QUEEN MARY HOSPITAL

DECOMMISSIONING AND DISPOSAL OF CLINICAL WASTE INCINERATORS AT BLOCK K, QUEEN MARY HOSPITAL

CONSTRUCTION NOISE MITIGATION MEASURE PLAN

DECEMBER 11, 2017

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DATE: 11 DECEMBER 2017

SIGNATURES

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1 BACKGROUND

1.1 BACKGROUND

1.1.1. Established in 1937, Queen Mary Hospital (QMH) is a major acute hospital in the Hong Kong West Cluster (HKWC) of the Hospital Authority (HA), serving a population of over 531,000 in the Central and Western and Southern Districts as well as treating many patients in other geographical districts in Hong Kong. It provides a full range of acute and tertiary services, including 24-hour Accident and Emergency (A&E) services, in-patient services, ambulatory care and rehabilitation services, as well as specialist services covering a wide range of specialties and subspecialties for the residents.

1.1.2. Being the teaching hospital of the Li Ka Shing Faculty of Medicine of The University of Hong Kong, QMH is responsible for providing professional clinical training, pioneering innovative technology, and conducting clinical trials for new treatment modalities. In addition, QMH serves as a tertiary and quaternary referral centre for many complex and advanced services such as organ transplant, neonatal intensive care, coronary care, burns and reconstructive surgery and neurosurgery, for the entire territory. Since July 2003, QMH has become the only designated liver transplant centre in Hong Kong to provide world-class standard liver transplant service. The A&E Department of QMH has been designated as one of the five trauma centres in the territory.

1.1.3. The redevelopment plan, featuring the use of QMH's northern site to fit the hospital's future service model as an academic health sciences center, involves the decanting of existing facilities of the north end of QMH complex to the ex-Senior Staff Quarters (SSQ) (which had been converted to and renamed as Block T). It presents a golden opportunity to enable the hospital to enhance its role as a premier teaching hospital, as well as further improving the hospital environment for our patients, medical students, academic partners and colleagues.

1.1.4. The Phase 1 Redevelopment Project of Queen Mary Hospital is conducted in two stages:

Stage I Preparatory Works:

- Conversion works at the vacated SSQ (renamed as Block T)
- Construction of a link bridge connecting Block T and the buildings in the hospital complex
- Road widening works within the hospital boundary

Stage II Main Works (Commence August 2018):

- Demolition of Clinical Pathology Building(CPB) and Housemen Quarters (HQ) of QMH as well as Pathology Building (UPB) of the University of Hong Kong
- Construction of New Block
- Provision of an additional access road
- Construction of a proposed rooftop helipad

1.1.5. As part of the demolition of CPB, the existing Body Storage Room at CPB will be relocated to LG4/F of Block K. One of the preparatory works would be decommissioning and disposal of the two existing clinical waste incinerators at Incinerator Room at LG4/F of Block K.

1.1.6. The aforementioned decommissioning and disposal works would be followed by hospital's renovation works to convert the Incinerator Room at LG4/F of Block K into the Body Storage Room.

1.1.7. Queen Mary Hospital is located in 102 Pok Fu Lam Road on Hong Kong Island. **Figure 1.1** shows the layout of the Queen Mary Hospital.

1.1.8. The clinical waste incinerators and their associated ductworks are located at the Incinerator Room at LG4/F of Block K. The floor area of the Incinerator Room is approximately 156m^2 (13m (D) x 12m (W)). The layout plan of LG4/F of Block K and the layout of the Incinerator Room are presented in **Figures 1.2** and **1.3**, respectively. The two chimneys, each is approximately 117m in height, are concealed in the concreted Service Duct 1 in the northern corner of Block K from G/F to Rooftop.

1.1.9. There are two incinerators at the room. The dimension of the two incinerators are the same, each is approximately 17m^3 (1.7m (W) x 2.8m (H) x 3.5m (D)) with 8,000 kg weight and consists of one combustion chamber with a furnace capacity of approximately 10m^3 and a secondary combustion chamber of approximately 5m^3. The capacity of each incinerator is 150kg/hr of pathological waste and it is driven by Towngas. The incinerators and associated ductworks are constructed mainly of steel except the combustion chamber which is lined with ceramic fire bricks.

1.1.10. The incinerators were installed in 1988. Some of the information such as manufacturer, model and its containing materials cannot be identified and trace from Hospital's existing records. The usage record of the incinerators was unavailable and according to ex-post holder, the two incinerators had never been in operation ever since. The incinerators were operated only for testing and has been shut down more than 20 years. No recorded accidents or incidents occurred during the operation of the clinical waste incinerators.

1.1.11. To miminise disruption and disturbance, the decommissioning and demolition works would be best to undertaken in 2 Phases, i.e. the decommission and demolition of the two incinerator units and associated ductworks within the Incinerator Room in the first phase whilst the vertical flues (chimneys) would be demolished when Block K is being demolished.

1.1.12. The decommissioning of the incinerator is classified as a Designated Project under Item 3 of Part II, Schedule 2 of Environmental Impact Assessment Ordinance (EIAO). The Designated Project covered two clinical waste incinerators and associated horizontal ductworks at Incinerator Room, LG4/F of Block K, and the two vertical flues (chimneys) from the ceiling of Incinerator Room, LG4/F to the Rooftop of Block K inside the Service Duct 1. Decommissioning and demolition works will be carried out in 2 Phases. In Phase 1, the incinerator units, the wall-mounted control panel and the horizontal ductworks section will be decommissioned and demolished. The two vertical flues of the incinerators will be decommissioned, and disconnected from the horizontal ductworks section (at ceiling level) and sealed up only in Phase 1. The chimneys will be demolished in Phase 2 when Block K is to be demolished.

