**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**
**LOS ANGELES REGION**

**MONITORING AND REPORTING PROGRAM NO. 6027**
**for**
**THE BOEING COMPANY**
**SANTA SUSANA FIELD LABORATORY**
**(CA0001309)**

## I. Reporting Requirements

A. The Boeing Company (Discharger) shall implement this monitoring program on the effective date of this Order. All monitoring reports shall be submitted quarterly and must be received by the Regional Board by the dates in the following schedule. All monitoring reports should be addressed to the Regional Board, Attention: Information Technology Unit. The first monitoring report under this Program is due by August 15, 2009.

| Reporting Period | Report Due |
|---|---|
| January – March | May 15 |
| April – June | August 15 |
| July – September | November 15 |
| October – December | February 15 |

B. If there is no discharge during any reporting period, the report shall so state. The Discharger shall submit an annual summary report (for both dry and wet weather discharges), containing a discussion of the previous year's effluent and receiving water monitoring data, as well as graphical and tabular summaries of the data. The data shall be submitted to the Regional Board on hard copy and CD or electronically. Submitted data must be IBM compatible, preferably using EXCEL software. This annual report is to be received by the Regional Board by March 1 of each year following the calendar year of data collection.

C. Each monitoring report shall contain a separate section titled "Summary of Non-Compliance" which discusses the compliance record and corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with waste discharge requirements, as well as all excursions of effluent limitations.

Each quarterly report shall contain a separate section titled "Reasonable Potential Analysis" which discusses whether or not reasonable potential was triggered for pollutants which do not have a final effluent limitation in the NPDES permit. This section shall contain the following statement, "The analytical results for this sampling period did/did not trigger reasonable potential." If reasonable potential was triggered, then the following information should be provided:

a. A list of the pollutant(s) that triggered reasonable potential;
b. The Basin Plan or CTR criteria that was exceeded for each given pollutant;
c. The concentration of the pollutant(s);
d. The test method used to analyze the sample; and
e. The data and time of sample collection.

D. The Discharger shall inform the Regional Board well in advance of any proposed construction activity that could potentially affect compliance with applicable requirements.

F. Any mitigation/remedial activity including any pre-discharge treatment conducted at the site must be reported in the quarterly monitoring report.

G. Database Management System – The Regional Board is developing a compliance monitoring database management system that may require the Discharger to submit the monitoring and annual reports electronically when it becomes fully operational.

## II. Effluent Monitoring Requirements

A. Sampling station(s) shall be established for the point of discharge and shall be located where representative samples of that effluent can be obtained. Provisions shall be made to enable visual inspection of the discharge. All visual observations shall be included in the monitoring report.

B. This Regional Board shall be notified in writing of any change in the sampling stations once established, or in the methods for determining the quantities of pollutants in the individual waste streams.

C. Pollutants shall be analyzed using the methods described in 40 CFR 136.3, 136.4, and 136.5 (revised March 12, 2007); or where no methods are specified for a given pollutant, methods approved by Regional Board or State Board. Laboratories analyzing monitoring samples shall be certified by the California Department of Public Health and must include quality assurance/quality control (QA/QC) data with their report. For the purpose of monitoring pH, dissolved oxygen, residual chlorine, and d mus0 Cin ir r d das theehess 40 Cnd

1. An actual numerical value for sample results greater than, or equal to, the ML; or,

2. "Detected, but Not Quantified (DNQ)" if results are greater than or equal to the laboratory's MDL but less than the ML; or,

3. "Not-Detected (ND)" for sample results less than the laboratory's MDL with MDL indicated for the analytical method used.

Current MLs (Attachment T-A) are those published by the State Water Resources Control Board (State Board) in the *cy d*

E. Laboratory analyses – all chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). A copy of the laboratory certification shall be submitted with the Annual Report.

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report interpreting the data, photographs of the site, and related QA/QC documentation in the corresponding annual report.

2. The Discharger must provide a copy of their Standard Operation Procedures (SOPs) for the Bioassessment Monitoring Program to the Regional Board upon request. The document must contain step-by-step field, laboratory and data entry procedures, as well as, related QA/QC procedures. The SOP must also include specific information about each bioassessment program including: assessment program description, its organization and the responsibilities of all its personnel; assessment project description and objectives; qualifications of all personnel; and the type of training each member has received.

