

**Confirmed Minutes of the 123<sup>rd</sup> Meeting of  
the Environmental Impact Assessment Subcommittee  
held on 27 May 2013 at 2:00 pm**

**Present:**

Dr Dorothy CHAN, BBS (Chairperson)  
Dr HUNG Wing-tat, MH (Deputy Chairman)  
Dr Gary ADES  
Prof CHAU Kwai-cheong, JP  
Prof FUNG Tung  
Prof TAM Fung-ye, Nora, BBS, JP  
Dr TSANG Po-keung, Eric  
Mr WONG Lok-tak, Luther  
Dr YIP Chee-hang, Eric  
Miss Evelyn LEUNG (Secretary)

**Absent with Apologies:**

Dr HAU Chi-hang, Billy  
Prof LI Xiang-dong  
Prof NG Cheuk-ye, John  
Miss NG Yuen-ting, Yolanda  
Prof YEP Kin-man, Ray

**In Attendance:**

Mr Andrew LAI, JP	Deputy Director of Environmental Protection (3), Environmental Protection Department (EPD)
Mr K F TANG	Assistant Director (Environmental Assessment), EPD
Mr Y K CHAN	Assistant Director (Conservation), Agriculture, Fisheries and Conservation Department (AFCD)
Ms Joanne CHIN	Executive Officer (CBD), EPD
Ms Daicie TONG	Executive Manager (CBD), EPD

**In Attendance for Agenda Item 3:**

Mr Dave HO	Principal Environmental Protection Officer (Air Science), EPD
Mr Ken WONG	Principal Environmental Protection Officer (Metro Assessment), EPD
Mr Louis CHAN	Principal Environmental Protection Officer (Regional Assessment), EPD
Mr Colin KEUNG	Senior Environmental Officer (Metro Assessment)2, EPD
Mr Richard WONG	Senior Environmental Protection Officer (Regional Assessment)3, EPD
Mr K H TAO	Deputy Project Manager/Major Works (1), Highways

	Department (HyD)
Ms Ada LAI	Senior Engineer 1/CKR, HyD
Mr Roy LAM	Senior Engineer 3/CKR, HyD
Mr Stephen LI	CE/NTE1, NTE DevO, Civil Engineering and Development Department (CEDD)
Mr Franki CHIU	Associate Director, Arup-Mott MacDonald Joint Venture (AMMJV)
Prof William LAM	Associate Head, Department of Civil and Environmental Engineering (CEE), PolyU
Mr Alan LOW	Principal Engineer, AMMJV
Mr SY CHAN	Associate Director, Ove Arup & Partners Hong Kong Ltd (OA&P)
Mr Jonathan PYKE	Associate, OA&P
Mr Gerald KAM	Consultant, OA&P
Mr Elvis LAU	Consultant, OA&P
Ms Eva LAM	Senior Landscape Architect, OA&P
Mr Freeman CHEUNG	Regional Managing Director, AECOM Asia Co. Ltd (AECOM)
Mr Stephen LAI	Technical Director, AECOM
Ms Anna CHUNG	Associate Director, AECOM
Ms Gigi LAM	Associate Director, AECOM
Mr Steven WONG	Associate, AECOM
Mr Henry CHEUNG	Associate, AECOM

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Action

**Item 1 : Confirmation of the draft minutes of the 122<sup>nd</sup> meeting held on 29 April 2013**

The draft minutes were confirmed without amendment.

**Item 2 : Matters arising from the 122<sup>nd</sup> meeting held on 29 April 2013**

2. The Chairperson informed Members that recommendations of the EIA Subcommittee on the list of outstanding issues required from CEDD on the Nam Sang Wai cycle tracks project had been circulated to the full Council for consideration. Subject to the Council's endorsement of the list, EPD would request CEDD to provide further information having regard to comments received from ACE. In response to a Member's enquiry on the procedures to follow, Mr K F Tang advised that CEDD could take as much time as they would require to prepare the information. The further information from CEDD could be presented before EIA Subcommittee or ACE for review before formal submission to EPD for consideration on approval of the EIA report.

**Item 3 : EIA Reports on**

- (a) **Central Kowloon Route (CKR) (ACE-EIA Paper 2/2013)**
- (b) **Cross Bay Link, Tseung Kwan O (CBL) (ACE-EIA Paper 3/2013)**
- (c) **Tseung Kwan O-Lam Tin Tunnel and Associated Works (TKO-LTT) (ACE-EIA Paper 4/2013)**

**Internal Discussion Session**

3. Mr Dave Ho gave a short briefing on an overview on the Government's plan to improve air quality in Hong Kong before the Subcommittee discussed the three EIA reports. He said that by implementing the various air quality improvement initiatives/measures to tackle air pollution from land and sea transport, power plants and non-road mobile machinery, as well as with the closer collaboration between Guangdong and Hong Kong to deal with regional pollution, the ambient air pollutant levels in Hong Kong would broadly meet the new Air Quality Objectives (AQOs) by 2020.

