

**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.: 183

**Date of Notification:** 11 July 2014

**Works Inspected:** Data collected from water sampling works on 27 June 2014 and the test report was issued on 2 July 2014.

**Monitoring Location:** Water Quality Monitoring Stations

**Parameter:** Dissolved Oxygen (DO)/ ~~Suspended Solids (SS)~~/ Turbidity (TURB)

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

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS8	Surface	5	4.2	5.1	<b><i>4.9</i></b>

Notes:  
***Bold Italic*** means AL exceedances.  
***Bold Italic with underline*** means LL exceedances.

**Possible reason for Action or Limit Level Non-compliance:**

On 27 June 2014, an Action Level exceedance of dissolved oxygen was recorded at station IS8 during the mid-flood tide.

The exceedance has been investigated and is considered unlikely to be related to contract works due to the following reasons:

- Sand filling, installation of stone column, formation of stone platform and formation of seawall at Zone 1, formation of seawall at Zone 2, formation of seawall and deposition of rock core at Zone 3A were carried out within silt curtain as recommended in the EIA report.
- The range of dissolved oxygen at station IS8 during the baseline monitoring is shown as below:

Station	Depth	Range of Dissolved Oxygen (mg/L) Mid-Ebb Tide	Range of Dissolved Oxygen (mg/L) Mid-Flood Tide
IS8	Surface	4.9 to 8.6	5.5 to 7.7

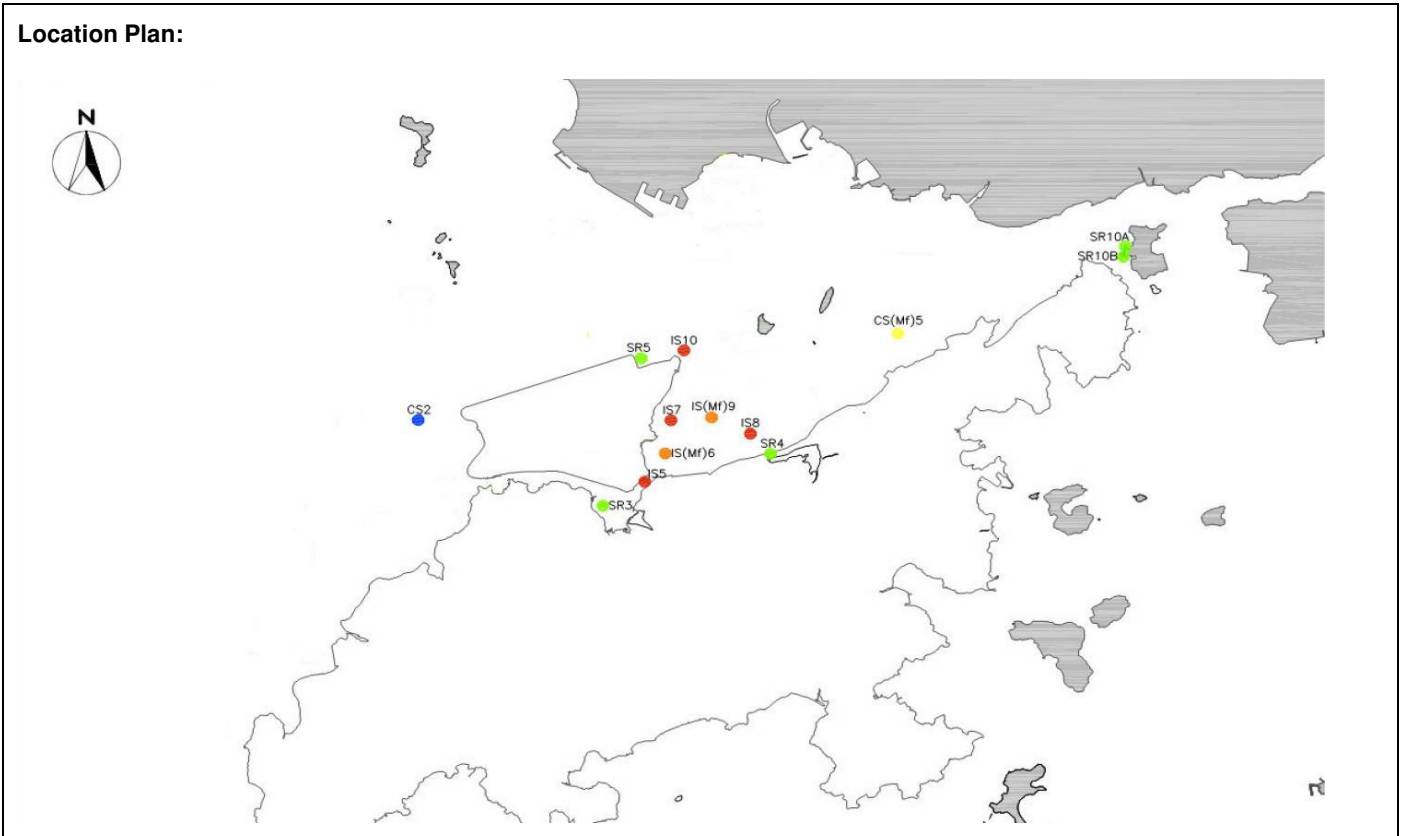
The measured value at station IS8 at the surface level was below the range of dissolved oxygen during the baseline monitoring for mid-flood tide. However, there were no specific activities recorded during the monitoring period that would cause any significant impact on the monitoring results.

