March 21, 2014

To: Legislative Council – Panel on Environmental Affairs

Re: Special Meeting on 22 March 22, 2014

Views on the "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".

As an involved professional and a concerned long time resident, I have followed the development of Government's waste management policies and the subsequent public and political discussions very closely over the past years and appreciate the given opportunity to express my views and concerns in this matter.

All stakeholders involved must acknowledge the necessity of developing and implementing the most effective waste management policies as soon as possible. As an Executive Committee member of the Hong Kong Waste Management Association and a member of the Alliance for Promoting Sustainable Waste Management for Hong Kong , I would like to express my full support to their advice and positions in regard to the many aspects involved as presented to you in this Special Meeting . Personally, I support also the "Hong Kong Blueprint for Sustainable Use of Resources 2013-2022" as a clear and comprehensive policy and action plan for sound and effective waste prevention, reuse, recycling , recovery and treatment. This action plan will ensure that the basis for a long-term sustainable management of Hong Kong 's Municipal Solid Waste (MSW) is properly established in the short term.

Based on my 30 years experience in the technical and operational management of waste management and treatment facilities in Europe and Asia, including more than 20 years in the application and operation of thermal destruction and incineration processes for industrial and hazardous waste, I would like to draw your attention to an important aspect that must be taken in consideration in the decision making regarding the selection of the treatment technology.

Application of a proven and reliable technology

Thermal destruction is undeniably a necessary and critical component of every effective Integrated Waste Management Facility (IWMF) for the proper treatment of the non-reusable and non-recoverable rest fraction of MSW and all stakeholders do acknowledge this necessity. In all places where IWMF have been successfully implemented, such as in Europe for long time, thermal destruction is an integral part of the system.

Recently, the debate focuses often on the selection of the thermal destruction technology.

It will be of outmost importance that the collection, handling and treatment flow of MSW is continuous and uninterrupted on a daily basis. The consequences would be unthinkable, especially during the summer months in Hong Kong, if the continuous flow of MSW cannot be maintained properly because of a prolonged interruption in the treatment process or as result of a substandard performance.

It is therefore crucial that the selected technology has a proven track record of application, operation and maintenance at the required scale. For the thermal destruction of the rest fraction of MSW, the proposed waste-to-energy moving-grate incineration is undoubtedly a technology with a long, proven record of safe and reliable operation. As a result of the increasingly higher demands and stringent requirements for efficiency, reliability, safety, health and environmental impact in places with a high developed society, such as Europe, USA

and mega cities around the world, the technology has been developed to its highest level of performance. There is an extensive and unparalleled experience and expertise of designers, manufacturers, operators and maintenance providers available based on 15+ years of successful operation of waste-to-energy moving-grade incinerator technology under stringent operating requirements and for large scale applications as needed in Hong Kong.

Of course, there are places where moving-grate incineration technology has a bad track record and does not perform in a proper and environmental sound manner. This is however always the result of the involvement of inexperienced designers and /or operators, the use of sub-standard manufacturing and/or the lack of proper design. It is however incorrect to judge a technology based on the wrong application by some.

By means of an international tender for the design, construction and operation and a proper selection system and procedure, it can be effectively ensured that the required experienced designers, manufacturers and operators are selected. The Hong Kong Government and Administration has to my opinion sufficient experience and access to the necessary expertise to be able to ensure the selection of the most suitable and reliable companies through a tender and selection process based on high level international standards.

The only alternative thermal destruction technology that could be considered is plasma-gasification.

In the context of this testimony, it is not feasible to present a comprehensive comparison between the two technologies and I also do not pretend to be a specialist in plasma-gasification. What I do know for certain is that it is a technology with great potential for various reasons and should be considered for application in Hong Kong in the foreseeable future. But it cannot be claimed nor proven that the technology is ready for a large scale, centralized and crucial application in the initial phase of the IWMF development. There is not yet an application of the plasma-gasification technology of the scale required for Hong Kong with a similar track record of reliable performance, nor is there an extensive expertise among manufacturers, operators and maintenance service providers as there is for the waste-to-energy moving grate incinerator technology. I doubt that the technology providers and operators of plasma-gasification technology will be able to meet the stringent tender standards and requirement in regards to demonstrating the performance and reliability of the process and its operation over a long period of time in a similar application and under the stringent performance requirements that will be imposed in Hong Kong.

As the General Manager of the company that operates the Chemical Waste Treatment Facility of Hong Kong under a DBO contract, I can testify that EPD insists on the application of the world's most stringent performance standards and criteria for all waste treatment technologies applied and I'm convinced that the same approach will be applied for the MSW treatment technology and operations.

Last but not least, it saddens and worries me, as a professional in this field, to see that a lot of misinterpreted, unfounded and even plainly wrong information regarding the pro and cons of both technologies is circulating among many stakeholders, in related publications and sometimes even in the media. I sincerely hope that the decision on the treatment technology will be based on sound, professional and proven standards, taking in account all aspects, to ensure an optimal solution for a high performance and reliable treatment of the MSW rest fraction.

With thanks for the opportunity to provide a professional input,

Ing Karel Haubourdin