4. A Member noted that ocean-going vessels (OGVs) would be required to switch to low sulphur diesel with sulphur content of less than 0.5% (LSD) while at berth by 2015, while diesel for local vessels would be upgraded to less than 0.05% of sulphur content. He enquired about the reasons for setting a lower standard for OGVs. Mr Dave Ho explained that OGVs currently used bunker fuel with sulphur content at or above 3%. It would be a big improvement when Hong Kong implemented the mandatory fuel switch for OGVs to use LSD while at berth. Mr Andrew Lai supplemented that there were two different regimes for OGVs and local vessels in respect of fuel quality in Hong Kong. The International Maritime Organization (IMO) currently set the fuel standard for OGVs at sulphur content of not more than 3.5%. Hong Kong now proposed to set a much higher standard when compared to the international requirement. There were clear cost implications to the shipping companies in upgrading the diesel standard. In order to improve fuel quality of OGVs while not undermining competitiveness of Hong Kong, the Government proposed to set a diesel standard at 0.5% sulphur content for OGVs while at berth as the first move. We would explore room for further upgrading when IMO tightened up the fuel standard for OGVs across the board in future.

*[Mr Dave Ho took leave of the meeting at this juncture.]*

5. The Chairperson informed Members that the discussion of the three EIA reports would be divided into the following four sessions –

- (a) Internal Discussion Session
- (b) Presentation Session
- (c) Question-and-Answer Session
- (d) Internal Discussion Session

The Presentation Session and Question-and-Answer Session would be opened to

the public. The Internal Discussion Sessions and all other parts of the meeting would remain closed.

6. The Chairperson informed Members that the EIA reports on Central Kowloon Route (CKR), Cross Bay Link, Tseung Kwan O (CBL) and Tseung Kwan O – Lam Tin Tunnel and Associated Works (TKO-LTT) were designated projects under “Schedule 2” of the EIA Ordinance (EIAO). The public inspection periods of the reports were from 25 March 2013 to 23 April 2013 for the CKR project, and 3 April 2013 to 2 May 2013 for both the CBL and TKO-LTT projects. As an administrative arrangement, public comments and the gist of major issues/concerns received by EPD had been circulated to Members for reference before the meeting. Written response from the project proponents (i.e. HyD and CEDD) to questions raised by Members had also been circulated for Members’ information before the meeting.

7. The Chairperson asked Members if they had any interest to declare on the projects. A Member advised that the organisation/green group which he had close connection had submitted comments to EPD. The meeting agreed that he could stay on and continue participating in the discussion.

8. The Chairperson reminded Members to keep confidentiality of the discussion on the EIA reports as the full Council had yet to consider the Subcommittee’s recommendations before tendering its comments to EPD on the reports under the EIAO. Members were advised to refer any enquiries to the Secretariat for follow up in case they were approached on the discussion and/or decision of the Subcommittee.

9. For a more structured and focused discussion of the reports, the Chairperson suggested and Members agreed to raise questions on the key subject areas of the EIA reports in the order of –

- (a) Air quality and noise
- (b) Water quality and waste management
- (c) Visual and landscape impacts
- (d) Ecology

*[The project proponent teams joined the meeting at this juncture.]*

### **Presentation Session (Open Session)**

10. Mr Franki Chiu first presented an overview of the Route 6 project on the East-West express link between western Kowloon and TKO areas which covered the CKR, Trunk Road T2 and TKO-LTT projects as well as the CBL. He, together with Mr Stephen Li and Mr S Y Chan then proceeded to brief Members on the three EIA reports respectively and took questions from Members in one go.

### **Question-and-Answer Session (Open Session)**

## CENTRAL KOWLOON ROUTE (CKR)

### *Traffic speed assumptions*

11. A Member enquired on the traffic speed assumed before and after the commissioning of the CKR project, which were taken the crucial parameters in validating the assessment findings.

12. Mr K H Tao replied that they had applied the EMFAC-HK model for conducting the air quality impact assessment. They assessed the emissions for 2021 as the year of commissioning the CKR, 2036 which was 15 years after the commissioning as required by the Study Brief, and another intermediate year. 2021 was selected the assessment year with the highest emissions according to the agreed methodology. Mr Tao explained that despite the common expectation that emissions in 2036 would be higher than 2021 in view of traffic growth and the resultant lower traffic speed, the EMFAC-HK model had reflected improvement in air quality, mainly as a result of implementation of the new Air Quality initiatives, e.g. phasing out aged diesel vehicles to reduce vehicle emissions, all the way through 2036. Nevertheless, a Member was concerned that there was an uncertainty whether the CKR would actually reduce emissions. He opined that the main emission reduction should owe to improvement in engine technologies but not the CKR. Should the traffic volume was not controlled, the traffic speed on the CKR would eventually drop to the before scenario, and the benefit of improving speed due to the CKR would disappear.

