Hong Kong Dolphin Conservation Society
香港海豚保育學會

Comments on the EIA Report for the Expansion of Hong Kong International Airport into a Three-Runway System

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For this Panel's discussion and consideration, we would like to file our comments on the EIA report for the third runway expansion project proposed by the Airport Authority. We found that the report is unacceptable in many ways, as it does not satisfy some of the requirements of the project's EIA Study Brief and EIA Technical Memorandum (TM), and has downplayed some of the important impacts on the local Chinese White Dolphins in Hong Kong. Moreover, the proposed mitigation and compensation measures are largely inappropriate and inadequate, which cannot match the magnitude of the serious impacts posed on the Chinese White Dolphins during and after the massive reclamation works. We strongly urge the EPD and ACE members to reject this EIA report due to its poor quality and clearly biased conclusions. Below please find the major issues of the EIA report with which we found disappointingly unsatisfactory:

IMPACT ASSESSMENTS

Habitat Loss

1) The EIA report deliberately avoided the issue of permanent habitat loss during the construction phase under the impact assessment. In Section 13.9.1 of the EIA report, the habitat loss during the construction phase was assessed as temporary, but it is clear that permanent habitat loss for dolphins will result starting in 2017 and throughout the rest of the construction period until 2023. The project proponent failed to acknowledge the most important construction-phase impact of permanent habitat loss, which has clearly violated the requirement of the EIA Technical Memorandum (TM). Effective construction phase compensation measures would be needed for such permanent loss of habitat starting in 2017, and can not be delayed until the construction is finished in 2023. However, such compensation measure (i.e., new marine park establishment) has only been proposed to be implemented during the operational phase, which is a clear violation of the TM.

2) The negative impacts of temporarily affected open waters of 981 hectares (EIA report Section 13.8.1.15) on dolphins during the construction phase were not properly assessed

in the EIA report. Even though this area will not be completely blocked off, there will be a huge volume of moving and stationary vessels in this area (at least 300 during the peak of construction as mentioned in the EIA report) that would displace dolphins from the area, and the silt curtain with floating booms may also affect dolphins in gaining access to this habitat during the construction phase. Along with the 650 hectares of habitat loss of the 3RS footprint, the total area of 1,631 hectares will not be available to dolphins during the projected seven-year construction phase in the worst-case scenario, and such significant impact was not described and predicted as required by the TM (section 4.3.1.(b)(v)). The importance of this area to the dolphins should be studied in detail, and construction phase impacts should be properly assessed and mitigated for this overall area instead of just the 3RS footprint.

For example, the temporary works area on top of the third runway footprint can seriously affect dolphin movements between SCLKCMP and West Lantau waters, which in turn would affect the interactions between the two social clusters in Hong Kong. The overall large works area also overlaps with the important foraging areas to the west of the airport platform as shown in the EIA study. Moreover, the temporary works area can potentially disrupt the remaining traveling corridor of dolphins to move from Northwest Lantau into Northeast Lantau waters, thereby eliminating the use of the entire Northeast Lantau region for the dolphins, and resulting in a much larger affected area of temporary habitat loss in addition to the 1,631 hectares of temporary works area and third runway footprint during the construction phase. All these issues should be investigated in details as it will induce serious impacts on the survival of the dolphins in North Lantau waters.

3) The acoustic survey results from the EIA report revealed that the proposed footprint of 3RS can potentially be important dolphin habitat at night, with the conclusion that it may be used more often at night with potential greater importance. However, the characteristics of this habitat was not described in a way sufficient for identification and prediction of environmental impacts according to the TM requirement (section 4.3.1.(a)), with high degree of uncertainties on how dolphins would utilize this potentially important night-time habitat and for which type of activities. Therefore, the project proponent should conduct a more comprehensive study to understand the function of the 3RS footprint as night-time dolphin habitat in order to identify the significance of habitat loss as a result of the 650 hectares of reclamation and an overall 1,631 hectares of sea area that will be seriously

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disturbed during the construction phase. It should also be noted that massive reclamation should be avoided in an important and sensitive habitat for activities that serve important functions, either at night or during the day, to the dolphins. If that is the case, the project proponent should consider avoiding this area for reclamation under the TM requirement.

