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9 October 2008

Item No. 11 Attachment No. 6
December 4-5, 2008 Meeting
Morro Bay/Cayucos WWTP

Reference: Comments on Draft Order R3-2008-0065¹ for the Modified NPDES Discharge Permit to be reissued to the MBCSD²

Dear Mr. Keogh:

Pursuant to your request³, we have reviewed selected portions of the subject document, as well as the associated USEPA Biological Evaluation (BE)⁴ and the USFWS Concurrence.⁵ This letter recommends revisions to the Draft Order, and provides the technical basis for those recommendations. Although all of the requested sections of the Draft Order were reviewed, comments on some sections were either deemed inconsequential, or were provided to you verbally, and thus, are not reiterated here.

A wide variety of independent analyses have all come to the same fundamental conclusion, that adverse marine impacts from the continued discharge of small amounts of near-secondary treated wastewater from the MBCSD outfall are unlikely to occur. This conclusion has been presented, and repeatedly and thoroughly defended, over the preceding half decade in the following list of documents:

- the original MBCSD Permit Application and its associated comprehensive Technical Support Document,⁶
- the National Marine Fisheries Service determination,⁷

¹ US Environmental Protection Agency Region 9 (USEPA) and the California Regional Water Quality Control Board, Central Coast Region (RWQCB). 2008. *Draft Revised Order No. R3-2008-0065, Reissuance of Clean Water Act Section 301(h) Modified NPDES Permit, City of Morro Bay and Cayucos Sanitary District, San Luis Obispo County.*

² The wastewater treatment plant is jointly owned by the City of Morro Bay and the Cayucos Sanitary District (MBCSD).

³ Keogh, B. (personal communication) 2008. Telephone conversation between Mr. Bruce Keogh, MBCSD Wastewater Division Manager, and Dr. Douglas Coats, Senior Oceanographer, Marine Research Specialists (MRS) on 29 September 2008. Mr. Keogh provided direction on which portions of the subject draft order were to be reviewed by MRS.

⁴ USEPA. 2007. *Request for Concurrence with EPA Finding of "No Likely Adverse Effect" Pursuant to Section 7 of the Federal Endangered Species Act for the Continued Ocean Discharge from the Morro Bay/Cayucos Wastewater Treatment Plant.* Letter dated 6 September 2007 from Ms. Alexis Strauss, Director, USEPA Water Division to Ms. Diane Noda, Field Supervisor, U.S. Fish and Wildlife Service, transmitting an Endangered Species Act Biological Evaluation for the Morro Bay/Cayucos Wastewater Treatment Plant prepared by the U.S. EPA Region IX, September 2007.

⁵ US Fish and Wildlife Service (USFWS). 2007. *Continued Ocean Discharge from the Morro Bay/Cayucos Wastewater Treatment Plant.* Letter dated 21 December 2007 from Mr. Steve Henry, USFWS Deputy Field Supervisor, to Ms. Alexis Straus [sic], Director [sic], Region IX, USEPA.

⁶ MRS. 2003. Supplement to the 2003 Renewal Application for Ocean Discharge under NPDES Permit No. CA0047881. Prepared for MBCSD. July.

⁷ This determination unequivocally states that no federally threatened or endangered species or essential fish habitat will be adversely affected by the outfall's discharge. National Marine Fisheries Service (NMFS). 2003. Letter from Valerie L.

- the USEPA's Tentative Decision Document⁸ and its associated BE;⁴
- the RWQCB Staff's findings;^{1,9}
- the lengthy comments submitted by MBCSD¹⁰ to the RWQCB in response to NRDC's¹¹ wide variety of unsupported assertions; and, most recently,
- the USFWS Concurrence.⁵

These analyses demonstrate that the treatment level applied for by the MBCSD would be adequately protective of the marine environment. In the face of such uniformly consistent assessments from a wide array of experts, it is now incumbent on the RWQCB to accept this finding without further delay, and to immediately approve the discharge permit without imposing additional constraints on the applicant.

Insofar as our general comments on the USEPA's BE, we find its technical discussion to be reasonably well-written, rational, and evenhanded. Because the majority of potential impacts had been previously evaluated and dismissed, the BE focused primarily on two issues: toxoplasmosis, and domoic acid toxicity. After carefully and independently examining the overwhelming weight of scientific evidence, the USEPA echoed the findings of all the prior technical assessments by unequivocally determining that there is "*...no credible scientific information to support the conclusion that the subject wastewater discharge is a significant source causing toxoplasmosis in the local sea otter population or domoic acid toxicity.*" While we have significant reservations about the basis for, and effectiveness of the so-called "*conservation measures*" that were also contained in the BE, it does not detract from the importance of the BE's fundamental conclusion.

