

Incident Report on Action Level or Limit Level Non-compliance

Contract	Contract No. HY/2013/04 HZMB HKBCF – Infrastructure Works Stage II (Southern Portion)		
Ref. No.	E101		
Date	December 2018 – February 2019 (referred to as the “reporting period”)		
Time (hh:mm)	N/A		
Monitoring Location	Northeast Lantau (NEL) & Northwest Lantau (NWL)		
Parameter	Ecology – Chinese White Dolphin (CWD)		
Action Level	The Action and Limit Levels of CWD monitoring extracted from the enhanced Event and Action Plan for CWD Monitoring (as accepted by EPD on 7 May 2013) are reproduced below.		
Limit Level			
Measured Level	Action & Limit Levels (AL & LL):		Monitoring Results:
	North Lantau Social Cluster		for the Monitoring Period
	Action Level (AL)	Limit Level (LL)	
	NEL	STG < 4.2 & ANI < 15.5	NEL: (STG < 2.4 & ANI < 8.9) and
NWL	STG < 6.9 & ANI < 31.3	NWL: (STG < 3.9 & ANI < 17.9)	STG = 2.4 ± 1.88 & ANI = 8.0 ± 6.60
Remarks: 1. STG means quarterly encounter rate of number of dolphin sightings 2. ANI means quarterly encounter rate of total number of dolphins 3. For North Lantau Social Cluster, AL will be triggered if <u>either NEL or NWL</u> falls below the criteria; LL will be triggered if <u>both NEL and NWL</u> fall below the criteria 4. Bold means AL exceedance 5. Bold with underline means LL exceedance			
Possible reason for Action or Limit Level Non-compliance	<p>(a) Causes of Exceedance</p> <ul style="list-style-type: none"> • During CWD monitoring in the reporting period, no adverse impact from the activities of HZMB HKBCF project on dolphin was noticeable from general observations. • After review of all available and relevant data, including the raw data and analyses of other parameters included in the EM&A, no significant variation is detected in key environmental parameters. • As confirmed with Engineer’s Representative, there were no works under the other HKBCF contracts (i.e. HY/2013/01, HY/2013/02, HY/2013/03 and HY/2014/05) during December 2018 – February 2019, and the EM&A programmes under the abovementioned contracts were terminated as per EPD’s memo dated 1 February 2019. • Also, according to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract during December 2018 – February 2019. Moreover, the localised silt curtains under HY/2013/04 were removed on 4 January 2019. • Current mitigation measures were being upheld and Dolphin Watching Plan under Contract No. HY/2013/04 was implemented until completion of the removal of localised silt curtains under HY/2013/04 on 4 January 2019. There was no failure or reduction of dolphin-specific mitigation measures. • It was concluded that the HZMB construction work is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to individual HZMB contracts and processes cannot be separated from the other activities within the dolphin habitat. 		