4) The loss of important habitat at the 3RS footprint will be a serious threat to the survival of the northern social clusters of 65 individuals that inhabit North Lantau waters regularly in the past decade (see Hung 2014). In the EIA report, the uniqueness of this habitat to these 65 individuals from the northern social cluster has not been addressed adequately, nor have the impacts by the reclamation on the survival of these individuals and thus also the impacts on another social cluster of dolphins in West Lantau been examined. In fact, the study brief has specified the requirement to investigate the potential changes in interaction between the different social clusters of dolphins (Appendix F, section 3 (v) (a)), but the EIA report has ignored this requirement completely.

5) The massive habitat loss of 3RS will pose the biggest threat to the dolphins in North Lantau since the reclamation in the mid-1990s for the Chek Lap Kok Airport. In light of the significant decline in abundance and cumulative impacts in North Lantau waters since the airport construction (Hung 2013, 2014), the EIA report should model the trend in dolphin abundance and habitat use in North and West Lantau would be before, during and after construction works in the current impact assessment, as required by the TM that “the likely nature, extent and magnitude of the anticipated changes and effects” should be predicted (TM section 4.3.1 (b) (vi)).

6) As dolphins will almost certainly be displaced from the works area as well as North Lantau waters during the construction phase, the project proponent should provide critical information or predictions on where the dolphins may vacate to during the seven-year construction works period according to the TM requirement (section 4.3.1.(b) (v)). The EIA report briefly mentioned that the dolphins may shift their range into Chinese waters, but this prediction was not supported and justified by any evidence for such cross-boundary movement, and whether the dolphins’ chance of survival would be seriously reduced when moving across the border. Data should be provided on cross-boundary movements of CWDs in recent years in the EIA report, to support that

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such movement could happen during and after the construction phase. The report should also provide the latest status for the rest of the Pearl River Estuary population (including population trend in the past decade) to indicate that dolphins moving across the border would still have a chance to survive in midst of the on-going development pressure (e.g. construction of the Hong Kong-Zhuhai-Bridge) and anthropogenic impacts in Guangdong waters. The long duration (seven-year construction period) of the 3RS project should also be taken into consideration for such impact assessment predictions to determine how the dolphins would be displaced from the 1,631 hectares of work areas in the construction phase.

Traveling Corridor

7) The EIA report suggested that the traveling corridor between important feeding habitats at BMP and SCLKCMP for many individual dolphins can be shifted further north in light of the new reclamation area and a reduction of the corridor width by around 40%. However, the report failed to provide any evidence to prove that dolphins are capable and willing to shift their existing travel route into Urmston Road. In fact, the Urmston Road is the busiest shipping channel in Hong Kong, especially at the section between Tuen Mun and Tap Shek Kok, where overlaps with the dolphins' traveling corridor. If dolphin movement has to shift north into Urmston Road, they will certainly face greater risks from vessel collision and underwater noise, as the EIA report also mentioned. In fact, long-term monitoring data on the local dolphin population has shown that dolphins have been actively avoiding the section of Urmston Road between Tap Shek Kok and Ma Wan in the past decade (Hung 2008), which is also the case at present while the dolphins' traveling corridor has already been partially obstructed by the HK Boundary Crossing Facilities (HKBCF) reclamation works (Hung 2014). The EIA report should provide solid evidence to back up the assumption that dolphins can move safely through this dangerous passage to the BMP area, when the traveling corridor will be further contracted by the new land formation in addition to the increased amount of HSF traffic from the Sky Pier. In fact, the reasonable and worst case scenario for such serious impacts on the dolphins' traveling corridor and the greater dolphin habitat loss in Northeast Lantau as a result should be described and predicted according to the TM requirement (section 4.3.1 (b) (v)).

8) According the study brief, the project proponent is required to examine the potential changes in interaction between the different social clusters of dolphins as result of

negative impacts on their traveling corridors (Appendix F: section 3 (v) (a)). However, the EIA study did not examine or predict the potential changes in the interactions between the two social clusters of dolphins, which could be seriously affected by the potential obstruction of the dolphins' traveling corridor between Northwest and West Lantau, in addition to the potential cumulative impacts from the present HZMB construction works (i.e. Hong Kong Link Road) that could affect the traveling activities of individual dolphins from the two social clusters.

