

SSFL CDO Expert Panel¹

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June 10, 2008

Fran Diamond, Chair
Los Angeles Regional Water Quality Control Board
320 W. 4th Street, Suite 200,
Los Angeles, California 90013

Re: SSFL CDO Expert Panel Responses to Issues Raised at the June 5, 2008 Regional Board Hearing

Dear Chair Diamond:

The purpose of this letter is to respond to the discussion items that came up following the Expert Panel's presentation at the June 5 Regional Board hearing on the Santa Susana Field Laboratory (SSFL or Site) site-wide design storm and ENTS project for Outfalls 008 and 009. The Panel appreciated the opportunity to present our findings and recommendations to the Board at the workshop. There were comments from the public at the meeting urging the Board not to consider specific items which they believed were part of our recommendations. Unfortunately, the format of the meeting did not allow the Expert Panel to directly address these misconceptions. We write this letter to correct their misconceptions of the recommendations contained in our Design Storm Consensus White Paper.

The Expert Panel's original task from the November 1, 2007 Cease and Desist Order was to identify natural best management practices (BMPs) or engineered natural treatment systems (ENTS) capable of achieving permit limits in Outfalls 008 and 009; however, it was immediately clear to the Panel that no stormwater treatment systems, natural or otherwise, are capable of achieving the permit limits under *all* circumstances. Therefore, in our Consensus White Paper, a strategy was recommended to site and size ENTS to maximize stormwater treatment at the Site that is consistent with current practicable

¹ The Expert Panel members are acting as private consultants in order to assist the Regional Board and The Boeing Company develop and implement methods to meet the requirements of Cease and Desist Order R4-2007-0056, dated November 1, 2007. Their opinions and directives are not the opinions and directives of their respective employers.

stormwater management practices and environmental considerations. Unfortunately, the public comments implied that the Expert Panel was recommending abandoning numeric limits for pollutants of concern. The Expert Panel has not, is not, and will not recommend abandoning numeric limits.

The Expert Panel also wishes to emphasize the following aspects of its recommendations:

1. It is important to understand the way the proposed ENTS will function and how they relate to the design storm. The notion that storms greater than the design storm are not treated is false. It is not possible to accurately predict in advance the occurrence of storms greater than the design storm. The ENTS will remove pollutants during each and every storm regardless of whether a forecasted storm may exceed the design storm. All storms, including those greater than the design storm, will be treated to the maximum extent of the ENTS' capabilities. This means that the 5% of the storms greater than the design storm are at least partially treated. The proposed ENTS will fully treat the early portions of the runoff and all runoff less than the design treatment flow rate; only the last part of the runoff and excessive flows, which are likely to be less contaminated, may receive reduced levels of treatment.
2. Above the design storm, numeric limits will still be used, but we recommend they apply as benchmarks, which means an exceedance initiates a review process that ascertains what improvements will be made to meet the numeric limits for future storms that exceed the design storm. The cost of these proposed improvements could be greater than the fines that otherwise would have been assessed for permit limit exceedance. There is almost no reason to have a design storm criterion if there are no changes in how the permit is enforced (e.g., benchmarks) when the design storm is exceeded.
3. It is the Expert Panel's conclusion that increasing the design storm size has only marginal environmental benefits to water quality. This is based on extensive analysis, including but not limited to long-term continuous hydrologic simulations. However, the construction of larger facilities would likely cause significant environmental damage or habitat alteration. The additional facilities would essentially have to be dam structures that would retain all the water volume and sediments following any storm event. Furthermore, these impacts would trigger a permitting process and safety reviews that would delay ENTS implementation beyond the CDO compliance schedule of June 2009.
4. Comments were made at the June 5 hearing about the unacceptability of allowable permit limit exceedances, an issue that was inferred from our design storm recommendation white paper that suggested possible allowable reference watershed or technology-based exceedance frequencies. It should be noted that

allowable exceedance frequencies of numeric effluent limits are included in many if not most other NPDES permits around the State and country. Combined Sewer Systems throughout the United States have allowable exceedance frequencies based upon hydrology or allowable overflows per year as one example. The California Toxics Rule includes exceedance frequencies for aquatic life-based water quality criteria as another example. Finally, an excellent example from the Los Angeles region with which you are undoubtedly familiar is the Santa Monica Bay Beaches Bacteria wet-weather TMDL, in which allowable “exceedance days” were developed for coastal municipal permittees based on bacteria monitoring data from an undeveloped “reference watershed” (Leo Carrillo beach). Fecal indicator bacteria in surface waters is a great analog for the situation faced by SSFL for dioxins and several metal parameters; i.e., natural background levels of these constituents routinely exceed the water quality standard-based numeric effluent limits of the permit.