The USFWS concurred with BE's fundamental conclusion by stating that "*...the proposed project is not likely to adversely affect the brown pelican or southern sea otter.*" This statement summarily concluded the Endangered Species Act consultation process. However, in contrast to the sound technical evaluation included in the BE, the discussion in the USFWS Concurrence letter digressed into unfounded opinion and rote speculation concerning the efficacy of secondary and even tertiary treatment for ocean discharges. Additionally, the letter continued to lend inappropriate and wholly unfounded credence to an implausible nexus between the highly localized, low-volume MBCSD discharge, and several environmental concerns that span vast areas of the California coastline.

Chambers, Assistant Regional Administrator for Habitat Conservation to Mr. Bruce Keogh, Wastewater Division Manager for the City of Morro Bay. Dated 12 August 2003. F/SWR4:WBC 150316WR03HC9146 HCDI33.

⁸ U.S. Environmental Protection Agency (USEPA). 2005. Letter from Wayne Natri, Regional Administrator of the USEPA Region IX in regard to the City of Morro Bay/Cayucos Sanitary Districts application for a modified NPDES permit under Section 301(h) of the Clean Water Act. *Tentative Decision of the Regional Administrator Pursuant to 40 CFR Part 125, Subpart G*; dated 10 September 2005.

⁹ US Environmental Protection Agency Region 9 (USEPA) and the California Regional Water Quality Control Board, Central Coast Region (RWQCB). 2005. Joint Notice of Proposed Actions on Reissuance of Waste Discharge Requirements [WDRs] to Discharge to the Pacific Ocean for the City of Morro Bay and Cayucos Sanitary District San Luis Obispo County. Public Notice No. RB3-2006-0019, NPDES No. CA0047881. 19 December.

¹⁰ MBCSD. 2006. Response to the Natural Resources Defense Council document, *Time is of the Essence: The Legal and Technical Reasons Why EPA and the Regional Board Must Deny the 301(h) Waiver and Require Upgrade of the Morro Bay-Cayucos Sewage Plant "As Fast As Possible"*

¹¹ NRDC (Natural Resources Defense Council). 2006. *Time is of the Essence: The Legal and Technical Reasons Why EPA and the Regional Board Must Deny the 301(h) Waiver and Require Upgrade of the Morro Bay-Cayucos Sewage Plant "As Fast As Possible"*

Although most of our recommended revisions to the Draft Order appear to be pro forma changes to text for internal consistency, they are crucial for accurate interpretation of the requirements that will be imposed on the MBCSD discharge over the next five years. Further, many deal with changes that have been made to the previous version of the Draft Order¹² that are unrelated to either the USEPA BE or the USFWS Concurrence. However, the RWQCB transmittal letter¹³ states that "...comments will only be accepted into the record relevant to revisions addressing new information since the May 11, 2006 hearing, specifically, USEPA's Biological Evaluation and the USFWS concurrence letter as set forth in the hearing notice." Nevertheless, the perfunctory inclusion of language from the statewide standard template¹⁴ in the new version of the Draft Order result in major changes to the discharge requirements, and thus, the following comments must be considered as well.

The following recommended revisions to the Draft Order are listed in order of importance, with the highest priority changes listed first. References to pertinent page numbers and sections in the Draft Order are italicized, as are annotated excerpts from the current version of Draft Order where added language is denoted by underlined bold font, and sections to be removed are indicated by double strikethrough.

1. **Revise Finding F to reflect modified secondary treatment standards [Page 6, Section II.F].** Finding F and associated citations require that the discharge meet full secondary treatment requirements, which is inconsistent with the original permit application,^{15,16} the findings prepared by the USEPA⁴ and the USFWS,⁵ and the balance of the Draft Order itself [Section IV.B]. The finding was added as part of Modification Number 3 "...to be consistent with the statewide standard template..."¹⁴ To correct it, either remove Finding F in its entirety or modify the second sentence as follows: "*Discharges authorized by this Order must meet minimum federal technology-based requirements based on modified secondary treatment standards established at 40 CFR, Part 125, Subpart G ~~40 CFR Part 133~~...."*
2. **Remove "*Implementation Provisions for Bacterial Characteristics*" to conform to triggered surfzone monitoring [Page 21, Section V.D].** The subject section should be removed in its entirety, or qualified with the statement that the Monitoring and Reporting Program (MRP) requirements supersede these Implementation Provisions. None of the subsections within Section V.D are applicable to the WWTP, and repetition of the requirements contained in the MRP would be redundant.

