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Report on the 110th Environmental Impact Assessment Subcommittee Meeting

INTRODUCTION

On 21 September 2009, the Environmental Impact Assessment (EIA) Subcommittee considered the following EIA reports related to “Hong Kong-Zhuhai-Macao Bridge” (HZMB) submitted by the Highways Department –

- a) HZMB Hong Kong Link Road (ACE-EIA Paper 9/2009 refers);
- b) HZMB Hong Kong Boundary Crossing Facilities (ACE-EIA Paper 10/2009 refers); and
- c) Tuen Mun-Chek Lap Kok Link (ACE-EIA Paper 11/2009 refers).

ADVICE SOUGHT

2. Members are requested to consider the views of the Subcommittee and advise on the EIA reports.

THE PROJECTS

A. HZMB Hong Kong Link Road (HKLR)

Need for the project

3. The EIA report points out that the proposed HZMB straddles the waters of Lingdingyang of the Pearl River Estuary. It is a large sea-crossing linking the Hong Kong Special Administrative Region (HKSAR), Zhuhai City of Guangdong Province

and the Macao Special Administrative Region, as well as a transport construction project included in “National High Speed Road Network Planning”. The scope of the large sea-crossing includes the HZMB Main Bridge, Hong Kong Boundary Crossing Facilities (HKBCF), Zhuhai BCF, Macao BCF, and the link roads connection between the HZMB Main Bridge and the respective BCFs, in accordance with the agreement made by the three governments on the concept of “separate locations of BCF mode”. The HKSAR Government is required to construct and operate the link (i.e. HKLR) between the HZMB Main Bridge and HKBCF.

Description of the project

4. The project comprises a dual-3 carriageway with hard shoulder of about 12 km in length between the HZMB Main Bridge at the HKSAR boundary and the HKBCF. It includes –

- (i) about 7.3 km of sea viaduct from the HKSAR boundary to the landing point on Airport Island near South Perimeter Road;
- (ii) about 2.1 km of land viaduct from the landing point on Airport Island to the western tunnel portal at Scenic Hill;
- (iii) about 1.0 km of tunnel from the western portal at Scenic Hill to the eastern portal on reclamation at eastern waters of the Airport Island; and
- (iv) about 1.6 km at-grade road from the eastern tunnel portal to the HKBCF.

Reclamation of about 23 ha is required along the eastern coast of the Airport Island to provide land for the tunnel portal to daylight and the at-grade road. The project location is shown in Figure 1 at **Annex A**. The project constitutes a designated project (DP) by virtue of the following items in Schedule 2, Part I of the EIA Ordinance (EIAO) –

- (i) Item A.1: “A road which is an expressway, truck road, primary distributor road or district distributor road”;
- (ii) Item C.1: “Reclamation works (including associated dredging works) more than 5 ha in size”; and
- (iii) Item C.12: “A dredging operation exceeding 500,000 m³”.

Consideration of alternative options

5. The EIA has considered various options for the bridge alignments and

different built forms for the project, taken into account environmental factors as well as other considerations like geographical and geological considerations, airport height restrictions, site constraints, constructability and safety. The preferred alignment option for the project has been selected interactively with the site search exercise for the preferred HKBCF location. In addition, the road section at the south-eastern coast of the Airport Island originally run in a viaduct has been changed to a tunnel-cum-at grade road to minimize the visual intrusion of an elevated viaduct structure to the Tung Chung residents.

B. HZMB Hong Kong Boundary Crossing Facilities (HKBCF)

Need for the project

6. The EIA report points out that the scope of the large-sea crossing includes the HZMB Main Bridge, HKBCF, Zhuhai BCF, Macao BCF, and the link roads connection between the HZMB Main Bridge and the respective BCFs, in accordance with the agreement made by the three governments on the concept of “separate locations of BCF mode”. The HKSAR Government is required to set up the HKBCF within the Hong Kong territory, which is proposed to be located at the northeast waters off the Airport Island.

Description of the project

7. The proposed HKBCF comprises the following –
- (i) Dredging and reclamation at the northeast waters off the Airport Island to provide a land platform (about 138 ha of area) for the development of the HKBCF;
 - (ii) cargo processing facilities including kiosks for clearance of goods vehicles, customs inspection platform, X-ray buildings and related supporting facilities;
 - (iii) passenger related facilities including processing kiosks and examination facilities for private cars and coaches, passengers clearance building and halls and related supporting facilities;
 - (iv) accommodation for and facilities of the Government departments providing services in connection with the HKBCF;
 - (v) provision of transport and miscellaneous facilities inside the HKBCF including public transport interchange, transport drop-off and pick-up

areas, vehicle holding areas, passenger queuing areas, road networks, footbridges, fencing, sewage and drainage systems, water supply system, utilities, electronic system, traffic control and surveillance system and related supporting facilities;

- (vi) provision of road access for connection of the HKBCF to the HKLR, the Tuen Mun-Chek Lap Kok Link and the Airport;
- (vii) reprovisioning of the affected Airport's facilities such as the existing Fire Services Department's East Sea Rescue Berth; and
- (viii) provision of other facilities for connection with the Airport such as an Automated People Mover system (i.e. a railway system) to connect the Airport Terminal with the HKBCF.

