

Kowloon-Canton Railway Corporation

KCRC East Rail Extensions Sheung Shui to Lok Ma Chau

Monthly EM&A Report –
September 2003

October 2003

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EXECUTIVE SUMMARY

INTRODUCTION

This Report (in HTML format) is the fifteenth Monthly EM&A Report for the Sheung Shui to Lok Ma Chau Spur Line and includes the Monthly EM&A Reports for construction contracts LDB201, LCC202 and LCC300. This Report and all monitoring data collected under the EM&A Programme are available on the KCRC East Rail Extensions Environmental Monitoring and Audit Website at www.env-ere.kcrc.com.

LDB201 Sheung Shui to Chau Tau Tunnels

The construction works for LDB201 commenced in late November. This report presents the EM&A findings in the period from 26 August to 25 September 2003. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: By-pass pipe construction for pumping station, installation of penstock in pumping station, P2 barrier construction and horading installation along San Wan Road, installation of pipe barrier along San Wan Road, installation of movable protective frame rail, platform trimming works (KCRC Sheung Shui Station);
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Site formation works, sheet piling work for cofferdam construction;
- TBM Works area: TBM drive fabrication and tunnel boring, conveyer and shaft roof installation, noise enclosure set up for instruments;
- East EAP (EAP 2): Diaphragm wall construction and testing;
- West EAP (EAP 5): Retaining wall construction, site installation and predrilling;
- Future Kwu Tung Station Enabling Works Area: Shaft excavation, strut installation, and backfilling around retaining wall; and
- West Approach Area: site clearance, site installation – perimeter drainage channel and wheel washer, diaphragm wall construction, driven sheet piling and backfilling of fish pond.

LDB201 has undertaken the routine monitoring works at these monitoring locations: AM1, AM2 and AM3 for air quality, NM1, NM1A, NM2, NM3, NM4, NM5, NM6, NM7, NM8, NM9, NM10, NM11 and NM12 for noise, and URS, SR1, URB, RB1, UCTC and CTC1 for water quality, in this reporting month.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring locations. No exceedance was recorded during the reporting month.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring locations. There was no exceedance recorded in the reporting month.

Water quality monitoring was conducted at the identified water quality monitoring locations. Some exceedances of dissolved oxygen (DO), pH value and suspended solids (SS) were recorded during the reporting month. Further to the inspections conducted by the Contractor's ET Leader, it is likely that the potential cause of the

exceedances was due to natural variation and was not related to LDB201 on site activities.

Two main kinds of waste were generated during the reporting month. These are C&D waste from West EAP and the excavated spoil from the pumping station at San Wan Road, diaphragm wall construction at East EAP, excavation works at Future Kwu Tung Station and West Extraction Shaft. These waste were disposed of to NENT Landfill, Kai Tak Public Filling Barging Point, the works area under the EPD's Project of Development and Management of NENT Landfill, DSD's project of the Construction of San Tin Eastern Main Drainage Channel and KCRC ERE LCC202 – West Section Alignment and Associated Works. All the disposal and transportation of waste were recorded under the trip ticket system.

No notification of summons was received during the reporting month. No prosecution from EPD was received in the reporting month. However one yellow notice was received in September 2003 regarding the surface runoff with high SS overflowed from the reception tank of two AquaSed System. In response to the notice, investigation has been conducted and appropriate mitigation measures would be implemented when heavy rain is occurred. A public complaint was also received regarding the dust emission from construction site at Lok ma Chau Road due to heavy traffic load of dump trucks. According to the observation record of LCC300, dust was generated from the dump trucks for transporting spoil from LDB201 to LCC202. Further to the site investigation, proper mitigation measures such as covering the dusty spoil with tarpaulin and washing wheels before leaving the site have been implemented. Nevertheless the condition will be monitored and suitable measures will be provided to minimise the impacts due to the construction activities.

Weekly site inspections were carried out by the CET and an IEC monthly site audit was conducted on 22 September 2003. The Contractor has proposed mitigation measures to rectify the environmental deficiencies or improve the environmental performance in response to the observations raised by the contractor's ET Leader during weekly site inspection and the IEC during the monthly site audit. The proposed measures include construction of concrete strip to avoid the wheel washing water flowing into the nearby water stream, removal of stagnant water by covering with soil, paving of uneven surface, clear indication of contaminated area, diverting all wastewater to sedimentation tank, and clearing of general refuse. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

LCC202 West Section Alignment and Associated Works

The commencement date for LCC202 started on 26 March 2003. This report presents the EM&A works during the period from 26 August to 25 September 2003. Within this reporting month, the major construction works include asphalt paving at the site office area, pre-bore drilling at P3, W24-W37, W40-49 as well as bored piling at W24-37, W38-39, W40-49 and W50-54. No works has been conducted during restricted hours.

LCC202 has undertaken the routine monitoring works at these monitoring locations: AM4 for air quality, NM15 for noise, and FP1, FP2, FP3, USRT and STR1 for water quality, in this reporting month.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring location. No exceedance was recorded at the monitoring locations in this reporting month.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring location. There was no exceedance recorded in the reporting month.