1.1.13. An Environmental Permit (EP) was granted from the Environmental Protection Department (EPD) on 18 October 2017 for the decommissioning and disposal works with a condition that a Construction Noise Mitigation Measure Plan (CNMMP) for Phase 1 Decommissioning Works.

1.2 OBJECTIVES

1.2.1 The objectives of this CNMMP are to present:

(a) Methodology of the decommissioning works; and

(b) Propose the structural borne noise mitigation measures for the NSRs within Block K including avoidance of breaking process during decommissioning, if practicable.

1.3 STATUTORY LEGISLATION AND EVALUATION CRITERIA

The CNMMP is prepared in accordance with Annex 5 of the Technical Memorandum on Environmental Impact Assessment Process and Noise Control Ordinance.

2 METHODOLOGY AND PROGRAMME

2.1 METHODOLOGY

2.1.1 The demolition works will be conducted in 2 Phases to minimise the disruption to the hospital operation.

2.1.2 In Phase 1, the incinerator units, the wall-mounted control panel and the horizontal ductwork sections will be decommissioned and demolished. The two vertical flues (chimney) of the incinerators will be decommissioned, and disconnected from the horizontal ductwork sections (at ceiling level) and sealed up only; but not demolished. In addition, the opening of the chimneys at the rooftop will be sealed up to minimise the entry of rainwater. Stainless steel plate will be securely fastened or welded in place to cover at each end of the chimneys with regular maintenance and inspection. All works except the sealing up of the chimneys at rooftop will be carried out inside the Incineration Room under full containment to avoid the release of any residual ash to the environment.

2.1.3 Neither breaking, chipping nor hammering would be involved in the decommissioning and demolition works, and removal of incinerators, ductwork, electric panel, etc. would be carried out by unscrewing, unbolting or cutting as far as practicable.

2.1.4 In Phase 2, the chimneys will be demolished when Block K is to be demolished. The demolition of the chimneys will be undertaken inside Service Duct 1 from the top to bottom starting from the rooftop area under full containment to avoid the release of any particulate and dust to the environment. Block K will be vacated prior to commencement of Phase 2 demolition work. However, no demolition works of Block K would be commenced prior to the completion of the demolition of the chimneys.

2.1.5 Therefore, the demolition works in Phase 1 are limited to internal area in the Incinerator Room at LG4/F, Block K whilst in Phase 2 demolition works are limited to the internal area of Service Duct 1 of Block K. **Figures 2.1** and **2.2** illustrates the works area involved in each phase.

2.1.6 The method statement for Phase 1 demolition works is present in **Appendix A**. Method statement for Phase 2 demolition works will be prepared and submitted for agreement when the demolition of Block K is confirmed.

2.2 PROGRAMME

2.2.1 Phase 1 of the project is targeted to commence in December 2017 and complete in February 2018. The actual work period is expected not to exceed 14 days. A tentative project programme is shown in **Appendix B**.

2.2.2 At present, there is no plan for the demolition of Block K, programme for Phase 2 demolition works would not be available. When the programme for the demolition of Block K is confirmed, the programme for Phase 2 demolition works will be incorporated. No demolition works of Block K would be commenced prior to the completion of the demolition of the chimneys.

3 NOISE MITIGATION MEASURES

3.1 INTRODCUTION

3.1.1 The Phase 1 decommissioning of clinical waste incinerators and associated ductworks will be carried out prior to other construction works at the Incinerator Room, as part of the QMH's Redevelopment Programme.

3.1.2 For Phase 1, the demolition of incinerator, and associated ductworks will be taken inside the Incinerator Room and a fully enclosed structure, using hand tools and small powered tools. With the adoption of "Recommended Pollution Control Clauses for Construction Contracts" of the EPD, the construction noise impacts would be minimised.

3.1.3 As Block K will be vacated prior to commencement of Phase 2 demolition work, structural borne noise mitigation measures for Phase 2 demolition works would not be required.

3.2 PROPOSED MITIGATION MEASURES

3.2.1 The potential sources of noise impact during the decommissioning and demolition works would be the use of Powered Mechanical Equipment (PME) for various construction activities. According to the programme in **Appendix B**, the construction works of the Project would tentatively commence in December 2017 and last for about 14 days.

3.2.2 All demolition works will only be carried out between 07:00 and 19:00 on any day not being a general holiday including Sunday. "Recommended Pollution Control Clause for Construction Contracts" of the EPD will be adopted in the decommissioning and demolishing contract. If powered mechanical equipment is to be used between 19:00 and 07:00 and any time on a general holiday including Sundays, a construction noise permit (CNP) shall be obtained from the EPD.

3.2.3 Warning signs in both Chinese and English shall be put in conspicuous locations outside the Incinerator Room and Block K, and displayed throughout the entire course of the decommissioning and demolition works. An example of the warning signs is shown in **Figure 3.1**.