5. The Expert Panel has not recommended the removal of dioxin limits; however, it is the Expert Panel’s conclusion that under certain conditions, especially after wildfires, that the runoff from the Site greatly exceeds the permit, and reduction of virtually all the suspended solids, such as might occur with drinking water-level filtration of the runoff, will likely not meet the permit dioxin limit. The panel is reviewing dioxin data from other runoff sites as well as adjacent locations to determine what level of background dioxins exists under normal conditions and after fires. The panel is hopeful that specific congener results might reveal sources of dioxins. Dioxins from diffuse sources are the subject of research world-wide and source identification is a common goal. The Expert Panel will develop a white paper to expound on this topic for future submittal to Board staff for their review. The Expert Panel has recommended a strategy of ENTS implementation that is specifically designed to reduce dioxin concentrations at the Site, regardless of natural background levels of dioxin in stormwater runoff,
6. Some commenters have questioned the ENTS locations by saying that they have been sited on top of contaminated soils or other media. The Expert Panel has accounted for the dual constraints of contaminated groundwater and soil since it began its work, but by the same token, we have also not allowed these constraints to drive the selection of ENTS locations or to eliminate ENTS from consideration, particularly in strategic locations such as the LOX site. A detailed soil management plan is being developed by Boeing and its consultants to identify impacted soils for *immediate* removal or treatment, to allow for ENTS construction to meet the CDO compliance schedule, as opposed to a longer schedule that was planned previously as part of the larger site cleanup plan. The Expert Panel, the Department of Toxic Substances Control (DTSC), and the Regional Board will review this plan. Therefore, if there is contaminated soil at

- or beneath the proposed ENTS locations, ENTS construction will significantly accelerate the removal and/or treatment of these soils.
7. Some commenters stated that compliance monitoring should be based on total pollutant concentrations and not filtered concentrations. The Expert Panel understands that permit limits are based on total concentrations and the ENTS have been designed on the basis of these limits. The complaints during the hearing about sample filtration are from individuals who are misinformed and obviously have not participated in previous public meetings. Additional sampling – unrelated to compliance monitoring and including both filtered and total concentrations – has occurred and will likely continue for the purpose of developing effective ENTS designs.
 8. The statements at the hearing regarding grab vs. composite samples are not consistent with best scientific practice and the Expert Panel’s experience. Composite samples taken during the complete duration of a runoff event better represent the true concentrations and mass of pollutants that leave a site. Also, in our original recommendation to consider composite samples, we noted the suitability of composite samples for only a subset of the contaminants, and contaminants such as volatile organic compounds, toxicity, and oil and grease must continue to be analyzed using grab samples. The Expert Panel will develop a white paper to expound on this topic for future submittal to Board staff for their review.
 9. There was some confusion over the term “source control”. Clean up of contaminated sites is already underway and under regulation by DTSC. The panel has noted that we have asked Boeing to practice pollution prevention, often called source control, by removing impervious surfaces, galvanized roofs, treated wood, etc. This is not the same as cleanup of contaminated sites and represents additional effort to provide environmental protection.

By any standard, the proposed ENTS plan is extremely ambitious in comprehensiveness, magnitude, and scope. The proposed ENTS plan has been maximized without consideration of cost. Only maximizing pollutant reduction and the consequential habitat and public safety impacts have been considered. Every Panel request for additional data or analyses has been met by Boeing without question. Significant additional monitoring has been added and paid for by Boeing at our request. At no point has Boeing placed financial limits on the ENTS construction or operation and maintenance plans. We have been given no budget restrictions for ENTS construction. Boeing has demonstrated commitment to achieving the necessary water quality regardless of cost.

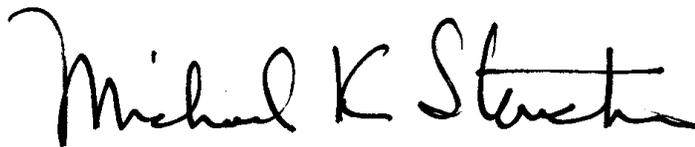
We thank the Board for their compliments regarding our qualifications, and for your expressions of confidence in the Panel’s knowledge and experience. To clarify

statements that were made by some hearing attendees, the Panel membership was not picked by Boeing. We Panel members asked about the selection process in our very first meeting. Geosyntec Consultants, which works nationally in stormwater management and has staff that have participated themselves on statewide and regional panels, developed the initial list of Expert Panel candidate members (19). Regional Board staff reviewed the list and one of the selected candidates (Pitt) was added based on Board staff request. Boeing neither suggested nor vetoed any candidates.

We have welcomed and continue to welcome public input. The Expert Panel has gone to a great level of effort to make preliminary recommendations available for public review via public presentations, site tours, progress reports at Regional Board hearings, and posting of our public meeting presentations and white paper to the Boeing website. We hope this letter will eliminate some of the confusion that we observed at the hearing. We understand our role is to provide independent guidance using the best science available and we look forward to all input that can add to that knowledge base. We would appreciate the opportunity to respond to comments, including those from the Board, directly in any future hearings, if your rules will allow.

Finally, most of the members of the Panel are registered professional engineers, and, as such, recognize that our paramount responsibility is “to protect public health, safety and welfare.” Please know that the Expert Panel members and I take this charge seriously.

In order to provide the letter at the earliest possible time, only Dr. Stenstrom, acting as the Panel Chair, is signing it. All Panel members have reviewed the letter and agree with its contents.

A handwritten signature in black ink that reads "Michael K Stenstrom". The signature is written in a cursive, flowing style.

Michael K. Stenstrom, Ph.D., P.E., BCEE

CC: Cassandra Owens
Senator Sheila James Kuehl
Supervisor Linda Parks
Santa Monica Bay Keeper