ERRATA SHEET

TENTATIVE ORDER NO. R9-2007-0006, NPDES NO. CA0109231

WASTE DISCHARGE REQUIREMENTS FOR THE
SAN DIEGO STATE UNIVERSITY RESEARCH FOUNDATION
COASTAL WATERS LABORATORY DISCHARGE TO SAN DIEGO BAY
SAN DIEGO COUNTY

The tables of contents in the tentative Order do not reflect the actual page locations of the various sections of the revised tentative Order. The tables of content will be updated after the tentative Order is adopted and final page locations can be determined.

Each of the following changes has been made to Tentative Order No. R9-2007-0006; NPDES No. CA0109231, in response to comments received to date or as initiated by the Regional Board. The changes/corrections are shown highlighted in grey in underline/~~strikeout~~ format below to indicate added and removed language, respectively.

1. Corrections for typographical and punctuation errors and formatting changes have been made to the tentative Order which do not affect the intent of the tentative Order.

2. Finding M on page 7 is revised as follows:

   Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on biochemical oxygen demand (BOD)~~, and~~ total suspended solids (TSS)~~, and total nitrogen~~. Restrictions on these pollutants are discussed . . .

3. The effluent limitations for total nitrogen have been recalculated as water quality-based effluent limitations, instead of technology-based effluent limitations. The total nitrogen effluent limitations as they appear in *Table 6: Effluent Limitations* on page 3 and *Table 7: Summary of Final Effluent Limitations* on page F-20 have been revised as follows:

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Nitrogen[1, 2]	mg/L	~~0.11~~ ~~0.14~~ 1.1		~~0.14~~ ~~0.2~~ 1.2		
	lbs/day	~~0.27~~ ~~0.21~~ 2.6		~~0.34~~ ~~0.31~~ 2.9		

4. The rows containing total nitrogen effluent limitations in *Table 5: Summary of Technology-based Effluent Limitations* on page F-13 have been deleted.

5. In Section IV of the Fact Sheet, Items C.3.c through C.3.e on page F-16 have been renumbered as Items C.3.d through C.3.f on page F-16. The following paragraph has been added as Item C.3.c on page F-16:

   A WQBEL for total nitrogen is included in the Order because the discharge from the CWL consists of waste seawater that can reasonably be expected to contain fecal wastes containing nitrogen from aquatic organisms. Natural ratios of nitrogen to phosphorus have not been determined for the NTC Boat Channel; however, a ratio of N:P =10:1, on a weight to weight basis, has been used as recommended in the Basin Plan to avoid biostimulatory effects.

6. The following rows containing revised water quality-based total nitrogen effluent limitations have been added to *Table 6: Summary of Water Quality-based Effluent Limitations* on page F-17 have been added:

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Total Nitrogen[1, 2]	mg/L	1.1		1.2		
	lbs/day	2.6		2.9		

7. Superscripts "1" and "2" indicating footnotes have been added to the Total Phosphorus effluent limitations in *Table 6: Effluent Limitations* on page 3, *Table 6: Summary of Water Quality-based Effluent Limitations* on page F-17, and *Table 7: Summary of Final Effluent Limitations* on page F-20.

8. Footnote 1 has been added below *Table 6: Effluent Limitations* on page 3, *Table 6: Summary of Water Quality-based Effluent Limitations* on page F-17, and *Table 7: Summary of Final Effluent Limitations* on page F-20 as follows:

   [1] If the calendar-month average concentration of this constituent in the effluent exceeds the corresponding calendar-month average effluent limitation, and if the calendar-month average concentration of this constituent in the influent also exceeds the corresponding calendar-month average effluent limitation, then the effective effluent limitation shall be equal to the calendar-month average concentration of this constituent in the influent. The effective effluent limitation is valid only when sampling is conducted in compliance with Provision III.A.2 of the Monitoring and Reporting Program.

9. Footnote 2 has been added below *Table 6: Effluent Limitations* on page 3, *Table 6: Summary of Water Quality-based Effluent Limitations* on page F-17, and *Table 7: Summary of Final Effluent Limitations* on page F-20 as follows:

[2] If the maximum daily concentration of this constituent in the effluent exceeds the corresponding maximum daily effluent limitation, and if the maximum daily concentration of this constituent in the influent also exceeds the corresponding maximum daily effluent limitation, then the effective effluent limitation shall be equal to the maximum daily concentration of this constituent in the influent. The effective effluent limitation is valid only when sampling is conducted in compliance with Provision III.A.2 of the Monitoring and Reporting Program.

