立法會 Legislative Council

LC Paper No. CB(1)1265/05-06 (These minutes have been seen by the Administration)

Ref: CB1/PS/1/04/1

Panel on Transport

Subcommittee on Matters Relating to Railways

Minutes of meeting on Friday, 17 February 2006, at 10:45 am in Conference Room A of the Legislative Council Building

Members present: Hon Miriam LAU Kin-yee, GBS, JP (Chairman)

Ir Dr Hon Raymond HO Chung-tai, S.B.St.J., JP Hon Mrs Selina CHOW LIANG Shuk-yee, GBS, JP

Hon LAU Kong-wah, JP Hon Andrew CHENG Kar-foo Hon TAM Yiu-chung, GBS, JP Hon Tommy CHEUNG Yu-yan, JP

Hon Albert CHAN Wai-yip Hon WONG Kwok-hing, MH

Hon LEE Wing-tat

Hon Jeffrey LAM Kin-fung, SBS, JP

Member attending: Hon LI Fung-ying, BBS, JP

Member absent: Hon Abraham SHEK Lai-him, JP

Public Officers attending

Agenda item IV

Miss Cathy CHU

Deputy Secretary for the Environment, Transport and

Works (Transport)2

Mr William SHIU

Principal Assistant Secretary for the Environment,

Transport and Works

Mr K H LO

Chief Inspecting Officer (Railways)
Hong Kong Railway Inspectorate Section
Environment, Transport and Works Bureau

Mr Albert YUEN Assistant Commissioner for Transport/ Bus and Railway

Agenda item V

Mr Thomas CHOW Deputy Secretary for the Environment, Transport and Works (Transport)1

Mr Henry CHAN Principal Assistant Secretary for the Environment, Transport and Works

Mr M L WAN Principal Government Engineer/Railway Development Highways Department

Attendance by invitation

Agenda item IV

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Kowloon-Canton Railway Corporation

Mr Samuel LAI Acting Chief Executive Officer

Mr Y T LI Senior Director, Transport

Mr K K LEE Senior Director, Capital Projects

Mrs Grace LAM General Manager, Corporate Affairs

Lloyd's Register Rail Asia Pacific

Mr Michael HAMLYN President

Ms Karen PRIESTLEY Senior Consultant – Human Factors

Agenda item V

Kowloon-Canton Railway Corporation

Mr K K LEE

Senior Director, Capital Projects

Mr Joseph CHOI

General Manager – Construction (ERE & KSL)

Mrs Grace LAM

General Manager, Corporate Affairs

Clerk in attendance : Mr Andy LAU

Chief Council Secretary (1)2

Staff in attendance : Mrs Mary TANG

Senior Council Secretary (1)2

Miss Winnie CHENG Legislative Assistant (1)5

Action

I Confirmation of minutes of meeting and matters arising

(LC Paper No. CB(1)783/05-06

- Minutes of meeting held on

12 December 2005)

The minutes of the meeting held on 12 December 2005 were confirmed.

II Information papers issued since last meeting

(LC Paper No. CB(1)858/05-06

- Submission from a member of the public regarding the East Rail underframe equipment mounting problem)

2. <u>Members</u> noted the information paper issued since last meeting.

III Items for discussion at the next meeting scheduled for 21 April 2006

(LC Paper No. CB(1)792/05-06(01) - List of outstanding items for discussion

LC Paper No. CB(1)792/05-06(02) - List of follow-up actions)

- 3. <u>Members</u> agreed that the Northern Link and Hong Kong Section of Guangzhou-Shenzhen-Hong Kong Express Rail Link (ERL) would be discussed at the next meeting scheduled for 21 April 2006. <u>Mr LAU Kong-wah</u> said that the Administration should be requested to explain in greater detail the impact of ERL on the West Rail.
- 4. <u>Mr Albert CHAN</u> requested that the Subcommittee should review the future and continued existence of Light Rail in June 2006.

