

**For discussion on
23 June 2003**

Legislative Council Panel on Environmental Affairs

**Impact of Integrated Co-combustion Cement Production Facility on
the Environment and Recycling Industry**

Purpose

This paper informs Members of the current status of Green Island Cement Company Limited's proposed Integrated Co-combustion Cement Production Facility and its impact on the environment and the recycling industry.

Background

2. Green Island Cement Company Limited (GIC) is carrying out a joint research project with the Hong Kong University of Science & Technology on the development of an Integrated Co-combustion Cement Production Facility for optimum energy usage and waste minimization. It has proposed that a co-combustion pilot plant be set up at Tap Shek Kok in Tuen Mun to test the concept of co-combustion during which energy and solid residues will be recovered from incinerating municipal solid waste for the purpose of cement production.

3. The project requires a licence under the Air Pollution Control Ordinance (APCO) since it involves the operation of a plant with the capacity to burn wastes or refuse of more than 0.5 tonne per hour, which is a Specified Process under the APCO. On 30 October 2002, GIC submitted an application to the Environmental Protection Department (EPD) for the licence. GIC had since refined their submission having regard to the requirements of the APCO. On 22 May 2003, EPD considered the submission ready for public inspection and authorized GIC to publish a public inspection notice as in accordance with the APCO. GIC published the notice on 27 May 2003.

4. Under the APCO, the public can within a period of 30 days of publication of the notice, i.e. until 26 June 2003, raise objection to the granting of a specified process licence to GIC on the grounds that -

- (a) it would tend to inhibit the attainment or maintenance of any relevant air quality objective; or
- (b) the emission of noxious or offensive emissions would be, or likely to be, prejudicial to health.

5. Depending on any objections raised during the public inspection period, EPD may need to consider the grounds of the objections before making a decision on GIC's application.

GIC's Proposed Co-combustion Process

6. GIC's proposal is to operate the pilot plant for a cumulative period of about 16 weeks. About 40 tonnes of domestic waste will be collected and transported by GIC to the pilot plant per day for incineration to a temperature of 1,100°C with the flue gas kept at 1,200°C for at least 4 seconds to ensure total destruction of organic compounds. Energy and solid residues will be recovered and used for cement production.

7. Under GIC's proposal, acidic gases with sulphur oxides and chlorides will be neutralised by lime, whereas the formation of nitrogen oxides will be minimized by a De-NO_x reactor. Injection of activated carbon and fabric air filters will be used to capture and remove any remaining pollutants and particulates in the flue gas. A heat exchanger designed to collect thermodynamic data for power generation will be used to cool the flue gas for energy recovery simulation. The ash will be sampled and tested for suitability for utilization as raw material in the cement manufacturing process.

Air Quality Objectives and Health Risk Assessment

8. As required by the APCO, EPD, in processing GIC's licence application, should -

- (a) have regard to the capability of the applicant to provide and maintain the best practicable means for the prevention of the emission from his premises of any air pollutant;
- (b) have as their purpose the attainment and maintenance of any relevant air quality objective; and
- (c) have regard to whether the emission of noxious or offensive emissions would be, or be likely to be, prejudicial to health.

EPD may make a decision no earlier than 40 days after the publication of the public inspection notice, taking into account also any objections raised during the period.

Impacts On The Recycling Industry

9. The Government is very committed to promoting waste reduction and recycling in Hong Kong. Waste separation at source remains to be the best way to facilitate recycling and this important pre-requisite will be taken into account in all present and future waste management systems. We will continue to work closely with District Councils, community bodies, green groups and schools in fostering community participation in waste prevention, separation and recovery. As the small amount of waste to be used by this pilot project is to be sourced from waste that would otherwise go to landfills in any event, we believe the GIC project will not have any impact or implications on the number of jobs available in the recycling industry of Hong Kong.

Environmental Protection Department
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