3. Field sampling must conform to the SOP established for the California Stream Bioassessment Procedure (CSBP) or more recently established sampling protocols, such as used by the Surface Water Ambient Monitoring Program (SWAMP). Field crews shall be trained on aspects of the protocol and appropriate safety issues. All field data and sample Chain of Custody (COC) forms must be examined for completion and gross errors. Field inspections shall be planned with random visits and shall be performed by the Discharger or an independent auditor. These visits shall report on all aspects of the field procedure with corrective action occurring immediately.

4. A taxonomic identification laboratory shall process the biological samples that usually consist of subsampling organisms, enumerating and identifying taxonomic groups and entering the information into an electronic format. The Regional Board may require QA/QC documents from the taxonomic laboratories and examine their records regularly. Intra-laboratory QA/QC for subsampling, taxonomic validation and corrective actions shall be conducted and documented. Biological laboratories shall also maintain reference collections, vouchered specimens (the Discharger may request the return of their sample voucher collections) and remnant collections. The laboratory should participate in an (external) laboratory taxonomic validation program at a recommended level of 10% or 20%. External QA/QC may be arranged through the California Department of Fish and Game's Aquatic Bioassessment Laboratory located in Rancho Cordova, California.

**5.** The Executive Officer of the Regional Board may modify the Monitoring and Reporting Program to accommodate the watershed-wide monitoring.

I. For parameters that both monthly average and daily maximum limits are specified and the monitoring frequency is less than four times a month, the following shall apply. If an analytical result is greater than the monthly average limit, the sampling frequency shall be increased (within one week of receiving the test results) to a minimum of once rebo

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| | Units | Type of Sample | Minimum Frequency of Analysis[1] |
|---|---|---|---|
| AS) | mg/L | grab | once per discharge eve |
| | mg/L | grab | once per discharge e |
| | mg/L | grab | once per dischar nt© |
| | mg/L | grab | once per discha vent |
| | mg/L | grab | once per dis e event |
| | µg/L | grab | once per d rge event |
| | µg/L | grab | once p charge event |
| | µg/L | grab | once ischarge event |
| | µg/L | grab | o r discharge event |
| oethylene | µg/L | grab | per discharge event |
| e | µg/L | grab | ce per discharge event |
| hlorophenol | µg/L | gra | once per discharge event |
| otoluene | µg/L | g | once per discharge event |
| HC | µg/L | | once per discharge event |
| hylhexyl)phthalate | µg/L | ab | once per discharge event |
| sodimethylamine | µg/L | grab | once per discharge event |
| chlorophenol | µg/L | grab | once per discharge event |
| oroethylene | µ | grab | once per discharge event |
| D♦ | | grab | once per discharge event |
| tile organic compounds | g/L | grab | once per discharge event♦♦ |
| on | mg/L | grab | annually[6] |
| oride | mg/L | grab | annually[6] |
| arium | mg/L | grab | annually[6] |
| ron | mg/L | grab | annually[6] |

| Constituent | Units | Type of Sample | Minimum Frequency of Analysis[1] |
|---|---|---|---|
| Selenium[2] | µg/L | grab | once per discharge event |
| Silver[2] | µg/L | grab | annually[6] |
| Thallium[2] | µg/L | grab | annually[6] |
| Zinc[2] | µg/L | grab | once per discharge event |
| Cobalt | µg/L | grab | annually |
| Vanadium | µg/L | grab | annually |

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## IV. Toxicity Monitoring Requirements

A. Acute Toxicity Monitoring Program

1. The Discharger shall conduct acute toxicity tests on effluent grab samples by methods specified in 40 CFR Part 136 which cites USEPA's *Methods for Measuring Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition. October 2002 (EPA/821-R-012) or a more recent edition to ensure compliance in 100 % effluent.

2. The fathead minnow, *Pimephales promelas*, shall be used as the test species for fresh water discharges and the topsmelt, *Atherinops affinis*, shall be used as the test species for brackish effluent. The method for topsmelt is found in USEPA's *Methods for Measuring the Chronic Toxicity of Marine and Estuarine Receiving Waters to Marine Organisms*, Fourth Edition, October 2002 (EPA/821-R-02-013).