3.2.4 Temporary noise barriers will be adopted for reducing the noise impacts on the NSRs if necessary. Other works would unlikely generate excessive noise impacts from the PME with the implementation of temporary noise barriers and enclosures. As air mover will be needed, enclosure and quiet PME will also be adopted for reducing the noise impacts on the NSRs.

4 CONCLUSION

4.1.1 Noise impact during the demolition works of the Project have been assessed. During the construction phase, the use of powered mechanical equipment (PME) is considered as a dominant noise source generated by various construction works of the Project. With the appropriate mitigation measures, construction noise impact on the nearby noise sensitive receivers would be minimised.

FIGURES

FIGURE 1.1 LOCATION OF QUEEN MARY HOSPITAL

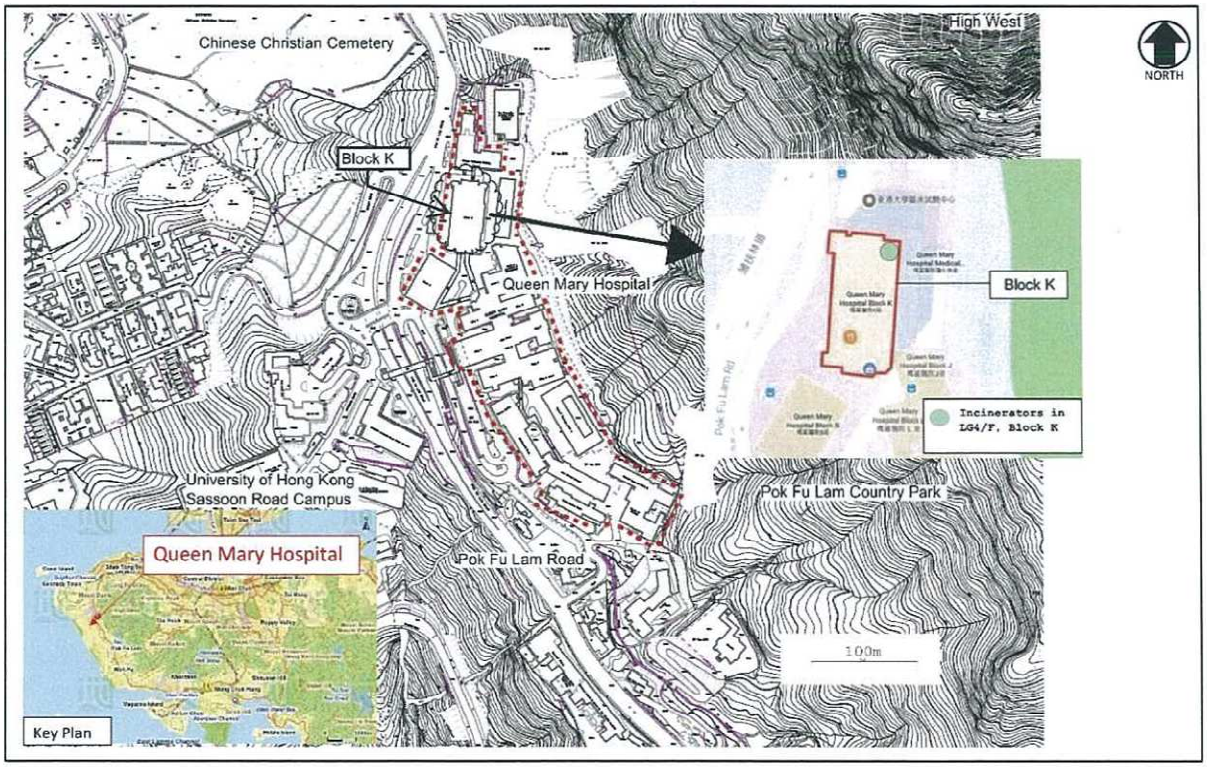


FIGURE 1.2 LG4/F LAYOUT PLAN OF BLOCK K SHOWING THE LOCATION OF THE INCINERATOR ROOM

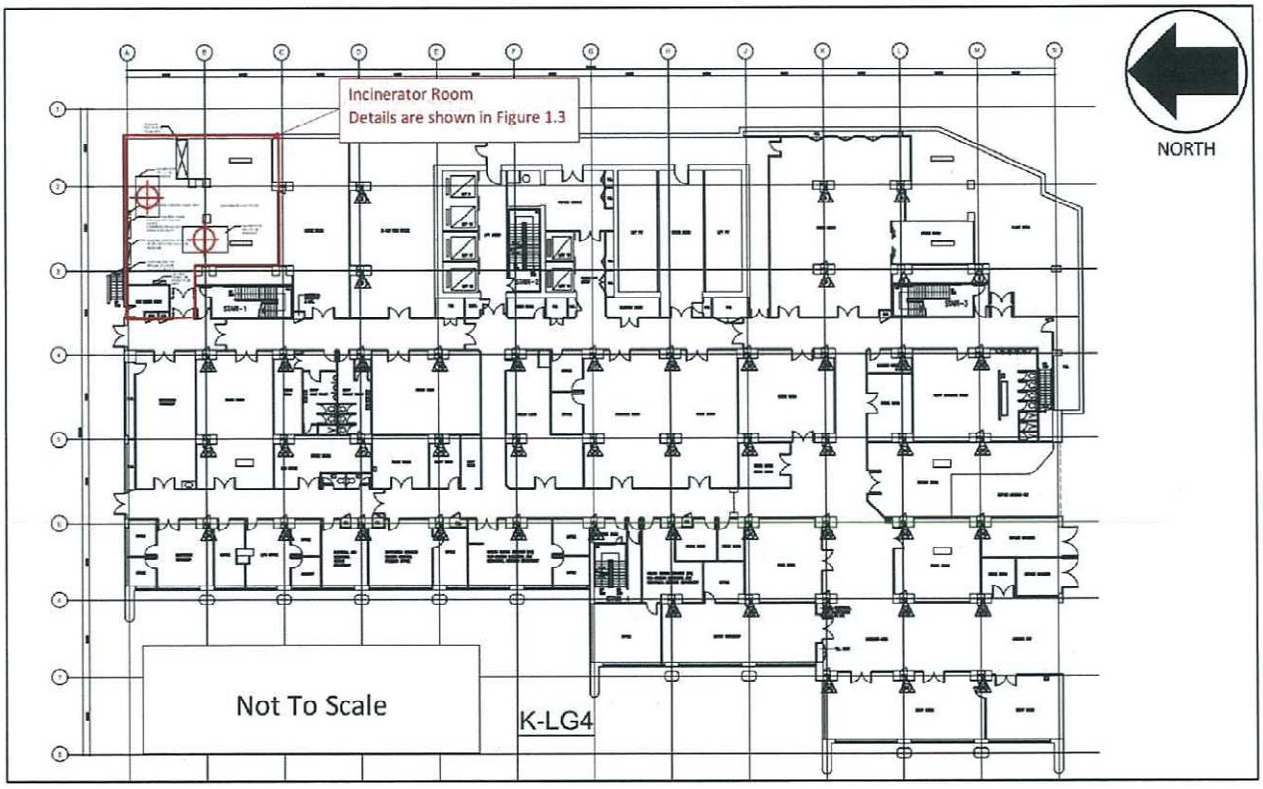


FIGURE 1.3 LAYOUT PLAN OF THE INCINERATOR ROOM WITH THE STUDY AREA HIGHLIGHTED IN RED

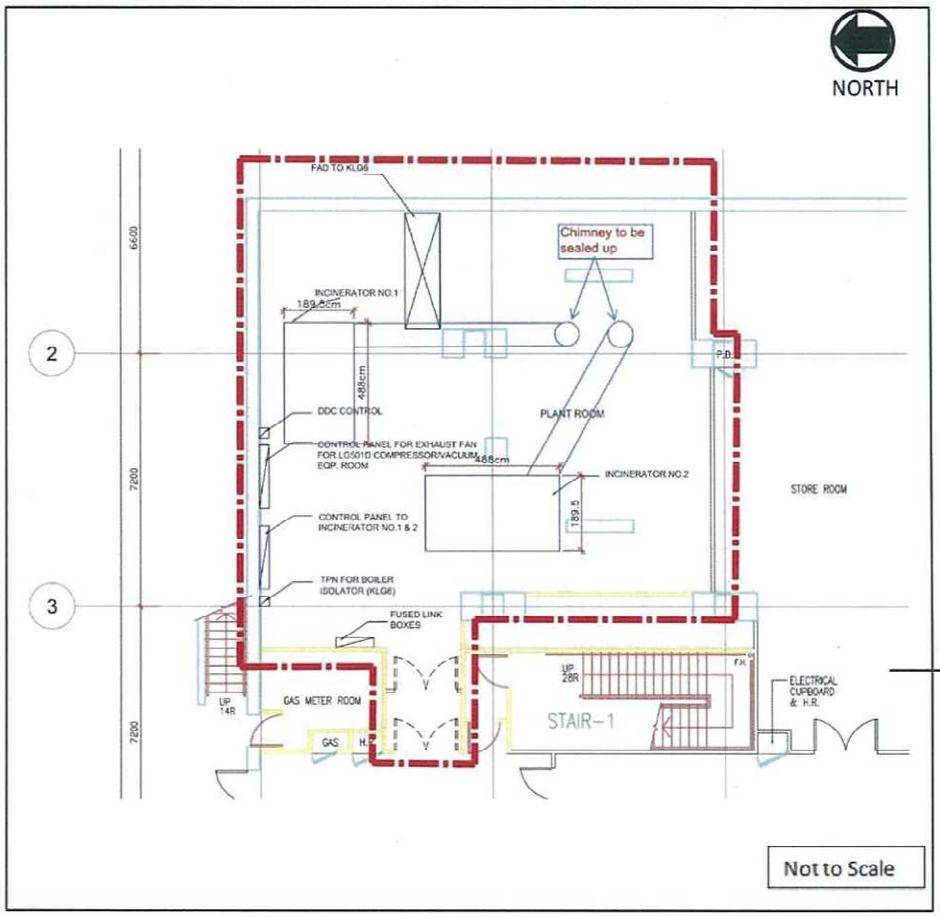


FIGURE 2.1 ILLUSTRATION OF THE WORKS AREA INVOLVED IN PHASE 1

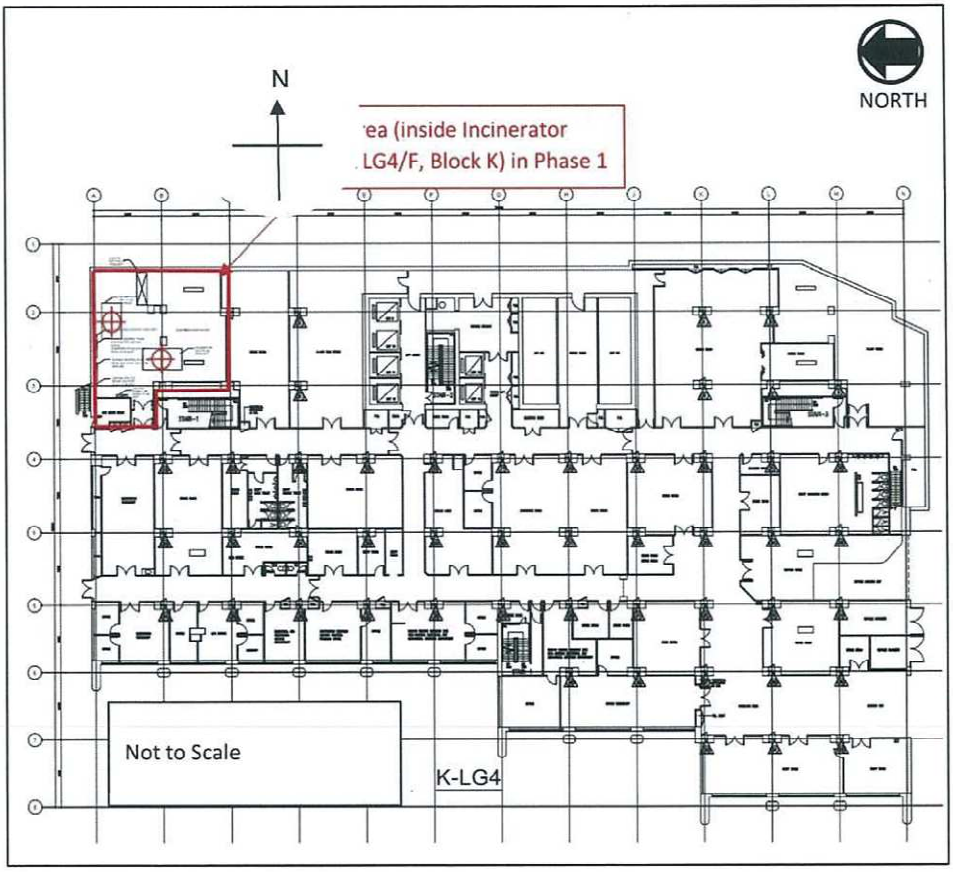


FIGURE 2.2 ILLUSTRATION OF THE WORKS AREA INVOLVED IN PHASE 2

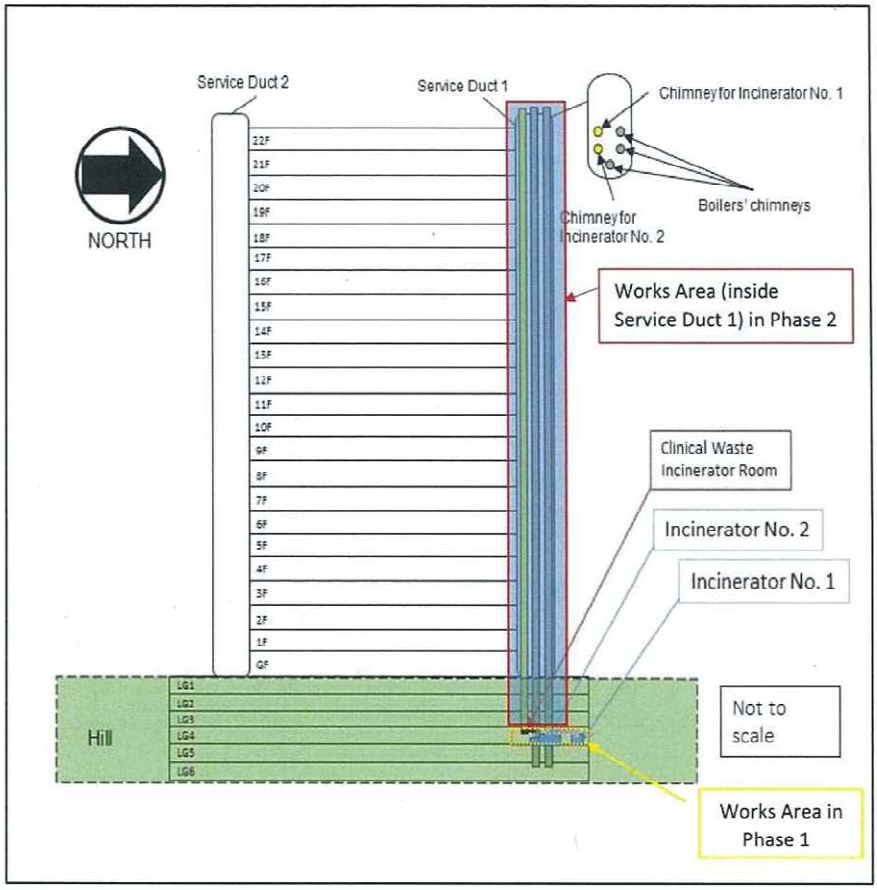


FIGURE 3.1 AN EXAMPLE OF WARNING SIGNS

APPENDIX

A

METHOD STATEMENT

Method Statement for Decommissioning and Disposal of Clinical Waste Incinerator at Lower Ground Forth Floor, Block K, Queen Mary Hospital

1. The subject decommissioning and disposal of the clinical waste incinerators was located at LG4/F of Block K, Queen Mary Hospital, 102 Pok Fu Lam Road on Hong Kong Island. The floor area of the Incinerator Room is approximately 156m2 (13m (D) x 12m (W)). There are two incinerators at the room. The dimension of the two incinerators are the same, each is approximately 17m^3 (1.7m (W) x 2.8m (H) x 3.5m (D)) with 8,000 kg weight and consists of one combustion chamber with a furnace capacity of approximately 10m^3 and a secondary combustion chamber of approximately 5m^3.

