

4. Water Quality

The detailed baseline monitoring results of marine water quality prepared by a water quality monitoring consultant are attached in Annex J.

4.1 Action and Limit Levels

The Action and Limit levels for water quality determined by the water quality consultant are extracted in the following table.

Table 4.1 Action and Limit Levels for Water Quality

Table 4.1a. Field Measurement of Dissolved Oxygen (mg/L)

(a) Surface and Middle

	SR1	SR2	SR4	SR5	SR6	SR7
Action Level (5%-ile)	6.0	6.0	6.1	6.0	6.0	6.0
1%-ile	6.0	6.0	6.0	6.0	5.8	5.7
Limit Level	4.0					

Note:

1. All impact monitoring stations were considered to be non-FCZ stations
2. Since the calculated 1%-ile results are larger than 4.0 mg/L, therefore the Limit Levels are proposed to be 4.0 mg/L according to the EM&A Manual

(b) Bottom

	SR1	SR2	SR4	SR5	SR6	SR7
Action Level (5%-ile)	5.9	6.0	6.1	6.1	6.1	6.1
1%-ile	5.9	5.9	5.9	5.9	5.7	5.7
Limit Level	2.0					

Note:

1. Since the calculated 1%-ile results are larger than 2.0 mg/L, therefore the Limit Levels are proposed to be 2.0 mg/L according to the EM&A Manual

Table 4.1b. Turbidity (NTU)

(depth-average)

	SR1	SR2	SR4	SR5	SR6	SR7
Action Level (95%-ile)	17.9	16.3	13.2	17.5	17.2	17.3
Limit Level (99%-ile)	22.8	19.0	13.6	18.3	17.9	21.5

Note:

1. The Action Levels can be 95%-ile of baseline data as mentioned above or 120% of upstream control station at the same tide of the same day according to the EM&A Manual
2. The Limit Levels can be 99%-ile of baseline data as mentioned above or 130% of upstream control station at the same tide of the same day according to the EM&A Manual

Table 4.1c Suspended Solids (mg/L)
(depth-average)

	SR1	SR2	SR3	SR4	SR5	SR6	SR7
95%-ile	16.8	15.3	13.8	17.6	17.5	16.9	17.5
Action Level	16.8	15.3	--	17.6	17.5	16.9	17.5
99%-ile	18.9	15.5	17.0	19.1	18.4	23.5	19.0
Limit Level	18.9	15.5	100.0	19.1	18.4	23.5	19.0

Note:

1. No Action Level is applied for SR3 according to the EM&A Manual
2. Limit Level of SR3 is 100 mg/L according to the EM&A Manual
3. The Action Levels can be 95%-ile of baseline data as mentioned above or 120% of upstream control station at the same tide of the same day according to the EM&A Manual
4. The Limit Levels can be 99%-ile of baseline data as mentioned above or 130% of upstream control station at the same tide of the same day according to the EM&A Manual

Table 4.1d Unionized Ammonia (mg/L)
(depth-average)

	SR1	SR2	SR4	SR5	SR6	SR7
Action Level (95%-ile)	0.006	0.005	0.003	0.001	0.001	0.001
99%-ile	0.007	0.005	0.003	0.002	0.001	0.003
Limit Level	0.021	0.021	0.021	0.021	0.021	0.021

Note:

1. Since the calculated 99%-ile results are smaller than 0.021 mg/L, therefore the Limit Levels are proposed to be 0.021 mg/L according to the EM&A Manual.

Table 4.1e Total Inorganic Nitrogen (mg/L)
(depth-average)

	SR1	SR2	SR4	SR5	SR6	SR7
Action Level (95%-ile)	0.25	0.23	0.11	0.11	0.11	0.12
99%-ile	0.27	0.25	0.12	0.11	0.11	0.13
Limit Level	0.40	0.25	0.12	0.11	0.11	0.13

Note:

1. Since the calculated 99%-ile results for SR2 to SR7 are larger than 0.1 mg/L, therefore the Limit Levels for SR2 to SR7 are proposed to be the calculated 99%-ile data according to the EM&A Manual.
2. Since the calculated 99%-ile result for SR1 is smaller than 0.4 mg/L, therefore the Limit Level for SR1 is proposed to be 0.4 mg/L according to the EM&A Manual.