IV Investigation report on KCR East Rail train incident on 21 December 2005 and the East Rail underframe equipment mounting problem

(LC Paper No. CB(1)792/05-06(03) - Information paper provided by the Administration LC Paper No. CB(1)918/05-06(01) - Information paper provided by the **KCRC** LC Paper No. CB(1)918/05-06(02) - Statement on 11 January 2006 by the Independent Review Panel appointed by KCRC Information paper on "East Rail LC Paper No. CB(1)732/05-06(01) underframe equipment mounting problem" provided by the Administration LC Paper No. CB(1)732/05-06(02) - Information paper on "KCR East Rail Train Incident on 21 December" provided by KCRC)

5. Mr Samuel LAI, Acting Chief Executive Officer of KCRC (Atg CEO/KCRC) briefed members on the progress and results of the tests performed on the underframe components of East Rail (ER) trains, the improvement measures taken, the progress of investigation, and the updated status of ER services provided by KCRC by highlighting the salient points of KCRC's information paper. Mr K K LEE, Senior Director, Capital Projects, KCRC (SDCP/KCRC) gave a powerpoint presentation on the progress of investigation into the ER underframe equipment mounting problem.

(*Post meeting note-* A set of PowerPoint presentation materials was provided by KCRC and circulated under LC Paper No,CB(1)933/05-06(01).)

6. The <u>Deputy Secretary for the Environment, Transport and Works (Transport)2</u> (DS/ETW(T)2) said that in order to obtain a thorough assessment on whether the immediate rectification measures implemented by KCRC were adequate to contain the

problem and ensure a safe railway operation, the Administration had engaged the Lloyd's Register Rail (LRR) to provide expert advice to the Government. consultants had reviewed KCRC's approach in handling the problem and considered it acceptable in engineering terms for dealing with a problem with an unknown cause. They considered that the use of nylon straps, the welding procedures for repair welds, and sample designs of metal support were effective. It was observed that KCRC's inspections had been conducted more frequently than recommended by the manufacturer (Alstom). As the prevention of future crack problem depended on the identification of root causes and the formulation of effective measures to resolve the problem, the Administration had requested KCRC to ensure the deployment of adequate staff resources to sustain the current inspection work and remain vigilant in the continued implementation of interim mitigation measures; ensure the on-going inspections covered the whole train to ensure overall rail safety; adopt a scientific, prudent and thorough approach to analyze the data; and launch a review of its current maintenance and asset management regime for ER. She said that Government would continue to rigorously monitor the rectification and investigation works carried out by KCRC with a view to ensuring the safe operation of ER.

Investigation

- 7. Mr Andrew CHENG expressed worry that the root causes of the underframe equipment mounting problem had yet to be identified despite that it had been two months since the incident had occurred. This had given rise to a cause for concern because ER was a key rail network which provided service to over one million passengers everyday. Further to the incident, KCRC had implemented interim mitigation measures and improvement measures, both of which should have been taken regardless of the incident. Meanwhile the Independent Review Panel (IRP) had been gathering daily statistical data and related evidence for analysis. information papers provided by the Administration and KCRC had not made reference to the impact of the operation of the new Tsim Sha Tsui (TST) Station on the performance of the already ageing rail system, which might require additional maintenance on account of its performance beyond design capacity. He said that there was a need to speed up the investigation process, to account the need for additional maintenance for ER and to review the resources and power to be vested on the Hong Kong Railway Inspectorate (HKRI).
- 8. <u>DS/ETW(T)2</u> said that both the Administration and KCRC were committed to ensuring the safety of ER service and identifying the root causes of the problem. The assessment by IRP and the regular checking performed by KCRC would provide the assurance on rail safety. The designated expert team set up by the Government comprising professionals from the Electrical and Mechanical Services Department and HKRI would be conducting frequent on-site inspections of ER trains and monitor KCRC's inspections. It would also launch a review of the current maintenance and asset management regime for ER. Meanwhile, the role and responsibility of HKRI would be reviewed.

