

Appendix L1 Cumulative Statistics on Exceedances

		Total No. recorded in this quarter	Total No. recorded since project commencement
1-Hr TSP	Action	0	0
	Limit	0	0
24-Hr TSP	Action	0	2
	Limit	0	0
Noise	Action	0	0
	Limit	0	0
Water Quality	Action	0	1
	Limit	0	0
Impact Dolphin Monitoring	Action	0	7
	Limit	1	1

Appendix L2 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions

Reporting Period	Cumulative Statistics		
	Complaints	Notifications of Summons	Successful Prosecutions
This quarter	0	0	0
Total No. received since project commencement	2	0	0

Email
message

**Environmental
Resources
Management**

To ENVIRON - Hong Kong, Limited (ENPO)

From ERM- Hong Kong, Limited

Ref/Project number Contract No. HY/2012/07 Tuen Mun–Chek Lap
Kok Link–Southern Connection Viaduct Section

Subject Notification of Exceedance for Impact Dolphin
Monitoring

Date 9 April 2015

16/F Berkshire House,
25 Westlands Road
Quarry Bay, Hong Kong
Telephone: (852) 2271 3113
Facsimile: (852) 2723 5660
E-mail: jovy.tam@erm.com



Dear Sir or Madam,

Please find attached the Notification of Exceedance (NOE) of the following
Log no.:

0215660_Dec2014/Feb2015_dolphin_STG&ANI_NEL&NWL

A total of one limit level exceedance was recorded in the quarterly impact
dolphin monitoring data between December 2014 and February 2015.

Regards,

A handwritten signature in black ink, appearing to read 'Jovy Tam', is positioned above the printed name.

Mr Jovy Tam
Environmental Team Leader

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ERM-Hong Kong, Limited

CONTRACT NO. HY/2012/07

TUEN MUN – CHEK LAP KOK LINK –
SOUTHERN CONNECTION VIADUCT SECTION

Impact Dolphin Monitoring
Notification of Exceedance

Log No.	0215660_Dec2014/Feb2015_dolphin_STG&ANI_NEL&NWL [Total No. of Exceedance = 1]	
Date	December 2014 to February 2015 (monitored) 2 April 2015 (results received by ERM)	
Monitoring Area	Northeast Lantau (NEL) and Northwest Lantau (NWL)	
Parameter(s) with Exceedance(s)	Quarterly encounter rate of dolphin sightings (STG) Quarterly encounter rate of total number of dolphins (ANI)	
Action Levels	North Lantau Social cluster	NEL: STG < 4.2 & ANI < 15.5 or NWL: STG < 6.9 & ANI < 31.3
Limit Levels		NEL: STG < 2.4 & ANI < 8.9 and NWL: STG < 3.9 & ANI < 17.9
Recorded Levels	NEL	STG = 0.0 & ANI = 0.0
	NWL	STG = 2.9 & ANI = 11.3
	One Limit Level Exceedance is recorded in the quarterly impact dolphin monitoring at NEL and NWL between December 2014 and February 2015. The exceedances were reported in the approved <i>Sixteenth Monthly EM&A Report</i> dated 11 March 2015.	
Statistical Analyses	<p>Further to the review of the available and relevant dolphin monitoring data in the EM&A under this Contract, statistical analyses were conducted as follows:</p> <ul style="list-style-type: none"> A two-way ANOVA with repeated measures and unequal sample size was conducted using Period (2 levels: baseline vs impact – present impact quarter, December 2014 to February 2015) and Location (2 levels: NEL and NWL) as fixed factors to examine whether there were any significant differences in the averages encounter rates between the baseline and present impact monitoring quarter. By setting $\alpha = 0.05$ as the significance level in the statistical tests, significant difference in STG ($p = 0.0059$) and in ANI ($p = 0.0330$) between Period were detected. A two-way ANOVA with repeated measures and unequal sample size was conducted using Cumulative Period (2 levels: baseline vs impact – cumulative quarters, December 2012 to February 2015) and Location (2 levels: NEL and NWL) as fixed factors to examine whether there were any significant differences in the averages encounter rates between the baseline and cumulative impact monitoring quarter. By setting $\alpha = 0.1$ as the significance level in the statistical tests, significant difference in STG ($p = 0.0009$) and in ANI ($p = 0.0003$) between Cumulative Period and Location were detected. <p>* Note: The commencement date under <i>Contract No. HY/2012/07</i> is 31 October 2013.</p>	
Works Undertaken (in the monitoring quarter)	<p>In the quarter between December 2014 and February 2015, the major marine works under <i>Contract No. HY/2012/07</i> included:</p> <ul style="list-style-type: none"> Construction of Pile caps at Viaducts B, C & E; Marine piling platform installation and uninstallation; Marine Piling at Viaducts B, C, D & E; and Additional marine ground investigation (GI) and laboratory testing. 	

