

ADVISORY COUNCIL ON THE ENVIRONMENT

(ACE 19A/94)
~~(ACE 19/94)~~
(for information)

Mass Transit Railway Corporation
Lantau and Airport Railway
Environmental Impact Study
(18.4.94)

Background

The Mass Transit Railway Corporation (MTRC) presented the Final Report of the Environmental Impact Study (EIS) to the Council on 31 January 1994. The report was endorsed by the Council, subject to the condition that MTRC would report back on the outcome of the consultation with the Kwai Tsing District Board (K&TDB) regarding the Lai King area.

2. Upon the advice of the District Officer (Kwai Tsing), MTRC presented the findings of the EIS to the Works Committee of the Kwai Tsing District Board on 22 March 1994. Representatives of EPD and Highways Department also attended the meeting. This report summarises the environmental issues raised by the members of the District Board regarding the Lai King area.

Environmental Issues raised by KTDB

3. During the discussion at the meeting on 22 March 1994, members were not satisfied with the mitigation measures recommended in the EIS. The main environmental issues raised by the K&TDB members regarding the works around the Lai King area are as follows:

- (a) blasting and construction works may cause noise nuisance to nearby residents. Night time works should not be allowed;
- (b) 1.4m high noise barriers on the viaduct may not be sufficient to abate the railway noise. Full enclosures should be used;
- (c) affected tenants should be entitled to transfers, installations of double glazing and air conditioners, and reduction in rent and rates. The Housing Authority and the Hong Kong Housing Society were requested to provide rehousing arrangements for residents affected by the construction of Airport Railway and Route 3;
- (d) the Technical Memorandum relevant to railway noise was adopted several years ago and might have become outdated. Stricter control and design for new standards are needed for the 21st century; and

- (e) The arrangements by MTRC and the Government for handling future residents' complaints during the construction stage might not be sufficient.

Responses from MTRC on the Issues Raised by K&TDB

4. In response to the issues raised by the K&TDB, MTRC has prepared a report on the discussion and their views on these issues. This report is submitted separately by MTRC and is attached. MTRC will make a brief presentation on their responses to the issues raised by the members of K&TDB.

Views of Environmental Protection Department on the Environmental Issues Raised by KTDB

5. With regard to the issues raised, the Environmental Protection Department is of the following views, using the item notation in para. 3:

- (a) there is at present no statutory control on weekday daytime construction noise, other than that on percussive piling. Nevertheless, a voluntary limit of 75 dB(A) has been adopted for this project. The findings of the EIS shows that this level can be achieved through the use of acoustic enclosures, quiet equipment such as the non-percussive hydraulic concrete nibbler used for the demolition of the Lai King Community Hall. (This type of concrete crusher has been widely in use in Japan for demolition work and MTRC is now through this project spearheading the introduction of this much quieter equipment in Hong Kong). Under the Noise Control Ordinance, any night-time construction works involving powered mechanical equipment requires a Construction Noise Permit from the EPD. This permit will only be issued if EPD is satisfied that the noise limits stipulated in the Ordinance will be met or there is a special need for working at a particular time. Stringent conditions will be imposed on these permits
- (b) the assessment of the LAR operation noise in the EIS is based on complex noise modelling studies which took into consideration the rolling stock noise, train length, speed, frequency, separation distance, topographical conditions, rail alignment and angle of view. The results show that the noise limits laid down in the Noise Control Ordinance can be achieved with the implementation of the recommended package of noise mitigation measures. MTRC has also confirmed their commitment to achieve this limit and to implement the measures;

- (c) EPD considers the best way to deal with the noise problem is to tackle it at source. The EIS shows that with all the measures in place both the statutory limits and the non-statutory daytime noise limit of 75 dB(A) can be achieved. No indirect measures are therefore proposed in this case. Any special request for relocation is a matter for the Housing Authority or Hong Kong Housing Society to consider;
- (d) although the NCO was first implemented in November 1989, the original set of noise limits was already superseded by a set of more stringent limits in November 1992 to help achieve a better environment. When establishing these limits, similar regulations overseas have also been considered;
- (e) regarding the complaints against night-time construction noise, the public can lodge the complaints with the local police stations for immediate enforcement action. For the Kwai Tsing area including Lai King, an Environmental Project Office has been established under EPD to actively monitor the environmental problems brought about by the Airport Railway and Route 3 construction and to take proactive actions. MTRC has also agreed to set up their own independent monitoring programme and their hotline to deal with complaints.

