

**(ACE Paper 22/2003)**

*For information*

## **An Update on the Decommissioning of Former Cheoy Lee Shipyard at Penny's Bay**

### **Purpose**

This paper aims to inform Members of the details of the incidents covered in some press reports in June relating to the transportation of contaminated soil from the former Cheoy Lee Shipyard to To Kau Wan. The incidents were rectified under Government's monitoring mechanism currently in place. We will also brief Members how the monitoring mechanism has been operating and what precautionary measures will be taken to continue with our vigilance and to cater for contingency in the remaining part of the decommissioning works.

### **Progress**

2. The site of the Cheoy Lee Shipyard (CLS) falls within the area designated for the construction of roads leading to the Hong Kong Disneyland. With the issue of an Environmental Permit (EP), the decommissioning project has started since October 2002. As recommended in the approved Environmental Impact Assessment report, soil contaminated with dioxin or total petroleum hydrocarbons (TPH)/semi-volatile organic compounds (SVOC) will be treated off-site at To Kau Wan (TKW), a nearby location. Thermal desorption and biopiling will be adopted respectively for the treatment. The transportation of the contaminated soil to TKW was completed in April 2003. Biopiling operation had already commenced in May 2003. A thermal desorption plant had been shipped from USA and set up at TKW in April 2003. Commissioning tests started in mid April 2003 and was completed in end June 2003. The Environmental Protection Department issued a license under the Waste Disposal Ordinance on 3 July 2003 for the full commissioning of the thermal desorption plant scheduled to commence operation in mid July 2003.

### **Monitoring mechanism**

3. As part of the Environmental Permit (EP) conditions, the decommissioning project is subject to vigorous monitoring. First of all, an Environmental Monitoring and Audit (EM&A) programme is in place to help ensure full compliance with all the

environmental standards and speedy rectification for any malpractices. Accordingly, the contractor has set up a dedicated Environmental Team to carry out environmental monitoring work, site inspection and any necessary remedial works. It also tenders environmental advice as necessary. An Independent Environmental Checker is appointed and tasked to audit the work of the Environmental Team and to advise on related environmental issues.

4. Separately, we have established an Environmental Project Office on site to monitor the cumulative environmental effects of all construction works under different contracts in the area. Our project consultant has also deployed a team of experienced staff full-time on site to step up supervision to help ensure, amongst other things, that the environmental standards are met.

5. The project has also been independently monitored by the Environmental Protection Department, the regulatory body under EIA Ordinance and various pollution control legislations. Its enforcement teams pay visits to the site from time to time to conduct independent, surprise inspections. Additional inspections are conducted where necessary having regards to the monthly EM&A reports. A total of 20 inspections were made during the period from November 2002 to June 2003. They would also have meetings with the contractor, the Environmental Team, the Independent Environmental Checker, the project office and the project consultant to discuss issues of concern including those revealed in the monthly EM&A reports. The objective is to ensure that any potential issues of concern could be addressed promptly in accordance with the EP conditions and relevant pollution control legislations.

## **Incidents**

6. The incidents as reported in the press took place between November 2002 and March 2003. They were reported by the Environmental Team and the Independent Environmental Checker and published in the monthly EM&A reports, to which members of the public have access through the project website of the Civil Engineering Department. These incidents are minor in nature and were rectified speedily and in most cases immediately on the spot. They have not caused any adverse environmental impact. Details are set out at *Annex A*. The incidents are grouped into three categories according to their nature.

7. Category (A), totaling four in number, relate to those associated with the transportation of dioxin-contaminated soil. On the two specific incidents where the trucks did not have their wheels properly washed, it is worth pointing out that the trucks were stopped immediately and diverted back to the washing facilities to have the cleaning job properly completed. In other words, the cleaning procedure was followed through in the

end before the trucks were allowed to leave Penny's Bay. It is also important to point out that there was no spillage of dioxin-contaminated soil in any of these four incidents, nor was there any exceedance of environmental standards for dioxin in the ambient air.

8. Incidents in Category (B) are about transportation of soil contaminated with TPH/SVOC. There was no dioxin-contaminated soil involved. Remedial measures were taken promptly.

9. Category (C) incidents involve site housekeeping matters only. They are unrelated to transportation of contaminated soil. Nevertheless, speedy remedial actions were taken.

10. The inspections carried out by the Environmental Protection Department so far have not revealed any violation of the EP conditions and requirements under relevant pollution control legislations.

### **Way forward**

11. The vigilant monitoring and site supervision have served their purposes and are working well. The reporting of the incidents and the speedy actions taken to remedy the situation show that. Nonetheless, we shall continue with our vigilance and step up our monitoring to avoid slippage in performance.

12. The decommissioning project is progressing to the thermal desorption process, which will start in mid July 2003 for completion in early 2005. In the thermal desorption process, dioxin residues will be generated. The residues are non-volatile, insoluble in water and not inflammable. During the period, they will be transported by batches to the Chemical Waste Treatment Centre (CWTC) at Tsing Yi.

13. Notwithstanding the low inherent risk associated with the thermal desorption process as well as the transportation of the dioxin residues to CWTC, there will be full implementation of the precautionary measures required under the EP. We will also implement precautionary measures to cater for contingency. Details are set out at *Annex B*.