13. Mr Franki Chiu elaborated on the assessment on the speed issue in the key East-West corridors arising from the relieving effect of the CKR in 2021. They had estimated changes in the average traffic speed along certain sections of the corridors including Lung Cheung Road, Boundary Street and Prince Edward Road West etc. for 2021 by comparing the situations with and without the CKR. The assessment on the Volume-to-Capacity Ratio (VC ratio) of less than 1 indicated that traffic speed in all the key East-West corridors increased when the CKR was in operation by 2021 with noticeable relief in traffic congestion. The VC ratio by 2036 was less impressive due to expected increase in traffic, but that would still be better as compared to the 2021 without CKR scenario.

14. A Member questioned the choice of year 2021 as the worst-case scenario for the air quality assessment. Although the EMFAC-HK model had assumed an increase in average traffic speed and a decrease in emission rate with the commissioning of the CKR, as well as improvement in air quality brought about by increased proportion of electric vehicles and different schemes for enhancing transport efficiencies, traffic would build up with a corresponding drop in speed in the long run. The VC ratio would eventually rise up to 1. He considered that vehicle emissions in future would be more serious than predicted by the consultant team.

15. In reply, Mr Franki Chiu said that they had conducted a quantitative

assessment over 15 years from 2021 to 2036 to determine the year with the highest vehicle emissions from road networks within 500 m of the project boundary. They had taken the worst-case scenario in the assessment of air quality impact and confirmed 2021 was the year with the highest emissions. .

16. A Member further opined that increase in traffic speed would inevitably lead to an increase in noise pollution. He asked whether the worst-case scenario had also been chosen in the noise impact assessment. Mr Franki Chiu explained that they had followed the principle of the Technical Memorandum on EIA Process (TM). Traffic noise was simulated based on the traffic forecast for 2036 when there was the highest traffic flow 15 years after commissioning the CKR. The adopted speed in the noise model was the speed limit rather than the actual modelled speed.

### ***Ground and groundwater movements***

17. Regarding his question on potential ground and groundwater movements relating to excavation works in the western portion of the CKR, a Member noted HyD's reply that ground treatment such as grouting would be applied only when necessary. He cited the experience of the Port and Airport Development Strategy (PADS) project where dewatering in response to water seepage led to ground settlement and damages to adjacent structures. As the CKR ran through a very old district, groundwater drawdown due to construction dewatering could have serious impact on old buildings. The Member suggested HyD to take precautionary measures such as pre-grouting to minimize the risk of water drawdown.

18. Mr K H Tao assured Members that they fully recognized the implications of groundwater level drawdown and had planned appropriate measures. For the cut-and-cover tunnel, the construction of deep excavation would be in the form of diaphragm walls founded on bedrock to minimize ground movement. As the walls would generally be impermeable, the walls would form a solid barrier to effectively cut off groundwater seepage and hence mitigate the effects of ground movement due to groundwater dewatering. As a precautionary measure, recharging wells would also be installed to restore the groundwater table if significant groundwater drawdown was observed. The diaphragm walls would form part of the permanent tunnel structure. Lateral support including cross walls would also be installed before commencing the excavation works as an additional measure to control ground movement due to bulk excavation. Since part of the tunnel would run through solid bedrock, significant ground improvement works would not be required to control groundwater level. In case of significant water inflow, excavation works would be stopped and grouting performed to control the inflow before resuming any excavation works. They had also carried out a comprehensive assessment on the impact of tunnel construction on adjacent buildings, with conservative design assumptions on the permeability of soil and hence the amount of dewatering required. Ground movement was found to be within the acceptable limits.

19. Mr Tao went on to explain that for the drill-and-blast method, they would assess the ground conditions in the section to be excavated before each blasting operation. If the measured groundwater inflow exceeded the allowable inflow limit, pre-grouting would be carried out to avoid excessive dewatering. They assessed that the resultant ground movement would not exceed 10 mm along the tunnel alignment, which was below the alert level of 12 mm according to the “Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers APP-137 on Ground-borne Vibrations and Ground Settlements Arising from Pile Driving and Similar Operations” published by the Buildings Department. Blasting operation would be conducted well within the safety regime. As regards the control on groundwater drawdown, instrumentation and monitoring would be conducted in accordance with established standards and practices during construction stage to closely monitor ground movement and groundwater conditions to ensure that there would not be significant groundwater drawdown which might affect the structural integrity of adjacent buildings.