As such, the exceedance in DO levels is considered to be attributed to other external factors rather than the contract works.

**Actions taken/ to be taken:**

As the DO level recorded beyond the water quality criteria was not related to contract works, no immediate actions are considered necessary.

**Location Plan:**



Reviewed by : Claudine Lee

Title : ET Leader

  
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Date : 11 July 2014

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.: 184 (ver 1)

**Date of Notification:** 6 August 2014

**Works Inspected:** Data collected from water sampling works on 9 July 2014 and the test report was issued on 11 July 2014.

**Monitoring Location:** Water Quality Monitoring Stations

**Parameter:** Dissolved Oxygen (DO)/ ~~Suspended Solids (SS)~~/ Turbidity (TURB)

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

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS(Mf)6	Surface & Middle	5	4.2	5.4	<b><i>4.9</i></b>

Notes:  
***Bold Italic*** means AL exceedances.  
***Bold Italic with underline*** means LL exceedances.  
 Water quality monitoring was carried out for surface level only at station IS(Mf)6 on 9 July 2014.

**Possible reason for Action or Limit Level Non-compliance:**

On 9 July 2014, an Action Level exceedance of dissolved oxygen was recorded at station IS(Mf)6 during the mid-flood tide.

The exceedance has been investigated and is considered unlikely to be related to contract works due to the following reasons:

1. Stone column works and construction of seawall at Zone 1 were carried out within silt curtain as recommended in the EIA report.
2. The range of dissolved oxygen for surface and middle level at station IS(Mf)6 during the baseline monitoring is shown as below:

Station	Depth	Range of Dissolved Oxygen (mg/L) Mid-Ebb Tide		Range of Dissolved Oxygen (mg/L) Mid-Flood Tide	
IS(Mf)6	Surface & Middle	3.3	to 10.6	2.6	to 10.1

The measured value at station IS(Mf)6 at the surface level was within the range of dissolved oxygen during the baseline monitoring for mid-flood tide.

