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Via Electronic and Overnight Mail

June 4, 2010
In reply refer to SHEA-110038

Mr. Man Voong
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Comments on the Proposed Amendment to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to incorporate Total Maximum Daily Load for Bacteria in the Los Angeles River

Dear Mr. Voong:

The Boeing Company appreciates the opportunity to submit comments on the proposed amendment to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to incorporate Total Maximum Daily Load for Bacteria in the Los Angeles River ("Proposed TMDL") that is scheduled for a public hearing at the July meeting of the Los Angeles Regional Water Quality Control Board ("Regional Board"). Boeing requests that these comments also be considered in the development of any regulations or polices related to the proposed amendment.

Storm water from Boeing's Santa Susana Field Laboratory drains in part to the Los Angeles River watershed and is subject to regulation under NPDES Permit No. CA0001309. As amended by the Regional Board on June 3, 2010, the Santa Susana permit now contains monitoring requirements for indicator bacteria. Because the permit contains effluent limitations for a wide variety of other constituents, including limitations derived directly from other TMDLs for the Los Angeles River, we are concerned that the permit will be amended in the future to include effluent limitations based on the proposed TMDL.

The proposed TMDL utilizes an "allowable exceedance day approach," where MS4 dischargers are allowed the same number of exceedances as seen by the Southern California Coastal Water Research Project ("SCCWRP") in studies of runoff from natural, open space areas.¹ Runoff from open space

¹ Boeing was unable to determine how the Regional Board derived the allowable number of exceedance days due to inconsistencies between the TMDL Staff Report



(i.e., US Forest Service Lands, CA Department of Parks and Recreation lands, National Park Service lands) is also allowed exceedances at the same frequency, based on the assumption that these exceedances are caused by natural, non-human sources. However, the draft TMDL Staff Report provides that general and individual Industrial Stormwater NPDES Dischargers:

“are assigned wasteload allocations of zero (0) days of allowable exceedances for both wet and dry weather and for the single sample and the rolling 30-day geometric mean limits. To comply with the allocation, these dischargers will demonstrate compliance with the target concentration of 235 MPN E. coli/100 mL. This allocation will be included in NPDES permits and WDRs.”

Draft TMDL Staff Report at p. 52.

We are concerned that this requirement will also be applied to the Santa Susana permit despite the conclusion that the Santa Susana site is “not known to be a significant source of bacteria to the watershed (see the Draft TMDL Staff Report at p. 25), and despite the fact that “it is not the intent of the Regional Board to require treatment or diversion of natural water bodies or to require treatment of natural sources of bacteria from undeveloped areas.”² The majority of the Santa Susana site is open space with abundant wildlife.

and the underlying SCCWRP study report (Tiefenthaler et al. 2008, referenced on p. 39 of the TMDL Staff Report), specifically which data were included in the calculations of the number of exceedances. Additional concerns with this approach are detailed in Attachment A, a letter from Flow Science Incorporated to the Regional Board, dated April 19, 2010. Consistent with Attachment A, and because of deficiencies in the “natural source exclusion approach,” Boeing requests that the Regional Board amend the water quality objectives to require compliance with *E. coli* objectives “as a result of controllable water quality factors.”

² By Resolution No. 2002-022, the Board amended the Implementation Section of the Basin Plan to allow a “reference system/antidegradation approach” or “natural sources exclusion approach,” both of which “recognize that there are natural sources of bacteria, which may cause or contribute to exceedances of the single sample objectives for bacterial indicators [I]t is not the intent of the Regional Board to require treatment or diversion of natural water bodies or to require treatment of natural sources of bacteria from undeveloped areas.” Regional Board, Resolution No. 2002-022 (Dec. 12, 2002) at 20 (available at http://www.epa.gov/waterscience/standards/wqslibrary/ca/ca_9_reg4bactimp.pdf).

The primary risk to human health from recreational contact most likely comes from exposure to human specific pathogens. See (Cabelli 1983; Fankhauser et al. 1998; Levine and Stephenson March 01 1990; Palmateer et al. 1991; Sobsey et al. 1995; World Health Organization 1999). Based on this principle, the Draft Los Angeles River



As detailed in the comments Boeing submitted May 12, 2010 on proposed amendments to its NPDES Permit for the Santa Susana facility (appended here as Attachment B), including numeric effluent limitations for indicator bacteria in the Santa Susana permit would be inappropriate because natural sources are the likely source of any bacteria in stormwater discharges from the site. Moreover, any such limits would be counterproductive because those bacteria likely could not be successfully treated without causing significant harm.



