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ACE Paper 5/2011

For advice on 11 April 2011

**Report on the 116th
Environmental Impact Assessment Subcommittee Meeting**

PURPOSE

At its meeting on 21 March 2011, the Environmental Impact Assessment (EIA) Subcommittee considered the EIA report on “Development of Integrated Waste Management Facilities Phase 1” (the IWMF) submitted by the Nature Conservation and Infrastructure Planning Division of the Environmental Protection Department (EPD) (ACE-EIA Paper 4/2011 refers).

ADVICE SOUGHT

2. Members are requested to consider the views of the Subcommittee and advise on the EIA report.

NEED FOR THE PROJECT

3. The project is to provide the facilities to reduce the bulk size of municipal solid waste (MSW) requiring landfill disposal and to recover energy from the MSW. The project would help save up the precious space of the existing landfills which are anticipated to reach their maximum capacities in early to mid 2018 and it would also provide electricity for use in Hong Kong.

DESCRIPTION OF THE PROJECT

4. The proposed project will be located at the Middle Tsang Tsui Ash Lagoon (TTAL) in Tuen Mun (**Annex A1**) and/or an artificial island near Shek Kwu Chau (SKC) (**Annex A2**) with a size of about 11 hectares (ha). Incineration technology will be adopted for the treatment of MSW. The project will mainly comprise a thermal incineration plant with a design capacity of 3,000 tonnes per day (tpd) and a mechanical sorting and recycling plant with a design capacity of 200 tpd.

5. For the proposed Middle TTAL site, the project will also include the decommissioning of a part of the lagoon previously used for disposal of pulverized fuel ash.

6. For the proposed SKC site, reclamation will be needed to form land for accommodating the project.

7. The project constitutes a designated project by virtue of the following items in Schedule 2 of the EIA Ordinance –

In respect of TTAL & SKC sites

- (i) Item G.3, Part I - An incinerator with an installed capacity of more than 50 tpd;
- (ii) Item G.4, Part I - A waste disposal facility for refuse;
- (iii) Item D.1, Part I - Public utility electricity power plant;
- (iv) Item G.6, Part I - A waste disposal facility for pulverized fuel ash or furnace bottom ash;
- (v) Item F.4, Part I - Reuse of treated sewage effluent from on-site wastewater treatment plant;

In respect of TTAL site

- (vi) Item 8, Part II - Decommissioning Project: A waste disposal facility for pulverized fuel ash or furnace bottom ash;

In respect of SKC site

- (vii) Item C.1, Part 1 - Reclamation works (including associated dredging works) of more than 5 ha in size; and
- (viii) Item C.12, Part 1 - A dredging operation exceeding 500,000 m³.

CONSIDERATION OF ALTERNATIVE OPTIONS

8. The project proponent has identified a number of potential sites for the IWMF, including Tseung Kwan O Area 137, Ex-Lamma Quarry, Ha Mei Wan in Lamma Island, Tuen Mun Area 38, Middle TTAL and an artificial island near SKC. Considering various factors which include remoteness from major population clusters, planning and land use constraints, potential ecological and visual impacts, the proposed sites in Middle TTAL and an artificial island near SKC are assessed to be more suitable for the IWMF.

9. The EIA study has also evaluated the latest incineration technologies for MSW treatment, including fluidized-bed, rotary kiln, eco-co-combustion, gasification, plasma gasification and pyrolysis. The study indicates that moving grate incineration is the most preferable option, mainly in view of its capability and reliability in treating the required 3,000 tpd of MSW.

VIEWS OF THE SUBCOMMITTEE

10. Members noted that the public inspection period of the EIA report was from 17 February 2011 to 18 March 2011. Public comments received by the EPD were circulated to Members for reference before the meeting. Separately, submissions addressed to or copied to the Council or the Subcommittee were circulated to Members before the Subcommittee meeting or tabled at the meeting for Members' information. Written response of the project proponent to some Members' questions was also circulated to Members for information before the meeting.

11. The Subcommittee considered the EIA report which includes three assessment scenarios based on two potential sites for the construction and operation of the IWMF (comprising a thermal incineration plant with a design capacity of 3,000 tpd and a mechanical sorting and recycling plant with a design capacity of 200 tpd) as below –

- (a) developing an IWMF at TTAL in Tuen Mun alone;
- (b) developing an IWMF at an artificial island near SKC alone; and
- (c) developing an IWMF at each of the two potential sites.