***Monitoring of vibrations and condition survey***

20. In view of the substantial public concern on vibrations generated by the drill-and-blast method in tunnel construction, a Member considered that there should be a monitoring plan on vibrations not covered in the Technical Memorandum on EIA Process (TM). He noted that some buildings along the tunnel alignment were very weathered and could be vulnerable to slight vibrations. While HyD would undertake condition survey for these old buildings, the Member suggested if further precautionary measures could be taken by extending the scope of survey to cover each and every household unit to be affected.

21. Mr K H Tao responded that they would have stringent monitoring on ground movement and vibrations in accordance with prevailing practices. They would control the vibrations by assessing the peak particle velocity (ppv). According to the Geoguide published by CEDD’s Geotechnical Engineering Office (GEO), a ppv of 25 mm/s was taken as the safety limit normally applicable for general buildings. However, they would adopt a more conservative ppv for those old buildings along the tunnel alignment commensurate with their structural conditions. Mr Tao assured Members that GEO had a very stringent control on blasting. Before each blast, they had to carry out a condition survey for all affected buildings and geotechnical features such as slopes to assess the vibration level and proposed the applicable ppv taking into account sensitivity and conditions of affected structures within the influenced zone. This assessment had to be approved by GEO before undertaking the blasting. They would closely monitor the ground movement and ppv during construction, and submit a report on each blasting to CEDD’s Mines Division for approval. Since the ground conditions were variable, pre-drilling would be conducted to assess and verify the design ground conditions. They would fine-tune the design of the tunnel lining and construction method as necessary to ensure that the construction works would be carried out safely. They would agree on the blasting influence zone with GEO and

carry out condition survey for all units of the affected buildings, on condition that they would be permitted access to the premises.

22. A Member enquired further on the calculation of the amount of explosives to be used in blasting, which would have direct bearing on the potential damages to adjacent structures. Mr K H Tao replied that the amount of explosives to be used would vary for each blasting. The maximum instant charge would be adjusted to ensure that it would not generate ppv in excess of the appropriate limit for the affected structures and other geotechnical features. He reiterated that building safety was their primary concern on the project. They would ensure the construction of the CKR would not affect the structural integrity and use of buildings along the tunnel alignment.

### ***Ecology and landscape aspect***

23. In response to a Member's enquiry about the accessibility of the landscape deck at the western tunnel portal of the CKR, Mr K H Tao said that the deck would be accessible from the existing urban area of Yau Ma Tei through the at grade crossing at the junction of Ferry Street and Kansu Street, as well as from Charming Garden. Signal-controlled crossings and lifts would be provided for convenient access. The deck would also be connected to the new West Kowloon Cultural District.

24. A Member suggested planting of native trees on the landscape deck and arranging planting in east-west orientation to create wind corridor effect, as well as using scented plants partly to counter the foul smell coming from the Yau Ma Tei Typhoon Shelter. He also requested provision of sufficient soil substrates for tree planting on the deck. Besides, he suggested HyD to provide roof garden and green vertical walls for ventilation facilities as far as practicable. Mr K H Tao replied that the project was at a preliminary design stage. They would take into account the Member's comments when coming to the detailed design.

### ***Water quality***

25. A Member noted that assessment on water quality in the To Kwa Wan section was not entirely satisfactory. He asked if the dredging works could be re-scheduled to cut short or minimize the water quality impact which would be a temporary one. Mr Franki Chiu replied that dredging would be required as part of the tunnelling works and would take around two months to complete. He confirmed that they would carry out dredging in dry season as far as practicable, and would minimize the quantities of sediments from the dredging activities.

**TSEUNG KWAN O – LAM TIN TUNNEL AND ASSOCIATED WORKS (TKO-LTT)**

### ***Vibration monitoring***

26. A Member asked for confirmation from CEDD on whether they would



monitor vibrations and carry out grouting. Mr Stephen Li stressed that public safety was their primary concern, and would carry out vibration and water monitoring as the project proceeded. He clarified that the project was only at a preliminary design stage and they would formulate a more detailed monitoring plan at the later stage. The major part of the TKO-LTT was deep inside the mountain with no sensitive areas except Cha Kwo Ling Village where the tunnel would run more than 10 metres below ground. For that section, they would use the mechanical breaking method or other non-blasting methods to minimize vibrations and possible ground settlement. In response to the Member's further enquiry on whether there would be relocation of the squatters affected, Mr Li advised that there was no relocation plan as the tunnelling works beneath Cha Kwo Ling Village would not affect the squatters there.

### ***Ecological impact***

27. A Member noted that the development site had no direct impact to the lowland streams nearby, and that monitoring measures would be implemented as stated in the Environmental Monitoring and Audit (EM&A) Manual to monitor and protect the water quality of the streams. Nevertheless, he expressed reservation that the information on the four lowland streams in the EIA report were lumped together as it would cause difficulties in visualizing the details of the streams and possible misinterpretation by other projects when referring to the EIA report in future. He considered the rating of the ecological value of the stream where *n. Goby* was found could be rated moderate to high. He further opined that the ecological value of an area should not be determined merely by the proximity and linkage to high-value habitats as a low-value habitat such as a grassland might as well be an important habitat for amphibians, e.g. frogs. He suggested that project proponents of future projects should differentiate the ecological value and characteristics of each individual stream in their EIA reports.

