

By post and by fax at 3529 2837

17 March 2014

Clerk to Panel on Environmental Affairs  
Legislative Council Secretariat  
Legislative Council Complex  
1 Legislative Council Road  
Central Hong Kong

[Attn: Miss Mandy POON]

Dear Miss POON

**Legislative Council Panel on Environmental Affairs – Special Meeting on 22 March 2014**

**Views on “Environmental infrastructure projects (a) 5163DR: Northeast New Territories landfill extension; (b) 5164DR: Southeast New Territories landfill extension; (c) 5165DR: West New Territories landfill extension; and (d) 5177DR: Integrated Waste Management Facilities Phase 1”**

Thank you for inviting the Institution to put forth our views on the captioned subject.

In response to your invitation, we are pleased to provide herewith our views and suggestions on the subject for your consideration.

Thank you for your attention.

Yours sincerely



Ir Raymond CHAN Kin Sek  
President  
The Hong Kong Institution of Engineers

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**Enclosure**

**Legislative Council  
Panel on Environmental Affairs**

**Views from the Hong Kong Institution of Engineers  
on "Environmental infrastructure projects (a) 5163DR: Northeast New  
Territories landfill extension; (b) 5164DR: Southeast New Territories landfill  
extension; (c) 5165DR: West New Territories landfill extension; and (d) 5177DR:  
Integrated Waste Management Facilities Phase 1"**

The Hong Kong Institution of Engineers (HKIE) generally supports the Government's proposed environmental infrastructure projects including "(a) 5163DR: Northeast New Territories landfill extension; (b) 5164DR: Southeast New Territories landfill extension; (c) 5165DR: West New Territories landfill extension; and (d) 5177DR: Integrated Waste Management Facilities (IWMF) Phase 1" which are collectively an essential, sustainable waste management strategic measure to tackle the local imminent waste challenge. It is considered that without these infrastructure projects in place, Hong Kong could face a waste crisis very soon.

2. In the Waste Management Hierarchy, "3R" (i.e. Reduce, Reuse and Recycle) is the core of sustainable waste management strategy. For reducing waste generation, every citizen should take up the role and responsibility by changing own behavior and lifestyle. Moreover, the Government's campaign on "Food Wise Hong Kong", the proposed Municipal Solid Waste Charging Scheme and the Producer Responsibilities Schemes etc, would help reduce waste creation. In addition to "Reuse and Recycle", we opine that "Recover" through the application of organic waste treatment/ sludge treatment facilities such as IWMF could also help significantly reduce the size of waste, which will otherwise be disposed of at the landfill sites.

**Extension of three existing landfill sites**

3. We are of the view that waste disposal at landfill sites should be the last resort among all the waste management measures. The Administration is suggested to review the scale of expansion of landfill site on a regular basis after the feasible initiatives on waste reduction as mentioned have been fully implemented. If the results of the initiatives on reducing quantity and types of waste at source are proven to be encouraging, the extension of landfill sites should be adjusted to a smaller scale so that the proposal of landfill extension will be more acceptable by the public, especially the residents living adjacent to the landfill sites.

4. We are pleased to note that the Government will take/has taken a number of mitigation measures to address the concerns likely arising from the extension of the three landfill sites. It is suggested that the Government should proactively set up an independent task force on monitoring and auditing the progress and effectiveness of the measures, so as to ensure that they are properly implemented according to the plan and timeline.

## **Integrated Waste Management Facility**

5. Among various technologies associated with thermal waste treatment, the HKIE shares the Government's view that the moving-grate incineration technology is the mainstream of Municipal Solid Waste (MSW) treatment technology with substantial proven track record and performance in the world, particularly when we take into consideration that 3,000 tonnes of MSW are required to be treated daily, which is a considerable amount for a small and densely populated city like Hong Kong. We believe that high reliability and track record of the technology are the main factors for consideration. In this connection, we support the use of moving-grate incineration technology at an artificial island near Shek Kwu Chau to reduce the volume of residual waste since the selected site is distant from the areas which are already affected by various emissions. We opine that the advanced moving-grate incineration is the most suitable core technology for the first modern IWMP in Hong Kong. However, other emerging but less-proven technologies may be considered in the future when they have become more mature.

6. We are aware that the public may hold a less positive perception on incineration due to the possible emissions of dioxin and furan in the old days. However, thanks to the technological advancement, incinerators are now coupled with advanced combustion technology and air emission control system which are proven to be effective in reducing waste volume as well as controlling air emission during the operation. To address the public's concern on the air quality impacts of the proposed IWMP to the surroundings, we suggest the Administration to install a display at the boundary of IWMP and to launch a website, which show the real time emission data at the stack of IWMP for public information. Furthermore, it is suggested to install an air quality monitoring station (AQMS) at Cheung Chau or nearby sensitive area, which will post the real time air quality data online for the public to access. It is considered that apart from those parameters in the Air Quality Objective, the AQMS should also include dioxin and furan for necessary comparison. Contingency plans should be initiated at once in the event that high emissions are detected when the exceedances are proved to be emitted due to malfunction of IWMP.

7. According to overseas experiences in operating incineration plants, higher emissions are recorded during their startup/shutdown. It is suggested to thoroughly review the operation mode of the IWMP so as to minimise the frequency of startup/shutdown.

8. A significant amount of electricity of 480GWh (i.e. revenue) can be generated every year during the waste to energy process from the proposed IWMP. We suggest the Government to liaise with the affected communities (i.e. districts adjacent to the three existing landfill sites and Shek Kwu Chau) on the way to better utilise such revenue on enhancing environmental protection. This could provide a positive message to the public that the generated revenue from the waste management facilities is not to be considered as additional income of the Government but for the community benefit at a whole.

9. It is suggested that the residual ashes generated from the IWMP, if appropriate, could be disposed of in the landfill sites. We urge the Administration to address the

technical issues of handling ashes with an aim to minimise the impact on the environment during transfer. As a long term solution, we suggest the Government to conduct a feasibility study/ research to recycle the ashes into usable materials in order to lower the burden of the landfill sites and to reduce the demand of raw natural materials.

10. We hope that different stakeholders could work hand in hand to solve the technical issues with a view to formulate the waste management measures accepted by all. In this connection, the HKIE and our engineers are prepared to offer assistance to the community through our professional knowledge and expertise. In doing so, we hope to create a sustainable future for Hong Kong.