

**Contract No. HY/2011/03 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Link Road Section between Scenic Hill and Hong Kong Boundary Crossing Facilities
Notifications of Environmental Quality Limits Exceedances** Notification No.: 227 ver2

Date of Notification: 15 July 2016

Works Inspected: 1-hr TSP monitoring was undertaken on 14 July 2016

Monitoring Location: AMS5 – Ma Wan Chung Village

Parameter: 1-hour TSP monitoring

Action & Limit Level (AL & LL) / Measured Level:

PARAMETER	STATION	AL ($\mu\text{g}/\text{m}^3$)	LL ($\mu\text{g}/\text{m}^3$)	MEASURED LEVEL, $\mu\text{g}/\text{m}^3$
1-hr TSP (14:20 – 15:20 hours)	Ma Wan Chung Village (AMS5)	352	500	106
1-hr TSP (15:20 – 16:20 hours)	Ma Wan Chung Village (AMS5)	352	500	105
1-hr TSP (16:20 – 17:20 hours)	Ma Wan Chung Village (AMS5)	352	500	421

Notes: ***Bold Italic*** means AL exceedance
Bold Italic with underline means LL exceedance

Possible reason for Action or Limit Level Non-compliance:

An Action Level exceedance of 1-hr TSP level was recorded at AMS5 (Ma Wan Chung Village) for 14 July 2016, 16:20 – 17:20 hours.

According to the information provided by the Contractor, the following construction activities were undertaken during the sampling period:

Zone 1

- Removal of Surcharge
- Box Culvert Construction
- Piling Works

Zone 2

- Box Culvert Construction
- Removal of Surcharge

Zone 3A & 3B & 3C

- Transportation of fill material
- Piling Works

During the TSP monitoring period from 16:20 to 17:20 hours on 14 July 2016, it was observed that there was agricultural burning of materials grown at Ma Wan Chung Village by others next to AMS5 (about 5m away). It was noted that the agricultural burning of materials at Ma Wan Chung Village (where it was located completely outside works area of Contract no. HY/2011/03) was not conducted by the Contractor of Contract No. HY/2011/03.

The Contractor confirmed that water spraying had been provided for fill materials to maintain the entire surface in a damp condition before loading and unloading and haul roads were sprayed with water by water trucks regularly. During the regular weekly site inspection on 13 July 2016, dust control measures such as water spraying for fill materials and haul roads were observed. No fugitive dust emission was observed by ET at the construction site near AMS5.

Agricultural burning at Ma Wan Chung Village was not observed during the 1-hr TSP monitoring period from 14:20 – 15:20 hours and 15:20 – 16:20 hours on 14 July 2016 and the measured level of 1-hr TSP during the said periods was below Action and Limit Level. Also, no exceedances of 1-hr TSP were recorded on 19 July 2016 at AMS5. Therefore, it is considered that the 1-hr TSP level exceedance on 14 July 2016 was not related to the construction activities of the Contract and was caused by agricultural burning at Ma Wan Chung Village.

Actions taken/ to be taken:

As the 1-hr TSP level exceedance at AMS5 was not related to the Contract, no immediate actions are considered necessary. However, the Contractor is reminded to continuously implement the dust control measures throughout the construction phase.

Reviewed by : Claudine Lee _____

Title : ET Leader _____



Date : 9 August 2016 _____

Copied to : Supervising Officer, IEC, EPD, Contractor, ENPO

**Contract No. HY/2011/03 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Link Road Section between Scenic Hill and Hong Kong Boundary Crossing Facilities
Notifications of Environmental Quality Limits Exceedances** Notification No.: 228 ver 0

Date of Notification: 13 September 2016

Works Inspected: Not Applicable

Monitoring Location: NEL & NWL

Parameter: Ecology (Chinese White Dolphin Monitoring)

Action & Limit Levels		Monitoring Results
	North Lantau Social Cluster	The quarter of June 2016 – August 2016
	Action Level (AL) Limit Level (LL)	
Northeast Lantau (NEL)	STG < 4.2 & ANI < 15.4	<u>STG = 0; ANI = 0</u>
Northwest Lantau (NWL)	STG < 6.9 & ANI < 31.3	<u>STG = 1.72; ANI = 7.48</u>

