RESPONSES TO COMMENTS II

May 9, 2008

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This Response to Comments II, dated May 9, is a continuation of the Response to Comments document transmitted in your original agenda packet. Response to Comments II is the San Diego Water Board's responses to San Diego Coastkeeper's comment letter dated April 29, 2008. (A copy of this letter was included as Supporting Document 5 in the original agenda packet.) Although many of Coastkeeper's comments refer strictly to the Technical Report (dated February 29, 2008), a few also apply to the Draft Basin Plan Amendment (Attachment A to the Tentative Resolution No. R9-2008-0028) as noted below.

3.9 Demonstration of Maintenance of Health Risks at Acceptable Levels

Comment 14 on the Technical Report

Epidemiological Studies are a Preferred Method for Section 5.3.3 Demonstration of Maintenance of Health Risks at Acceptable Levels

Coastkeeper agrees with the Technical Report statement that "to demonstrate that elevated risks are not present, epidemiological studies may be necessary." If alternative measures to epidemiological studies are used to demonstrate acceptable health risk levels, such alternatives should indicate similar levels of reliability and should be looked to only after it is shown that epidemiological studies are infeasible. Commented by Coastkeeper.

Response: Agreed. No changes have been made to the technical report.

3.10 Anthropogenic Sources Versus Controllable Sources

Comment 15 on the Draft Basin Plan Amendment, Attachment A to Tentative Resolution No. R9-2008-0028 and the Technical Report

Anthropogenic Sources Are Different From Controllable Sources

The Technical Report and the Basin Plan Amendment (BPA) both contain a definition of the term "anthropogenic source" that is contrary to plain meaning. Anthropogenic means "of, relating to, or resulting from the influence of human beings on nature." (Merriam-Webster Dictionary) We reiterate our concern made during the SAG process, that the term anthropogenic is being conflated with the term controllable. Whether a bacteria source is controllable is a factor distinct from the source of the bacteria. Thus, the definition of "anthropogenic source" should remain constant regardless of whether such source is controllable. Excluding uncontrollable anthropogenic sources from the definition excludes such pollution from regulatory reach. This turns the whole reference system and

antidegradation approach (RSAA) and natural source exclusion approach (NSEA) on its head. The purpose of RSAA and NSEA is to account for natural sources because they are often uncontrollable and any attempts to control them could be detrimental to water quality. As stated in the Technical Report,

> *"The RSAA and NSEA are designed to allow the San Diego Water Board to develop and implement TMDLs that result in exceedances of indicator bacteria water quality objectives that equate to the natural uncontrollable loading of indicator bacteria. In this manner, the RSAA and NSEA address circumstances where natural uncontrollable sources of indicator bacteria are the cause of exceedances of indicator bacteria water quality objectives."*

Excluding anthropogenic sources from TMDL implementation exceeds the scope and stated purpose of the BPA. The RSAA and NSEA are meant to allow dischargers to simulate a natural loading scenario. Anthropogenic sources are not natural and cannot be made such by labeling them uncontrollable. Moreover, the Technical Report acknowledges the need to control anthropogenic sources,

> *"[T]hese approaches provide that MS4 and nonpoint source dischargers subject to indicator bacteria TMDLs will not be required to control indicator bacteria from natural uncontrollable sources. However, the Basin Plan amendment does not obviate the need for MS4 and nonpoint source dischargers to control indicator bacteria from anthropogenic sources."*

Thus, by altering the definition of "anthropogenic source", the BPA and Technical Report exempt "uncontrollable" anthropogenic sources from regulation. This is especially alarming in the BPA because the term is defined in a hidden footnote.

Also, anthropogenic sources may become "uncontrollable," though their origins are in fact controllable. For example, contaminated sediment that releases bacteria into a waterbody would be considered an uncontrollable source. If the original source of bacteria is anthropogenic, it remains anthropogenic, regardless of its ability to be controlled. This distinction is important in describing bacteria sources, because at some point, all sources may be characterized as "uncontrollable."

Therefore, we suggest either a definition of "anthropogenic source" that comports with the traditional meaning and does not account for the "controllability" of the source, or that the BPA provide no definition, leaving the traditional meaning of the term "anthropogenic" in place. Commented by Coastkeeper.