¹² USEPA Region 9 and the RWQCB. 2006. *Draft Order No. R3-2006-0019, Reissuance of Clean Water Act Section 301(h) Modified NPDES Permit, City of Morro Bay and Cayucos Sanitary District, San Luis Obispo County.*

¹³ RWQCB. 2008. Letter transmitting the Draft Revised Order No. R3-2008-0065 from Mr. Roger W. Briggs, Executive Officer, RWQCB, to Mr. Bruce Keogh, City of Morro Bay, and Ms. Bonnie Connelly, Cayucos Sanitary District, dated 4 September 2008.

¹⁴ Modification Numbers 3 and 7 in Hearing Notice Attachment 1: Modifications from Order R3-2006-0019 to Order No. R3-2008-0065 for the Morro Bay/Cayucos Wastewater Treatment Facility Modified 301(h) NPDES Permit.

¹⁵ MBCSD. 2003. Letter from Mr. Bruce Ambo, Public Services Director for the City of Morro Bay to Mr. Roger Briggs, Executive Officer, California Regional Water Quality Control Board, dated 3 July 2003: Notice of submittal of application and supplemental documentation for the renewal of National Pollution Discharge Elimination System Permit No. CA0047881.

¹⁶ MRS. 2003. Supplement to the 2003 Renewal Application for Ocean Discharge under NPDES Permit No. CA0047881. July 2003.

The implementation provisions were included as part of Modification Number 7 to “*Update Bacteria Language...in accordance with the 2005 Ocean Plan.*” However, these particular provisions conflict with the bacterial monitoring requirements promulgated in other sections of the Draft Order.^{17,18} Specifically, the provisions require regular weekly surfzone sampling [Page 21, Section V.D.1.a], rather than the triggered surfzone monitoring previously established by RWQCB staff [Page E-19, Section VII.A of the MRP]. They also require repeat sampling that is triggered by high coliform measurements within receiving-water samples [Page 21, Section V.D.1.b], rather than repeat sampling when effluent coliform levels are high. Additionally, all of the surfzone monitoring stations lie within a water-contact recreation zone, so Section V.D.1.c on Page 21 does not apply to this discharge.

The rationale for triggered surfzone monitoring is amply supported by previous analyses [Comment 7 on Page F-37 in Section VII.A of the MRP]. The RWQCB staff not only concurred with, but expanded upon the facts supporting triggered monitoring in their response to our original comments. Additionally, nothing in the surfzone data collected since that time supports a shift in that determination.¹⁹

- 3. Revise the monitoring location for influent sampling to include two sampling locations, one of which allows for a negligible amount of plant recirculation [Page E-4, MRP Section II].** As a practical matter, it would be extremely difficult to establish an influent sampling device at the treatment plant that is entirely devoid of the small amount of flow that occasionally recirculates through the process. In addition, there should actually be two influent sampling locations: one for extracting physical samples of influent, and one for measuring plant throughput.

Historically, influent samples have been collected at the headworks, where small amounts of partially processed wastewater are occasionally returned and mixed with a much larger volume of incoming wastewater. We request modification of the influent monitoring location currently specified in the Draft Order to retain this historical influent sampling location with the proviso that the samples only be collected when the recirculated flow represents a negligible volume of less than five percent of the total plant throughput. Moreover, the existing influent flow meter is located well upstream of the headworks, within a precision metering flume that is, itself, deep inside a manhole. Because of the depth of the metering manhole, and the presence of the sensitive water-level detection equipment already in place there, it is impractical to also install a device to collect physical samples at this location. Additionally, even if a volume sampler could be installed, it would be extremely difficult to maintain at this location, or indeed, any location farther upstream. Not only would the sampler be sited within a permit-entry confined space, but the intake sampling tube would be subject to frequent fouling or plugging by rags and other debris, which would result in unrepresentative samples. Instead, we propose that the influent monitoring location described on Page E-4 be replaced with the following two provisions.

¹⁷ Section VII.A of the MRP on Pages E-19 and E-20

¹⁸ Comment 7 on Page F-37 and Staff Response 7 on Pages F-37 and F-38 of the Fact Sheet.