12. A summary of issues discussed by the Subcommittee is at **Annex B**.

RECOMMENDATION OF THE SUBCOMMITTEE

13. Having regard to the findings and recommendations of the EIA report and information provided by the project proponent, the Subcommittee agreed to recommend to the full Council that the EIA report could be endorsed with the following proposed conditions and the Subcommittee also made the following proposed recommendations –

In respect of TTAL site

(I) Proposed conditions

- (a) the project proponent should submit a detailed proposal on enhancement of air quality monitoring in Tuen Mun District to the Director of Environmental Protection (DEP) for approval before commencing the construction of the project. The proposal should include the setting up of air quality monitoring station(s) and devising air quality monitoring programme(s) to keep track of the air quality impacts of the project and the results of which should be made known to the public;
- (b) the project proponent should submit a Habitat Creation and Management Plan, in consultation with the Agriculture, Fisheries and Conservation Department (AFCD), for the proposed compensatory permanent pond habitat within the project site and the interim habitat enhancement work at the unoccupied Middle Lagoon on the southern side of the project site to the DEP for approval before commencing the construction of the project;
- (c) the project proponent should include in the Environmental Monitoring and Audit programme a monitoring programme on potential ash leakage from the ash lagoons; and

- (d) the project proponent should set up community liaison group(s) comprising representatives of concerned and affected parties to facilitate communications, enquiries and complaints handlings on all environmental issues;

(II) Proposed recommendations

- (a) to put in place a Woodland Enhancement Plan for areas in the vicinity of the project site which are sparsely vegetated to achieve carbon off-setting;
- (b) to recycle and reuse bottom ash generated by the waste incineration process with a view to maximizing its beneficial use before disposal to the landfills;
- (c) to formulate plans on developing communal facilities, with considerations on the potential to promote local employment opportunities, by using the energy and electricity generated by the project gainfully; and
- (d) to build on the experience of the first phase of the IWMF and take into account the progress of the effectiveness of waste reduction measures in considering the way forward for further development of similar facilities.

In respect of SKC site

(I) Proposed conditions

- (a) the project proponent should submit a detailed proposal on enhancement of air quality monitoring in Cheung Chau to the DEP for approval before commencing the construction of the project. The proposal should include setting up of air quality monitoring station(s) and devising air quality monitoring programme(s) to keep track of the air quality impacts of the project and the results of which should be made known to the public;
- (b) the project proponent should advance the preparation works for the designation of the marine park in the waters between SKC and Soko Islands, including a study on the details of the designation, consultation with stakeholders and incorporation of enhancement measures such as deploying artificial reefs and releasing fish fry, on the understanding that the designation of the marine park would immediately follow completion of the project construction work;
- (c) the project proponent should submit a detailed monitoring programme, in consultation with the AFCD, on Finless Porpoise during the construction and

- operational phases to the DEP for approval before commencing the construction of the project;
- (d) the project proponent should submit a detailed plan on the on-site wastewater treatment plant based on realistic assessment of various sources of sewage, including those generated from the sanitary facilities of the proposed Education Center and potential surface runoff, to the DEP for approval before commencing the construction of the project; and
 - (e) the project proponent should set up community liaison group(s) comprising representatives of concerned and affected parties, including the fishery sector, to facilitate communications, enquiries and complaints handlings on all environmental issues;

(II) Proposed recommendations

- (a) to maximize the use of local public fills, including construction and demolition materials, for reclamation of the artificial island;
- (b) to formulate a fisheries enhancement programme with a view to enhancing fisheries resources in the vicinity of the project area and promoting related activities such as eco-tourism and recreational fishing;
- (c) to recycle and reuse bottom ash generated by the waste incineration process with a view to maximizing its beneficial use before disposal to the landfills;
- (d) to formulate plans on developing communal facilities, with considerations on the potential to promote local employment opportunities, by using the energy and electricity generated by the project gainfully; and
- (e) to build on the experience of the first phase of the IWWMF and take into account the progress of the effectiveness of waste reduction measures in considering the way forward for further development of similar facilities.

**EIA Subcommittee Secretariat
March 2011**