Advice Sought

- 6. Members' views are sought on the issues raised by the concerned District Board and the report prepared by MTRC.

Environmental Protection Department
March 1994

Submitted by: Mass Transit Railway Corporation

Airport Railway Environmental Impact Study

1.0 Introduction

- 1.1 The Mass Transit Railway Corporation presented to ACE a detailed study of the environmental impacts of the construction, operation and maintenance of the Airport Railway on 31 January 1994.
- 1.2 The Chairman of ACE requested that MTRC report back to the Council after consultation with the Kwai Tsing District Board regarding the Lai King area.
- 1.3 With the exception of the Lai King area, ACE endorsed the Airport Railway Environmental Impact Study (EIS).
- 1.4 A presentation of the EIS to the Works Committee of Kwai Tsing District Board was made on 22 March 1994. The presentation was made by MTRC and their environmental consultants ERM.
- 1.5 This paper seeks to represent in Section 3 the discussion at the meeting and responds to that discussion in Section 4.

2.0 District Board Presentation

- 2.1 The presentation followed, in essence, that given to ACE on 31 January 1994. Key items are summarized below, and a copy of the paper discussed at the Kwai Tsing meeting is attached.
- 2.2 An information paper on the EIS was presented earlier to the Works Committee of the Kwai Tsing District Board on 28 September 1993 and further discussions with the Works Committee of the District Board were undertaken on 9 December 1993.
- 2.3 An overview of the Airport Railway and the mitigation strategies for the construction and operation of the railway was presented by MTRC.
- 2.4 A detailed account of the construction impacts and their mitigation at Lai King was given by ERM.
 - 2.4.1 It was noted that MTRC had voluntarily proposed a daytime construction noise level of 75 dB(A) between the hours of 07:00 - 19:00. At all other times a Construction Noise Permit issued under the Noise Control Ordinance is required for construction activities using powered mechanical equipment.

- 2.4.2 MTRC's Contractor would employ a concrete nibbler to demolish the Community Hall in addition to other "quiet" plant.
- 2.4.3 A noise cover would be built just south of the present Lai King Station to reduce the noise of bulk rock excavation at source to 75 dB(A) at Block 5 of Lai King Estate and the other nearby residences. Noise levels would drop considerably after excavation was completed.
- 2.4.4 An independent consultant will be responsible for monitoring and auditing the noise and dust impacts from the construction works and providing regular reports to EPD.
- 2.4.5 If the Contractor's performance was unacceptable, the Corporation had the powers within the contract to ensure the Contractor performed acceptably.
- 2.5 Noise parapets, 1.4 m in height, along the viaducts between Lai King Station and Kwai Chung Park would be provided to mitigate operational noise from the Airport Railway within the Noise Control Ordinance at commencement of operations when trains are less frequent.
- 2.5.1 Compliance with the Noise Control Ordinance with future, increasing train frequency, would be ensured by the enhancement of these parapets by an absorptive element.
- 2.6 It was noted that noise from the Airport Railway through Kwai Chung Park will be mitigated to 63 dB(A), well below the 70 dB(A) level specified by EPD.
- 2.7 A detailed presentation of the operational impacts and their mitigation at Tsing Yi was also given by ERM. There was particular focus on the enhancement of the noise barriers in the Tsing Yi area required for future changes in train service.
- 2.8 The presentation concluded with the MTRC detailing some minor advanced works in the Lai King area planned to start in May 1994.
- 3.0 Discussion at the Presentation**
- 3.1 A general discussion was held on what actions the Housing Department and Housing Society would take to relocate residents due to impacts the residents considered to be excessive.
- 3.1.1 The representative from the Housing Department noted that with the mitigation measures proposed by the MTRC in the EIS and agreed by EPD, there would be no exceedance of existing legislative or planning standards. It would therefore be difficult to justify the need to relocate residents or install double glazing.
- 3.2 Concern was raised by members regarding response to residents' complaints.