2. The decommissioning of the clinical waste incinerators is classified as a Designated Project under Item 3 of Part II, Schedule 2 of Environmental Impact Assessment Ordinance (EIAO). It is required by the EIAO that an Environmental Permit (EP) is granted from the Environmental Protection Department (EPD) before the decommissioning and disposal works commence. The EP is granted by EPD on 18 October 2017 and is presented in Appendix A.

3. The clinical waste incinerator and its associated flues, chimney, ducts and ductworks are located in the Incinerator Room at LG4/F of Block K. The chimney goes vertically inside the concrete service duct from LG4/F to the roof top of Block K.

4. To minimize disruption and disturbance, the decommissioning and demolition works would be undertaken in 2 Phases, i.e. the decommissioning and demolition of the two incinerator units and associated ductworks within the Incinerator Room in the first phase. The vertical flues (chimneys) would be demolished when Block K is being demolished.

5. This method statement is applied for the decommissioning and demolition of the two incinerator units and associated ductworks within the Incinerator Room in the first phase

6. The Contractor who assumes the responsibility for the whole or a part of the Designated Project may, before he assumes responsibility of the Designated Project, apply under Section 12 of EIAO to the Director of EPD for a Further Environmental Permit.

7. The Contractor shall notify the Director of EPD in writing the commencement date of decommissioning of the clinical waste incinerator no later than 2 weeks in advance. The Contractor shall notify the Director of EPD in writing immediately if there is any change of the commencement date of the decommissioning.

8. The Contractor shall comply with current Ordinance, Regulations and requirements of the Hong Kong SAR Government or Statutory Undertaking applicable to the Works. The Contractor shall also comply

with and accept the risk of any impending Ordinances, Regulations, requirements and legislation of other conditions which alter any obligations or impose new obligations.

9. The whole of the Works shall comply with all applicable legislations including but not limited to:
   - Air Pollution Control Ordinance (Cap. 311)
   - Waste Disposal Ordinance (Cap. 354)
   - Water Pollution Control Ordinance (Cap. 358)
   - Noise Control Ordinance (Cap. 400)

10. The decommissioning and disposal procedures should comply with the EP.

11. Decommissioning of the incinerator room shall be conducted under full containment to avoid the release of any residual ash to the environment, which could be generated during the decommissioning works. The following sections detail the approach.

12. Preliminary site decontamination of all debris shall be carried out using High Efficiency Particulate Air (HEPA) vacuum cleaner. Except the incineration units, all other existing items shall be removed from the incinerator room as far as practicable to avoid obstructing work activities.

13. All openings shall be sealed with three-layers of fire retardant polythene sheets.

14. A temporary structure shall be built from the incinerator room to enclose the incinerators in the Incinerator Room. A three-compartment decontamination unit shall be constructed for entry and exit in to the works area. The unit shall comprise a dirty room, a shower room and a clean room or at least 2m high with 1m x 1m base each with three-layers of fire retardant polythene sheet where all workers shall carry out decontamination procedures before leaving the work area. This arrangement is illustrated in Appendix B.

15. Air movers equipped with HEPA filters shall be provided at the incinerator room to exhaust air from the works area. A stand-by air mover shall also be installed.

16. Sufficient air movers shall be maintained to give a minimum of six (6) air changes per hour (ACH) to the works area and, maintain a negative pressure of 1.5 to 4 mm of water within the works area throughout the entire course of the decommissioning works. A pressure monitor shall print out records and audible alarm shall be installed at an easily accessible location to demonstrate that negative pressure is maintained. New pre-filters and HEPA filters shall be used on the air movers.

17. A copy of the maintenance records of the air movers shall be kept on site for inspection upon request. The appointed Contractor shall also

check the differential pressure of the air mover to ensure that the filter is not blocked. A differential pressure of above 5 mm of water indicates that the filters will need to be changed. All items remain inside the containment shall be covered with at least two (2) layers of fire retardant polythene sheets before the decommissioning works proceed.

18. Warning signs in both Chinese and English shall be put in conspicuous locations outside the temporary decontamination unit and displayed throughout the entire course of the decommissioning and demolition works.

19. Prior to commencement of the decommissioning works, a smoke test with non-toxic smoke shall be carried out to ensure the tightness of the containment and to check whether there are any stagnant pockets of air (indicated by an aggregate of smoke that cannot be effectively extracted).

20. After a successful test, the air mover shall be switched on to exhaust smoke from the containment and to give a minimum of 6 ACH, and visually check that the absolute filters screen out the smoke effectively and that the pressure gauges read normal. The normal reading of the pressure range for maintaining six (6) air changes per hour shall be 1.5 to 4 mm of water (negative pressure). The audible alarm's integrity shall also be checked, and the trigger shall be at least 1.5 mm of water (negative pressure).