10. In Section IV of the Fact Sheet, Items C.4.b on page F-17 has been modified as follows:

The calendar-monthly average and maximum daily WQBEL for total nitrogen and total phosphorus ~~was~~ were calculated using a statistical approach with the following considerations and assumptions:

(1) The nitrogen and phosphorus concentrations in the NTC Boat Channel that would satisfy the Biostimulatory Substances WQO ~~is~~ are 1.0 mg/L and 0.1 mg/L, respectively. ~~This~~ These value~~s is~~ are not to be exceeded more than 10% of the time during a one year period and therefore represent~~s~~ the 90th~~.~~ percentile.
(2) No dilution credit is considered for the discharge from CWL to the NTC Boat Channel. Therefore, the discharge must comply with the WQO at the point of discharge.
(3) The coefficient of variation of nitrogen and phosphorus concentrations in the discharge is 0.2 ~~0.6, which is reasonable for log-normally distributed environmental data~~ when the Facility is discharging at its capacity of 0.288 MGD for an extended period because the Discharger is expected to control solids loading in the discharge.
(4) The Discharger will be required to monitor the discharge for nitrogen and phosphorus once per month ~~quarter~~; therefore, ~~compliance with the calendar monthly average WQBEL may be determined for only the month of sampling during a quarter and~~ the single monthly ~~quarterly~~ sample will represent the calendar month average.

Under certain environmental conditions, the total nitrogen and/or total phosphorus concentrations in waters of the NTC Boat Channel, and therefore the intake seawater to the CWL, may already exceed the WQBEL. In those cases, the total nitrogen and/or total phosphorus concentrations in the intake water become the effective WQBELs (see Footnotes 1 and 2 to Table 6. Effluent Limitations). In plain terms, the discharge would not be prohibited if nitrogen and/or phosphorus are not added to intake seawater when background levels of nitrogen and phosphorus in the intake seawater are already elevated. The effective WQBELs are only valid when concentrations in both the discharge (effluent) and intake seawater (influent) exceed the WQBEL. This approach is consistent with policy contained in *Section 1.4.4 Intake Water Credits* of the State Implementation Policy although total nitrogen and total phosphorus are not addressed by the State Implementation Policy.

11. The term “Phosphorus” has been changed to “Total Phosphorus” in *Table 2. Influent Monitoring* and *Table 3. Effluent Monitoring* on pages E3 and E-4, respectively, of the Monitoring and Reporting Program (Attachment E) and *Table 8. Influent Monitoring Requirements* and *Table 9. Effluent Monitoring Requirements* on pages F-21 and F-23,

respectively, of the Fact Sheet (Attachment F).

12. Provision III.A.2 has been added to the Monitoring and Reporting Program as follows:

Influent monitoring shall be conducted on the same day as the effluent monitoring for the same parameters. If the effluent monitoring frequency for the parameters listed in *Table 2. Influent Monitoring* is increased, influent monitoring shall also be increased to the same frequency.

13. Section IV.B.2 of the Fact Sheet on pages F-11 to F-12 has been modified as follows:

The US EPA has not promulgated effluent limitation guidelines (ELGs) for the discharge of waste seawater from non-commercial research facilities such as CWL. In such cases, the Regional Board must evaluate treatment and control technologies applicable to the discharge using BPJ. This discharge is not a "new source" for purposes of federal ELGs. The Discharger reported in its NPDES permit application and RoWD best professional estimates of the concentrations of biochemical oxygen demand (BOD), total suspended solids (TSS), and total nitrogen (TN) that may be expected in the discharge (See Section II.A above). For TSS and TN estimates, the Discharger included calculations based on the amount of food applied and the mass of organisms being maintained at the CWL. While the Discharger does not proposeed to treat its waste seawater prior to discharge, it can reasonably be expected to control the concentration of BOD~~,~~ and TSS~~, and TN~~ in its discharge through proper management, operation, and maintenance practices. Because ambient nitrogen concentrations in the NTC Boat Channel may at times be elevated at levels which would also result in elevated total nitrogen concentrations in the discharge not caused by the Discharger, technology-based effluent limitations are not appropriate, and water quality-based total nitrogen effluent limitations are instead prescribed in the Order.