Vessel Traffic

9) According to the TM requirement (section 4.3.1 (a)), the characteristics of the environment shall be described in a way sufficient for identification and prediction of environmental impacts. The quality of the EIA report is also assessed whether the methodologies used are sound and adequate (TM section 4.4.2 (e)). However, the study provided by the EIA report only used the Ecological Acoustic Recorder (EAR) to measure and characterize vessel noise, which has its own limitation (i.e. 20% duty cycle and fixed location). For example, it was found that there was a four-fold increase in loudness of high-speed ferries (HSFs) from less than 10 knots to 26-30 knots vessel speed at 500 metres away, but such noise increase could possibly be even higher at closer distances according to another research by Sims et al. (2012). The noise characteristics of HSFs at closer distance will provide critical information to understand the effect of the ferry noise as well as to determine the safe speed limit as a mitigation measure. Apparently, there are other alternative methods to measure vessel noise at various distances from the noise source continuously, which should be adopted in this EIA study to gather information that is critical for evaluating the acoustic disturbance on CWD (see example in Sims et al. 2012 for study on HSF noise in Hong Kong).

10) The EIA report assumes that all construction vessels are slow and not affecting dolphin usage of nearby waters. But it ignored the fact that during the construction phase, there will be many fast-moving transportation boats moving through different parts of important dolphin habitat, which is evident from the present HZMB current construction works, and should be referenced in this EIA report. This clearly violates the TM requirement, as the quality of the EIA report is based on whether the assumptions used are sound and adequate (TM section 4.4.2 (e)), and whether lessons learned from other similar projects are incorporated into the project (TM section 4.4.2 (h)). The number of

such fast-moving construction-related boats should be presented, and the associated noise impact from these boats should be studied and assessed and where necessary, mitigation measures should be proposed in the EIA study.

11) The EIA report failed to meet the study brief requirement to study the anthropogenic noise generated by vessel traffic other than the HSFs without any justification (Appendix F: section 3 (iii) (d)). The study of other vessels should include all types of construction boats and transportation boats, and the negative impacts of a high volume of these boats in the works area (i.e. at least 300 boats in the works area during the peak of construction). The EIA report cannot simply assume that these boats would not cause any impact on the dolphins without any substantiated study to back up such assumption.

12) Throughout the EIA report, the project proponent solely focused on the speed of the boats and the associated impact, but completely ignored the critical issue of vessel traffic volume (and the actual sounds produced by the high volume of vessels). From the current situation of the HZMB construction, it was learnt that even slow-moving vessels can be harmful to dolphins if overall volume is high, and the project proponent has ignored the lessons learned from other similar projects which should be incorporated into the present project as required by the TM (section 4.4.2 (h)).

13) The EIA report failed to meet the study brief requirement to study the acoustic behaviour of dolphins for detailed assessment of acoustic disturbance to CWD (Appendix F: section 3 (iii) (d)). Such assessment should be done in the presence and absence of noise generated from different types of vessels, including HSFs, construction boats, and transportation boats, as well as their cumulative impacts. It is clear that the passive acoustic monitor (i.e. EAR) adopted in the present study is not the best method to study the acoustic behaviour of dolphins to satisfy the study brief requirement, as other past similar studies in Hong Kong has utilized other systems such as dipping hydrophone (Sims et al. 2011) and towed hydrophone (Hung 2013) to investigate the acoustic behaviour of dolphins, without the limitation of EARs being deployed at fixed location and operated in a 20% duty cycle.

<u>Impacts to marine park</u>

14) The commencement of third runway reclamation (2016-2023) overlaps with the

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completion of HZMB works in 2016, and dolphins will have no time to recover their usage of the waters of the BMP during the seven years of obstruction as their passage to this marine park will be significantly narrowed. The project failed to acknowledge the fact that the on-going HZMB works have been seriously affecting the dolphins' access to NEL waters (Hung 2014), which will last until 2016, while the Highways Department and AFCD are aiming for a recovery of dolphin usage of the BMP after 2016 when the HZMB works are completed. Such recovery is unlikely to happen if the 3RS project is allowed to proceed, and this temporal cumulative impact has been largely ignored. This reasonable or worst case scenario should be described as part of the TM requirement for impact prediction (Section 4.3.1 (b) (v)), and how the 3RS project would seriously affect the effectiveness of a compensation measure of another infrastructure project.