Water monitoring was undertaken at one upstream station USTR, one downstream monitoring location STR1 at San Tin River, and three selected fishponds, namely, FP1, FP2 and FP3. Exceedances on DO, pH value, and turbidity were recorded in this reporting month. The Contractor's ET Leader has undertaken site investigations on the cause of the exceedances. Further to the site investigations, the exceedances are likely due to natural variation and other constructor's works conducted in the vicinity of the sampling locations.

Excavated materials generated during the reporting month were reused at the Contractor's own outlet. Non-inert C&D waste and general refuse were collected by licensed collector for disposal. All the disposal and transportation of waste were recorded under the trip ticket system.

No notification of summons and complaint was received during the reporting month.

The ET Leader has carried out weekly site inspections and an IEC monthly site audit has been conducted on 25 September 2003. In response to the non-compliance and the observations raised by the ET Leader and the IEC, the Contractor has proposed mitigation measures include deploying water bowser for fugitive dust suppression, proper treatment of effluent before discharge, cleaning up of general refuse, providing drip trays to oil drums, cleaning up of oily water contained in the drip tray, cleaning up oily water on the surface of fish pond, and desludge desilting tank to maintain its capacity. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

LCC300 Lok Ma Chau Station and Associated Works

The EM&A programme for LCC300 commenced in mid-December. This report summarises the EM&A works conducted during the period from 26 August to 25 September. During the reporting month the principal work activities include earth-filling, maintenance of visual monitoring system, operation of the western channel outfall, site investigation, bored piling, tree pruning and felling, and trench excavation along EVA.

LCC300 has undertaken the routine monitoring works at these monitoring locations: AM4 for air quality, NM13, NM14 and NM15 for noise, and FP3, USRT and STR1 for water quality, in this reporting month. Alternative water quality monitoring locations, namely WQBBL1, WQBBL2 and WQBBL3, were identified to isolate the influence by the adjacent construction works of another contract. Preparation works for the water quality monitoring works are undertaken and actual monitoring is not started yet.

TSP monitoring was conducted once every six days and three sets of 1-hr TSP monitoring were conducted once every six days at the monitoring location. No exceedance was recorded at the monitoring locations in this reporting month.

Noise monitoring of $L_{eq(30min)}$ was conducted once every six days during non-restricted hours at the identified monitoring locations. There was no exceedance recorded in the reporting month except the one recorded on 26 August at NM15. The exceedances are likely due to the traffic movement and piling works conducted by other contractor.

Water quality monitoring was conducted at one upstream station USTR, one downstream monitoring location STR1 at San Tin River, and the selected fishponds, namely FP3. There were a number of DO, turbidity and pH value exceedances recorded during the reporting month. However further to the site inspection of the Contractor's ET Leader, there was no LCC300 construction activity undertaken in proximity to the monitoring locations. It is unlikely that the exceedances are related to LCC300 construction works. Natural fluctuation and the impact from adjacent contractor's works are possible causes of the exceedances.

Small amount of general refuse and C&D materials were generated during the reporting month. They were transferred to landfill by licensed collector. Garbage and general refuse were collected in a large skip on site and was transferred to landfill. Recycling of used paper is undertaken.

No notification of summons was received during the reporting month. However one complaint was received from EPD regarding the construction dust emission reported by local residents. Follow-up investigation has been undertaken and the possible cause is the dust generated from dump truck without proper covering. Preventive action has been undertaken immediately to notify all the subcontractors to secure the covering of dust material before leaving the site.

ET Leader and the Engineer have conducted regular site inspections and the IEC has conducted a monthly site audit on 22 September during the reporting month. In response to the observations raised by the Contractor's ET Leader the non-compliance and observations raised by the IEC, these resulted in the improvements including resume the proper function of desilting ponds, enhance the weir effectiveness by gravels, review the amount of wastewater from bore-piling works and the capacity of desilting ponds, more frequent removal of silt, increase capacity of sedimentation tank, proper dosing of flocculants, maintenance of PME and review and maintain the capacity of package plant. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

1 Introduction

Hyder has been commissioned by KCRC as the IEC for the East Rail Extensions, which include the Ma On Shan to Tai Wai Rail, the Hung Hom to Tsim Sha Tsui Extension and the Lok Ma Chau Spur Line. A requirement of the Contract is for the IEC to prepare a combined EM&A Report on a monthly basis for each of the above rail lines. The combined report combines the Monthly EM&A Reports for each of the construction contracts within each rail line. This Report (in HTML format) is the fifteenth IEC Monthly EM&A Report for the Sheung Shui to Lok Ma Chau Spur Line and includes the Monthly EM&A Reports for construction contracts LDB201, LCC202 and LCC300 and a summary of the reports. It also includes a brief summary of the IEC Site Audits and information supplied by KCRC on Public Consultation activities.