### ***Design of landscape deck***

28. In response to a Member's comments to enhance the landscape deck design such as the one at the Lam Tin Interchange, Mr Stephen Li noted the comments and clarified that the visual impression shown in the presentation was for illustration purpose. Proper landscape consultant and specialist would be engaged at the detailed design stage to develop the design and landscaping work.

### ***Ecological impacts***

29. A Member sought clarifications on the findings of the ecological survey and whether the four lowland streams would be affected in view of the new alignment of the project during the construction and operation phases. She enquired about the provision of monitoring measures to ensure that the 19 ha habitat which was temporarily lost would be restored after the construction phase

and whether the habitat would have the same ecological value as the sub-tidal habitat as before. The Member further asked whether there would be any mitigation measures/compensation for the loss of 3.8 ha vegetation habitat despite the low- to- moderate ecological value of this terrestrial area.

30. In response, Mr Freeman Cheung confirmed that the project would not cause any impact on the natural lowland streams. Monitoring plan would be in place to ensure that the temporarily affected area would be restored at the operation phase. He advised that while the terrestrial ecology and vegetation including trees and shrub-land around the Lam Tin Interchange would be affected, they would be compensated at least in 1:1 ratio. The proposed plantation and landscape deck fronting Yau Lai Estate would be improved and the overall ecological value of the area would be enhanced.

### ***Water quality***

31. A Member enquired about the water quality of the coastal area after completion of Road P2 fronting Ocean Shores. Mr Freeman Cheung replied that the proposed reclamation had been reduced to 3 ha which was the minimum area required to provide sufficient land for construction of the depressed Road P2 and its associated facilities. The reclamation would not align to the shore to avoid encroaching into the natural shoreline. Mr Cheung further confirmed that the hydrodynamic condition and water quality had been assessed in detail and no adverse impacts were noted.

32. In reply to a Member's comment on the feasibility to create an artificial eco-shoreline if the shoreline would be affected, Mr Freeman Cheung explained that the proposed reclamation had been so planned to avoid disturbing the natural shoreline. The proposed construction of an artificial shoreline would not be necessary.

33. A Member asked about CEDD's response to the public comments received. Mr Stephen Li explained that their response to the public comments received during the public inspection period had been submitted to EPD. The Chairperson suggested EPD to advise on whether and how the request could be taken forward.

*(Post-meeting note: Section 8(1) of the EIAO required EPD to supply the project proponent with one set of written comments received from members of the public and ACE. There was no provision under the EIAO to require the proponent to provide EPD or ACE with their responses to public comments. EPD had no objection if the proponent agreed to provide their responses to public comments to EIA Subcommittee upon Members' request in future. This would be taken as an administrative measure to facilitate the proponent's presentation and the Subcommittee's consideration of the EIA report at the meeting.)*

### ***Seawall design***

34. Concerning a Member's question on the seawall design, Mr Freeman Cheung said that the seawall foundation of the proposed reclamation area would incorporate a sloping design. The design had proven to be able to encourage recolonization of coral and enhance fishery habitats.

## **CROSS BAY LINK, TSEUNG KWAN O (CBL)**

### *Design of the "Eternity Arch"*

35. Regarding the design of the CBL, a Member suggested CEDD to make further reference to the aesthetic design of the Tsing Ma Bridge and Ting Kau Bridge for the proposed "Eternity Arch". Another Member raised her concern about the impact on the visual sensitive receivers (VSRs), e.g. residents at LOHAS Park. Mr S Y Chan advised that the proposed "Eternity Arch" was chosen through a design idea invitation and attained the highest score both given by the jury and the public voting among other winning entries. Apart from the public consultation/engagement exercises, the appearance and structures of the CBL including the architectural lighting schemes had been submitted to and accepted by the Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS).

*(Post-meeting note: The jury and the Technical Committee for the design idea invitation comprised of LegCo members (Engineering, Architectural, surveying and planning functional constituency), president of HKIA, academy of HKU and HKUST and the Sai Kung District Council member. Other bridge forms such as suspension (Tsing Ma Bridge) and cable stay (Ting Kau Bridge) were parts of the winning entries but they scored lower marks than the "Eternity Arch", and therefore were not chosen for the CBL preliminary design development. Full report of the invitation event prepared by Mr Tsang Man Bui, A.P., MHKIA, R.A. was available for viewing.)*

### *Mitigation measures for noise impact*

36. A Member raised his concern about the noise impact to the residents of LOHAS Park in view of the proximity to the CLB and hence the complaints expected. He opined that the incremental noise to nearby residents during the construction stage could be substantial although the noise level would still be under the controlled level. The Member asked if percussive piling could be banned in the construction of piers of the CBL and whether there were any precautionary measures to minimize the noise generated by heavy trucks when crossing the bridge joints. He declared that he was involved in the study commissioned by EPD on the use low noise road surfacing materials vis-à-vis the noise impact. He asked for maintenance measures to be engaged to ensure that the noise reduction effect could be sustained over time.