3. In lieu of conducting the standard acute toxicity testing with the fathead minnow, the Discharger may elect t

screening tests demonstrates that the same species is the most sensitive than the re-screening does not need to include more that one suite of tests. If a different species is the most sensitive or if there is ambiguity then the Discharger shall proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

c. The presence of chronic toxicity shall be estimated as specified using West Coast marine organisms according to EPA' s Short-Term Methods for Estimating Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002 (EPA/821-R-02-013).

C. Quality Assurance

1. Concurrent testing with a reference toxicant shall be conducted. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc).

2. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the test methods manuals (EPA/600/4-91/002 and EPA/821-R-02-013), then the Discharger must re-sample and re-test within 14 days of notification by the laboratory of an invalid test.

3. Control and dilution water shall be receiving 7 6 0 Td (w)Tj 7.81495 0 Td (a)Tj 6.13173 0

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3 -12.96 Td (2)Tj 6.13173 0 Td (.)Tj 3.12598998087 0 0 6.13173 0 Td (n)Tj 6.13173 0 Td (t)Tj 3.12598

3. The first step in the initial Investigation TRE Workplan for downstream receiving water toxicity can be a toxicity test protocol designed to determine if the effluent causes or contributes to the measured downstream chronic toxicity If this first step TRE testing shows that the outfall effluent does not cause or contribute to downstream chronic toxicity, using EPA's Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002(EPA/821-R-02-013). Then a report on this testing shall be submitted to the Board and the TRE will be considered to be completed. Routine testing in accordance with MRP No. 6027 shall be continued thereafter.

E. Steps in Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE)

1. Following a TRE trigger, the Discharger shall initiate a TRE in accordance with the facility's initial investigation TRE workplan. At a minimum, the Discharger shall use EPA manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) as guidance. The Discharger shall expeditiously develop a more detailed TRE workplan for submittal to the Executive Officer within 30 days of the trigger, which will include, but not be limited to:

   a. Further actions to investigate and identify the cause of toxicity;

   b. Actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity;

   c. Standards the Discharger will apply to consider the TRE complete and to return to normal sampling frequency; and,

   d. A schedule for these actions

2. The following is a stepwise approach in conducting the TRE:

   a. Step 1 - Basic data collection. Data collected for the accelerated monitoring requirements may be used to conduct the TRE;

   b. Step 2 - Evaluates optimization of the treatment system operation, facility housekeeping, and the selection and use of in-plant process chemicals;

   c. If Steps 1 and 2 are unsuccessful, Step 3 implements a Toxicity Identification Evaluation (TIE) and employment of all reasonable efforts and using currently available TIE methodologies. The objective of the TIE is to identify the substance or combination of

by this permit. Test results shall be reported in Toxicity Units (percent survival or $TU_c$) with the discharge monitoring reports (DMR) for the month in which the test is conducted.

If an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, pursuant to Section IV.C.1., those results shall also be submitted with the DMR for the period in which the Investigation occurred.

2. The full report shall be submitted on or before the end of the month in which the DMR is submitted.

3. The full report shall consist of (1) the results; (2) the dates of sample collection, initiation, and completion of each toxicity tests; (3) the acute toxicity limit or chronic toxicity limit or trigger as described in Order No. R4-2009-00XX sections I.C.4.a.1. and I.C.4.b.1; and (4)printout of the ToxCalc or CETIS program results.

4. Test results for toxicity tests also shall be reported according to the appropriate manual chapter on Report Preparation and shall be attached to the DMR. Routine reporting shall include, at a minimum, as applicable, for each test:

5. sample date(s);

6. test initiation date;

7. test species;

8. end point values for each dilution (e.g., number of young, growth rate, percent survival);

9. NOEC value(s) in percent effluent;

10. $IC_{15}$, $IC_{25}$, $IC_{40}$ and $IC_{50}$ values in percent effluent;

11. $TU_c$ values $TU_c = \frac{100}{NOEC}$ ;

12. Mean percent mortality (±standard deviation) after 96 hours in 100% effluent (if applicable);

13. NOEC and LOEC values for reference toxicant test(s);

14. $IC_{25}$ value for reference toxicant test(s);

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**Attachment T-A**

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