Response: The San Diego Water Board generally agrees with this comment and has made changes to the Draft Basin Plan Amendment (Attachment A to Tentative Resolution No. R9-2008-0028) and the Technical Report. These

changes correct the definition of anthropogenic by adding text to both documents and deleting footnote 3 of the draft Basin Plan Amendment and footnotes 2, 5, 9, and 12 of the Technical Report. The added text also clarifies what is and is not meant by the requirement to "control all anthropogenic sources of indicator bacteria". Changes to the Technical Report are shown below and in Errata Sheet II dated May 9, 2008.

4.2 NSEA Description

Under the NSEA, all anthropogenic sources (defined as human, domesticated animal, or resulting from human activity) of indicator bacteria to the water bodies subject to the indicator bacteria TMDL must controlled. Therefore, before a TMDL can be calculated using the NSEA, dischargers must demonstrate that all appropriate best management practices have been implemented to control all anthropogenic sources of indicator bacteria to the target water body. Dischargers must also demonstrate that remaining indicator bacteria densities do not pose an elevated health risk beyond that allowable under applicable bacteriological standards.

5.3.1 *Control of All Anthropogenic Sources of Indicator Bacteria*

~~MS4 and nonpoint source dischargers must be able to demonstrate through a weight of evidence approach that all anthropogenic sources of indicator bacteria have been and are being controlled so that no indicator bacteria from anthropogenic sources are discharged into the target water body.~~ Before a TMDL can be calculated using the NSEA, dischargers must demonstrate that all appropriate best management practices (BMPs) have been implemented to control all anthropogenic sources of indicator bacteria to the target water body. Completely eliminating the discharge of all anthropogenic sources of indicator bacteria (defined as human, domesticated animal, or resulting from human activity) to receiving waters is likely not feasible and is not required under the NSEA. For example, storm water runoff from landscaped areas can have high indicator bacteria densities and would be considered anthropogenic. However, landscape vegetation is not necessarily a significant source of human pathogens. Although BMPs must be implemented to manage fertilizer applications, remove pet waste, and reduce storm water and dry weather runoff from landscaped areas, complete elimination of this runoff is probably infeasible. Another example is bacteria loading from resuspension of sediment by swimmers. Although this source would be considered anthropogenic, the only way to completely eliminate resuspension of sediment is to ban swimming which would be inappropriate since this Basin Plan amendment is intended to protect the REC-1 beneficial use. Furthermore some human sources of bacteria, such as bacterial shedding from swimmers, are impractical, if not impossible to control through BMPs. To account for uncontrollable anthropogenic sources before NSEA can be used, dischargers must also demonstrate that the remaining sources, as a whole, do not pose an elevated health risk beyond that allowable under applicable bacteriological standards.

This Technical Report does not attempt to list all of the activities that will be necessary to ~~achieve this step~~ control all anthropogenic sources of indicator bacteria. This is because…sources.

New text to be added to the end of Section 5.3.1 of the Technical Report after the list of bullets:

In summary, the requirement to "control all sources of anthropogenic indicator bacteria" means dischargers must demonstrate they have implemented all appropriate best management practices to control anthropogenic sources such that they do not cause or contribute to exceedances of applicable water quality objectives. The requirement to "control all sources of anthropogenic indicator bacteria" does not mean the complete "elimination" of all anthropogenic sources of bacteria as this is both impractical as well as impossible. Some anthropogenic sources of bacteria, such as shedding during swimming are infeasible, impractical, or inappropriate to control.

Comment 16 on Basin Plan Amendment, Attachment A to Tentative Resolution No. R9-2008-0028 and the Technical Report

In order to emphasize that even if shedding is uncontrollable, it can't be left out if it contributes to a public health risk, add the following sentence to the end of section 5.3.1: "To account for these types of anthropogenic sources before NSEA can be used, dischargers must be able to demonstrate that such sources do not pose a health risk. Commented by Coastkeeper via May 1, 2008 email.

Response: Similar to the resuspension of bacteria due to swimming, the only way to eliminate shedding of bacteria during swimming is to ban swimming. This is not an appropriate best management practice since swimming, REC-1, is the primary beneficial use this Basin Plan amendment is designed to protect. Further, it is not possible to measure the risk to public health due solely to a single bacterial source such as shedding. The health risk which is measurable is due instead to all of the remaining bacterial sources, as a whole.

As shown above, Coastkeeper's sentence was added to the Technical Report but modified to read "To account for uncontrollable anthropogenic sources before NSEA can be used, dischargers must also demonstrate that the remaining sources, as a whole, do not pose an elevated health risk beyond that allowable under applicable bacteriological standards".

