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DECOMMISSIONING AND DISPOSAL OF CLINICAL WASTE INCINERATORS AT BLOCK K, QUEEN MARY HOSPITAL SITE AUDIT REPORT NO. 1

FEBRUARY 23, 2018





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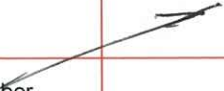
(VERSION 0)

PROJECT NO.: 2535419A
DATE: 23 FEBRUARY 2018

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QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks				
Date	23 February 2018			
Prepared by	Irene Yeung			
Signature				
Checked by	Alex Cheung			
Signature				
Authorised by	James Xiong			
Signature				
Project number				
Report number	2535419A			
File reference	2535419A - QMH Decommissioning\ Report\Demolition Works\Site Audit			

SIGNATURES

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1 INTRODUCTION

1.1 PROJECT 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 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.
- 1.1.3 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
- 1.1.4 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.
- 1.1.5 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.

1.2 TASKS UNDER ASSIGNMENT

- 1.2.1 With reference to the Environmental Permit (EP-545/2017), environmental monitoring is considered not necessary as no adverse environmental impacts are anticipated with the implementation of recommended mitigation measures. Environmental site audit should be conducted by an Independent Environmental Checker (IEC) during both phases of decommissioning and demolition works to check, review, verify and validate the overall environmental performance of the project, including the implementation of all the environmental protection and mitigation measures, submissions relating to environmental monitoring and auditing, and any other submissions required under the Environmental Permit for the project or the requirements outlined in the EIAO through report to EPD before and upon completion of the works.
- 1.2.2 WSP (Asia) Ltd (WSP) has been commissioned as the Independent Environmental Checker (IEC) for the Phase 1 of the Decommissioning and Demolition works.
- 1.2.3 The following monitoring procedures should be adopted and WSP as the IEC would be responsible for the monitoring operations:
- (a) To ensure that the general aspects of environmental quality will comply with the project requirements;
 - (b) To monitor the smoke test to ensure the tightness of the containment;
 - (c) To supervise the Contractor to ensure that the requirements in the Project Profile are fully complied with;
 - (d) To instruct the Contractor when action is required to reduce or prevent any impacts;
 - (e) To effectively and efficiently deal with any complaints on environmental performance; and
 - (f) To prepare a summary of the environmental performance of the Contractor on completion of the Project.

1.3 OBJECTIVES

- 1.3.1 The objective of this Site Audit Report No.1 is to present the key findings of the site audit conducted from 13 November 2017 to 25 January 2018.

2 INDEPENDENT ENVIRONMENTAL CHECKER

2.1.1 The staff organisation chart for this Project is shown in **Figure 2.1**.



Figure 2.1 Organisation Chart of Project Team

2.1.2 Independent Environmental Checker – Dr. James Xiong

Dr. James Xiong is the Director of WSP, in charge of consultancy services relating to environment and sustainability. James has over 25 years of academic and practical experience in environmental studies, especially, EIA, EM&A and environmental issues for urban development master plan, infrastructure and industry environmental protection including the IEC for Pillar Point Sewerage Treatment Works and Tsim Sha Tsui Station Carnarvon Road Subway and Wan Chai Station Lee Tung Street Subway for MTR Corporation Ltd. and the EIA Study of the Tai Po Sewage Treatment Works Stage 5.

2.1.3 Deputy Independent Environmental Checker – Dr. Alex Cheung

Dr. Alex Cheung is an Associate of WSP with over 25 years' experience. He has been involved in numerous research projects and environmental assessment for a wide range of development projects in Hong Kong, Macau and Australia as Project Manager including the IEC for Pillar Point Sewerage Treatment Works and Tsim Sha Tsui Station Carnarvon Road Subway and Wan Chai Station Lee Tung Street Subway for MTR Corporation Ltd.

3 WORK CONDUCTED AND KEY FINDINGS

3.1 WORKS CONDUCTED

3.1.1 The IEC works conducted in this reporting period are as follows:

- (1) IEC site audit on 13 November 2017
- (2) IEC site audit on 25 January 2018

3.2 KEY FINDINGS OF SITE AUDITS

3.2.1 In order to prepare for the Phase 1 demolition works, site audits were carried out for the Incinerator Room for the two existing clinical waste incinerators at LG4/F of Block K. Photos of the Incinerator Room are shown in Figures 3.1 to 3.17 during the site audits.

3.2.2 13 November 2017



Figure 3.1 Entry Hallway of Incinerator Room



Figure 3.2 Fused link boxes



Figure 3.3 Incinerator No.1



Figure 3.4 Incinerator No.2



Figure 3.5 Secondary Combustion Chamber of Incinerator No.1



Figure 3.6 Secondary Combustion Chamber of Incinerator No.2



Figure 3.7 View of Incinerator Room 1

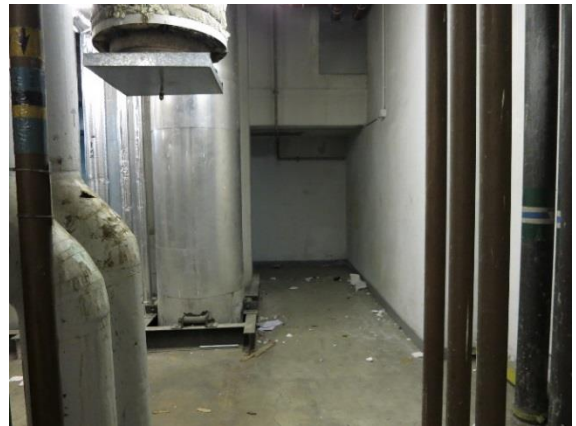


Figure 3.8 View of Incinerator Room 2



Figure 3.9 Overview of the Incinerator Room



Figure 3.10 Chimneys to be sealed up



Figure 3.11 Incinerator No.2



Figure 3.12 Control panels for incinerators, DDC control, exhaust fan for LG501D compressor/vacuum equipment room and TPN for boiler isolation



Figure 3.13 Sealed Drain at the Incinerator Room



Figure 3.14 Panels stored in the Incinerator Room



Figure 3.15 Entry of the Incinerator Room



Figure 3.16 Corridor at LG4/F of Block K

3.2.3 25 January 2018



Figure 3.17 Environmental and Safety Notices and Warning Signs were posted in the entry of the Incinerator Room

- 3.2.4 During the site audit, no specific observation was identified from the site inspection.
- 3.2.5 Previously, parts of the Incinerator Room were found to be used for storage. During this reporting period, the Incinerator Room was cleaned-up.
- 3.2.6 Construction of containment was commenced. Environmental and safety notices, as well as warning signs were provided in conspicuous locations at place of work.
- 3.2.7 Based on the findings of the site audits during the reporting period, the overall EM&A performance of the Project is satisfactory.
- 3.2.8 In accordance with the Environmental Permit requirements, smoke test will be carried out following the completion of the construction of containment.

4 CONCLUSION

- 4.1.1 Site audits have been conducted during the reporting period from 13 November 2017 to 25 January 2018. No specific observation was identified from the site inspection.
- 4.1.2 In the site audit during the reporting period, the Incinerator Room was cleaned-up to prepare for the Phase 1 decommissioning and demolition works.
- 4.1.3 Construction of containment is commenced. Environmental and safety notices, and warning signs were provided in conspicuous locations at place of work. Based on the findings of the site audits during the reporting period, the overall EM&A performance of the Project is satisfactory.
- 4.1.4 In accordance with the Environmental Permit, smoke test will be carried out upon completion of the construction of containment and prior to any demolition works.