To the extent that bacteria may be detected in waters receiving stormwater discharges from Santa Susana, it is highly likely that they would originate from natural sources. Because Boeing collects sanitary waste and transports it from the site to an offsite POTW for treatment and disposal, there is no indication that human waste generated at the site will be exposed to or enter stormwater runoff. As detailed in Attachment B, a number of studies show that non-human sources, such as birds and wildlife, contribute to bacteria in stormwater runoff. Similarly, a Bacteria Source Identification ("BSI") study of the Los Angeles River found that the largest dry-weather *E. coli* loading increase occurred along the downstream portion of Reach 2 of Los Angeles River and was far larger than the storm drain loading to this reach. The CREST BSI study also measured concentrations of human-specific bacteroidales and demonstrated that the increase in *E. coli* concentrations in this reach appeared to originate from non-human sources, potentially including regrowth in sediments and bioslimes, resuscitation of bacteria from POTW discharges, and/or birds and wildlife.³

Even if there were reason to believe that Santa Susana's stormwater discharges contain indicator bacteria in excess of Basin Plan objectives (which there is not), it is far from clear that those bacteria could be successfully reduced. Treated water often has bacteria concentrations that exceed water quality objectives just downstream of the point where they are discharged to receiving waters. For example, Orange County recently studied BMPs for reducing bacteria concentrations in Aliso Creek. The study found that a BMP that included multimedia filtration and ultraviolet sterilization greatly reduced concentrations of indicator bacteria, but that bacteria levels rebounded within a short distance downstream of the BMPs. See (Orange County 2005).⁴

Bacteria TMDL allows exceedances at a specific frequency (based on the frequency of bacteria exceedances in runoff from a "natural background" reference system) for discharges from U.S. Forest Service lands, California Department of Parks and Recreation Lands, National Park Service lands, and other similar open space areas. Draft Los Angeles River Bacteria TMDL at p. 51.

³ The human health risk posed by swimming exposures to bacteria from non-human sources is likely lower than the risk posed by exposure to bacteria from human sources, including treated and untreated sewage. See (Schoen and Ashbolt 2010; Colford et al. 2005).

⁴ Specifically, effluent from the BMP exhibited geometric mean fecal coliform concentrations of 317 colony forming units ("cfu")/100 milliliters ("mL") at the BMP

The CREST BSI study (2008) also showed large increases in indicator bacteria concentrations in natural channels that appeared to be due to natural, non-human sources. Thus, it appears likely that even if stormwater runoff from Santa Susana were to meet water quality objectives for indicator bacteria, bacteria concentrations in those flows likely will increase due to natural sources even at short distances downstream of the site.

In addition, the controls required to meet bacteria numeric limits probably would cause more harm than benefit. As explained above, it is likely that natural sources such as birds and other wildlife would be the primary cause of any exceedances of water quality objectives or TMDL targets. It would be infeasible and undesirable to control wildlife or eliminate habitat to avoid or reduce those exceedances. In addition, while additional treatment processes, including ultraviolet sterilization or other disinfection treatment methods, could be employed to meet TMDL targets, these processes have the potential to greatly increase energy use at the site, introduce chemicals for treatment, require construction of significant volumes of on-site storage, and/or alter flow patterns of runoff leaving the site. These measures could yield potentially significant environmental impacts whose harm could outweigh any purported benefit, especially given the available evidence that indicator bacteria concentrations likely would rebound after treated water is discharged to natural channels.

For these reasons, we respectfully request that the water quality objectives for indicator bacteria be amended to more appropriately exclude natural sources from regulation; that the TMDL for Bacteria in the Los Angeles River Watershed be amended to specify that runoff from open space areas subject to a General or Individual Industrial Permit shall be allowed to exceed water quality objectives for indicator bacteria at the same frequency as runoff from other open space areas; and that numeric effluent limitations shall not be used in these instances.

Boeing appreciates the opportunity to submit these comments. Should you have any questions, please contact Paul Costa of my staff at (818) 466-8778.

Sincerely,



Thomas D. Gallacher
Director, Santa Susana Field Laboratory
Environment, Health & Safety

outlet, but concentrations increased to 2575 cfu/100 mL in a natural channel at a distance of 35 feet downstream from the BMP.

Mr. M. Voong, LARWQCB (SHEA-110038)

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Attachments: Attachment A, Letter from Flow Science to the
Regional Board dated April 19, 2010
Attachment B, Letter from Paul Hastings to the
Regional Board dated May 12, 2010

cc: Ms. Renee Purdy, LARWQCB (w/ attachments via electronic mail)