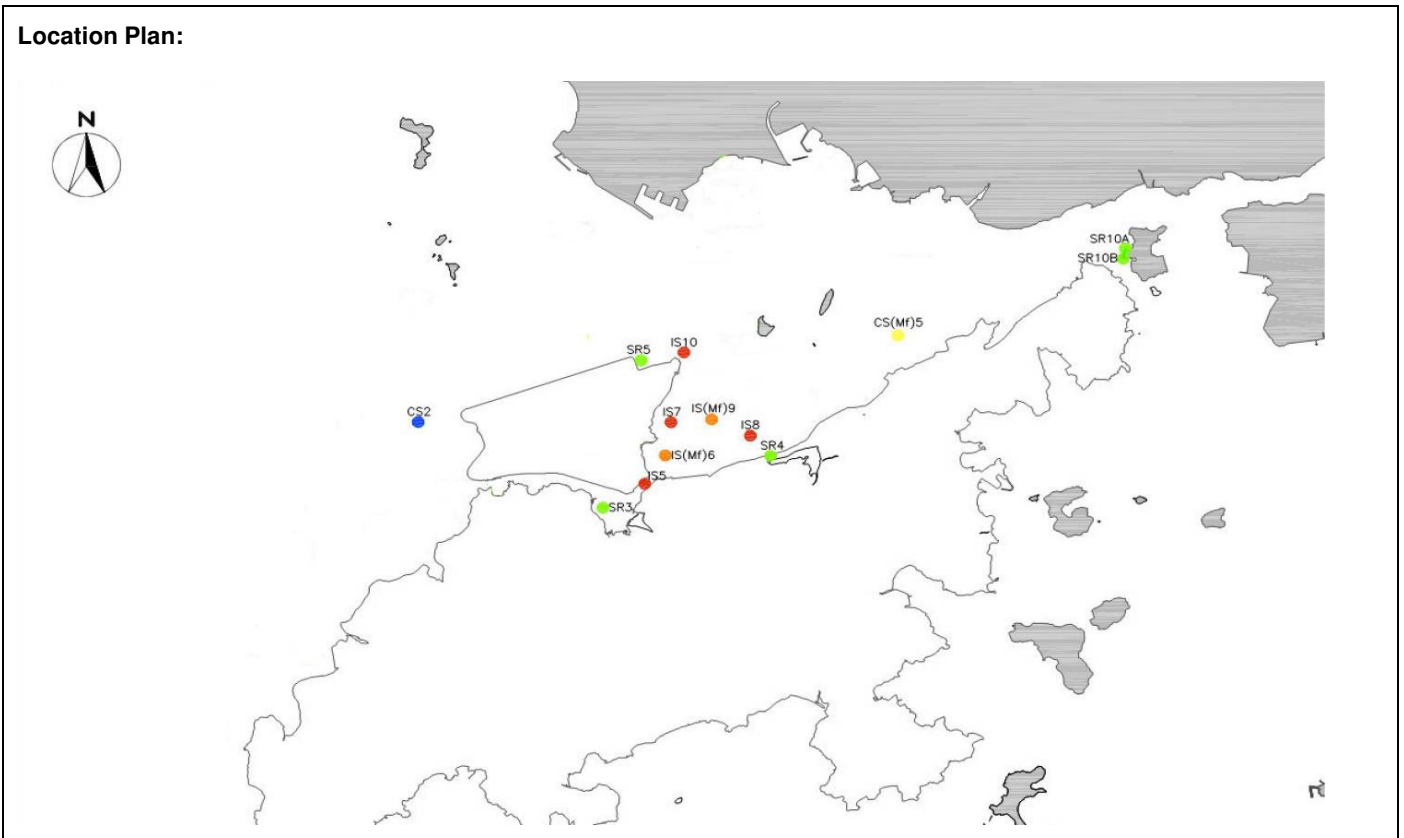
3. There were no specific activities recorded during the monitoring period that would cause any significant impact on the monitoring results.

As such, the exceedance in DO levels is considered to be attributed to other external factors rather than the contract works.

**Actions taken/ to be taken:**

As the DO level recorded beyond the water quality criteria was not related to contract works, no immediate actions are considered necessary.

**Location Plan:**



Reviewed by : Claudine Lee

Title : ET Leader

  
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Date : 6 August 2014

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

**Date of Notification:** 27 August 2014

**Works Inspected:** Data collected from water sampling works on 11 August 2014 and the test report was issued on 18 August 2014.