15) In light of the significant impacts of the HKBCF reclamation project on the dolphins' usage of the nearby Brothers Islands (Hung 2014), the EIA report has seriously underestimated the impacts of the 3RS reclamation (four times the size of HKBCF) on the nearby SCLKCMP, which is only 900 metres away from the 3RS footprint, and much closer to the temporary work area during the construction phase. This is against the TM requirement, that the EIA report should incorporate lessons learned from other similar projects (TM section 4.4.2 (h)). The significant impacts of the 3RS project on the nearby SCLKCMP could be the huge amount of habitat loss, resulting in changes in prey resource distribution and biomass, increasing amount of construction vessels moving frequently near the marine park boundary, and high volume of anchored vessels that will obstruct dolphin movement near the marine park. All these potential impacts should be properly assessed with reference to the impacts of the HKBCF reclamation on dolphin usage of the waters of the Brothers Islands in order to satisfy the TM requirement.

16) The vessel traffic diversion from the Sky Pier to the north of Lung Kwu Chau can seriously affect the long-term functionality of the SCLKCMP as it will bring more HSF traffic closer to the northern boundary of the marine park, which has proven to be critical dolphin habitat in North Lantau waters in the past decade (Hung 2008, 2014). Even though speed limits may be enforced, the increased volume of HSF traffic and the increased associated noise can affect this critical habitat around Lung Kwu Chau. As required by the TM (section 5.4.2), the effectiveness of the proposed mitigation measures shall be carefully evaluated, and the significance of any residual impacts after implementing them

shall be clearly stated. It is apparent that there will be some residual impacts on the SCLKCMP as a result of the vessel traffic diversion, which have not been properly assessed.

Cumulative Impacts

17) As required by the TM, the evaluation of the anticipated changes and effects should be done in quantitative terms as far as possible (section 4.3.1 (c)), and the assessment methodology should allow for the assessment and evaluation of the cumulative environmental effects (section 4.3.3). However, only very general qualitative synopsis on the cumulative habitat loss and vessel traffic resulting from the various projects was provided in the EIA report. Such a cumulative impact assessment should be done in a quantitative manner, such as using comprehensive habitat modeling or population viability analysis to contemplate the cumulative ecological impacts on the HK CWDs.

18) The programme of Tuen Mun-Chek Lap Kok Link project is clearly outdated as shown in Table 13-33. The project was commenced in 2013 and will be completed in 2017-2018, overlapping with the commencement of propose 3RS works in 2016. It is the responsibility of the project proponent to double-check with other project proponents to ensure their work programme is accurately presented in this EIA report.

19) As required by the TM (Section 4.3.3), the cumulative impacts should be assessed for other existing, committed and proposed developments. However, among the three reclamation proposals in North Lantau waters that are under the “Enhancing Land Supply Strategy” by CEDD, only the ones at Siu Ho Wan (i.e. Lantau Logistics Park) and Sunny Bay were assessed, while the largest reclamation of the three at Lung Kwu Tan (involving 200-300 hectares of reclamation) has been left out in the cumulative impact assessment. This project will potentially affect the function of the new marine park proposed in the present EIA study due to its proximity (i.e. less than a few kilometers). It is a serious oversight to have not included this reclamation proposal in the cumulative impact assessment for the present EIA report. Moreover, the on-going maintenance dredging works of the Tonggu Waterway as well as the reclamation of artificial islands constructed for the Hong Kong-Zhuhai-Macau Bridge adjacent to the western boundary of Hong Kong were also left out as an existing development, and should be included in the cumulative impact assessment according to the TM requirement.

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20) The EIA report should provide full justifications on how the new marine park proposal would compensate for the huge amount of cumulative loss of marine habitats (~1,400 hectares, or ~1600-1700 hectares if Lung Kwu Tan reclamation is included).

21) The cumulative impact of the HKBCF reclamation was highlighted in the EIA report, but discussions on how such cumulative habitat loss from the HKBCF project in conjunction with the 3RS project would affect the dolphins was only discussed generally. According to the latest research, there is clear evidence that the habitat loss and disruption of the traveling corridor resulting from HKBCF reclamation have seriously affected dolphin usage of Northeast Lantau waters (Hung 2014). The additional cumulative loss of habitat due to the 3RS reclamation was not assessed with consideration of this latest information from this adjacent project. Such assessment will also have serious implications on the future viability of the BMP, which will be established in 2016, the same year in which the 3RS project will commence.