- 3.2.1 The District Officer for Kwai Tsing noted that he would, along with NAPCO, ensure residents' complaints were responded to.
- 3.2.2 The MTRC responded that a hotline has been set up and there would be a public relations officer on duty at Lai King Station to answer any queries.
- The Corporation also agreed to update the District Board on the construction works, including monitoring results, at regular intervals.
- 3.2.3 EPD advised that the Environmental Protection Office (ENPO) (Kwai Tsing) would be responsible for investigating and responding to complaints arising from ACP works in the Kwai Tsing area.
- 3.3 The issue of the Community Hall at Lai King was raised by the District Board.
- 3.3.1 The District Officer had arranged for an interim Community Hall facilities prior to the completion of the new hall. Planning for the construction of the new hall has started. Construction of the hall would start after the planning work is completed and agreement is reached for the construction of the Airport Railway.
- 3.3.2 It was noted that the MTRC was not merely funding a replacement Community Hall but would fund a Community Hall built to present-day standards. That is, an improved facility.
- 3.4 Concerning the viaduct between Tsing Yi Station and Tsing Yi Tunnel portal, a member of the District Board noted that a request had been made to the MTRC in 1992 and again in 1993 to cover the railway to mitigate noise.
- 3.4.1 It was reported by MTRC that the 1.4 m absorbent barrier on the viaduct to the north of the Tsing Yi Station and the 3.8 m reflective barrier to the south would adequately mitigate operational noise levels to within the Noise Control Ordinance. These measures were recommended in the EIS and accepted by EPD.
- 3.5 It was requested that the Airport Railway be designed to more stringent operational noise standards than those within the Noise Control Ordinance which was enacted in 1989 and might be outdated.
- 3.5.1 EPD responded that the criteria for assessing operational noise is based on a more stringent set of noise limits implemented by the Noise Control Authority in November 1992 with a view to achieving a better environment. The EIS found that with all the recommended mitigation measures in place, noise due to operation of the Airport Railway would be within this set of criteria.
- 3.6 It was requested that MTRC construction works not be allowed in evening and night time hours.

- 3.6.1 It is currently projected that construction activities will be undertaken within the day time hours (0700 - 1900). In case works outside these hours are required, the MTRC noted that all contractors must comply with the Noise Control Ordinance and apply for Construction Noise Permits for work during the evening, night time and Public Holidays.
- 3.6.2 EPD responded by outlining the requirements for Construction Noise Permits and the associated restrictions.
- 3.7 The impact on recreational facilities in Kwai Chung Park of the Airport Railway in open cutting was discussed.
- 3.7.1 The MTRC had agreed with EPD that the maximum operational noise level in Kwai Chung Park should be restricted to 70 dB(A) notwithstanding that parks are not considered a noise sensitive use according to the Hong Kong Planning Standards Guidelines. The proposed parapets on the Airport Railway within the park will reduce the operational noise at the proposed pavilion on the edge of the open cutting to 63 dB(A).
- 3.7.2 Soft landscaping in the vicinity of the Airport Railway will minimize any visual intrusion.
- 3.8 Minutes of the Sub-committee meeting are not yet available. Notwithstanding the above detailed discussion, it is understood that the minutes will likely reflect the following points.
- The Works Committee requested the Housing Authority and Housing Society to rehouse the residents affected by the Airport Railway and Route 3 works.
 - The Works Committee was dissatisfied with the ACE endorsement of the EIS on 31 January 1994, citing a lack of prior consultation with the District Board. It would seek to have direct dialogue with the ACE.
 - The Works Committee objected strongly to the mitigation methods and rejected the EIS findings.