8. The project constitutes a DP by virtue of the following items in Schedule 2, Part I of the EIAO –

- (i) Item A.2: "*A railway and its associated stations*";
- (ii) Item A.7: "*A railway tunnel more than 800 m in length between portals*";
- (iii) Item A.8: "*A road bridge more than 100 m in length between abutments*";
- (iv) Item C.1: "*Reclamation works (including associated dredging works) more than 5 ha in size*"; and
- (v) Item C.12: "*A dredging operation exceeding 500,000 m³*"

Consideration of alternative options

9. A Site Selection Study was conducted to examine a number of possible locations and layouts of the project and the North East Chek Lap Kok (NECLK) option was selected as the preferred option and studied in detailed in this EIA study as shown in **Figure 2 at Annex A**.

10. The selected option of NECLK has taken into account the need to minimize the environmental impacts in which the proposed reclamation can be combined with that for the proposed TMCLKL southern landfall, the total length of seawalls and hence the dredging and filling volumes can be significantly reduced.

11. The proposed adoption of non-dredged method for reclamation (except for seawall construction) reduces the amount of dredged materials required for disposal and minimizes water quality impact associated with dredging activities. To minimize the amount of off-site disposal of dredged contaminated marine sediment at existing

mud pits in East Sha Chau, the EIA proposes to redeposit the dredged contaminated marine sediment within the HKBCF reclamation site.

C. Tuen Mun-Chek Lap Kok Link (TMCLKL)

12. The EIA report points out that according to the findings of the Northwest New Territories Traffic and Infrastructure Review conducted by the Transport Department, Tuen Mun Road, Ting Kau Bridge, Lantau Link and North Lantau Highway would be operating beyond capacity after 2016 owing to the increase in cross boundary traffic, developments in the Northwest New Territories, and possible developments in North Lantau, including the Airport developments, the Lantau Logistics Park and the HZMB. In order to cope with the anticipated traffic demand, two new road sections between Northwest New Territories and North Lantau (i.e. TMCLKL and Tuen Mun Western Bypass) were proposed.

13. The proposed TMCLKL, together with the Tuen Mun Western Bypass, will provide, from north to south, a direct route linking Northwest New Territories and North Lantau (i.e. linking the Kong Sham Western Highway, port back-up areas in Northwest New Territories, Tuen Mun River Trade Terminal, the existing EcoPark in Tuen Mun Area 38, the Airport, the proposed Logistics Park, HZMB and North Lantau developments). The new connection will significantly reduce the travelling time between the Kong Sham Western Highway and North Lantau.

Description of the project

14. The project as shown in **Figure 3 at Annex A** is to construct a dual 2-lane highway connecting the proposed Tuen Mun Western Bypass at the southern coast of Tuen Mun Area 40 and the Airport and Tung Chung. It includes –

- (i) construction of an approximately 5 km long dual 2-lane road tunnel between Tuen Mun Area 40 and the HKBCF at the northeast of the Airport;
- (ii) construction of approximately 4.2 km seawalls and approximately 35.6 ha of reclamation to the Government foreshore and seabed at Tuen Mun Area 40 and Lantau for the tunnel portals and the associated roads;
- (iii) construction of an approximately 1.6 km long dual 2-lane viaduct between HKBCF and North Lantau Highway and the associated roads at Tai Ho;

- (iv) construction of a toll plaza at Tuen Mun Area 46 and the associated roads at Tuen Mun;
- (v) construction of administration building, ventilation buildings and other ancillary buildings to facilitate ventilation and tunnel control operation serving the proposed road tunnel in (i) and toll plaza in (iv) above; and
- (vi) ancillary works including site formation, slope, drainage, utilities, footbridge, noise barriers, retaining walls, berths and temporary pontoon.

15. The project constitutes a DP by virtue of the following items in Schedule 2, Part I of the EIAO –

- (i) Item A.1: “*A road which is an expressway, trunk road, primary distributor road or district distributor road*”;
- (ii) Item A.7: “*A road tunnel more than 800 m in length between portals*”;
- (iii) Item A.8: “*A road bridge more than 100 m in length between abutments*”;
and
- (iv) Item C.1: “*Reclamation works (including associated dredging works) more than 5 ha in size*”.

Consideration of alternative options

16. In the EIA report, several options and alternatives have been considered during the development, refinement and selection of the scheme of the TMCLKL. The selected alignment and design of TMCLKL has taken into account of the need to minimize the environmental impacts in which the proposed reclamation for the southern landfall can be combined with that for the proposed HKBCF, the total length of seawalls and hence the dredging and filling volumes can be significantly reduced. The selected alignment and location of southern landfall also avoid massive reclamation works near the Brothers Islands where the Chinese White Dolphins are more frequented.