¹⁹ MRS. 2008. *City of Morro Bay and Cayucos Sanitary District, Offshore Monitoring and Reporting Program, 2007 Annual Report.* Prepared for the City of Morro Bay, California. February 2008.

Monitoring Location Name	Description	Latitude	Longitude	Distance from Reference
M-INF1	Influent flow rate at the metering manhole upstream of any in-plant return flows	35° 22'48"	120° 51'37"	
M-INF2	Influent volume samples at the headworks when in-plant flows represent less than 5% of plant throughput	35° 22'43"	120° 51'38"	

4. **Modify Special Provision “Receiving Water Monitoring for Bacteria” to conform to the triggering threshold level identified in the MRP [Page 27, Section VI.C.4].** This special provision currently states that surfzone monitoring is triggered “...when effluent limitations for total coliform bacteria are exceeded in consecutive monitoring events...” This statement is inconsistent with the triggering threshold identified in the MRP [Page E-19, Section VII.A] because it implies that monitoring can be triggered by an exceedance of the monthly limit (23 MPN/100 mL) [Page 18, Section IV.D]. However, the triggering threshold in the MRP is based on exceedance of the limit on maximum coliform density alone (2400 MPN/100 mL). Use of the monthly effluent limit to trigger surfzone monitoring is inappropriate because any elevated coliform densities within discharged wastewater will have dissipated long before the required surfzone monitoring would be initiated, up to a month after the fact. Additionally, after dilution of at least one hundred-fold, these low effluent-coliform densities would not be detectable within the receiving ocean waters just 50 feet from the diffuser structure, much less at the shoreline, which lies 2,700 feet away. To be internally consistent with regard to the surfzone monitoring requirements in the MRP, the statement in the special provision should read:

“If/when the maximum effluent limitations for total coliform bacteria is ~~are~~ exceeded ~~in consecutive monitoring events~~, the Discharger shall conduct surf zone monitoring for bacteria in accordance with Section VII.A. of the Monitoring and Reporting Program (Attachment E).”

5. **Correct the chronic testing requirements [Page E-15 through E-17, MRP Section V.A] to conform to the RWQCB Staff findings [Page F-42, Staff Response 12; Page F-44, Staff Response 16].** Staff Response 12 agreed that two tests were appropriate for determining the most sensitive species, especially considering that other dischargers are only required to have one test. However, this change was not incorporated into the MRP. In addition, Staff Response 16 found that collection of clean dilution and control seawater from anywhere along the Pacific coast was acceptable and appropriate for bioassay testing. To conform to these findings, and to correct redundancy, the MRP should be revised as follows.

[Middle of last paragraph on Page E-16] “After a screening period of no fewer than two ~~three~~ tests, monitoring can be reduced to the most sensitive species. Dilution and control water should be obtained from an unaffected area of the open ocean along the Pacific coast ~~receiving waters~~.”

The two paragraphs that follow on Page E-16 should be removed because they are redundant with the paragraph cited above, or they are irrelevant if clean seawater is used in the testing. If they are not removed, they should be revised as follows.

*Dilution and control waters shall be obtained from an area of the **open ocean along the Pacific coast** ~~receiving waters, typically upstream,~~ which is unaffected by the discharge. Standard dilution water can be used, if the receiving water itself exhibits toxicity or if approved by the Central Coast Water Board. ~~If the dilution water used in testing is different from the water in which the test organisms were cultured, a second control sample using culture water shall be tested.~~*

A minimum of three test species with approved test protocols ~~with approved test protocols~~ shall be used to measure compliance with the toxicity objective. ~~If possible, the test species shall include a vertebrate, an invertebrate, and an aquatic plant. The sensitivity of test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. After a screening period of no less than three tests, monitoring may be reduced to the most sensitive species.~~

- 6. Remove the requirement for sulfide analysis of benthic porewater [Page F-18, Findings Section IV.B.5; Page F-28, Change 11 in Findings Section V] to conform to the RWQCB Staff findings [Page F-43, Staff Response 14].** Staff Response 14 found that, with the delay in permit issuance, the two additional years of sulfide sampling under the current permit had more than met the requirement for one additional year of sulfide analysis, and that additional sulfide testing of benthic samples was no longer necessary. Now, with further delays, a total of five years of high-resolution sulfide analysis of sediment porewaters have been completed, and none of the 45 samples contained detectable sulfide concentrations. To be consistent with these findings, the last paragraph in Findings Section IV.B.5 (Page F-18) should read as follows.