4.0 Response by MTRC

4.1 Re-housing

The Housing Department has considered the question of rehousing and has concluded that it would neither be practical nor cost-effective to do so. They noted that with the implementation of the proposed mitigation measures, there would be no excessive environmental impacts in Lai King and Tsing Yi residential areas. They will however be prepared to consider rehousing in exceptional cases based on their own merits.

4.2 Endorsement of the EIS

ACE has endorsed the EIS with the exception of the Lai King Area. MTRC is to report back the comments of Kwai Tsing District Board to ACE after the most recent consultation on the EIS. The MTRC is herewith reporting back to ACE.

4.3 Mitigation Measures in the Lai King Area

4.3.1 The EIS has identified that with the noise enclosure in place, noise from bulk rock excavation could be kept within 75 dB(A) at the facades of nearby Noise Sensitive Receivers.

4.3.2 The size of the noise enclosure has been chosen to yield the most effective noise attenuation at the Noise Sensitive Receivers. A larger enclosure would not give any additional mitigation but would have severe programme and cost implications.

4.3.3 The mitigation measures in the Lai King area for the operating railway entail 1.4 m parapets to the north and south of the Airport Railway viaducts between Lai King Station and Kwai Chung Park.

The railway viaducts are currently under construction as works entrusted to the Highways Contractor for Route 3. It was suggested that higher standards than presently required be adopted. It is estimated that the stoppage of the current activities, redesign and construction of new viaducts would result in consequential additional costs of several hundreds of millions of dollars and would cause unacceptable delays to Route 3.

4.3.4 Additional analysis beyond that required for the EIS has concluded that an enclosure of the Airport Railway within Kwai Chung Park Landfill cannot be accepted for reasons of safety. An enclosure could provide a conduit for methane collection and raise the risk of explosion. The revised design of the railway on viaduct in open cutting had been previously accepted by Regional Council.

4.3.5 The mitigation measures for the operational phase in the Tsing Yi area call for 1.4 m high absorptive barriers on the northern side of the viaduct between Tsing Yi Station and the tunnel portal and 3.8 m reflective barriers on the southern side.

5.0 **Conclusion**

5.1 As requested by ACE, the MTRC has consulted the Kwai Tsing District Board regarding the mitigation measures in the Lai King area.

5.2 It is agreed by EPD that based on the available information and consultant's findings in the EIS the mitigation measures proposed by the MTRC for Lai King are sufficient to reduce the construction noise to the voluntary day time level of 75 dB(A) at the nearby residences.

5.3 The MTRC is committed to achieving the statutory as well as the voluntary noise limits and would endeavor to accomplish this objective through controlling the noise at source. As mentioned above an independent consultant will be retained by the Corporation to monitor the environmental performance of the works contractors, who are under contractual requirements to comply with the agreed environmental standards.

5.4 It is recognized that temporary inconvenience will be experienced by adjacent communities in the course of the construction of such massive public works. All reasonable measures have been and will be adopted to reduce inconvenience. With the implementation of the proposed mitigation measures, the impacts resulting from the construction and operation of the Airport Railway are projected to be within the limits laid down in the Hong Kong Planning Standards and Guidelines and relevant Ordinances.

At completion of the works, the new Lai King Station will be provided which the Corporation believes will be of great benefit to the local community.

5.5 The MTRC will cooperate and work closely with the District Office, EPD and NAPCO will continue to work closely to identify and resolve environmental problems swiftly and efficiently as the Airport Railway works proceed.

6.0 Recommendations

6.1 It is recommended that ACE endorse the full Airport Railway EIS.