

# Appendix M

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Proactive Environmental  
Protection Proforma

## Proactive Environmental Protection Proforma

Ref.: HMTS\_202104

Ref <sup>(1)</sup>	Proposed Construction Method <sup>(2)</sup>	Location / Working Period	Anticipated Impacts	Recommended Mitigation Measures
EIA Ref: Sec 9.7	To extend the blasting time from 18:00 to 19:00	Location: Central tunnel  Anticipated working period for blasting: February 2024	No additional impact is anticipated.  Details should refer to the Proactive Environmental Protection Proforma for Alternative Construction Method – To Extend the Blasting Time from 18:00 to 19:00.	Details should refer to the Proactive Environmental Protection Proforma for Alternative Construction Method – To Extend the Blasting Time from 18:00 to 19:00.

*Notes:*

(1) *EIA Ref/EM&A Log Ref/Design Document Ref*

(2) *Details of equipment, vehicles, plants, processes, technologies for the option of construction method*

Reviewed by Environmental Team Leader: \_\_\_\_\_ (David HUNG)

Date: 12 April 2021

Approved by Independent Checker (Environment): \_\_\_\_\_ (Mandy TO)

Date: 12 April 2021



## **Proactive Environmental Protection Proforma for Alternative Construction Method – *To Extend the Blasting Time from 18:00 to 19:00***

### **Introduction**

Bouygues Travaux Publics (BTP) was commissioned by the Highway Department as the Main Contractor of the Contract HY/2018/08. Fugro Technical Services Ltd is appointed by BTP as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme during the construction phase of the Project.

The Environmental Impact Assessment (EIA) Report for Central Kowloon Route (CKR) (Register No.: AEIAR-171/2013) was approved on 11 July 2013. An Environmental Permit (EP) for the CKR was granted on 9 Aug 2013 (EP No.: EP-457/2013) and the latest Variation of EP (VEP) (EP No.: EP-457/2013/C) was subsequently issued by the EPD on 16 January 2017.

At times during the construction phase the Contractor may submit method statements for various aspects of construction. This state of affairs would only apply to those construction methods that the EIA has not imposed conditions while for construction methods that have been assessed in the EIA, the Contractor is bound to follow the requirements and recommendations in the EIA study. The Contractor's options for alternative construction methods may introduce adverse environmental impacts into the Project. It is the responsibility of the Contractor and ET, in accordance with established standards, guidelines and EIA study recommendations and requirements, to review and determine the adequacy of the environmental protection and pollution control measures in the Contractor's proposal in order to ensure no unacceptable impacts would result. To achieve this end, the ET shall provide a copy of the Proactive Environmental Proforma to the IEC for approval. The IEC should audit the review of the construction method and endorse the proposal on the basis of no adverse environmental impacts.

### **Original Scheme for Construction of Central Tunnels**

Excavations of Central Tunnel will be started from the Ho Man Tin (HMT) shaft by Drill and Blast method. Initially, there are four tube tunnels (Eastbound and Westbound), two will be excavated toward West to Yau Ma Tei (YMT) and the same will be excavated toward East to Ma Tau Kok (MTK).

The drill and blast excavation will be performed by repeating the same sequence of works for consecutive profiles until the breakthrough of the Westbound and Eastbound tunnels. One drill and blast cycle mainly involves the following steps:

1. Drilling
2. Charging
3. Blasting
4. Mucking Out
5. Scaling and mucking out the scaled spoils
6. Profile survey
7. Shotcreting & grouting (if necessary)
8. Mapping & Probing



### **Propose to extend the blasting time from 18:00 to 19:00**

In a working day (Monday to Saturday), explosives are delivered overland by Mines Division to the designated unloading point at Ho Man Tin worksite within the normal delivery hours from 11:00 to 14:00 as specified in Mines Division Practices Note No. 1. Mines Division Delivery Section shall provide one delivery per blast day only. According to Section 9.5 of the EIA report, BTP shall carry out only one blast per blast face per day. No blast will be carried out on Sunday and public holiday.

The unloading, receipt, convey and installing the explosives to the blast face shall be conducted according to the procedures described in the approved method statement for blasting excavation. The procedures are strict and necessary to ensure the explosives are handled and installed properly before the detonation.

Chapter 9 of the CKR EIA reviewed the hazard assessment for the use of shock tube detonator. According to Section 9.7 of the EIA, the anticipated blasting time is from 14:00 to 18:00. BTP follows this blast window on each working day and understood that early delivery of explosive by Mines Division is not feasible.

To enable the programme improvement, electronic detonators (accepted by EPD in December 2020) are adopted at blasting is restricted by low maximum instantaneous charge weights. Since the blast face is large (180m<sup>2</sup>) and additional time is required to install the electronic detonators, it is proposed to extend the anticipating blasting time from 18:00 to 19:00 on working day (Monday to Saturday).

The Central Tunnel will be blasted according to other requirements described in the EIA report and within the assessment zone of the blasting permit governed by Mines Division.

### **Environmental Impact Associated with the Proposed Scheme and Recommended Mitigation Measures**

#### **1. Hazard Assessment**

According to Section 9.8 of the EIA report, the population data are split into the categories representing different times of Weekday day and Weekend day – for the hazard assessment in the EIA:

Weekday day (Monday – Friday 07:00 – 19:00)

Weekend day (Saturday – Sunday 07:00 – 19:00)

Provided that the proposed blasting time is within the above time period, same population data would be adopted for the hazard assessment, i.e. no additional risk in connection with hazard to life is anticipated.

#### **2. Airborne Construction Noise Impact**

PME arrangements for blasting before 19:00 are the same for non-restricted hours. With the noise enclosure covering the access shaft, no additional noise impact arising from the proposed blasting time is anticipated.

### **3. Groundborne Construction Noise Impact**

All blasting activities will be carried out according to the time table agreed among AMMJV, Mines Division and BTP before the blasting operation.

Since the duration of each blast is short and the proposed blasting time is still outside sensitive hours, no adverse groundborne construction noise impact is anticipated.

### **4. Waste Management**

There is no increase in explosive charge weights for the proposed blasting time, the achieved pull length will remain unchanged, i.e. no additional excavated material will be generated.

Provided that the excavated material is handled, transported and disposed of using the methods and good site practices recommended in the EIA report, no adverse environmental impact associated with the excavated material is anticipated.

### **5. Water Quality**

With the implementation of the mitigation measures recommended in the EIA report, no additional water quality impact is anticipated.

### **6. Air Quality Impact**

All construction dust, fumes and smoke arising from the blasting will be mitigated by the dust filters and nozzle spray system.

Provided that the ventilation with dust filters and nozzle spray system are provided to mitigate fumes and dust, no additional air quality impact arising from the proposed blasting time is anticipated. According to the EM&A programme, Environmental Team will conduct regular TSP monitoring at the identified NSR (M-A3). The monitored results will be reported in the monthly EM&A report.

## **Conclusion**

A review has been conducted to assess the potential environmental impacts associated with the extension of blasting time to 19:00 with adoption of the same construction methodology in the EIA, i.e. Drill and Blast method, for the construction of central tunnel. The review concluded that no additional environmental impacts is anticipated when comparing the proposed scheme with the original scheme in the EIA report.

[END]