Other Impacts

22) The potentially important habitat for foraging and socializing activities at night-time as suggested by the EIA study was largely ignored in numerous sections of the impact assessment (e.g. see sections on Habitat Use under 13.4.6.113; on Behaviour/Activities under Table 13-5; Sections 13.9.1.30, 13.9.2.5, and 13.9.3.4 of the EIA report). All these impact assessments need to be revised to incorporate the major findings of the EIA report and to recognize that the 3RS area is not merely a traveling area for dolphins during the day-time, but a potentially important foraging and socializing habitat at night. Mitigation measures would also need to take these revised impact assessments into consideration.

23) In Section 13.9.2.9 of the EIA report under “Disturbance to Traveling Areas and Connectivity between Core Habitat Area”, the statement that these main areas (for traveling activities) are located further north, closer to the Urmston Road and Tuen Mun coastline, is factually incorrect. In fact, dolphins have avoided the Tuen Mun coastline, and traveling activities have not been recorded in Urmston Road during the past decade of monitoring of these dolphins (Hung 2008, 2014), while the EIA report failed to provide any substantiated evidence to back up its own statement.

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MITIGATION MEASURES

New Marine Park Proposal

24) The EIA report is misleading that it has a section on the establishment of new marine protected areas (Section 13.11.5.3) under the construction phase mitigation and precautionary measures, when such establishment would only take place during the operational phase. This will certainly lead to some misunderstandings that such habitat loss will also be mitigated during the construction phase. Also, the report failed to provide evidence that other measures during the construction phase can lessen the impact of the 650 hectares of habitat loss while the "short-term residual impacts can be considered acceptable". Also, it is very misleading to state that the habitat loss due to construction would become permanent in the operation phase because habitat loss will become permanent as soon as the construction phase begins.

25) To mitigate against dolphin habitat loss from the 3RS project footprint, the project proponent needs to look at what type of dolphin habitat has been and will be lost in order to consider the appropriate compensation measures. From the EIA report, it is evident that dolphins utilize the proposed third runway footprint as important day-time traveling habitat and potentially important night-time habitat for foraging activities. However, the EIA report failed to address whether the new marine park can serve these functions during and after construction, which is against the study brief's requirement for full justifications on proposed compensation measures (Appendix F: section 3 (viii) (b)). In fact, the ecological characters of the proposed marine park will not be established until during the construction phase (EIA report section 13.11.5.39), which is unacceptable as the marine park proposal cannot be well justified according to the study brief requirement (Appendix F: section 3 (viii) (b)). The EIA report should provide a detailed study on this before the project approval, and clarify how the new marine park can fulfill and compensate for the functions of the 3RS footprint area for the dolphins.

26) The location of the marine park being proposed in the EIA report is not well justified as a mitigation measure to protect the dolphins' traveling corridor. In the current proposal, without any protection within the Urmston Road and absolutely no management of the very intense vessel traffic within this major vessel fairway, only a much narrower passage (about 1-km in width) would be left for dolphins to travel through as they have actively

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avoided the section of Urmston Road from Tap Shek Kok to Tuen Mun as in the past and present (Hung 2008, 2014). If the vessel traffic within the Urmston Road is not regulated for the protection of dolphins' traveling activities, the new marine park proposal should not be viewed as an effective mitigation measure to combat the impacts of the third runway reclamation on the dolphins' traveling corridor.

27) The timing of the establishment of the new marine park is a critical problem. The EIA report stated that such marine park will be established in 2023, after the construction of 3RS is completed. Throughout the construction period from 2016-2023, the dolphins' traveling corridor will be seriously affected by the reclamation works and associated disturbance from over 300 construction vessels, so it is very unreasonable and illogical to establish the marine park only after the construction finishes in 2023 when the abundance of dolphins is declining rapidly and their fate is unclear during the seven years of construction. The EIA report did not provide any solid research data or evidence on why the project proponent felt confident the dolphins will still be able to survive and return without any mitigation measures for the large amount of habitat loss and great disturbance during the construction works phase. The EIA report also did not determine where the dolphins may go during the seven-year construction period, and how many of them will return upon the establishment of the marine park in 2023.