14. The decommissioning project shall also continue to be totally transparent. All environmental data collected under the EM&A programme including the monthly EM&A reports prepared by the Environmental Team and verified by the Independent Environmental Checker will continue to be posted in the internet for public inspection. A webcam system will continue to be in place at To Kau Wan for round-the-clock, real-time monitoring of the thermal desorption process.

**Civil Engineering Department**  
**July 2003**

## Annex A

<u>Nature of Incidents</u>	<u>Details and Remedial Actions Taken</u>
<b><u>(A) Related to transportation of dioxin contaminated soil</u></b>	
Truck not passing through the second wheel washing bay at the Cheoy Lee Shipyard (CLS) exit	All the transportation trucks are required to have their wheels washed twice on each trip. One is done at a standalone automatic wheel-washing facility installed within the CLS site, intended for decontamination. There is another wheel washing bay at the exit of the site for the second-time washing, designed for suppressing dust emission. The truck concerned had completed the decontamination washing, but not the second-time washing. But on the spot, the truck was immediately stopped and diverted back to the wheel washing bay. So the truck left the CLS site with their wheels washed twice as required in the end.
Truck observed to be speeding on the haul road at 30km/hr, instead of the speed limit of 16km/hr	The speeding problem was rectified on the spot immediately.
Truck giving too little time on wheel washing within the CLS site	The truck concerned had been stopped on the spot immediately and diverted back to the standalone washing facility to properly complete the cleaning process.
Escort car with flashing light bulb burnt out	Replacement was quickly made afterwards.
<b><u>(B) Related to transportation of non-dioxin contaminated soil</u></b>	
Truck observed to be overloaded due to improper placing of soil material	The problem was rectified on the spot immediately.
Truck not well labeled to indicate the type of contaminated soil being carried	The proper labels were provided subsequently.
Truck not covered with tarpaulin sheet within CLS site	The problem was rectified immediately on the spot.
<b><u>(C) Related to general site housekeeping practices (Not related to transportation of contaminated soils)</u></b>	
Drum with chemical leakage observed	The drums were left behind by the (former) shipyard operator. After Government's entry into the site, the drums were stored within a designated area which was bunded, fenced off and roofed to prevent contamination with soil. The drums were subsequently removed and the floor slab decontaminated.
Fuel drum used as rubbish tanks, wrongly labeled as "Chemical waste"	Proper labeling was provided subsequently.
Excessive dust observed on site	Frequency of watering was increased immediately.
Drainage beside the wheel washing bay blocked by mud	Wheel washing bay was cleaned up immediately.
No clear labeling for container for waste oil	Clear labeling was provided subsequently.
Fuel drum/oil tank without drip tray	Drip trays were provided subsequently. No spillage was observed.

***(A) Precautionary measures (as required by the Environmental Permit)***

***(I) Thermal desorption process at To Kau Wan***

- (a) Indirect thermal desorption process will be used and no direct fire will contact the dioxin contaminated soil;
- (b) Indirect fired kiln of the thermal desorption plant will be of fully enclosed design so that no vapour desorbed from the contaminated soils will be allowed to escape;
- (c) Discharge point of any flue stack will be of at least 10m above ground;
- (d) The plant will be equipped with computerized fail safe system that will automatically shut off the soil feed system if malfunction is detected;
- (e) The feed tanks for the oil/water separator, the oil/water separator, the wastewater treatment unit and the storage tank for the oily residue will all be enclosed and vented via the HEPA filter and the thermal oxidizer/activated carbon column;
- (f) Gaseous fuel will be used for soil heating process; and
- (g) The site of the thermal desorption plant will be paved with concrete. A continuous impermeable, concrete bund of at least 20cm high will be constructed at the perimeter of the plant to collect any runoff for treatment at the wastewater treatment facilities throughout the operation of the plant.
- (h) Both the stack monitoring of dioxin emissions from the thermal desorption plant and the ambient monitoring of dioxins at air sensitive receivers will be conducted at least once a month.
- (i) Continuous emission monitoring for surrogate gases including carbon monoxide, oxygen and Total Organic Compounds at stack of the thermal desorption plant will be carried out.

***(II) Transportation of dioxin residues to Chemical Waste Treatment Centre at Tsing Yi***

- (a) The residues will be transported only in small consignments to CWTC each time for incineration over a period of over a year to reduce risk. On average, only about 1 or 2 trips will be made per week;
- (b) The residues will be packaged in drums, labelled and stored in accordance with the Waste Disposal (Chemical Waste) (General) Regulation before a licensed collector can take them to CWTC;
- (c) Each consignment will be tracked by means of a trip-ticket system and the contractor will notify EPD for each delivery; and
- (d) The transportation will take place only during non-peak hours and in a safe speed limit. The transportation will be via a dedicated route away from residential areas and escorted by two vehicles, one in the front and the other at the back.

***(B) Extra precautionary measures***

A contingency plan has been devised where -

- (a) a site emergency response centre has been established to coordinate speedy responses to emergencies both at TKW and during transportation of dioxin residue to CWTC, however unlikely;
- (b) arrangements are being made to enable quick and effective response of the Fire Services Department and Hong Kong Police Force;
- (c) the contractor has arranged for adequate stand-by site staff and equipment to deal with emergencies; and
- (d) EPD's advice is being incorporated into the plan to ensure safe and quick removal and disposal of any spilled material just in case.