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Public Accounts Committee
Legislative Council Building,
8 Jackson Road, Central,
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Fax No. 2537 1204

31 December 2003

(Attn: Ms. Dora WAI)

Dear Sir,

**The Director of Audit's Report on the
Results of value for money audits (Report No. 41)**

Chapter 8 : The acquisition and clearance of shipyard sites

I refer to your letter dated 16 December 2003.

On your enquiry of the dates when the green groups/environmentalists posted their concerns (as described in Annex A of our letter of 9 December 2003) onto their websites, I would advise that this information was not normally available on websites. Nevertheless, some of the relevant reports, articles, and news releases posted in these websites contained information on the timing of publication, and these dates are now added to the attached revised Annex A. We were advised of these concerns during our discussions with our consultants about the implementation of the detailed site investigation in mid 2001.

Regarding the enquiry on the reasons why, prior to acquisition of the Penny's Bay shipyard site, we had not suspected that the use of fibre glass by the lessee in manufacturing boats at the site might cause dioxin contamination, I would advise that chemically, fibreglass is formed by continuous filament, and its composition consists principally of oxides of silicon, aluminium, calcium boron and magnesium, fused in an amorphous vitreous state. Fibreglass is used for the ship mould works. The ship mould is originally made by laying fibreglass cloth over a wooden replica of the intended boat hull and applying small amount of epoxy resin. The wooden moulds are used once and the wood recycled where possible. The resulting fibreglass mould is fixed within a sturdy wooden frame and can be re-used many times. Small amounts of excess resins are cleaned off using acetone solvent. Due to the woven nature of the fibreglass, there is very little

waste fibre. Any cloth off-cuts were re-used and applied on some other part of the mould. The small amount of waste fibreglass produced were swept up and collected in bins for disposal. Since fibreglass is not defined as a chemical waste, its proper disposal method is landfilling. The above normal work processes of fibreglass materials would not release significant amount of harmful substances such as total petroleum hydrocarbons, volatile and semi-volatile organic compounds and polyaromatic hydrocarbons and also would not release any dioxins. Open burning is not a normal manufacturing operation of fibreglass vessels. Prior to acquisition of the shipyard site, we have paid visits to the site and have not observed any open burning of fibreglass materials.

Yours faithfully,



(R K S Chan)

Director of Civil Engineering (Acting)

c.c. Secretary for the Environment, Transport and Works
Director of Lands
Director of Environmental Protection
Commissioner for Tourism
Secretary for Financial Services and the Treasury (Attn: Miss Amy TSE)
Director of Audit

Summary of environmental concerns at the time when Consultant B was carrying out the detailed site investigation at the Penny's Bay Shipyard site

| Green Groups/ Environmentalists | Concerns |
|---|---|
| Greenpeace | <p>Greenpeace reported that waste combustion would release toxic substances, including cancer-causing dioxins. Greenpeace stated that dioxins would be created when Polyvinyl Chloride (PVC) plastic was burnt.</p> <p>Greenpeace also gave examples of soil and sediments contaminated with dioxins at the sites, which received the discharges of PVC industries. In Venice, Greenpeace had analysed sediment from the Porto Marghera. It clearly showed contamination of the lagoon with dioxin near the Enichem Plant, where Vinyl Chlorinated Monomer (VCM) was among the chlorinated chemicals manufactured. (Article in March 2001)</p> |
| Friends of the Earth | <p>Friends of the Earth reported that incinerator ash from Edmonton incinerator in North London containing dioxins had been used to make aggregates for road building in the London borough of Haringey. They were concerned dioxins and heavy metal contents in the mixture of ashes were never analysed. (Press release on 5 January 2001)</p> |
| United Nations Environment Programme (UNEP) | <p>The Stockholm Convention on Persistent Organic Pollutants (POPs) which include dioxins was adopted in Stockholm on 22 May 2001. Stockholm is an international scientific community under the auspices of the United Nations Environment Programme (UNEP). The Convention requires each Convention Party to implement measures to reduce or eliminate releases from intentional and unintentional production and use of POPs. (UNEP Chemicals Newsletter in May 2001)</p> |
| United States Environmental Protection Agency (USEPA) | <p>USEPA's Science Advisory Board posted its Draft Reassessment Report on Dioxin on the Agency's website. The report presented the emerging scientific knowledge of dioxins toxicity, potential for carcinogenic health effects of dioxin on people, human exposure pathway, and the adverse effects on the environment. The report highlighted the risk of dioxins was higher than previously thought. (USEPA Information Sheet 3 on 25 May 2001)</p> |

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| Edward Alperin and Kevin Sullivan (IT Corporation) | In the 4 th International Workshop on Geo-Environmental Restoration, in Jan 2001, Tokyo Japan, a paper was presented on "Remediation of Dioxin Contaminated Soils in the United States". The authors pointed out combustion of organic and/or chlorinated wastes could result in the formation of dioxins in the process off-gas. They suggested detailed site information such as contaminant type should be available to develop a specific treatment process for dioxins. (Conference held on 19 January 2001) |
| US Army Corps of Engineers | The first stage of treatment of Dioxin Contaminated Soil at the Coleman-Evans Wood Preserving Site in Florida USA was being implemented. It was shown that the US government took a conservative approach towards to the dioxin clean up criteria. It also demonstrated complex technology was required for clean up. (Project commenced in June 1999 and targeted for completion in April 2001.) |
| Waterways Authority, New South Wales, Australia and the Federal Government of Australia | Due to public concern of the extensive dioxins contamination found in Homebush Bay, the Australia Government signed up to the Stockholm Convention and announced major funding of the National Dioxins Programme. The State government also conducted various studies and pilot programme for the removal and treatment of dioxins soil. (Some 20 site investigations and /or reports prepared between 1987 and 2001. Full remediation not yet commence) |
| Richard Spiers, Carlisle DC | In the Chartered Institute of Environmental Health Conference 2001, the author presented a talk on the poor disposal practices of agricultural wastes. He stated some farmers in the UK were burning farm waste as an alternative to disinfection, resulting in potentially high dioxin levels. (Conference held on 10 - 12 September 2001) |
| Arnold Schecter, University of Texas | Dr Schecter reported on the dioxins seepage into soil and river beds and becoming concentrated in fish and water in Bien Hoa, south Vietnam. Schecter found dioxins levels to be 135 times higher than those in samples taken from people in Hanoi. (Article on 18 May 2001 from Pesticide Action Network Asia and the Pacific (PANAP)) |