**Monitoring Location:** Water Quality Monitoring Stations

**Parameter:** Dissolved Oxygen (DO)/ Suspended Solids (SS)/ Turbidity (TURB)

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

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS(Mf)6	DA	<b>23.5</b> and 120% of upstream control station's suspended solid at the same tide of the same day (i.e. CS2: 6.52 x 120% = <b>7.8</b> mg/L for mid ebb) AND CS(Mf)5: 4.88 x 120% = <b>5.9</b> mg/L for mid flood)	<b>34.4</b> and 130% of upstream control station's suspended solid at the same tide of the same day (i.e. CS2: 6.52 x 130% = <b>8.5</b> mg/L for mid ebb) AND CS(Mf)5: 4.88 x 130% = <b>6.3</b> mg/L for mid flood)	<b>29.5</b>	4.2

Notes:  
 DA means depth average.  
***Bold Italic*** means AL exceedances.  
***Bold Italic with underline*** means LL exceedances.

**Possible reason for Action or Limit Level Non-compliance:**

On 11 August 2014, an AL exceedance was recorded at station IS(Mf)6 during mid-ebb tide.

The exceedance has been investigated and is considered unlikely to be related to contract works due to the following reasons:

1. Seawall construction and stone column works at Zone 1, seawall construction at Zone 3A were carried out within silt curtain as recommended in the EIA Report.
2. The ranges of suspended solid at station IS(Mf)6 during the baseline monitoring are shown as below:

Station	Range of Suspended Solid (mg/L) Mid- Ebb Tide	Range of Suspended Solid (mg/L) Mid- Flood Tide
IS(Mf)6	7.1 to 19	8.5 to 35

The measured value at station IS(Mf)6 was above the range of suspended solid during baseline monitoring for mid-ebb tide. However, there were no specific activities recorded during the monitoring period that would cause any significant impacts on the monitoring results.

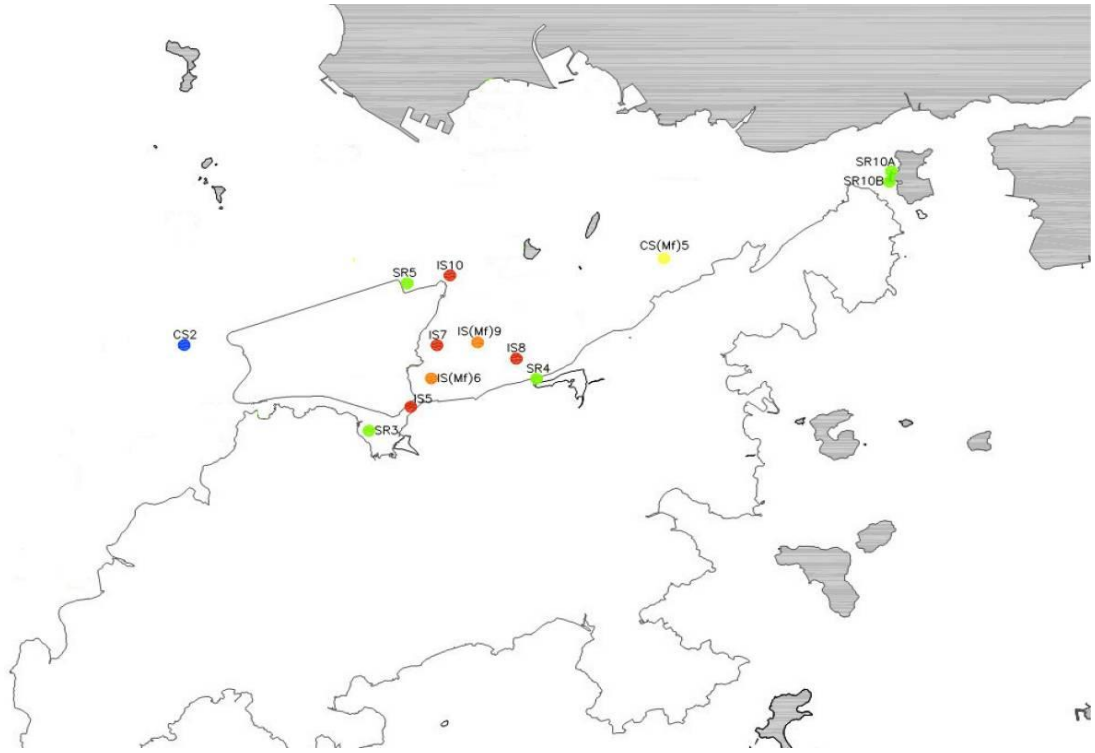
3. No leakage of turbid water or any abnormality or malpractice was observed during the sampling exercise.