2 IEC monthly site audits

IEC monthly site audits were conducted on 22 September for LDB201 and LCC300, and 25 September for LCC202. Non-compliances and observations issued by the IEC are based on the requirements of KCRC's Environmental Management System.

2.1 Contract LDB201

The IEC site audit for LDB201 was undertaken on 20 August. The main construction activities undertaken in the reporting month include:

- East Approach Area – San Wan Road & East Rail Area: By-pass pipe construction for pumping station, installation of penstock in pumping station, P2 barrier construction and horading installation along San Wan Road, installation of pipe barrier along San Wan Road, installation of movable protective frame rail, platform trimming works (KCRC Sheung Shui Station);
- Cut and cover cofferdam (near Sheung Shui Launching Shaft Area): Site formation works, sheet piling work for cofferdam construction;
- TBM Works area: TBM drive fabrication and tunnel boring, conveyer and shaft roof installation, noise enclosure set up for instruments;
- East EAP (EAP 2): Diaphragm wall construction and testing;
- West EAP (EAP 5): Retaining wall construction, site installation and predrilling;
- Future Kwu Tung Station Enabling Works Area: Shaft excavation, strut installation, and backfilling around retaining wall; and

- West Approach Area: site clearance, site installation – perimeter drainage channel and wheel washer, diaphragm wall construction, driven sheet piling and backfilling of fish pond.

Five observations have been raised during the site audit:

Observations:

West Tunnel Approach – P3

1. Wheel washing water was flowing into the nearby water stream. Bund along the verge should be provided.
2. Stagnant water should be removed.

Site B

3. Contaminated area was not indicated clearly.

West EAP

4. Wastewater from desludge tank should be diverted to the primary sedimentation chamber. No untreated wastewater should be allowed flowing into the open channel.

San Wan Road

5. General refuse (e.g. plastic bottles) was accumulated along the blocked open channel.

As a result of the observation raised by the IEC, the contractor proposed mitigation measures including construction of concrete strip to avoid the wheel washing water flowing into the nearby water stream, removal of stagnant water by covering with soil, paving of uneven surface, clear indication of contaminated area, diverting all wastewater to sedimentation tank, and clearing of general refuse. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

2.2 Contract LCC202

The IEC site audit for LCC202 was undertaken on 25 September. The major construction works include asphalt paving at the site office area, pre-bore drilling at P3, W24-W37, W40-49 as well as bored piling at W24-37, W38-39, W40-49 and W50-54. One non-compliance and six observations have been raised during the site audit:

Non-compliance

Area P3

1. Box culvert was full of mud. It is likely that untreated silty discharge has been occurred. No untreated discharge should be allowed.

Observation

Area P3

2. Dusty ground was observed.
3. Rubbish was left on the SI site after works have been done.
4. Diesel drum and generator without drip trays were observed on these sites.
5. Oily surface of fish pond was observed. The oily water should be cleaned up. Oil leakage from PME or drip tray should be contained and removed properly.
6. Oily water inside a drip tray was observed.
7. Water inside the sedimentation tank was silty. There was a blue hose connecting the sedimentation tank and Ha Wan Channel. Although it was not discharging, reuse of the wastewater or sufficient treatment before discharge are recommended.

As a result of the observation raised by the IEC, the contractor proposed mitigation measures including cleaning up of general refuse, provision of treatment system for concrete washing water, provision of drip tray and removal of oily water from drip tray. The implementation and effectiveness of the corrective actions will be assessed during the next site audit.

2.3 Contract LCC300

The IEC site audit was conducted on 22 September. The major construction works include earth-filling, maintenance of visual monitoring system, operation of the western channel outfall, site investigation, bored piling, tree pruning and felling, and trench excavation along EVA. Three non-compliances which the first two of them were carried over from last month and one observation have been raised during the site audit:

Non-compliances

EVA Site Area

1. Silty discharge was still observed discharging into a water stream from the sedimentation tank.

Main Site Area

2. The water discharge from the desilting pond (Pond 9) was still very silty. The desilting process and the capacity should be reviewed to ensure the water quality is in compliance with the Effluent Discharge License requirements.

Main Site Area

3. Dark smoke emission from PME near the sand pile was observed. Notice/letters have been issued by CRE on this observation for several times, however no significant improvement was observed.

Observations

Main Site Area

4. Wastewater overflowing outside the package plant should not be allowed. Capacity of package plant should be reviewed and the frequency of removal of wastewater should be increased.

In response to the NCs and observations raised by the IEC, the Contractor has proposed some improvement measures including resume the proper function of desilting ponds, enhance the weir effectiveness by gravels, review the amount of wastewater from bore-piling works and the capacity of desilting ponds, more frequent removal of silt, increase capacity of sedimentation tank, proper dosing of flocculants, maintenance of PME and review and maintain the capacity of package plant. The implementation and effectiveness of the measures will be assessed and verified during the next site audit.

3 Public Consultation

No public consultation was conducted in the reporting month.
