Annex B

Water Quality Monitoring Results

Table B1 Action and Limit Levels of Water Quality for Dredging, Disposal and Capping Activities at ESC CMP V

Parameter	Action Level	Limit Level
Dissolved Oxygen (DO) (1)	Surface and Mid-depth (2) 5%-ile of baseline data for surface and middle layer = **3.76 mg L^{-1}** and Significantly less than the reference stations mean DO (at the same tide of the same day)	Surface and Mid-depth (2) 1%-ile of baseline data for surface and middle layer = **3.11 mg L^{-1}** (3) and Significantly less than the reference stations mean DO (at the same tide of the same day)
	Bottom 5%-ile of baseline data for bottom layers = **2.96 mg L^{-1}** and Significantly less than the reference stations mean DO (at the same tide of the same day)	Bottom The average of the impact station readings are **<2 mg/L^{-1}** and Significantly less than the reference stations mean DO (at the same tide of the same day)
Depth-averaged Suspended Solids (SS) (4) (5)	95%-ile of baseline data for depth average = **37.88 mg L^{-1}** and 120% of control station's SS at the same tide of the same day	99%-ile of baseline data for depth average = **61.92 mg L^{-1}** and 130% of control station's SS at the same tide of the same day
Depth-averaged Turbidity (Tby) (4) (5)	95%-ile of baseline data = **28.14 NTU** and 120% of control station's Tby at the same tide of the same day	99%-ile of baseline data = **38.32 NTU** and 130% of control station's Tby at the same tide of the same day

Notes:

(1) For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.

(2) The Action and Limit Levels for DO for Surface & Middle layers were calculated from the combined pool of baseline surface layer data and baseline middle layer data.

(3) Given the Action Level for DO for Surface & Middle layers has already been lower than 4 mg L^{-1}, it is proposed to set the Limit Level at 3.11 mg L^{-1} which is the first percentile of the baseline data.

(4) "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.

(5) For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

Table B2 Water Column Profiling Results for ESC CMP Vb in April 2020

Stations	Temp (°C)	Salinity (ppt)	Turbidity (NTU)	Dissolved Oxygen (%)	Dissolved Oxygen (mg L^{-1})	pH	Suspended Solids (mg L^{-1})
WCP 1 (Downstream)	21.56	30.09	5.09	84.33	6.24	8.13	9.78
WCP 2 (Upstream)	21.52	30.19	7.05	85.46	6.32	8.10	7.43
WQO (Wet Season)	N/A	27.17-33.21#	N/A	N/A	>4	6.5-8.5	10.8

Note:
#Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.
Cell shaded yellow / red indicate value exceeding the Action/Limit levels.
Cell shaded grey indicate value exceeding the WQO.

Table B3 In-situ Monitoring Results for Routine Water Quality Monitoring of ESC CMPs in April 2020

Sampling Period	Stations	Temp (°C)	Salinity (ppt)	Turbidity (NTU)	Dissolved Oxygen (%)	Dissolved Oxygen (mg L^{-1})	pH (mg L^{-1})
April 2020	RFE (Reference)	21.06	26.08	18.57	83.24	6.36	7.96
	IPE (Impact)	21.09	25.81	35.17	85.21	6.52	8.01
	INE (Intermediate)	21.09	26.56	27.45	85.99	6.55	8.03
	Ma Wan	21.08	29.62	7.44	83.95	6.28	8.06
	WQO	N/A	23.47- 28.69#	N/A	N/A	>4	6.5-8.5

Notes:
#Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.
Cell shaded yellow / red indicate value exceeding the Action/Limit levels.
Cell shaded grey indicate value higher than the WQO.
Upon further investigation, it is noticed that capping activities at ESC CMP Vd were conducted during the time of sampling on 8 April 2020 and thus the higher levels of Turbidity recorded at Impact stations could be related to the capping operation. Considering that the action level exceedance of Turbidity occurred within Impact stations only but not at the Intermediate and Ma Wan stations, there is no evidence indicating any unacceptable environmental impacts to nearby water sensitive receivers as a result of the mud disposal operations at ESC CMPs in April 2020.

Table B4 Laboratory Results for Routine Water Quality Monitoring of ESC CMPs in April 2020

Sampling Period	Stations	As (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Pb (µg/L)	Hg (µg/L)	Ni (µg/L)	Ag (µg/L)	Zn (µg/L)	NH_3 (mg/L)	TIN (mg/L)	BOD_5 (mg/L)	SS (mg/L)
April 2020	RFE	2.43	<0.5	1.53	16.62	0.70	0.25	1.83	<1	11.63	0.17	0.91	0.26	22.64
	IPE	2.22	<0.5	1.60	2.90	1.68	0.47	1.83	<1	15.42	0.17	0.85	0.72	43.02
	INE	2.36	<0.5	1.62	7.54	1.16	0.30	1.93	<1	16.81	0.17	0.70	0.35	26.60
	Ma Wan	2.11	<0.5	2.20	2.34	3.54	0.39	0.93	<1	28.35	0.18	0.43	0.29	9.63

WQO of TIN: 0.5 mg/L
Wet Season WQO of SS : 10.8 mg/L

Notes:
Cell shaded yellow / red indicate value exceeding the Action/Limit levels.
Cell shaded grey indicate value higher than the WQO.
Upon further investigation, it is noticed that capping activities at ESC CMP Vd were conducted during the time of sampling on 8 April 2020 and thus the higher levels of Suspended Solids recorded at Impact stations could be related to the capping operation. Considering that the action level exceedance of Suspended Solids occurred within Impact stations only but not at the Intermediate and Ma Wan stations, there is no evidence indicating any unacceptable environmental impacts to nearby water sensitive receivers as a result of the mud disposal operations at ESC CMPs in April 2020.