- 9. On the impact of the operation of the new TST Station on the performance of ER, <u>SDCP/KCRC</u> said that such impact would be minimal given that the new TST Station had only extended the rail system by one kilometre. KCRC had been working together with the manufacturer in assessing the design capability and service lives of ER trains.
- 10. <u>Ir Dr Raymond HO</u> said that the investigation conducted by KCRC had been very comprehensive and would serve as a useful reference in rail operation. He also supported Government's efforts in setting up an expert team and engaging LRR to oversee the investigation. As ER trains had been designed for high frequency usage in Hong Kong of up to 24 train journeys an hour, he enquired whether the cracking problem was a result of a faulty design and whether the extensiveness of the cracking had ever been experienced before in other rail systems. He also requested LRR to comment on the quality of welding in respect of the three-point holding for the compressors given that the mounting brackets had been detached in some cases.
- 11. Mr Michael HAMLYN, President of LRR Asia Pacific (P/LRR) said that LRR was engaged to assess the adequacy of the interim rectification measures and to ensure safe rail operation. Therefore, it had not looked into the issue of welding but this would be part of the next stage of work. Regarding the cracking problem, he said that it was not uncommon to find cracks in underframe components although it was rather unusual that so many cracks were found. There were some railways where a lot of cracks were identified. Technical tests were performed on the three-point holding by KCRC but the outcome was still awaited. It was important that the root causes of the cracks be identified quickly so that the fundamental problems could be addressed. Ir Dr Raymond HO said that LRR should be invited to explain to members the quality of welding and the level of support for the underframe components after it had completed its current task of ascertaining the adequacy of interim measures.
- 12. Mr WONG Kwok-hing was also concerned about the large number of cracks identified in the auxiliary equipment case. He sought explanation on why similar problems had not occurred in West Rail (WR) and Mass Transit Railway trains. AtgCEO/KCRC said that the cracks identified in the auxiliary equipment case were quite minor and would be monitored under a stringent inspection programme. Reinforcement works had been performed and nylon straps were applied as appropriate. The Chief Inspecting Officer (Railways), HKRI (CIO(R)HKRI) said that there were differences in the train car design of ER, WR and Ma On Shan Rail (MOSR). Further to the incident, KCRC had been requested to conduct checks on WR and MOSR but no such cracking problems were identified. In conducting investigation into the root causes of the problem, studies would be made to see if there was any causal relationship between the bracket design and the occurrence of cracks.
- 13. <u>Mr Jeffrey LAM</u> enquired if there were any experience sharing with the manufacturers of WR and MOSR in dealing with the problems identified in ER and the remedial works taken as this might shed light on their future maintenance of the rail systems. AtgCEO/KCRC said that further to the incident, inspections had been

made on the rail systems of WR, MOSR and Light Rail and no such cracking problems were identified. KCRC had yet to notify the respective manufacturers about the problem but would do so after completion of investigation. The ER trains in which cracks were found were all from the same manufacturer and the reinforcement works applied would ensure safety. Mr Jeffrey LAM said that given Hong Kong's unique situation where acceleration and deceleration of trains were more frequent on account of the proximity of the stations, there might be a need for train manufacturers to review the design and maintenance of trains to be used in Hong Kong, taking into consideration the experience from the present incident.