The Regional Board established technology-based calendar-monthly average and ~~daily~~ maximum daily effluent limitations for BOD~~,~~ and TSS~~, and TN~~ for the discharge from the CWL to the NTC Boat Channel using a statistical approach with the following assumptions:

a. ~~The BOD, TSS and TN concentrations in the discharge can be controlled by the Discharger, through proper management, operation, and maintenance practices, to be below the reported maximum best professional estimate value 80 % of the time (e.g., the reported maximum best professional estimate value represents the 80th percentile).~~
The maximum best professional estimates for BOD~~,~~ and TSS~~, and TN~~ concentrations in the waste seawater (8 mg/L~~,~~ and 5 mg/L~~, and 0.09 mg/L~~, respectively), as reported by the Discharger in the RoWD and NPDES permit application, represent long-term average concentrations when the Facility is discharging at a daily flowrate of 0.288 MGD for an extended period.

b. ~~The coefficient of variation of water quality concentrations in the seawater from the NTC Boat Channel is 0.6, which is reasonable for log-normally distributed environmental data.~~
BOD~~,~~ and TSS~~, and TN~~ concentrations in the discharge are log-normally distributed

with a small coefficient of variation (i.e., CV = 0.2) because the Discharger will be able to control these concentrations through proper management, operation, and maintenance practices to control solids loading in the discharge.

c. The Discharger will be required to monitor the discharge for BOD~~,~~ and TSS~~, and TN~~ once per month.

14. The second sentence of the first paragraph of Fact Sheet Section IV.E.3 on page F-19 has been modified as follows:

The technology-based effluent limitations consist of restrictions on BOD~~,~~ and TSS~~, and TN~~.

15. The following paragraph has been added before the last paragraph in Fact Sheet Section VI.A on page F-21:

Provision III.A.2 of the Monitoring and Reporting Program requires that the influent be monitored as frequently, and on the same days, as the effluent for biochemical oxygen demand, total suspended solids, total nitrogen, pH, total phosphorus, turbidity, and oil and grease. This provision will ensure proper compliance determination with the turbidity effluent limitation and the effective effluent limitations (see Footnotes 1 and 2 for Table 6: Effluent Limitations) for total nitrogen and total phosphorus.

16. The second sentence of Fact Sheet Section VII.B.3 on page F-25 has been modified as follows:

These provisions support ~~technology-based~~ effluent limitations and receiving water limitations of the Order.

17. The first, second, and third paragraphs of Attachment G on page G-1 are replaced by the following:

The technology-based effluent limitations for biochemical oxygen demand (BOD) and total suspended solids (TSS), and the water quality-based effluent limitation for total nitrogen (TN) and total phosphorus (TP) were derived using a statistical procedure that takes into account discharge quality variability and sampling frequency. The calculations are based on the Effluent Numeric Goal (ENG) and/or the Long-Term Average (LTA) which are defined as follows:

- For technology-based effluent limitations – The LTA is equal to the maximum best professional estimates (MBPE) for concentrations of BOD and TSS in the waste seawater that were reported by the Discharger in the Report of Waste Discharge and NPDES application. These reported maximum daily concentrations were assumed to represent long-term average concentrations when the Facility is discharging at a daily flowrate of 0.288 MGD, the Facility's capacity, for an extended period. These discharge concentrations are assumed be log-normally distributed with a small

coefficient of variation (i.e., CV=0.2) because the Discharger is expected to be able to regulate these concentrations through proper management, operation, and maintenance practices that control solids loading in the discharge. Setting the reported MBPE as the LTA allows for infrequent excursions above the reported MBPE that may be due to circumstances outside the immediate control of the Discharger.

- For water quality-based effluent limitations based on Basin Plan water quality objectives (WQO) – The Basin Plan WQOs for TN and TP are 1 mg/L and 0.1 mg/L, respectively, (Basin Plan, page 3-6), expressed as the concentrations not to be exceeded more than 10 percent of the time. The WQO is interpreted to mean that 90 percent of daily measurements are expected to be below the numerical objective; consequently, the numerical WQO represents the 90th percentile. Because no dilution credit is being considered for the discharge from SDSURF Coastal Waters Lab, the 90th percentile ENG is also set equal to the WQO, and 90 percent of daily measurements of the discharge concentration are expected to be below this value. The LTA is in turn calculated from the 90th percentile ENG.

18. The table in Attachment G has been replaced with the following:

Pollutant	90th percentile ENG mg/L	LTA mg/L	CV	AMEL mg/L	MDEL mg/L
Biochemical Oxygen Demand	---	8	0.2	10.0	12.4
Total Suspended Solids	---	5	0.2	6.2	7.8
Total Nitrogen	1.0	0.79	0.2	1.1	1.2
Total Phosphorus	0.1	0.079	0.2	0.11	0.12