As such, the suspended solid level is considered to be attributed to other external factors, rather than the contract works.

**Actions taken/ to be taken:**

As the suspended solid level recorded beyond the water quality criteria is not related to contract works, no immediate actions are considered necessary.

Location Plan:



Reviewed by : Claudine Lee

Title : ET Leader



Date : 27 August 2014

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.: 186 ver1

**Date of Notification:** 5 September 2014

**Works Inspected:** Data collected from water sampling works on 15 August 2014 and the test report was issued on 19 August 2014.

**Monitoring Location:** Water Quality Monitoring Stations

**Parameter:** Dissolved Oxygen (DO)/ ~~Suspended Solids (SS)~~/ Turbidity (TURB)

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

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
DO	IS10	Surface & Middle	5	4.2	<b>4.8</b>	<b>4.6</b>
DO	SR5	Surface & Middle(*)	5	4.2	<b>4.9</b>	<b>4.8</b>
DO	IS10	Bottom	4.7	3.6	<b>4.3</b>	<b>4.3</b>
DO	SR5	Bottom	4.7	3.6	<b>4.7</b>	<b>4.5</b>

Notes:  
***Bold Italic*** means AL exceedances.  
***Bold Italic with underline*** means LL exceedances.  
 (\*)-Water quality monitoring was carried out for surface level only at station SR5 on 15 August 2014.

**Possible reason for Action or Limit Level Non-compliance:**

On 15 August 2014, Action Level exceedances of dissolved oxygen were recorded at stations IS10 and SR5 during the mid-ebb tide and mid flood tide.

The exceedances have been investigated and are considered unlikely to be related to contract works due to the following reasons:

1. Stone column works and construction of seawall at Zone 1, and construction of seawall at Zone 3A were carried out within silt curtain as recommended in the EIA report.
2. The range of dissolved oxygen for surface & middle level and bottom level at stations IS10 and SR5 during the baseline monitoring is shown as below:

Station	Depth	Range of Dissolved Oxygen (mg/L) Mid-Ebb Tide		Range of Dissolved Oxygen (mg/L) Mid-Flood Tide	
IS10	Surface & Middle	5.0	to 7.2	5.0	to 7.6
SR5	Surface & Middle	5.1	to 7.3	4.8	to 7.4
IS10	Bottom	4.6	to 7.0	4.9	to 7.0
SR5	Bottom	4.8	to 7.0	4.8	to 7.1

On 15 August 2014, the dissolved oxygen level at SR5 for the surface level during the mid-flood tide was within the range of the baseline monitoring. For the other dissolve oxygen levels recorded at SR5 and IS10 on 15 August 2014, they were slightly below their corresponding lowest value of the baseline monitoring data.