Possible Reason for Action or Limit Level Exceedance(s)	<p>The exceedance is considered unlikely to be due to the Project, in view of the following:</p> <ul style="list-style-type: none"> • The <i>Monitoring of Marine Mammals in Hong Kong Waters (2013 – 14)</i> ⁽¹⁾ reported that dolphin usage and traveling activities to the northern side of the airport (dolphin traveling corridor) are affected by frequent high-speed ferry traffic from Sky Pier (not related to this project), which is likely a contributing factor for the decrease in dolphin abundances in NEL. • As per the findings from the EIA report (Section 8.11.9), the major influences on the Chinese white dolphin (CWD) <i>Sousa chinensis</i> under this Contract are marine traffics and bored piling works. The Contractor has implemented the marine traffic control as per the requirements in the EP-354/2009/C and the updated <i>EM&A Manual</i>. Likewise, the bored piling works were undertaken within a metal casing as described in the EP and the approved EIA Report. After reviewing of the bored piling records, the bored piling working rates in this quarter are within the allowable working rate described in the EP (<i>Clause 3.11</i>), in which construction works were not undertaken at more than 15 piers sites from December 2014 to February 2015. During this quarter of dolphin monitoring, no unacceptable impact on CWD due to the activities under this Contract was observed. • According to the findings in the water monitoring results between December 2014 and February 2015, the impact mean level of SS (Mid-ebb: 12.5 mg/L; Mid-flood: 12.4 mg/L) in these 3 months is below the ambient mean level (130% of baseline mean level) of SS (Mid-ebb: 13.3 mg/L; Mid-flood: 15.7 mg/L). In February, some results of SS level were recorded higher than the values of Action/Limit Level, but within 120% of the result of upstream control station at the same tide in same day. This would imply that no unacceptable impact on SS levels was associated with the marine works under this Contract, and thus no indirect impacts on marine habitat quality due to change in water quality is observed in this Contract. High level results of SS in February 2015 were considered as natural variation.
Actions Taken/ To Be Taken	<p>With reference to the site inspection records in this quarter, the respective marine ecological mitigation measures (including 250 m dolphin exclusion zone, Passive Acoustic Monitoring (PAM) for night time works, acoustic decoupling plan, training to workers, marine vessels speed control and offsite travel route control) have been implemented properly by the Contractor throughout the marine works period. No immediate additional action is considered necessary. The ET will monitor for future trends in exceedance(s).</p> <p>A meeting was held on 27 April 2015 with attendance of ENPO, Resident Site Staff (RSS), Environmental Team and dolphin specialist for Contract No. HY/2010/02, RSS, ET, dolphin specialist and main Contractor for Contract No. HY/2011/03. The discussion/recommendation as recorded in the minutes of the meeting, which might be relevant to this Contract are summarized below. It was concluded that the HZMB works is one of the contributing factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB works as a whole (or individual marine contracts) cannot be quantified nor separate from the other stress factors. It was reminded that the ETs shall keep reviewing the implementation status of the dolphin related mitigation measures and remind the contractor to ensure the relevant measures were fully implemented. It was recommended that the marine works of HZMB projects should be completed as soon as possible so as to reduce the overall duration of impacts and allow the dolphins population to recover as early as possible.</p>
Remarks	<p>The results of impact water quality and impact dolphin monitoring, the status of implemented marine ecological mitigation measures are documented in the approved <i>Fourteenth to Sixteenth EM&A Monthly Reports</i>.</p>

(1) Hung SKY (2014). Prepared for AFCD. Available from: http://www.afcd.gov.hk/english/conservation/con_mar/con_mar_chi/con_mar_chi_chi/con_mar_chi_chi.html