37. Mr S Y Chan explained that it was not a usual practice to state a condition

in the Environmental Permit (EP) to ban the use of percussive piling in a construction project, unless under special circumstances as in the case of Hong Kong-Zhuhai-Macau Bridge Hong Kong Boundary Crossing Facilities where there was a specific concern on causing acoustic disturbance to local marine mammals. While Tseung Kwan O was not a habitat for local marine mammals, Mr Chan said that the construction noise had to comply with the Noise Control Ordinance and other related regulations. No noise permit would be issued if the noise level of the construction works exceeded the statutory noise limits. He explained further that the use of non-percussive piling methods had been specified in the preliminary design. Contractors were expected to use vibrating hammer for conducting temporary sheet piling works which was more commonly adopted in Hong Kong. In addition, vibrating hammer also had a considerably lower noise measurement. Mr Chan pointed out that there was no precedent case of banning the use of percussive piling in the absence of ecological concern. The prevailing mechanism would be sufficient to ensure that the noise level during the construction phase would not exceed the threshold.

38. A Member remarked that the use of low noise surfacing material could reduce noise level by around 1 dBA when in new and proper condition. He cautioned that the low noise surfacing material should be properly maintained so as to achieve the claimed noise reduction at all times. With good maintenance, the material could have a noise reduction of more than the claimed 1 dBA. Mr S Y Chan said that low noise surfacing would be used according to normal practices. They noted the potential maintenance problem and would liaise with HyD which was the maintenance department of public roads in devising better management and monitoring plan for the low noise surfacing at the detailed design stage.

### **Concerns common for all three EIA reports**

39. A Member asked whether community liaison groups would be formed to handle enquiries or complaints from the public. Both Mr K H Tao and Mr Stephen Li confirmed that liaison groups/liason teams would be set up in the community under each of the three EIA projects to facilitate communication with local residents and relevant stakeholders.

40. A Member enquired about the feasibility of adopting the new AQOs which was more stringent than the prevailing one when HyD and CEDD carried out the construction. As all three projects involved installing full or semi noise enclosures/barriers to mitigate noise impact along the route alignments, she remarked that the noise barriers would have direct visual impact to drivers and the neighbourhood. The Member suggested the proponents to use softer and greener design as well as environmental-friendly materials for the noise barriers.

41. Mr Stephen Li replied that basing on the consultant's preliminary assessment, the TKO-LTT and CBL projects would be able to comply with the new AQOs except the works at Cha Kwo Ling Tin Hau Temple where there would be temporary exceedance of nitrogen dioxide (NO<sub>2</sub>) during operation. Mr K H Tao

said that while the prevailing standards would apply when designing and devising the construction methods of the CKR, they would strive to work towards the new AQOs in minimizing the air quality impact of the project. Different initiatives/measures had been adopted such as careful selection of the location of the ventilation building, use of full or semi noise enclosures and installation of air purification system (APS) for the tunnel. Mr Tao assured Members that they would take all necessary measures to give continuous improvement of air quality in the project area.

42. In reply to a Member's earlier comment, Mr K H Tao confirmed that they were mindful of the visual impact caused by the noise enclosures/barriers. They would be careful to adopt the design of good aesthetic effect which would be in harmony with the surrounding environment and in consultation with the community.

43. With regard to a Member's enquiry on different designs of noise barriers currently in use in the territory, Mr K H Tao explained that the policy of retrofitting noise barriers started in 2000 and the design had been evolving and improving over the years. Members' comments would be taken into account when they worked on the design of noise reduction facilities at the detailed design stage.

44. A Member enquired whether APS would be installed for all three projects involving the construction of tunnels to help improve air quality. Mr Stephen Li replied that it would be difficult to justify the APS installation for the TKO-LTT and CBL projects as air quality in the Tseung Kwan O area was better than that in Kowloon area and the air pollution level was well below the accepted limits. They had to take the cost-benefit and effective use of public money angles into consideration before introducing APS for the tunnelling works.

45. A Member opined that project proponents should assess the air quality and noise impacts of the project from the point of view of the sensitive receivers, and where possible to take extra steps or mitigation measures to further minimize the impact on them. Mr Freeman Cheung pointed out that there was an environmental cost attached to the application of APS to the tunnels. While he agreed that air pollution caused by vehicle emissions could be controlled more effectively at source, e.g. retrofitting tailpipes of vehicles, APS could only help remove the particulates of the diluted emissions and had limited effect on reducing NO<sub>2</sub>. Mr Cheung stressed that it was important to weigh between the degree of improved air quality and the financial outlay involved. For the construction of the CKR, Mr K H Tao confirmed that they had committed to install APS for the tunnel and provide other ventilation facilities.

