

## Appendix 2

### **General Principles shall be applied in demolition, handling, treatment and disposal of Dioxin Containing Material (DCM) (Extracted from paragraphs 4.75 to 4.77 of the approved EIA Report)**

I. Where the ash waste contains low contamination levels of DCM, the Contractor should avoid ash waste becoming airborne during demolition. General dust suppression measures will be followed and ash waste will be directly disposed of at landfill.

II. Where the ash waste contains moderately contaminated DCM, the following steps should be followed:

- Site Preparation
  - Except the cremators / flue / chimney, all removable items should be removed as far as practicable to avoid obstructing the decontamination activities;
  - Preliminary site decontamination of all debris should be carried out using High Efficiency Particulate Air (HEPA) vacuum cleaner;
  - Top portion of the chimney should be enclosed by a 3-layer chamber of polyethene sheets;
  - At the entrance to the cremators / flues / chimney, a 3-chamber decontamination unit should be constructed for entry and exit from the work area. The 3-chamber decontamination unit should comprise a dirty room, a shower room and a clean room of at least 1m x 1m base with 3-layer of fire retardant polyethylene sheet;
  - Workers should carry out decontamination procedure before leaving the work area;
  - Workers should wear full protective equipment, nitrile gloves, rubber boots and full-face positive pressure respirator; and
  - Warning signs in both Chinese and English should be displayed in conspicuous areas.
- Demolition and Handling
  - The cremators / flue / chimney should be removed from top down. Any ash or residues attached to the cremators / flue / chimney or any other building structure should be removed by scrubbing and HEPA vacuuming;
  - Waste generated from the containment or decontamination unit including the protection clothing of the workers should be disposed to landfill;
  - After removal, all surfaces should be decontaminated by HEPA vacuum cleaner; and
  - The storage area for ash waste should be properly enclosed throughout the demolition works. The location of storage area for ash waste will be identified in the Waste Management Plan to be prepared by the Contractor.
- Treatment and Disposal
  - Immobilise ash waste by proper mixing with cement as determined by the pilot mixing and Toxicity Characteristic Leaching Procedure (TCLP);
  - Waste material should be placed in polyethylene lined steel drums for disposal at landfill, the drums should be 16 gauge steel or thicker and fitted with double bung fixed ends adequately sealed and well labeled in new or good condition.
  - Drums should be clearly marked "DANGEROUS CHEMICAL WASTE" in English and Chinese. Prior agreement of the disposal criteria must be obtained from EPD and the landfill operator.

- As a fall back option, if landfill disposal criteria cannot be met after immobilization of the ash waste, disposal at the Chemical Waste Treatment Center (CWTC) should be considered.

III. The areas with severely contaminated DCM should be removed under containment as a prudent approach to avoid the release of ash waste to the environment during the demolition works of the existing building and the following should be addressed.

- Site Preparation

- Except the cremators / flue / chimney, all identified removable items with severely contaminated DCM should be removed as far as practicable to avoid obstructing the decontamination activities;
- Preliminary site decontamination of all debris should be carried out using High Efficiency Particulate Air (HEPA) vacuum cleaner;
- The walls, floor and ceiling of the cremator room where severely contaminated DCM should be lined with 3-layer chamber of fire retardant polyethene sheets. Top portion of the chimney above the roof should be enclosed by a 3-layer chamber of polyethene sheets;
- At the entrance to the cremators / flues / chimney, a 3-chamber decontamination unit should be constructed for entry and exit from the work area. The 3-chamber decontamination unit should comprise a dirty room, a shower room and a clean room of at least 1m x 1m base with 3-layer of fire retardant polyethylene sheet where all workers would carry out decontamination procedures before leaving the work area;
- Air movers should be installed at the cremator room, and at the bottom of the chimney to exhaust air from work area. A stand-by air mover should be installed with each of air movers. Sufficient air movement should be maintained to give a minimum of 6 air changes per hour to the work area;
- New pre-filters and HEPA filters should be used on the air movers.
- Before commencement of the decommissioning work, a smoke test with non-toxic smoke should be carried out to confirm the air tightness of the containment;
- Workers should wear full protective equipment, disposable protective coverall (such as Tyvek with shoe covers and hood), nitrile gloves, rubber boots and full-face positive pressure respirator equipped with a combination cartridge that filters particulate and removes organic vapour; and
- Warning signs in both Chinese and English should be displayed in conspicuous areas.

- Decontamination, Demolition and Handling

- The cremators / flue / chimney should be removed from top down. Any ash or residues attached to the cremators / flue / chimney or any other building structure should be removed by scrubbing and HEPA vacuuming;
- The contaminated detached sections of the building structure with severely contaminated DCM should be wrapped with 2 layers of fire retardant polyethene sheets. The third layer should be wrapped and secured with duct tape. Decontaminate the outer layer of the wrapped flue sections by wet wiping;
- After completion of removal and decontamination, spray the innermost layer of the fire retardant polyethene sheet with PVA. Upon drying, peel off and dispose of at landfill site; and
- The storage area for ash waste should be properly enclosed throughout the demolition works. The location of storage area for ash waste will be identified in the Waste Management Plan to be prepared by the Contractor.

- Treatment and Disposal
  - All contaminated ash waste with severely contaminated DCM removed and the used HEPA filters should be sent to Chemical Waste Treatment Center (CWTC) at Tsing Yi accordingly to Chapters 2 & 3 *Code of Practice on the Packaging, Labelling & Storage of Chemical Wastes* published under the Waste Disposal Ordinance (Cap 354), Section 35; and
  - Other waste including the building structures and its associated panels as well as waste generated from this decommissioning works are also considered as contaminated waste and should be disposed of at designated landfill. Waste generated from this decommissioning works refer to the polyethene wrapping sheets should be placed into appropriate containers for disposal. Waste Disposal Permit has to be obtained from EPD. Disposal trip ticket is required to be made available as record after disposal.