28) If it is not practical to designate such marine park during construction (according to EIA Report Section 13.11.5.37), then alternative off-site compensation measures should be considered. In fact, off-site mitigation measures should always be considered as integral parts of the EIA process according to the TM (Annex 16, 3.1 (c)). However, no alternative consideration has been given on the marine park proposal for the 3RS project, such as the expansion of the proposed Southwest Lantau Marine Park by extending toward Tai O waters according to many past AFCD studies' recommendations (e.g. Hung 2008, 2014). Such marine park in West Lantau waters can be established well before the construction phase, instead of waiting until the third runway construction is over in 2023, which should be considered as a viable option to compensate for the massive habitat loss from the 3RS project during the seven-year construction phase.

29) The EIA report admitted that the current marine park proposal is nebulous with the size, location and timing having no firm commitments (see EIA Report Section 13.11.5.27).

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Such commitments are needed for independent and scientific scrutiny before the EIA report is approved, in order to avoid any ineffective compensation measures for habitat loss and other impacts that are irreversible.

30) The EIA report claimed that the marine park proposal is an effective compensation measure. However, no solid proof has been provided elsewhere in Hong Kong to show that the establishment of a marine park can be a sound and effective compensation measure for a reclamation project of this scale, especially if such establishment only happens after the reclamation works are completed. This unprecedented measure should be backed up by solid scientific evidence on its functionality and effectiveness. In fact, both the TM (Annex 16, 5.4.2) and the study brief (Appendix F: section 3 (viii) (b)) required that the effectiveness of the proposed mitigation measures shall be carefully evaluated, and the current marine park proposal is certainly an unproven compensation measure for reclamation works in Hong Kong.

It should be mentioned that the project proponent has misled the public during the 30-day public inspection period that there was a precedent case during the original Chek Lap Kok Airport reclamation works when the local dolphins were affected by the massive reclamation with a decline in abundance, but have recovered since the reclamation is completed. However, the local dolphin population in Hong Kong was studied systematically since late 1995, when the Chek Lap Kok airport reclamation works have been completed, and no baseline information on dolphin status was collected before or during the original airport reclamation works, to provide evidence on any sign of recovery. Therefore, there is still no precedent case to show that the establishment of a marine park for a reclamation project can be effective as a compensation measure.

<u>Management of Vessel traffic</u>

31) The EIA report did not follow the study brief suggestion on reducing the volume of marine traffic as a mitigation measure (Appendix F: 3 (vii) (e)) without any justification. Instead, the only mitigation measures on vessel traffic were solely focused on regulation of speed limits and re-routing vessel traffic, without considering the huge volume of vessel traffic impacting the dolphin usage in North Lantau waters.

32) The EIA report suggested speed restrictions and route diversions for HSFs from the

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Sky Pier, and mentioned that these HSF operators are under the jurisdiction of the project proponent to enforce such mitigation measures. However, the project proponent should mention how such jurisdiction can extend beyond HKIAAA. The management plan should also include details such as how the authority would strictly enforce such law and what would be the legal consequences for violations. The report should have presented the firm commitment from the Administration (i.e. Marine Department) on such restrictions and route diversions and the commitment to enforce such law. In fact, it is the TM requirement that the mitigation measure recommended shall be feasible to implement within the context of Hong Kong (section 5.4.2), in which the EIA report has failed to meet such requirement.

33) The mitigation measure of diverting vessel routes mentioned in the EIA report stated that such diversions with speed limit control would only be applied to part-journeys that crossed high CWD abundance areas. However, based on the results from this EIA report, dolphins' traveling behaviour can also be seriously affected by vessel movement, which cannot be fully accounted for simply based on the abundance data. Traveling dolphins are harder to find, and therefore areas with lots of traveling activities can still appear to be areas of low abundance, as evidenced in the 3RS project footprint. In addition, the abundance data will only be based on day-time data, which can be different from crepuscular and night-time usage, which was also demonstrated in the present EIA study. Therefore, dolphin abundance or density should only be considered as one of the parameters when determining the areas in which speed limits (and traffic volume control) of vessels should be enforced.

34) As mentioned in the EIA report, the speed limit of 10 knots has been enforced within SCLKCMP for many years and proved to be effective. There is no strong justification or supporting evidence to impose an arbitrarily higher speed limit of 15 knots outside of the marine park for the safety of the dolphins, especially when 10 knots are proved to be effective.