21. A registered gas contractor shall be employed to disconnect the Towngas supply to minimize the potential risk under the Gas Safety Ordinance (CAP.51). The appointed registered gas contractor shall give notice and liaise with Hong Kong and China Gas Company Limited to disconnect the gas supply prior to commencement of the decommissioning work and implement adequate precautions to ensure the safety of the gas pipes within and adjacent to the work area.

22. The residual ash inside the incinerator shall be removed by scrabbling. All inner walls of incinerator shall be cleaned using a HEPA vacuum cleaner and the wet wipes. The scrabbled material and the filtered materials from the HEPA vacuum cleaner shall be packed on site and stored in polythene-lined steel drums.

23. All residual ash collected from the incinerator, used HEPA filters, scrabbled materials and the HEPA filtered materials shall be disposal of at Chemical Waste Treatment Centre. For the disposal of chemical waste produced from the Project, the Specialist Contractor is required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes shall be used. Appropriate labels shall be affixed securely on each chemical waste container indicating the chemical characteristics of the chemical waste, such as explosives, flammable, oxidising, irritant, toxic, harmful, corrosive, etc. A licensed

waste collector should be engaged to collect, transport and disposed of the chemical wastes in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation* of WDO under the monitoring of the Trip Ticket System.

24. For the gaskets (contains 70% chrysotile) to the primary and secondary burner of the incinerators, the removal of the gaskets requires special precautions and strict compliance with the Air Pollution Control Ordinance (APCO). The requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes should be followed. Good quality containers compatible with the chemical wastes shall be used. Appropriate labels shall be affixed securely on each chemical waste container indicating the chemical characteristics of the chemical waste. All ACM wastes should be collected by a licensed chemical waste collector according to the Waste Disposal (Chemical Waste)(General) Regulation under the monitoring of the Trip Ticket System and disposed at the designated landfill.

25. The existing chimneys and associated ductwork shall be capped at the roof top and at the section end in Incinerator Room at KLG 4 by stainless steel plate.

26. The detached sections of the incinerator shall be wet wiped before wrap them with three layers of fire retardant polythene with a third layer secured with duct tape, and segregated from the chemical waste.

27. The insulation-lined combustion furnace shall be dismantled to manageable size using hand tools and small powered tool, and wet wiped before wrap them with three layers of fire retardant polythene with a third layer secured with duct tape.

28. Neither breaking, chipping nor hammering would be involved in all phases of the decommissioning and demolition, and removal of incinerators, ductwork, electric panel, etc. would be carried out by unscrewing, unbolting or cutting as far as practicable. The "Recommended Pollution Control Clauses for Construction Contracts" of EPD shall be adopted.

29. All outer layers of polythene sheets shall be decontaminated by wet wipes before leaving the work area.

30. All workers shall wear full PPE which should include disposable protective overall (such as Tyvek) with hood, nitrile gloves, shoe covers, and full-face positive pressure respirators equipped with a combination cartridge that filters particulate and removes organic vapour.

31. Following completion of the demolition work, all surfaces in the incinerator room shall be decontaminated by HEPA vacuuming and wet wiping. Then the innermost polythene sheet shall be sprayed with Polyvinyl Alcohol (PVA) and upon drying, the inner polythene sheet shall

be peeled off. The PVA decontamination process shall then be repeated for the second and third layers of the polythene sheets. All polythene sheets used shall be disposal of at the designated landfill under the surveillance of EPD's Admission Ticket System after TCLP confirmation. If necessary, cement solidification would be used to treat the waste. The solidified waste passing the TCLP limit would be disposed of at designated landfill under the surveillance of EPD's Admission Ticket System.

32. The Contractor shall contact EPD to identify the designated landfill for waste disposal of wastes arise from the decommissioning works.

33. The TCLP limit for landfill disposal of contaminated soil is shown below.

Parameters	**TCLP Limit (mg/L)**
Antimony	150
Arsenic	50
Barium	1,000
Beryllium	10
Cadmium	10
Chromium	50
Copper	250
Lead	50
Mercury	1
Nickel	250
Selenium	1
Silver	50
Thallium	50
Tin	250
Vanadium	250
Zinc	250

34. If necessary, cement solidification would be used to treat the waste. The solidified waste passing the TCLP limit would be disposed of at designated landfill under the surveillance of EPD's Admission Ticket System.

35. For the disposal of chemical waste produced from the Project, the Contractor is required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes shall be used. Appropriate labels shall be affixed securely on each chemical waste container indicating the chemical characteristics of the chemical waste, such as explosives, flammable, oxidising, irritant, toxic, harmful, corrosive, etc.

36. The Contractor should engage a licensed waste collector to transport and disposed of the contaminated wastes in accordance with the Waste Disposal (Chemical Waste) (General) Regulation of Waste

Disposal Ordinance (WDO).