*[The project proponent team took leave of the meeting at this juncture.]*

### **Internal Discussion Session**

46. The Chairperson reminded Members that the EIA Subcommittee could

make recommendations to the full Council on each of the three EIA reports with the following approach:

- (i) endorse the EIA report without condition; or
- (ii) endorse the EIA report with conditions and details of the proposed conditions; or
- (iii) defer the decision to the full Council for further consideration – highlight issues or reasons for not reaching a consensus or issues to be further considered by the full Council; or
- (iv) reject the EIA report and inform the proponent the right to go to the full Council.

### **Central Kowloon Route (CKR)**

47. The Chairperson summarized the key issues discussed on this EIA report which included traffic speed adopted for assessments, ground and groundwater movements, condition survey and monitoring of old buildings, and greening of landscape deck and ventilation facilities.

#### ***Parameters for measuring air and noise pollution***

EPD

48. As a reference for EPD when assessing air quality and noise pollution impacts of future EIA reports, a Member suggested a more humanistic approach by including the number of sensitive receivers affected by air and/or noise pollution in addition to the air/noise pollution levels. He said that the noise exposure index was commonly practised in other countries and a similar approach could be adopted for the presentation of air pollution impact in Hong Kong.

#### ***Vibration impact on old buildings***

49. A Member suggested imposing a condition to HyD requiring the monitoring of all old buildings within the project area which were vulnerable to ground/groundwater movements and vibrations. Mr K F Tang advised that it would not be appropriate to impose such a condition in the EP as the scope of issue was related to building safety which was governed by another ordinance. He suggested addressing the issue beyond the EIAO framework. Another Member shared Mr Tang's views and added that if the dwellers so desired, HyD could consider engaging a third party to conduct the monitoring of the old buildings. The Chairperson clarified that the request could be put to HyD in the form of a suggestion instead of imposing such as an EP condition.

50. On a Member's further comment on the monitoring of vibrations, the Chairperson advised that consistency of assessment parameters should be maintained when recommending HyD to conduct vibration monitoring in the whole project area. Mr Andrew Lai stressed that the main concern was on the structural safety of existing old buildings. Given that HyD had standard practices on vibration monitoring, the suggestion should be dealt with under the established

mechanism which was outside the purview of the EIAO or the TM.

51. The Member asked about the responses of HyD to the requests from the residents of Prosperous Garden regarding the noise impact. Mr Ken Wong advised that, according to HyD's presentation at the meeting, the proposed CKR design had already been developed in response to suggestions received from the rounds of public engagements and consultation, including relocating the ventilation building away from the densely populated area, installing a full noise enclosure along Ferry Street Section of the GRF, extending the west tunnel portal towards the seafront away from residents, and designing a landscaped deck over the entire west portal for noise protection. The present CKR design so developed had fulfilled the EIAO requirements. However, Mr Wong supplemented that the residents' outstanding concerns mainly involved three issues. Firstly, the relocation of the ventilation building further to 1 km away from Prosperous Garden; secondly, replacement of the proposed semi noise enclosure by a full noise enclosure along the existing flyover next to Block 1 of Prosperous Garden; and thirdly, extension of the proposed full noise enclosure further north along Ferry Street. According to HyD's assessment, further relocating the ventilation building to 1 km away from Prosperous Garden would involve reclamation in the harbour which could hardly be justified; providing a full noise enclosure near Block 1 of Prosperous Garden was technically not practicable due to structural loading limitations of the existing flyover and the need to maintain traffic movement at the road junction underneath the flyover; and further extending the proposed full noise enclosure along Ferry Street was beyond the project scope and boundary.

52. Mr K F Tang supplemented that while EPD would negotiate with HyD for further refinement of the project details, the present CKR design had fulfilled the requirements under the EIAO. The further requests from Prosperous Garden were related to proposals either beyond the EIAO requirements or beyond the CKR project scope.

### **Tseung Kwan O – Lam Tin Tunnel and Associated Works (TKO-LTT)**

53. The Chairperson summarized the key issues discussed on the EIA project which included the design of the Lam Tin Interchange, ecological impact to the lowland streams during construction, compensation ratio of 1:1 for the vegetation habitat, water quality of the reclaimed area and the seawall design.

54. A Member suggested project proponents should not lump up the information of streams in the EIA study. The Chairperson advised that this would be minuted for EPD's general reference to remind proponents of similar cases when conducting their EIA studies in future. EPD

### **Cross Bay Link, Tseung Kwan O (CBL)**

55. A Member suggested requesting CEDD to enhance the design of "Eternity Arch". The Chairperson echoed that the design could be improved for

giving a more spectacular night montage.