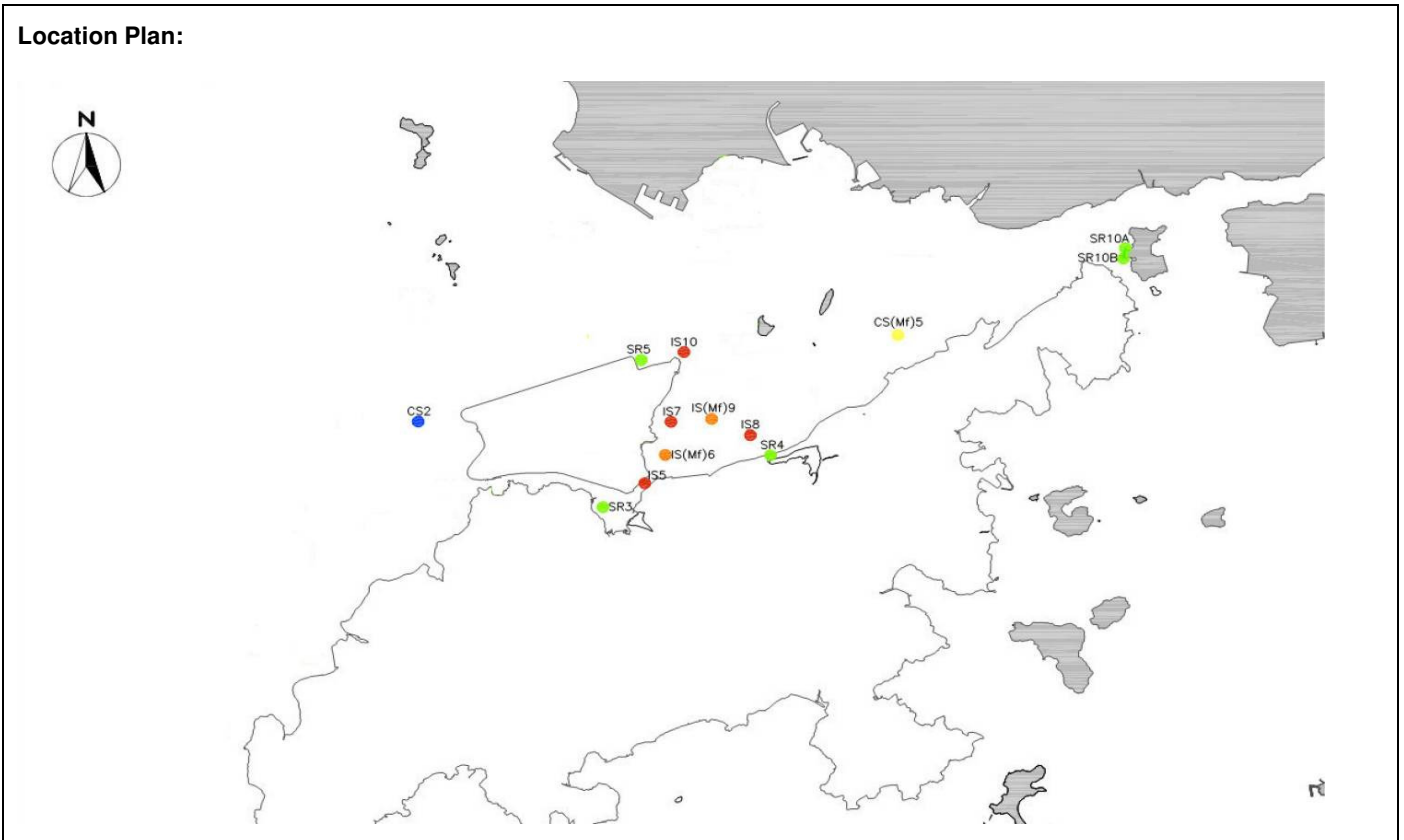
3. There were no specific activities recorded during the monitoring period that would cause any significant impact on the monitoring results.

As such, the exceedances in DO levels are considered to be attributed to other external factors rather than the contract works.

**Actions taken/ to be taken:**

As the DO levels recorded beyond the water quality criteria were not related to contract works, no immediate actions are considered necessary.

**Location Plan:**



Reviewed by : Claudine Lee

Title : ET Leader

  
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Date : 5 September 2014

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



**Date of Notification:** 27 August 2014

**Works Inspected:** Data collected from water sampling works on 13 August 2014 and the test report was issued on 20 August 2014.