35) In the EIA report, only the HSFs from Sky Pier will be regulated for their traveling route and speed, but not all other HSFs from Victoria Harbour, which may still traverse through the narrowed channel (~600 m in width) between the SCLKCMP and the 3RS footprint during the construction and operational phases. Assuming that these ferries will

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not follow the route diversion and regulation of speed limit, there will be some residual impacts of the narrowed channel for HSF vessel traffic on the functionality of SCLKCMP, which has not been probably assessed and mitigated, and against the TM requirement (section 5.4.2).

36) The EIA report mentioned that a possible mitigation measure as suggested by the study brief on relocation of the busy ferry routes passing south of Lantau was not studied, solely because those ferries are outside the control of the project proponent. It is unacceptable that the project proponent seriously misunderstands the intention clearly stated in the study brief for this suggestion (Appendix F, 3 (vii) (g)), which is to enhance the quality of degraded dolphin habitats and to increase the overall amount of available habitat for CWD as one of the compensations for the massive habitat loss to the north of the airport. This had nothing to do with the Sky Pier HSF traffic.

37) The EIA report mentioned that a qualitative traffic impact assessment was completed to consider the three alternative routes further south of Lantau. Such assessment should have been provided in the EIA report so that the public can assess whether the arguments against such proposals to divert vessel traffic away from the dolphin habitat are feasible as an effective compensation measure for massive habitat loss from the 3RS construction.

Dolphin Exclusion Zone (DEZ)

38) The EIA report suggested that the method of implementation of DEZ during nighttime is uncertain at this point and will be prepared at the pre-construction stage. But this should be done before the EIA report is submitted to determine whether such a mitigation measure is practicable and effective for night-time construction works. In fact, under the TM requirement (Annex 16, 5.4.2), all mitigation measures recommended shall be feasible to implement within the context of Hong Kong, and if the measure is not proven to be feasible and effective, then the project proponent should propose alternative methods before the EIA report is approved.

39) The EIA report stated that the DEZ should be specific to the intensive and noisy construction activities, but such activities were not specified at all, which can be entirely up to project proponent to decide. This should be well specified in the EIA report.

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ENVIRONMENTAL MONITORING AND AUDITING

40) Similar to previous infrastructure projects such as the HK-Zhuhai-Macau Bridge construction, an Event and Action Plan should be required for implementation in the EM&A Manual for dolphin monitoring works, including but not limited to line-transect vessel surveys, land-based surveys and passive acoustic monitoring. Such Event and Action Plan would be essential to compare dolphin usage in relation to various impacts before, during and after construction works, to evaluate the effectiveness of mitigation measures, and to stipulate immediate actions to be taken in case of non-compliance of impacts on dolphins. Action Level and Limit Level should be clearly defined by setting targets before commencement of baseline monitoring works. The follow-up actions should be clearly stated for the triggering of both levels, which can draw experience from the various HZMB projects for implementation. Such requirement is in accordance with the TM requirement (Annex 16, section 5.5.1).

42) A transparent reporting system similar to the one adopted by the HZMB projects for their EM&A works is needed for the present project to provide transparency for the public to monitor the progress of on-going monitoring works, and to scrutinize the effectiveness of various mitigation and compensation measures with monthly raw data and quarterly / annual reports. The raw EM&A data should also be made available for regular reviews by ACE and public interest groups.

42) As an unproven mitigation measure in Hong Kong, the TM required that the EM&A programme of the 3RS project should include a comprehensive monitoring plan of the new proposed marine park, to determine its effectiveness and whether it will meet the management target for the recovery of dolphins during the operational phase (TM section 8.3). Such plan should be part of the EM&A programme to verify accuracy of predictions and monitor the effectiveness of the marine park as a compensation measure TM Annex 16, 5.5.1). An action plan should be recommended in response to all unpredicted impacts and failed mitigation, and enhancement of such compensation measure should also be considered. The action plan with an enhancement plan can make reference to the Lok Ma Chau Spurline as an example, with a clear management target for recovery of dolphins in the new marine park area. The responsibility to reach the management target should be clarified, and the benchmark for such target should be clearly set before the EIA report is approved.

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