3.11 Method for Incorporating the RSAA and NSEA into TMDLs

Comment 17 on the Technical Report

A Specific Method for Incorporation of RSAA and NSEA Into TMDLs Has Not Been Chosen

Coastkeeper is pleased to see that the Technical Report explicitly states that a particular method for implementing TMDLs with the RSAA and NSEA has not been chosen. The SAG was concerned that the method outlined in the Technical Report was the final method. The current version of the Technical Report makes several references to the fact that the method for incorporation of RSAA and NSEA into TMDLs has not been finalized. We are glad to see the SAG comments reflected in the Technical Report and hope to work with the Regional Board staff in the future development of incorporation methods and models. Commented by Coastkeeper.

Response: Comment noted. No changes have been made to the Technical Report.

3.12 Technical Approach

Comment 18 on the Technical Report

The Technical Approach for Incorporation of RSAA and NSEA Into TMDLs is Not Protective of Waterbodies

Coastkeeper's comments submitted on February 5, 2008, during the SAG process outline our reservations with the current technical approach for calculating allowable exceedance frequencies within a TMDL.
Some of these concerns include:

1. *Lack of concrete plan to demonstrate that all anthropogenic sources of bacteria have been controlled for NSEA*
2. *Calculation of exceedance frequency is skewed toward higher exceedance frequencies*
3. *Reference watershed characterization should include more criteria, including land use patterns.*

While some of our other concerns have been addressed in the current Technical Report, these issues remain. We hereby incorporate our earlier unaddressed comments by reference. Commented by Coastkeeper.

Response: In response to the first concern, the Technical Report does not attempt to list all of the activities that will be necessary to demonstrate control of

all anthropogenic sources of indicator bacteria. Nevertheless, the report does provide a thorough list of the types of activities believed to be necessary, (see section 5.3.1). The necessary actions will be identified, implemented, and assessed over time and on a case by case basis. Some flexibility is appropriate. No changes have been made to the Technical Report concerning this point.

Regarding the second concern, the calculation of exceedance frequency is straight forward. The exceedance frequency, or probability that one or more indicator bacteria water quality objectives will be exceeded at a particular site, is equal to the number of days of exceedances divided by the total number of wet weather days. There is no way to skew the exceedance frequency. In the event the commenter intended to ask about exceedance "loads" (rather than exceedance "frequency"), then skewing the allowable exceedance loads is possible. In the case of Bacteria TMDLs for Beaches and Creeks, Project I, the exceedance loads have been skewed to the high side for purposes of calculating *interim* TMDLs, since over 60% of the total bacteria loading in the measured watersheds was shown to originate from "open space". Keep in mind that the methods used in Bacteria Project I and those presented throughout this Technical Report are not the only methods that can be used. No changes have been made to the Technical Report concerning the second point.

In response to the third concern, the Water Board agrees with the comment and has added text to section 5.1.1 of the Technical Report to state that land use types in the developed portion of a reference system should also be considered when characterizing/selecting an appropriate reference system. As shown in Errata Sheet II dated May 9, the following text has been added to the end of the third sentence in section 5.1.1 of the Technical Report: "…biology, climate, <u>and land use in the developed portion of a reference system</u>".

3.13 When to use a NSEA versus a RSAA

Comment 19 on the Draft Basin Plan Amendment, Attachment A to Tentative Resolution No. R9-2008-0028 and the Technical Report

RSAA Is Not Appropriate if the Exceedance Frequency of the Target Waterbody is Lower Than Exceedance Frequency of the Reference Waterbody

As proposed, the BPA states that the frequency of exceedance will be the observed frequency at either the reference or target waterbody, whichever is lower. If a reference waterbody has a higher exceedance frequency, the RSAA should not be used. The purpose of the RSAA is to account for natural sources of bacteria in the TMDL context. Without a valid reference waterbody, RSAA is unjustified. Further, the exceedance frequency of a target waterbody should not

be used to perpetuate exceedances simply because a valid reference system is unavailable. Commented by Coastkeeper.

Response: The RSAA has two components: 1) the reference system approach; and 2) the antidegradation approach. When the exceedance frequency of a target waterbody is lower than that of the reference waterbody, the antidegradation component of the RSAA applies. The antidegradation component is needed to make clear that the existing bacteriological water quality of the target water body may not be allowed to degrade. No changes to the draft Basin Plan Amendment or the Technical Report have been made.