- Mr Albert CHAN said that KCRC had cited a number of possible causes for the 14. cracking incident but had so far been unable to identify the root causes of the problem. It had also claimed to have met international standards in monitoring rail performance but yet it was unaware of the occurrence of cracks until after the incident. He queried whether this was a technical error or whether the management was at fault. He sought explanation on why the cracks could not be identified at an earlier stage. P/LRR emphasized that LRR's task was mainly to assess the adequacy of the interim safety measures and the next part of its work would be to assess the maintenance procedures and identify the reasons why the cracks could not be identified at an earlier DS/ETW(T)2 said that KCRC would need to provide HKRI with more information on the standard of monitoring and details of maintenance procedures. SDCP/KCRC said that independent consultants had discussed with KCRC's maintenance staff and had examined the rail system before arriving at the conclusion that the maintenance of ER was up to intentional standard similar to that adopted by Germany, Australia and North American countries.
- 15. <u>Ms LI Fung-ying</u> enquired about the measures to ensure that maintenance and investigation would proceed in a timely manner. <u>AtgCEO/KCRC</u> said that based on IRP recommendations, more statistical data and evidence were required to facilitate investigation into the root causes of the problem. Meanwhile, KCRC was able to complete examination of all underframe components as well as track and wheels and apply reinforcement as appropriate. It would continue with its inspection programme and immediate rectification works would be performed where necessary. As such, KCRC was confident about the safety of rail operation. However, more time was needed to undertake a comprehensive investigation into the root causes of the incident.
- 16. <u>Ms LI Fung-ying</u> enquired if efforts had been made to investigate whether the cracking problem originated from inherent flaws in the rail system. <u>DS/ETW(T)2</u> said that the scope of investigation into the root causes of the incident would be widened to cover details such as design, workmanship, capacity, and maintenance of the rail system. Care would be taken to ensure that all aspects of rail system were being looked into and that any possibility would not be ruled out. HKRI and LRR would jointly examine the relevant statistical data and evidence provided by KCRC.
- 17. Given that rail components were expected to last 30 years but problems had occurred well before the expiry of their service life, Mr Jeffrey LAM shared Ms LI Fung-ying's view that there would be a need for the manufacturers to conduct a

thorough examination on the different components and to assess their service lives. He also enquired if the manufacturers should be held responsible for the investigation costs since under the terms of the warranty, the components were expected to last 30 years. SDCP/KCRC said that the manufacturers were very concerned about the serviceability of the rail components as they would be held responsible if the rail system could not last up to its service life of 30 years. Following the incident, the manufacturers had made reference to the statistical evidence provided by KCRC and had examined the serviceability of different components of the rail system. Since the primary concern was to identify the root causes of the problem, details such as apportioning of investigation costs would be dealt with at a later stage. At present, the manufacturers were stationed at the maintenance division of KCRC and working closely with the maintenance staff in identifying the root causes of the problem.

- 18. Mr TAM Yiu-chung said that there had been concerns that KCRC was over-complacent about the serviceability of underframe components since their service lives were said to be 30 years. As a result, the main focus was on improvements within the train compartments and not much attention was given by KCRC to the maintenance of these components. Some of the maintenance works were being contracted out and such might have been the reason for the oversight. Mr Y T LI, Senior Director, Transport, KCRC (SDT/KCRC) said that the service lives of the train components were determined having regard to their operation under specified The train underframe components were inspected every three years although no such inspection was specified by the manufacturer. inspection work as well as the main maintenance programme had all along been carried out by KCRC and only a small proportion of maintenance works such as rewinding of motors were contracted out to qualified contractors. Yiu-chung further enquired if the inspection frequency was too few and far between as all the cracks appeared to have been identified at the same time. SDT/KCRC said that the adequacy of inspection was established through a safety management system and could be improved after the root causes of the problem were identified. non-destructive tests (NDT) were not applied to all the inspections and he affirmed that the components which were found to have cracks had not gone through NDT.
- 19. <u>Ir Dr Raymond HO</u> said thar since IRP, LRR and Government experts were all working together to identify the root causes of the problem, he enquired about how the investigation work was being deployed. <u>DS/ETW(T)2</u> said that while it remained the responsibility of KCRC to identify the root causes of the problem, the experts engaged by KCRC and the Administration could help to assist in verifying the outcome of the investigation.
- 20. Noting that KCRC would be performing reinforcement works in May 2006, Mr LAU Kong-wah was concerned whether it was appropriate to carry out these works when the actual causes of the problem had yet to be identified. DS/ETW(T)2 said that KCRC would need to explain the details of the reinforcement works and whether these would affect the supporting structure of the trains before approval was given to commence the works. AtgCEO/KCRC said that reinforcement works would be needed as they would improve the tolerance to stress but the root causes of the

problem had to be identified before a decision be made on the nature of the long term improvement works.