**Monitoring Location:** Water Quality Monitoring Stations

**Parameter:** Dissolved Oxygen (DO)/ Suspended Solids (SS)/ Turbidity (TURB)

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

PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR5	DA	<b>23.5</b> and 120% of upstream control station's suspended solid at the same tide of the same day (i.e. CS2: Not applicable <sup>(1)</sup> for mid ebb) AND CS(Mf)5: 4.47 x 120% = <b>5.4</b> mg/L for mid flood)	<b>34.4</b> and 130% of upstream control station's suspended solid at the same tide of the same day (i.e. CS2: Not applicable <sup>(1)</sup> for mid ebb) AND CS(Mf)5: 4.47 x 130% = <b>5.8</b> mg/L for mid flood)	N.A. <sup>(1)</sup>	<b>24.2</b>

Notes:  
 (1) WQM for mid-ebb tide on 13 Aug 2014 was cancelled for safety reason as Thunderstorm Warning was hoisted by HKO. DA means depth average.  
**Bold Italic** means AL exceedances.  
**Bold Italic with underline** means LL exceedances.

**Possible reason for Action or Limit Level Non-compliance:**

On 13 August 2014, an AL exceedance was recorded at station SR5 during mid-ebb tide.

The exceedance has been investigated and is considered unlikely to be related to contract works due to the following reasons:

- Construction of seawall and stone column works at Zone 1 were carried out within silt curtain as recommended in the EIA Report.
- The ranges of suspended solid at station SR5 during the baseline monitoring are shown as below:

Station	Range of Suspended Solid (mg/L) Mid- Ebb Tide	Range of Suspended Solid (mg/L) Mid- Flood Tide
SR5	6.7 to 16.5	6.5 to 31.2

The measured value at station SR5 was within the range of suspended solid during baseline monitoring for mid-flood tide. There were no specific activities recorded during the monitoring period that would cause any significant impacts on the monitoring results.

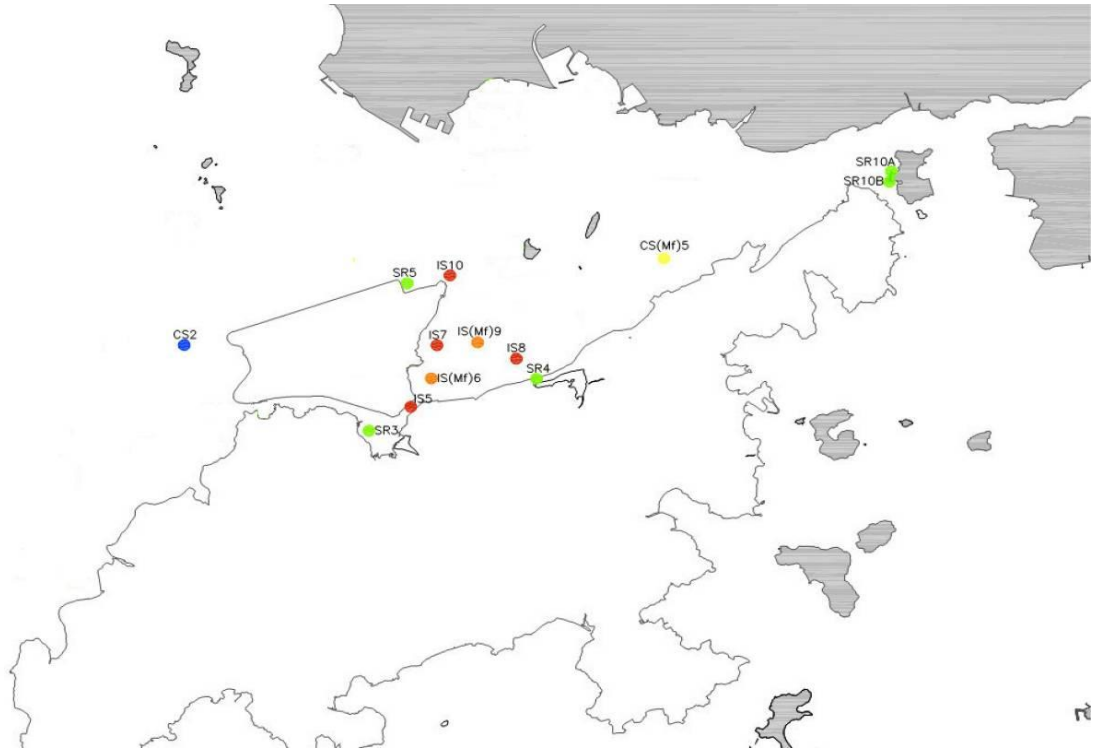
- No leakage of turbid water or any abnormality or malpractice was observed during the sampling exercise.

