging and storage), collection, transportation and re-use/disposal of wastes shall be addressed in details and appropriate mitigation measures shall be proposed. This assessment shall cover the following areas :

- potential hazard;
- air and odour emissions;
- noise;
- wastewater discharge; and
- public transport.

3.4.4 Water Quality Impact

3.4.4.1 The Applicant shall follow the criteria and guidelines for evaluating and assessing water pollution as stated in Annexes 6 and 14 of the TM respectively.

3.4.4.2 The EIA report shall cover the following:

- (i) Collection and review of background information on the existing water system(s) and sensitive receivers which might be affected by the Project;
- (ii) Assessment and quantification of all waste water generation activities during the decommissioning stage and analysis of the adequacy of existing and future sewerage infrastructure;
- (iii) Proposals for any effective water pollution prevention and mitigation measures to be implemented during the decommissioning stage so as to reduce the water quality impacts to within acceptable standards;
- (iv) Proposals for best management practices to reduce storm water and non-point source pollution during the decommissioning stage; and
- (v) Identification, evaluation and quantification of cumulative impacts from other on-going development projects in the study area, if any, as well as other residual impacts on the water system(s) and the sensitive receivers with regard to the appropriate water quality objectives, criteria, standards or guidelines.

3.4.5 Summary of Environmental Outcomes

The EIA report shall contain a summary of key environmental outcomes arising from the

EIA study, including the population and environmentally sensitive areas protected, environmentally friendly designs recommended, key environmental problems avoided, compensation areas included and the environmental benefits of environmental protection measures recommended.

3.4.6 Environmental Monitoring and Audit (EM&A) Requirements

3.4.6.1 The Applicant shall identify and justify in the EIA study whether there is any need for EM&A activities during the proposed decommissioning works and, if affirmative, to define the scope of EM&A requirements for the Project in the EIA study.

3.4.6.2 Subject to the confirmation of the EIA study findings, the Applicant shall comply with the requirements as stipulated in Annex 21 of the TM. The Applicant shall also propose real-time reporting of monitoring data for the Project through a dedicated internet website.

3.4.6.3 The Applicant shall prepare a Project Implementation Schedule (in the form of a checklist as shown in Appendix B to this EIA study brief) containing all the EIA study recommendations and mitigation measures with reference to the implementation programme. The Project Implementation Schedule shall include the explicit agreement reached between the Applicant and relevant parties on the responsibility for funding, implementation, management and maintenance of mitigation measures. Alternatively, the Project Implementation Schedule shall include an undertaking from the Applicant to assume the responsibility of all those mitigation measures until an agreement is reached between the Applicant and relevant parties on the funding, implementation, management and maintenance of mitigation measures.

4. DURATION OF VALIDITY

4.1 The Applicant shall notify the Director of the commencement of the EIA study. If the EIA study does not commence within 36 months after the date of issue of the EIA study brief, the Applicant shall apply to the Director for a fresh EIA study brief before commencement of the EIA study.

5. REPORT REQUIREMENTS

5.1 In preparing the EIA report, the Applicant shall refer to Annex 11 of the TM for the

contents of an EIA report. The Applicant shall also refer to Annex 20 of the TM, which stipulates the guidelines for the review of an EIA report.

5.2 The Applicant shall supply the Director with the following number of copies of the EIA report and the executive summary:

- (i) 50 copies of the EIA report in English and 80 copies of the executive summary (each bilingual in both English and Chinese) as required under section 6(2) of the EIAO to be supplied at the time of application for approval of the EIA report.
- (ii) When necessary, addendum to the EIA report and the executive summary submitted in sub-section 5.2 (i) above as required under section 7(1) of the EIAO, to be supplied upon advice by the Director for public inspection.
- (iii) 20 copies of the EIA report in English and 50 copies of the executive summary (each bilingual in both English and Chinese) with or without Addendum as required under section 7(5) of the EIAO, to be supplied upon advice by the Director for consultation with the Advisory Council on the Environment.

5.3 The Applicant shall, upon request, make additional copies of above documents available to the public, subject to payment by the interested parties of full costs of printing.

5.4 In addition, to facilitate public inspection of EIA report via EIAO Internet Website, the Applicant shall provide electronic copies of both the EIA report and executive summary prepared in HyperText Markup Language (HTML) (version 4.0 or later) and in Portable Document Format (PDF version 4.0 or later), unless otherwise agreed by the Director. For the HTML version, a content page capable of providing hyperlink to each section and sub-section of the EIA report and executive summary shall be included in the beginning of the document. Hyperlinks to all figures, drawings and tables in the EIA report and executive summary shall be provided in the main text from where respective references are made. All graphics in the report shall be in interlaced GIF format unless otherwise agreed by the Director.

5.5 The electronic copies of the EIA report and the executive summary shall be submitted to the Director at the time of application for approval of the EIA report.

5.6 When the EIA report and the executive summary are made available for public inspection under section 7(1) of the EIAO, the content of the electronic copies of the EIA report and the executive summary must be the same as the hard copies and the Director shall be provided with the most updated electronic copies.