21. Mr LAU Kong-wah enquired whether the review on the asset management regime for ER was related to the incident and whether KCRC was aware of the occurrence of cracks before the mounting problem was discovered on 21 December 2005. DS/ETW(T)2 said that the review on the asset management regime for ER would provide useful reference on the functional capability of the trains and therefore it should be conducted in tandem with the investigation. SDCP/KCRC said that KCRC was not aware of the occurrence of cracks in the welding of underframe components before the mounting problem was discovered on 21 December 2005.

The switch back to ATO Mode

- 22. As the safety of rail service had been certified by IRP, <u>Ir Dr Raymond HO</u> enquired whether ER trains could be reverted back from the manual driving under the safety protection of the Automatic Train Protection (ATP) Mode which it had adopted since 15 January 2006 to the Automatic Train Operation (ATO) which the trains had been operated on for years. <u>P/LRR</u> said that LRR had studied KCRC's assessment on the safety implications of reverting back from ATO to ATP and had found it acceptable. It had also accepted that ATO which had been in operation for years was unlikely to be the root causes of the cracking problem. Nevertheless, KCRC would need to demonstrate the operation of ATO to LRR before reverting back to the system.
- 23. <u>DS/ETW(T)2</u> said that the Administration had been notified by KCRC the day before of its intention to revert back to the ATO Mode. In this connection, KCRC had been requested to submit a formal application for the reversion and to conduct a safety assessment as well as a study on the impact of the reversion on the investigation process. Upon receipt of the formal application and a risk assessment, the Administration would then decide on the propriety of reverting back to the ATO Mode.
- Mr LAU Kong-wah stressed on the need for cooperation between Government 24. and KCRC. While there was consensus on the need for interim rectification works to ensure rail safety, no agreement had been reached on the long term improvement works as the root causes of the incident had not been identified. Meanwhile, KCRC had indicated that it intended to revert to ATO Mode in March 2006 and that it would commence reinforcement works in May 2006. Given that the original intention to switch from ATO to ATP in January 2006 was to reduce the stress on underframe components during acceleration and deceleration, he queried why KCRC had proposed to revert to ATO at the present stage when the root causes had yet to be identified. Since KCRC had just notified the Administration the day before about its intention to revert to ATO and had already made a public announcement this morning about the reversion, he enquired if there were justifications for doing so. As the Administration had indicated that it would require the production of safety assurance before giving approval for KCRC to proceed with the reversion, he was concerned if there was any conflict between Government and KCRC on the said reversion.

- Mr LAU Kong-wah further said that at first KCRC had been blaming ATO for the problems and had since switched to ATP in January 2006. However, given the many problems associated with the operation of ATP, it intended to switch back to ATO before identifying the root causes of the problem. He questioned if there had been any misjudgment on the part of KCRC in switching between the two modes of operation. He also enquired if the safety of trains could be assured with the switch AtgCEO/KCRC said that when the cracking problem was first discovered, there was no clue as to what had caused the problem but the general thinking was that ATO might not be a contributing factor. In any case, there was a need to reduce the stress on the underframe components during acceleration and Such could be achieved through switching to the manual driving under deceleration. ATP or through an adjustment to the computer system of ATO. The switch to ATP was made in January 2006 to reduce the stress on underframe components. It was intended that the switch to the computer-adjusted ATO Mode would take place in March 2006 after conducting a careful study on the safety implications and obtaining approval from HKRI. CIO(R)HKRI said that the original switch from ATO to ATP was meant to be a precautionary measure. HKRI would need to analyze the safety implications of the reversion to ATO after a careful study was made on the assessment report to be submitted by KCRC.
- Ir Dr Raymond HO considered it necessary that the KCRC staff should try to 26. adjust themselves to both ATP and ATO systems since there would be a reversion back to ATO soon. SDT/KCRC said that KCRC intended to revert back to ATO since the automated operation would be more systematic and the journey time could be more precisely controlled. ATO would also reduce human errors and hence alleviate the pressure on train drivers. Adjustments would be made to reduce the rate of acceleration and deceleration, thereby reducing the stress on the underframe The journey time of the computer-adjusted ATO Mode would remain at 42½ minutes, similar to that of the manual driving under ATP Mode, and 1½ minutes more than the original ATO Mode. A decision would be made on the permanent mode of operation of ATO upon completion of investigation when the root causes of the problem were identified. Ir Dr HO reiterated the need for staff to adjust themselves to the mode of operation which would be adopted on a more permanent basis. SDCP/KCRC) said that KCRC staff members were able to adjust themselves to the ATO Mode during testing of the trains at night time.