37. Other wastes such as the combustion chambers and outer shell panels and ductworks, polythene wrapping sheets, used PPE, waste generated from the dismantling work of the containment and cloths used for wet wiping are considered as contaminated wastes and shall be stored in appropriate containers such as drums and jerricans for disposal of at designated landfill site. As there is no evidence to confirm that all the deposited/contaminated ash inside the incinerator units, ductworks, etc. can be completely removed by the vacuum cleaner/wet wiping, it seems not justified that part of the incinerator unit/ ductworks can be recycled. The combustion chamber is constructed with refractory bricks which will be removed individually and the outer steel shell will be cut to smaller pieces for disposal at designated landfill. Only the wall-mounted control panel would be recycled.

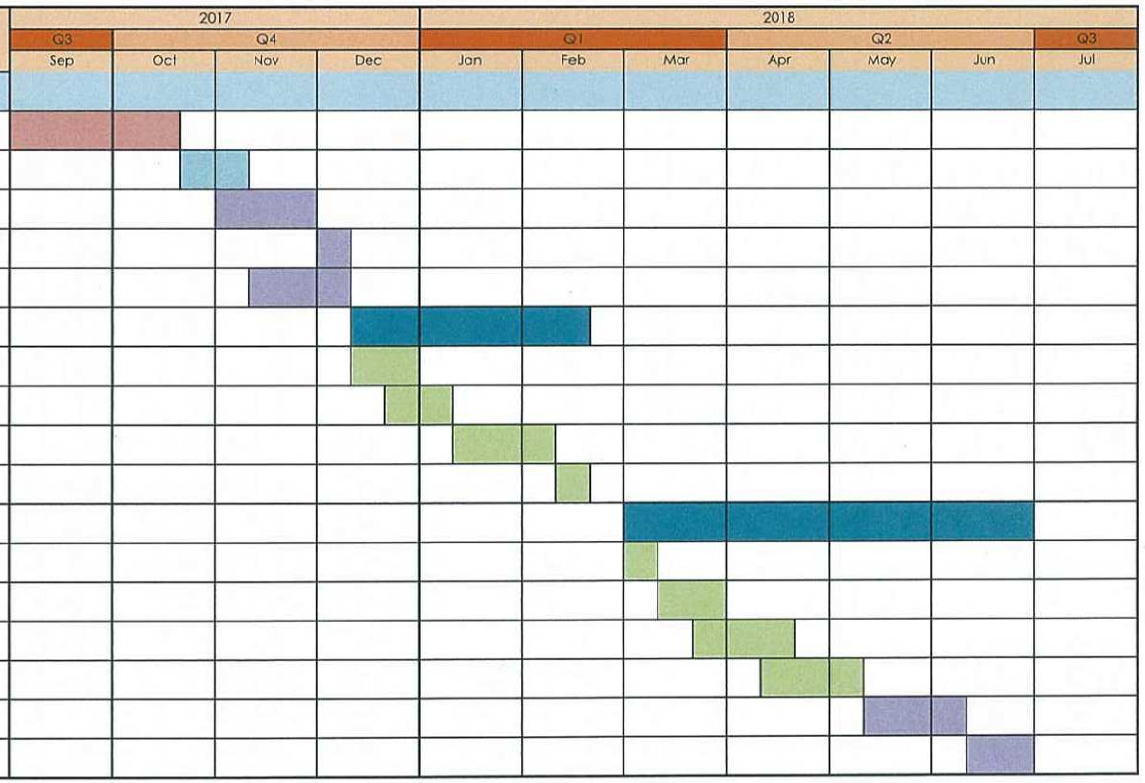
-End-

B

TENTATIVE PROGRAMME

Master Project Programme of Dismantle of Incinerators and Setting Up of New Body Store at KLG4, Block K, QMH

	Work Description	Duration	Start	Finish
	Setting up Temporary Body Store in KLG4 Incinerator Room, Block K			
1	Application of Environmental Permit from EPD	18-Oct-17		
2	Preparation of Works Order		mid Oct 17	early Nov 17
3	Submission of Noise Mitigation Proposal to EPD	1 month	early Nov 17	end Nov 17
4	Notification to EPD for Work Commencement of Dismantle of Incinerators	2 weeks	early Dec 17	mid Dec 17
5	Notification to EPD for Commencment of Asbestos Removal Work	1 month	mid Nov 17	mid Dec 17
6	**Removal of Incinerators**	2 months	mid Dec 17	mid Feb 17
6.1	Decommissioning and removal of control panels, gas pipes, and associated utilities connection; Capping of opening of existing Chimney at Rooftop	2 weeks	mid Dec 17	end Dec 17
6.2	Setting Up of Full Containment and 3-chamber Decontaimination Unit	2 weeks	end Dec 17	mid Jan 18
6.3	Dismantle of Existing Incinerator #1 and #2 and its associated duct work in Incinerator Room	1 month	mid Jan 18	mid Feb 18
6.4	Removal of Containment	1 week	mid Feb 18	mid Feb 18
7	**Construction work for new Temporary Body Store at K-LG4**	4 months	early Mar 18	end Jun 18
7.1	Isolation and Demolition Work	2 weeks	early Mar 18	mid Mar 18
7.2	New Partitioning Work	2 weeks	mid Mar 18	end Mar 18
7.3	E&M Installation Work	1 month	mid Mar 18	mid Apr 18
7.4	Finishing Work	1 month	mid Apr 18	mid May 18
8	**Installation of Cold Chambers**	1 month	mid May 18	mid Jun 18
9	**Test and Commissioning**	2 weeks	mid Jun 18	end Jun 18



Date : 30 October 2017