As such, the suspended solid level is considered to be attributed to other external factors, rather than the contract works.

**Actions taken/ to be taken:**

As the suspended solid level recorded beyond the water quality criteria is not related to contract works, no immediate actions are considered necessary.

Location Plan:



Reviewed by : Claudine Lee

Title : ET Leader

  
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Date : 27 August 2014

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

<b>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</b>			Notification No.: 188 ver0
<b>Date of Notification:</b> 25 September 2014			
<b>Works Inspected:</b> Not Applicable			
<b>Monitoring Location:</b> NEL & NWL			
<b>Parameter:</b> Ecology (Chinese White Dolphin Monitoring)			
<b>Action &amp; Limit Levels</b>			<b>Monitoring Results</b>
	North Lantau Social Cluster		The quarter of June 2014 - August 2014
	Action Level (AL)	Limit Level (LL)	
Northeast Lantau (NEL)	STG < 4.2 & ANI < 15.4	NEL: (STG < 2.4 & ANI <8.9) and	<b><i>STG = 0.42; ANI = 1.69</i></b>
Northwest Lantau (NWL)	STG < 6.9 & ANI < 31.3	NWL: (STG < 3.9 & ANI <17.9)	<b><i>STG = 4.74; ANI = 17.52</i></b>
<b>Notes:</b> 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. <b><i>Bold Italic</i></b> means AL exceedances. 5. <b><i>Bold Italic with underline</i></b> means LL exceedances			
<b>Possible reason for Action Level Non-compliance:</b> According to the contractor's information, the marine activities undertaken for HKLR03 during the quarter of June 2014 to August 2014 included stone platform construction, reclamation, stone column installation, band drain installation, excavation of stone platform, surcharge activities, construction of seawall and temporary drainage diversion. There is no evidence showing the current AL non-compliance directly related to the construction works of HKLR03, 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. 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.			
<b>Actions taken/ to be taken:</b> <u>Inform the IEC, ER/SOR and Contractor</u> The ETL informed IEC, ENPO SOR and Contractor via email on 26 August 2014.  <u>Repeat statistical data analysis to confirm findings and check monitoring data:</u> 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 (seventh quarter of the impact phase), the p-value for the differences in average dolphin encounter rates of STG and ANI were 0.0199 and 0.0597 respectively. If the alpha value is set at 0.1, significant difference was detected between the baseline and present quarters in both encounter rates of STG and ANI. For the comparison between the baseline period and the cumulative quarters in impact phase (i.e. first seven quarters of the impact phase), the p-value for the differences in average dolphin encounter rates of STG and ANI were 0.0037 and 0.0013 respectively. Even if the alpha value is set at 0.01, significant difference was detected in both the average dolphin encounter rates of STG and ANI (i.e. between the two periods and the locations). <u>Review all available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&amp;A, to ascertain if differences are as a result of natural variation or previously observed seasonal differences:</u> The AFCD monitoring data during June to August 2014 has been reviewed by the dolphin specialist, and no dolphin was sighted from 173.90 km of survey effort on primary lines in NEL during the same quarter (a lone dolphin was sighted in NEL off-effort though during AFCD monitoring survey in August 2014). This review has confirmed that the very low occurrence of dolphins reported by the HKLR03 monitoring survey in summer 2014 in NEL is accurate. <u>Identify source(s) of impact:</u> There is no evidence showing that the sources of impact directly related to the construction works of HKLR03 that may have affected the dolphin usage in the NEL region.			

**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. The Contractor will continue to provide training forskippers 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.

Reviewed by : Claudine Lee Title : ET Leader

  
Copied to : Supervising Officer, ENPO, IEC, EPD, Contractor Date : 25 September 2014

**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