Staffing situation

27. Mr WONG Kwok-hing said that KCRC staff had been exposed to a great deal of pressure over the cracking incident. Besides working overtime to ensure the safe operation of trains, they also had to provide extended service during the Chinese New Year holidays. As a member returned from the labour constituency, he was very concerned about staff welfare, in particular whether the staff had overworked and whether they were adequately compensated for their overtime work. Noting that about 60 additional staff had been employed by KCRC, he enquired about the nature of their jobs and whether they were employed on a temporary or permanent basis.

28. <u>AtgCEO/KCRC</u> said that KCRC management was equally concerned about staff welfare and whether staff had enough rest hours. There were three shifts a day for maintenance staff and efforts were made to ensure sufficient rest periods between shifts. As additional manpower was required in the reinforcement works, about 60 technical staff on a one or two-year contract would be employed in phases. <u>Mr WONG Kwok-hing</u> said that he hoped that the additional staff should be employed on a permanent basis, given the many problems associated with the operation of ER. He requested KCRC to provide information on the amount of overtime work performed by its staff and the compensation offered.

Notification

- 29. Mr Jeffrey LAM opined that there was a need to improve the notification mechanism given that there was a long time gap between the occurrence of the cracking incident and public notification. Sharing similar concern, Mr LAU Kong-wah enquired whether there would be any review on the notification mechanism given that there were different interpretations on what should be regarded as notifiable occurrences. DS/ETW(T)2 said that the notification mechanism of KCRC had been working well and the Administration had been promptly notified. The cracking incident which occurred on 21 December 2005 was considered by the Administration as a notifiable occurrence.
- 30. Mrs Selina CHOW said that as Government and KCRC appeared to have different interpretations on what should be regarded as notifiable occurrences, there would be a need for a more in-depth discussion on the notification requirements. AtgCEO/KCRC said that KCRC had all along abided by the statutory notification requirements and it would be prepared to review the need for additional notification requirements beyond what was required under the regulations.

V Kowloon Southern Link

(LC Paper No. CB(1)792/05-06(04)

- Information paper provided by the Administration

LC Paper No. CB(1)792/05-06(05)

- Presentation materials provided by Kowloon-Canton Railway Corporation)

- 31. Mr Joseph CHOI, General Manager-Construction (ERE & KSL),KCRC (GMC/KCRC) gave a power-point presentation on the progress of the Kowloon Southern Link (KSL) project, advising members on the alignment, construction method, traffic diversion and the design of hoardings.
- 32. Mr LEE Wing-tat said that given the need to erect hoardings along Salisbury Road during the construction of KSL, he enquired whether the affected business operators had expressed concerns about the impact of construction works on their business. SDCP/KCRC said that KCRC had been in close liaison with the affected

business operators and they had accepted the traffic arrangement on the understanding that disruption would be minimized with the use of the modern slurry-type tunnel boring machine to replace the conventional excavation method. He further advised that consultation with the affected business operations was conducted through the community liaison group.