5.7 To promote environmentally friendly and efficient dissemination of information, both hardcopies and electronic copies of future EM&A reports recommended by the EIA study shall be required and their format shall be agreed by the Director.

6. OTHER PROCEDURAL REQUIREMENTS

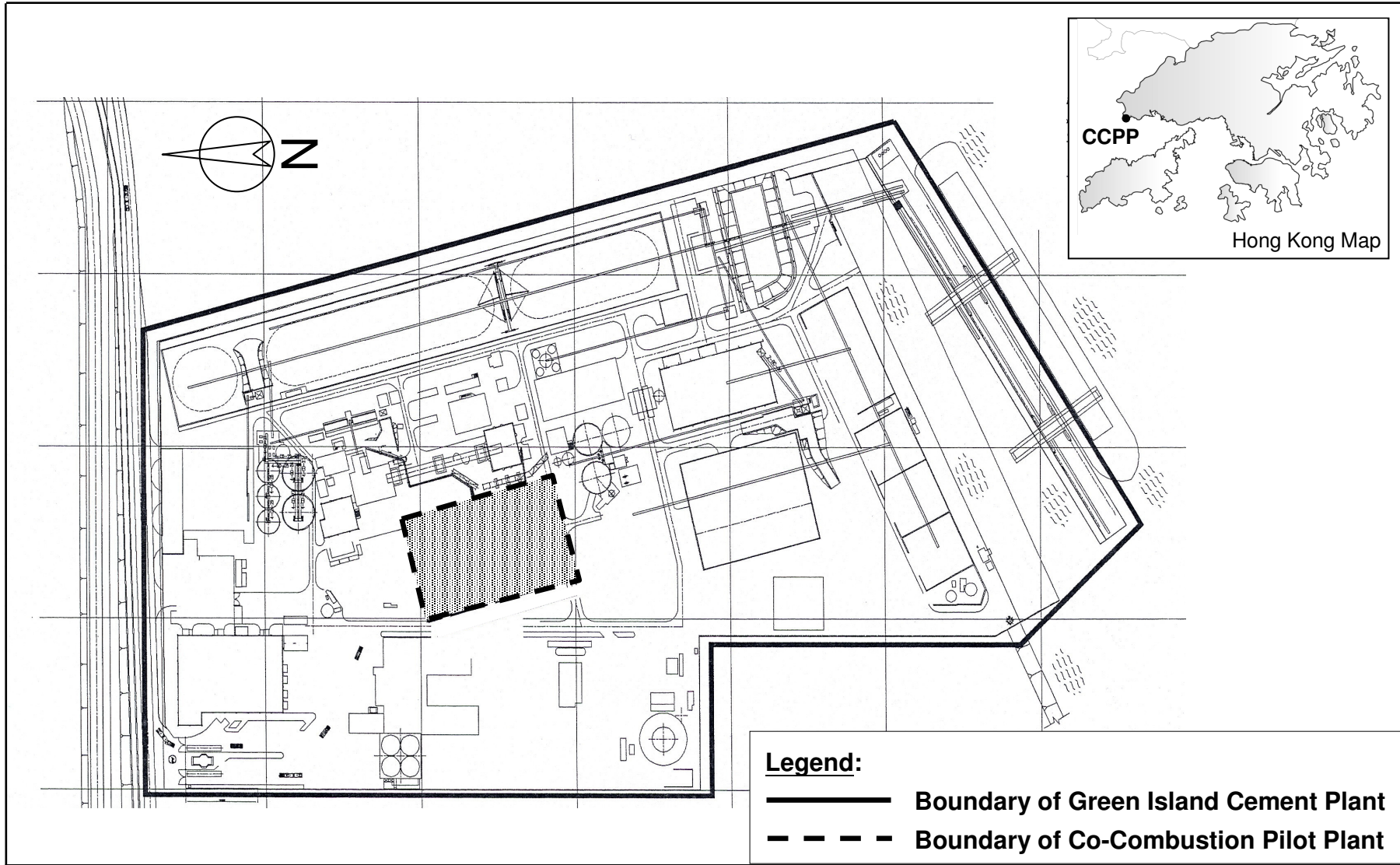
6.1 If there is any change in the name of Applicant for this EIA study brief during the course of the EIA study, the Applicant must notify the Director immediately.

6.2 If there is any key change in the scope of the Project mentioned in sub-section 1.2 of this EIA study brief and in Project Profile (No. PP-315/2007), the Applicant must seek confirmation from the Director in writing on whether or not the scope of issues covered by this EIA study brief can still cover the key changes, and the additional issues, if any, that the EIA study must also address. If the changes to the Project fundamentally alter the key scope of the EIA study brief, the Applicant shall apply to the Director for a fresh EIA study brief.

--- END OF EIA STUDY BRIEF ---

June 2007
Environmental Assessment and Noise Division,
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Decommissioning of the Co-Combustion Pilot Plant (CCPP) at Tap Shek Kok

EIA Study Brief No.: ESB-164/2007

Appendix A

Figure 1



Appendix B - Implementation Schedule of Recommended Mitigation Measures

EIA Ref .	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measure & Main Concerns to address	Who to implement the measure ?	Location of the measure	When to implement the measure ?	What requirements or standards for the measure to achieve