17. Tunnel Boring Machine for tunnel construction will be employed instead of Immersed Tube Tunnel so as to avoid extensive dredging and backfilling hence minimizing the disturbance to the Chinese White Dolphins and impacts on water quality. The proposed adoption of non-dredged method for reclamation (except for seawall construction) reduces the amount of dredged materials required for disposal and minimizes water quality impact associated with dredging activities.

VIEWS OF THE SUBCOMMITTEE

18. Members noted that the public inspection period of the three EIA reports was from 14 August 2009 to 12 September 2009. Public comments received by the Environmental Protection Department were circulated to Members before the meeting for reference. Separately, the written response of the project proponent to some Members' questions and comments was circulated to Subcommittee Members before the meeting for information.

19. Members noted that three submissions related to the projects had been received by the secretariat. Two directly addressed to the Council and one copied to the Council. The submissions were circulated to Subcommittee Members before the meeting for information.

20. The three EIA reports are inter-related and the project proponent of the three projects is the same party, i.e. the Highways Department. To facilitate consideration of the projects, Members agreed to have one combined Presentation Session and one combined Question-and-Answer Session to discuss the three EIA reports with the project proponent.

21. A summary of issues discussed by the Subcommittee is at **Annex B**.

ADDITIONAL INFORMATION FROM PROJECT PROPPONENT

22. After discussion, the Subcommittee agreed that the project proponent should be requested to provide supplementary information on the following aspects to clarify some concerns and facilitate Members' consideration –

- (a) to provide the basic assumptions adopted in the air quality modellings for the three EIA reports, including the parameters and mitigation measures to reduce air emissions by the Mainland in the 《珠江三角洲環境保護規劃綱要(2004-2020年)》 (Environmental Protection Framework Plan for the Pearl River Delta);
- (b) to consider further mitigation measures to reduce the exceedance of annual Total Suspended Particulates (TSP) level in Tuen Mun during the construction phase of the TMCLKL and report on the findings;

- (c) to explain the effectiveness of watering as a mitigation measure to reduce TSP emissions in the construction phase as indicated in section 5.5.5 of the EIA report on HZMB-Hong Kong Link Road;
- (d) to provide an assessment of change of ozone levels arising from the three projects; and
- (e) to provide photo-montages of alignment Option C for the middle section of HKLR and a detailed comparison of alignment Option A and alignment Option C in respect of environmental impacts, including ecology, air quality, noise and visual impacts.

23. The following supplementary information provided by the project proponent was circulated to the Subcommittee Members –

- (a) **Annex C1** – further elaboration of the key assumptions for the regional air quality emission inventory;
- (b) **Annex C2** – construction air quality in Tuen Mun;
- (c) **Annex C3** – consideration and assessment of ozone in the EIAs; and
- (d) **Annex C4** – comparison between alignment Option A and Option C for the middle section of HKLR.

RECOMMENDATION OF THE SUBCOMMITTEE

24. After considering the supplementary information provided by the project proponent and having regard to the findings and recommendations of the EIA report, the EIA Subcommittee was in general ready to endorse the three EIA reports with the following proposed conditions –

A. HZMB Hong Kong Link Road

- (a) the project proponent should not, for the marine bored piles located at the west of the Airport Island, carry out installation of metal caisson into rock in May to June which is the peak calving season of Chinese White Dolphins;

- (b) the project proponent, including its contractors and subcontractors, should not use any of the area in Sham Wat, Sha Lo Wan, Hau Hok Wan and San Tau as work area, vehicle parking, equipment storage or other related activities; and
- (c) the project proponent should not use underwater percussive piling for the project.

B. HZMB Hong Kong Boundary Crossing Facilities

- (a) the project proponent should advance the preparation works for the designation of the marine park in the Brothers Islands, including a study on the details of the designation and consultation with stakeholders, on the understanding that designation of the marine park would immediately follow completion of the project;
- (b) the project proponent should submit the proposal and detailed plan of the proposed marine park in the Brothers Islands to the Advisory Council on the Environment for comments and advice; and
- (c) the project proponent should not use underwater percussive piling for the project.

C. Tuen Mun-Chek Lap Kok Link

- (a) the project proponent should not, for the marine bored piles construction, carry out installation of metal caisson into rock in May to June which is the peak calving season of Chinese White Dolphins; and
- (b) the project proponent should not use underwater percussive piling for the project.

25. Three Subcommittee Members expressed some reservation regarding the EIA report on HKLR and two Subcommittee Members expressed some reservation regarding the EIA reports on HKBCF and TMCLKL in respect of some specific issues. As requested, further supplementary information was provided by the project proponent to address the concerns raised (at **Annex D**). The information was circulated to all Subcommittee Members. The Subcommittee recommended that the project proponent

be invited to attend the full Council meeting to address any outstanding issue and concern, in particular on the following aspects –

- (a) air quality impact to local sensitive receivers;
- (b) consideration of the impact of ozone on local sensitive receivers; and
- (c) potential impact of alignment Option A for the middle section of HKLR on sensitive receivers in the North Lantau, in particular Sham Wat, Sha Lo Wan, Hau Hok Wan and San Tau.

EIA Subcommittee Secretariat
September 2009