<p>Actions taken / to be taken</p>	<p>(b) Action required under the action plan Please refer to the corresponding Event and Action Plan</p> <p>(c) Action taken under the action plan</p> <p>1) Statistical data analysis has been repeated to confirm findings A two-way ANOVA with repeated measures and unequal sample size was conducted to examine whether there were any significant differences in the average encounter rates between the baseline and impact monitoring periods. The two variables that were examined included the two periods (baseline and impact phases) and two locations (NEL and NWL). For the comparison between the baseline period and the present quarter, the p-values for the differences in average dolphin encounter rates of STG and ANI were 0.0041 and 0.0221 respectively. If the alpha value is set at 0.05, significant differences were detected between the baseline and present quarter in both the average dolphin encounter rates of STG and ANI.</p> <p>2) All available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A have been reviewed The AFCD monitoring data during December 2018 to February 2019 has been reviewed by the dolphin specialist engaged under this Contract. During the same quarter, no dolphin was sighted from 83.03 km of survey effort on primary lines in NEL, while only four groups of 14 dolphins were sighted from 127.29 km of survey effort on primary lines in NWL. This review has confirmed that the low occurrence of dolphins reported by the monitoring surveys in winter 2018-19 in NEL and NWL survey area is accurate. Furthermore, for water quality monitoring during this reporting period, the following exceedances were recorded and investigated:</p> <ul style="list-style-type: none"> • During December 2018, six exceedances of water quality (consisting of five Action Level exceedances and one Limit Level exceedance of suspended solids) were recorded. Following investigations, it was concluded that the exceedances were not related to the HZMB HKBCF project. • During January 2019, no Action and Limit Level exceedances were recorded. • During February 2019, the water quality monitoring programme was temporarily suspended, therefore no water quality monitoring was conducted, no water quality monitoring results were recorded, and no Action and Limit Level exceedances were recorded. <p>3) Identification of source of impact was carried out During this reporting period of dolphin monitoring, no adverse impact on dolphin from the works activities of HZMB HKBCF project was noticeable from general observations. Nevertheless, dolphin mitigation measures were being upheld until completion of the removal of localised silt curtains on 4 January 2019 and the Dolphin Watching Plan was implemented from the start of the works of the Project until 4 January 2019.</p>
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It is also noted that another ongoing project has expanded extensively in scale and now occupies considerable areas of NWL; it has prevented the successful completion of some of the transect lines and is in addition to the existing pressures the dolphins faced in the Lantau habitat before the HZMB development started (e.g. boat traffic, habitat degradation, pollution, competition with fisheries). The same project has already been noted as influencing a large part of NWL, which dolphins seem to have entirely vacated. Investigation reports into previous dolphin monitoring exceedances prepared by the ET for Contract No. HY/2010/02 had concluded that there were ongoing construction works, both Project related and not, which were known to impact dolphins. While no adverse impact was observed from HZMB HKBCF activities on dolphins during this reporting period, the long-term impacts of these works cannot be assessed although expanding the scope of monitoring areas will provide better data on impacts outside the NEL and NWL zones.

4) The IEC, ER and Contractor have been informed of findings

ET of HY/2013/04 notified the exceedance as follows:

- 18 April 2019 (Notification No. 201812-201902D_NOE)
- 22 May 2019 (Notification No. 201812-201902D_NOE_r1)

5) Monitoring data have been checked

See Point (2) above.

6) Repeated review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary

Site inspection of the silt curtain integrity was conducted during weekly site inspection. The appropriate mitigation monitoring was in place depending on site activities (i.e., Dolphin Exclusion Zone (DEZ)/Dolphin Watching Plan (DWP) for silt curtain deployment and all other Project activities, respectively). These activities continued until completion of the removal of localised silt curtains under Contract No. HY/2013/04 on 4 January 2019.

After investigation, there was no evidence that indicated that the reduced number of dolphins in NWL and NEL was related solely to Project works. It was also concluded that the contribution of impacts due to the HZMB works as a whole (or individual contracts) cannot be quantified nor separate from the other stress factors.

(d) ET's conclusions and recommendations for mitigation

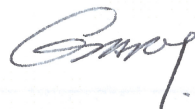
Current mitigation measures for CWD were implemented fully, and the Contractor was reminded to consistently implement existing mitigation measures.

Investigation reports into previous dolphin monitoring exceedances prepared by the ET for Contract No. HY/2010/02 have noted that the current monitoring works under the EM&A programmes have already provided a high level of monitoring effort, that additional monitoring in the monitoring areas was not considered necessary, and that existing data can be reviewed and alternative analytical methods can be explored to determine any new insight to the dolphin distribution pattern.

	<p>(e) Contractor’s actions to implement the mitigation</p> <ul style="list-style-type: none"> Although this exceedance was considered not solely caused by HZMB HKBCF Project, the Contractor is reminded to fully implement all relevant mitigation measures identified in the EM&A Manual.
Remarks	-

(Location Plan – please refer below)

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 Designation: Environmental Team Leader (Contract No. HY/2013/04)
 Signature:



Date: 19 June 2019

Location Plan