56. A Member suggested imposing a condition for CEDD to ban the use of percussive piling which would cause significant noise impact. While Mr K F Tang shared the Member's concern, he explained that it was rare to include a condition in the EP which was already covered under other legislations. He advised and the meeting agreed that the request could be made in the form of a suggestion to CEDD rather than as an EP condition.

57. Having regard to the findings and recommendations of the three EIA reports and the information provided by the project proponents, the Subcommittee agreed to recommend to the full Council that the EIA reports could be endorsed with the following proposed conditions –

**Condition of endorsement**

**(i) Common to the three EIA reports**

The project proponents, i.e. HyD for the CKR project and CEDD for the TKO-LTT and CBL projects should set up community liaison groups (CLGs) comprising representatives of affected parties, including local committees, residents and schools in the affected areas along the route alignments, to facilitate communications, enquiries and complaint handlings on environmental issues related to the projects. Respective community liaison teams and designated complaint hotlines should be set up for the projects to address related concerns and enquiries in an efficient manner. The proponents should also follow up with the respective CLGs on the implementation of mitigation measures as necessary.

**(ii) For the CKR EIA report**

The project proponent would incorporate more innovative designs and greening features in the detailed planning of the landscape deck and ventilation building, e.g. planting of native trees, preferably scented trees, to provide greening in Kowloon area, tree planting arranged in east-west orientation to create wind corridor effect and use of roof garden/vertical green walls to enhance aesthetic effect. The proponent should monitor performance of the contractors to ensure that sufficient and suitable soil substrates would be provided for the planting and that there should be good and sustained horticultural management/maintenance.

**(iii) For the TKO-LTT EIA report**

The project proponent should conduct a post-construction marine water quality monitoring in the embayment area fronting Ocean Shores for one year after the proposed reclamation for Road P2 is completed.



(iv) For the CBL EIA report

Nil

58. EIASC also proposed the following recommendations as suggestions/advice to the project proponents –

**Recommendations**

(i) Common to the three projects

- (a) To keep in view the new AQOs when proceeding with the projects while the prevailing AQOs are the statutory standards in the EIA reports.
- (b) To identify compensatory planting sites within the whole project areas if direct greenery compensation could not be arranged at or adjacent to the affected sites. To consider planting native trees at landscape decks and green roofs for tunnel portals and ventilation buildings.
- (c) To monitor contractors to ensure good and sustained horticultural management/maintenance of the greening facilities.
- (d) To suitably design the noise barriers along the route alignments to ensure maximum harmony with the surrounding environment.
- (e) To consider incorporating soundscape concept in the design of podiums to reduce the noise impact along the route alignments.

(ii) For the CKR project

- (a) To closely monitor the conditions of old buildings within the influenced zone along the tunnel alignment to ensure structural safety of the buildings and to consider engaging a third party to conduct the monitoring to enhance impartiality/credibility of the work, if the dwellers so desired.

(iii) For the TKO-LTT project

- (a) To incorporate the concept of easy accessibility by the public and use of native species for the planting in the design of landscape decks.
- (b) To consider post-monitoring programme to ensure return of good sub-tidal habitat after the construction works.

(iv) For the CBL project

- (a) To devise a monitoring plan with good maintenance strategy to ensure the

effectiveness of the low noise road surface.

- (b) To enhance the design of the “Eternity Arch” to give a better aesthetic effect, e.g. a more spectacular night montage.
- (c) To advise the contractors not to adopt percussive piling method but other low noise construction plants/equipment for the construction works.

*(Post-meeting note: With the Chairperson’s agreement, the Subcommittee agreed that it would not be necessary to invite the project proponents to attend the full Council meeting on the reports.)*

#### **Item 4: Any other business**

59. The Chairperson informed Members that a Member would took leave of absence from EIA Subcommittee for two months until the end of July. Another Member was also out of town until mid July.

60. Regarding the phrasing in the reply slip to Members, a Member suggested to paraphrase the sentence into one meaning that Members were requested to confirm whether an EIA report should be discussed in the next meeting. Members supported the suggestion. The Secretariat would follow up at the next call for return. Secretariat

#### **Item 5: Date of next meeting**

61. The Chairperson informed Members that the next meeting was reserved on 24 June (Monday). The Secretariat had not received any EIA reports intended for discussion at the June meeting.

*(Post-meeting note: The meeting scheduled on 24 June was cancelled.)*

62. The Secretary invited Members to note the EIA Subcommittee meeting schedules for 19 August and 13 September. The latter had been advanced as both the Chairperson and Deputy Chairman would be on duty/at conference outside Hong Kong on 16 September and therefore would not able to chair the meeting.

**EIA Subcommittee Secretariat  
June 2013**