Notes:

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 either NEL or NWL falls below the criteria; LL will be triggered if both NEL and NWL fall below the criteria.
4. ***Bold Italic*** means AL exceedances.
5. ***Bold Italic with underline*** means LL exceedances

Possible reason for Limit Level Non-compliance:

There was one Limit Level exceedance of dolphin monitoring for the quarterly monitoring data (between June 2016 – August 2016). According to the contractor's information, the marine activities undertaken for HKLR03 during the quarter of June 2016 – August 2016 included removal of surcharge materials, temporary drainage diversion, ground investigation, box culvert diversion, construction of permanent sea wall and maintenance of silt curtain.

There is no evidence showing the current LL non-compliance directly related to the construction works of HKLR03 (where the amounts of working vessels for HKLR03 have been decreasing), although the generally increased amount of vessel traffic in NEL during the impact phase has been partly contributed by HKLR03 works since October 2012. It should also be noted that reclamation work under HKLR03 (adjoining the Airport Island) situates in waters which has rarely been used by dolphins in the past, and the working vessels under HKLR03 have been travelling from source to destination in accordance with the Marine Travel Route to minimize impacts on Chinese White Dolphin (CWD). In addition, the contractor will implement proactive mitigation measures such as avoiding anchoring at Marine Department's designated anchorage site – Sham Shui Kok Anchorage (near Brothers Island) as far as practicable.

According to Monitoring of Chinese White Dolphins in Southwest Lantau Waters – Fourth Quarterly Report (December 2015 to February 2016) which is available on ENPO's website, with their primary ranges centered in North and West Lantau waters, some individuals showed apparent range shifts or extensions to Southwest Lantau waters in 2015-16. For example, three individual dolphins (NL120, WL46 and WL221) indicated obvious shifts in their range use from NWL to West Lantau (WL) and Southwest Lantau (SWL) waters. Moreover, many individuals (e.g. NL212, NL260, WL200, SL55, WL232, WL237 and WL265) have extended their ranges from WL waters to SWL waters. It remains to be seen whether some of these individuals have permanently shifted their ranges away from their primary ranges in North Lantau, or begin to spend more times in SWL waters as part of their ranges.

ENPO updated that the Hong Kong-Zhuhai-Macao Bridge Authority (HZMBA) for the Mainland section of Hong Kong-Zhuhai-Macao Bridge (HZMB) has commenced an interim survey on fisheries resources and CWD in the Mainland waters. ENPO presented the preliminary findings of the HZMBA interim survey on CWD sighting and photo-identification works which provide solid evidence that some CWD that were previously more often sighted in HK waters have expanded their ranges into the Mainland waters, and some with reduced usage in HK waters. These preliminary data were mentioned in Monitoring of Chinese White Dolphins in Southwest Lantau Waters – Fourth Quarterly Report (December 2015 to February 2016) which is available on ENPO's website.

Actions taken/ to be taken:

Inform the IEC, ENPO, ER/SOR and Contractor

The ETL informed IEC, ENPO, SOR and Contractor via email on 13 September 2016.

Repeat statistical data analysis to confirm findings and check monitoring data:

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 (fifteenth quarter of the impact phase being assessed), the p-values for the differences in average dolphin encounter rates of STG and ANI were 0.0031 and 0.0227 respectively. If the alpha value is set at 0.05, significant differences were detected between the baseline and present quarters in both the average dolphin encounter rates of STG and ANI.

For comparison between the baseline period and the cumulative quarters in impact phase (i.e. first fifteen quarters of the impact phase being assessed), the p-values for the differences in average dolphin encounter rates of STG and ANI were 0.000009 and 0.000001 respectively. Even if the alpha value is set at 0.00001, significant differences were still detected in both the average dolphin encounter rates of STG and ANI (i.e. between the two periods and the locations).

Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences:

The AFCD monitoring data during June to August 2016 has been reviewed by the dolphin specialist. During the same quarter, no dolphin was sighted from 78.80 km of survey effort on primary lines in NEL, while three groups of 19 dolphins were sighted from 123.40 km of survey effort on primary lines in NWL. This review has confirmed that the extremely low occurrence of dolphins reported by the HKLR03 monitoring surveys in summer 2016 in NEL and NWL survey area is accurate.

Recommendations/ mitigation measures/ actions if necessary:

Review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary:

All dolphin protective measures are fully and properly implemented in accordance with the EM&A Manual. According to the Marine Travel Route Plan, the travelling speed of vessels must not exceed 5 knots when crossing the edge of the proposed marine park. The Contractor will continue to provide training for skippers to ensure that their working vessels travel from source to destination to minimize impacts on Chinese White Dolphin and avoid anchoring at Marine Department's designated anchorage site - Sham Shui Kok Anchorage (near Brothers Island) as far as practicable. Also, it is recommended to complete the marine works of the Contract as soon as possible so as to reduce the overall duration of impacts and allow the dolphins population to recover as early as possible.

A meeting was held on 14 October 2016 with attendance of representative of ENPO, Resident Site Staff (RSS), Environmental Team (ET) and dolphin specialist for Contract Nos. HY/2010/02, HY/2011/03, HY/2012/07, HY/2012/08. The discussion/recommendation as recorded in the minutes of the meeting, which might be relevant to HKLR03 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.

The dolphin specialists of the projects confirmed that the CWD sighting around the North of Sha Chau and Lung Kwu Chau Marine Park (SCLKCMP) has significantly decreased, and it was apparently related to the re-routing of high speed ferry (HSF) from Skypier.

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.

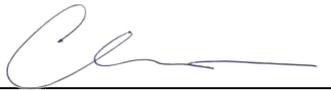
It was recommended that the marine works of HZMB projects should be completed as soon as possible so as to reduce the overall duration of impacts and allow the dolphins population to recover as early as possible.

It was also recommended that the marine works footprint (e.g., reduce the size of peripheral silt curtain) and vessels for the marine works should be reduced as much as possible, and vessels idling / mooring in other part of the North Lantau shall be avoided whenever possible.

It was suggested that the protection measures (e.g., speed limit control) for the proposed Brothers Marine Park (BMP) shall be brought forward as soon as possible before its establishment so as to provide a better habitat for dolphin recovery. It was noted that under the Regular Marine Travel Route Plan, the contractors have committed to reduce the vessel speed in BMP. HyD updated that the draft map of the proposed BMP was gazetted in February 2016. ENPO updated that the BMP was approved by the Chief Executive in the Executive Council in August 2016. The ETs were reminded to update the BMP boundary in the Regular Marine Travel Route Plan.

There was a discussion on exploring possible further mitigation measures, for example, controlling the underwater noise. It was noted that the EIA reports for the projects suggested several mitigation measures, all of which have been implemented.

Reviewed by : Claudine Lee Title : ET Leader


Copied to : Supervising Officer, ENPO, IEC, EPD, Contractor Date : 29 November 2016



Hong Kong International Airport
香港國際機場

Chek Lap Kok Ferry Pier
赤鱸角碼頭

Zone 1
區域 1

Zone 2
區域 2

Zone 3A
區域 3A

Zone 3B
區域 3B

Zone 3C
區域 3C

Scenic Hill
觀景山

Tung Chung Pier
東涌碼頭

AMS5

Tung Chung New Town
東涌新市鎮



環境保護署

噪音管制監督

圖例 Legend

Environmental Protection Department Noise Control Authority

Zone 1 區域 1	Zone 2 區域 2	Zone 3A 區域 3A	Zone 3B 區域 3B	Zone 3C 區域 3C

Summary of Notifications of Summons and Prosecutions

Total No. of Notifications of Summons / Prosecutions Received	No. of Notifications of Summons / Prosecutions Received during Reporting Period	Status of Notifications of Summons / Prosecutions
0	0	N/A