... so staff further recommends that this monitoring requirement ~~may be discontinued by written approval of the Executive Officer if dissolved sulfides are not detected in any pore water sample from any benthic sediment monitoring station for one additional year.~~

Similarly, Change Number 11 in the table in Findings Section V on Page F-28 should read as follows.

*The Discharger is given the option to monitor dissolved sulfides in sediment pore water, rather than dissolved sulfides in an acid/heat digested sample. The pore water extraction technique is difficult and expensive, so this monitoring requirement **has been** ~~may be discontinued by written approval of the Executive Officer if dissolved sulfides are not detected in any pore water sample from any benthic sediment monitoring station for one additional monitoring event (in addition to the October 2003 event).~~*

7. **Exclude dioxin from the list of required analytes for biosolids [Page E-25, Table E-7 in MRP Section IX.1 and Page E-26, MRP Section IX.4].** In accordance with the USEPA recent final decisions not to regulate dioxin and dioxin-like compounds in sewage sludge,²⁰ dioxin should also be excluded from the list of priority pollutants that are required for analysis in biosolid samples. Therefore, the last entry in Table E-7 should be amended as follows.

Priority Pollutants (excluding asbestos and dioxins)	mg/kg	Grab	Annually
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In addition, MRP Section IX.4 should be revised as follows.

Class 1 facilities (facilities with pretreatment programs or others designated as Class 1 by the regional Administrator) and Federal facilities with greater than five MGD influent flow shall sample biosolids for pollutants listed under Section 307(a) of the CWA (as required in the pretreatment section of the permit for POTWs with pretreatment programs). ~~Class 1 facilities and Federal facilities greater than 5 MGD shall test dioxins/dibenzofurans using a detection limit of less than one pg/g at the time of their next priority pollutant scan if they have not done so within the past five years, and once per five years thereafter.~~

8. **Modify the outfall inspection requirements to include only those exterior portions visible above the seafloor [Page E-28, MRP Section X].** Much of the MBCSD outfall pipe is buried deep within seafloor sediments and it is not possible to conduct an external inspection along its entire length. Similarly, due to its length and the fact that the outfall is in continuous operation, internal inspection with ROVs or pigs would be extraordinarily difficult, if not impossible. Therefore, the requirement should be clarified to read “*The external inspection shall be conducted along exposed sections of the outfall pipe/diffuser system from landfall to its ocean terminus.*”
9. **Correct cross-references in the Pretreatment Specifications.**
- a) [Page 24, Section VI.C.2.f.iii] “Update annually (and summarized in the annual report) potential impacts of industrial discharges, identified in Section VI.C.2.f.ii~~D.1.f)2~~ above, upon the POTW.”
 - b) [Page 24, Section VI.C.2.f.iv] “If, in the evaluation of Sections VI.C.2.f.ii and VI.C.2.f.iii~~D.1.f)2 and D.1.f)3~~ above, the Executive Officer determines that a formal pretreatment program is necessary to adequately meet program objectives, then”
 - c) [Page 24, Section VI.C.2.f.v] “The Discharger shall comply, and ensure affected indirect Dischargers comply, with Paragraph No. D.1. of Standard Provisions and Reporting Requirements.” Clarification as to which of the many Paragraph No. D.1’s within the much expanded Standard Provisions Section is needed.

²⁰ Federal Register: June 12, 2002 (Volume 67, Number 113) [<http://www.epa.gov/fedrgstr/EPA-WATER/2002/June/Day-12/w14761.htm>] and Federal Register: December 21, 2001 (Volume 66, Number 246) [<http://www.epa.gov/fedrgstr/EPA-WATER/2001/December/Day-21/w31342.htm>]

10. Correct cross-references to sections within the Fact Sheet (Section F).

- a) [Page 8, Section II.K] “These restrictions are discussed in Section III C.2 ~~III.2.C~~ of the Fact Sheet.”
- b) [Page 9, Section II.L] “...As discussed ~~in detail~~ in Section III.C.3 ~~III.C.5~~ of the Fact Sheet, the permitted discharge is consistent with the....”
- c) [Page 9, Section II.M] “...As discussed in Section III.C.4 ~~III.C.6~~ of the Fact Sheet, effluent limitations and other requirements established by this Order satisfy”

Please contact the undersigned if you have questions regarding this review.

Sincerely,

Douglas A. Coats
Vice President

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