- 33. On the extent of disruption to traffic, <u>SDCP/KCRC</u> said that the major disruption would be at the road junction near Sheraton Hotel where one traffic lane on each side would be closed to traffic. This would allow three eastbound and three westbound traffic lanes of Salisbury Road to remain open to traffic throughout the construction period which was estimated to be between 30 to 36 months.
- 34. As regard Mr LEE Wing-tat's concern about the impact on traffic flow arising from the closure of two traffic lanes, <u>SDCP/KCRC</u> said that this would be quite minimal given that traffic had been eased through the opening of the newly completed Salisbury Road underpass. Besides, the length of road which needed to be closed during the construction period would be quite short using the bored tunnelling method. The Deputy Secretary for the Environment, Transport and Works (Transport)1 (DS/ETW(T)1) said that Government had set up the Site Liaison Group comprising representatives from the Police and the Transport Department to monitor the impact of construction works involving traffic diversion and road closure. Measures would be taken to minimize inconvenience as far as possible.
- 35. Mr Jeffrey LAM said that since the traffic along Salisbury Road was already quite congested, he was concerned that the closure of two lanes would further aggravate the situation. He also suggested that a more aesthetic design for the hoardings, similar to the one at Canton Road with a green theme design, should be adopted for the construction site. GMC/KCRC said that the business operators had been consulted on the choice of painting on the hoardings and a design similar to those on the hoardings erected at Olympic City 2 which bore similarities to those at Canton Road had been offered for the Salisbury Road construction site, but the business operators had chosen the currently installed design instead.
- 36. The <u>Chairman</u> enquired if there would be any road construction works along Canton Road near the exit from the Western Cross Harbour Tunnel as she was afraid that the project might worsen the traffic situation there. <u>SDCP/KCRC</u> affirmed that there would not be any road opening works in the area as the construction works would proceed underground.
- 37. Mr LAU Kong-wah said that past experience had shown that the earlier assurance provided by project proponents before the commencement of works was mostly short-lived and problems would emerge as the project progressed. While the modern slurry-type tunnel boring machine might have minimized traffic disruption, he was concerned that the underground works would affect the buildings situated above and close by. He enquired whether any testing had been performed using the new boring method. SDCP/KCRC said that KCRC had engaged overseas tunnelling experts to provide risk assessment on the KSL project before deciding to use the

slurry-type tunnel boring method to replace the conventional excavation method. As there were bored piles for the buildings along the two sides of Canton Road, there should be sufficient support for the buildings in the area. Meanwhile, efforts would be made to guard against loss of underground soil during the boring process.

- 38. Mr LAU Kong-wah said that, judging from the experience in the construction of MOSR, underground boring works would invariably give rise to cracks in the walls of affected buildings. He enquired if KCRC would be prepared to take prompt remedial measures to restore the defects caused to the affected buildings. SDCP/KCRC said that KCRC had learnt from the experience of MOSR. To facilitate remedial works, it would perform condition survey and subsequent monitoring on the internal walls of buildings nearby before commencement and during construction of the works.
- 39. Mr LAU Kong-wah was also concerned about the impact of construction works on the activities at the Cultural Centre. SDCP/KCRC said that as any noisy construction works near the Culture Centre would have an unacceptable impact on the activities at the Centre, KCRC had negotiated with the management of Cultural Centre for over a year on the arrangements needed to minimize the disruption caused by construction works. It had been decided that KCRC should block-book at its own cost the concert halls of the Cultural Centre on certain dates during the construction period when loud construction noise would expect to be generated. On average, about three moving slots would be booked every week by KCRC during such period. Agreement had been reached that no construction works would proceed during the Arts Festival and other important festivals/events.
- 40. <u>SDCP/KCRC</u> further said that there would not be too much conflict between construction works and performance at the Cultural Centre in the evening as the construction works would have ceased by then. He explained in response to the Chairman that the construction works could not be conducted at night because it might affect the nearby hotels. With the use of the slurry-type tunnel boring machine, the road works near the Cultural Centre had already been shortened to two months.

VI Any other business

41. There being no other business, the meeting ended at 12:45 pm.

Council Business Division 1
<u>Legislative Council Secretariat</u>
7 April 2006