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.LIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
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March 14, 1995
2189.8009 (RCG)

Mr. Stephen Chao
Department of the Navy,Western Division
Naval Facilities Engineering Command
900 Commodore Way, Building 101
San Bruno, CA 94066-2402

SUBJECT: SELF MONITORING PROGRAM, WASTE DISCHARGE REQUIREMENTS OR NPDES PERMITS

Dear Mr. Chao:

Please find attached a copy of "SELF-MONITORING PROGRAM" PART A. Based on our discussion of February 10, 1995 the pertinent section for your consideration is G.2.c. (page 10). This section specifies that in the case of a permit violation or threatened violation the discharger should report the violation to the Regional Board as soon as the violation is known. In addition, the discharger shall promptly accelerate his monitoring program to a minimum of daily analysis. Daily analysis shall continue until the effluent discharge limits have been attained.

The "SELF-MONITORING PROGRAM" PART A is routinely included in all waste discharge orders issued by the San Francisco Bay Regional Water Quality Control Board. Compliance with the provisions of this document should be considered to be a substantive requirement for NPDES permit compliance.

The issue of when have the discharge limits been attained is less clear. The standard practice has been, that upon obtaining a second sample, if that sample does not meet the discharge requirements the system is shut down until the cause of the permit violation can be ascertained. If the second sample does meet effluent requirements, a third sample would be obtained to verify that the second sample is valid. The process would repeat until either two consecutive samples either violate or attain the discharge limits.

Should you have any additional questions regarding NPDES requirements or other issues at Moffett Naval Air Station, please contact Michael Bessette of Board staff at (510) 286-1028.

Sincerely,

Ron Gervason

Ron Gervason, Senior Engineering Geologist

encl: SELF-MONITORING PROGRAM PART A

cc w/o encl: Mr. Joseph Chou - CALEPA/DTSC Region 2
Mr. Micheal Gill - USEPA, Region IX

2236

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SELF-MONITORING PROGRAM
PART A

A. GENERAL

Basis

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383 and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16 and the Environmental Protection Agency's Discharge Monitoring Report (Form 3320-1).

Purpose

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the 40 CFR S136 or other methods approved and specified by the Executive Officer of this Regional Board. (See Appendix E, attached)

Water and waste analyses shall be performed by a laboratory approved for these analyses by the State Department of Health Services (DOHS) or a laboratory waived by the Executive Officer from obtaining a certification for these analyses by the DOHS. The director of the laboratory whose name appears on the certification or his/her laboratory supervisor who is directly responsible for analytical work performed shall supervise all analytical work including appropriate quality assurance/quality control procedures in his or her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is defined as an individual sample collected in a short period of time not exceeding 15 minutes. Grab samples shall be collected during normal peak loading conditions for the parameter of interest, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with daily maximum limits and instantaneous maximum limits. Grab samples represent only the condition that exists at the time the wastewater is collected.

2. A composite sample is defined as a sample composed of individual grab samples mixed in proportions varying not more than plus or minus five percent from the instantaneous rate (or highest concentration) of waste flow corresponding to each grab sample collected at regular intervals not greater than one hour, or collected by the use of continuous automatic sampling devices capable of attaining the proportional accuracy stipulated above throughout the period of discharge for 8 consecutive or of 24 consecutive hours, whichever is specified in Table 1 of Part B.

3. A flow sample is defined as the accurate measurement of the average daily flow volume using a properly calibrated and maintained flow measuring device.

4. Duly authorized representative is one whose:

   a. Authorization is made in writing by a principal executive officer or ranking elected offical;

   b. Authorization specifies either an individual or a position having reponsiblility for the overall operation of the regulated facility or activity, such as general partner in a partnership, sole proprietor in a sole proprietorship, the position of plant manager, operator of a well or a well field, superintendent, position of equivalient responsibility, or an individual or position having overall responsiblilty for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

5. Average values for daily and monthly values is obtained by taking the sum of all daily values divided by the number of all daily values measured during the specified period.

6. Median of an ordered set of values is that value below and above which there is an equal number of values, or which is the arithmetic mean of the two middle values, if there is no one middle value.

   a. A 5-day median value for coliform bacteria is the third highest count of 5 daily counts obtained from 5 consecutive sampling days. A 7-day median value is the fourth highest of 7 daily counts obtained from 7 consecutive sampling days.

   b. A 5-day moving median value for coliform bacteria is the median value calculated for each consecutive sampling day based upon the period from the sample day and the previous 4 sampling days.

      A 7-day moving median is calculated for each consecutive sampling day based upon the period from the sample day and the previous 6 sampling days. Moving median values for the beginning of the month shall be calculated using the previous month's counts (i.e. the last four counts for a 5-day moving median and the last seven counts for a 7-day moving median from the previous month).

7. A 6-month median means a moving median of daily values for any 180 day period in which daily values represent flow-weighted average concentrations within a daily or 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.

8. The geometric mean is antilog of log mean. Used for determining compliance with bacteriological standards, dthe log mean is calculated with the following equation:

$$\text{Log Mean} = \frac{1}{N} \sum_{i=1}^{N} \text{Log } C_i$$

in which "N" is the number of days samples that were analyzed during the period and "C_i" is the concentration of bacteria (MPN/100 ml) found on each day of sampling.

9. Daily Maximum limit is the total discharge in a calendar day for pollutants measured by mass or the average measurement obtained for other pollutants.

10. Instantaneous maximum is defined as the highest measurement obtained for the calendar day.

11. A depth-integrated sample is defined as a water or waste sample collected by allowing a sampling device to fill during a vertical traverse in the waste or receiving water body being sampled and shall be collected in such a manner that the collected sample will be representative of the waste or water body at that sampling point.

12 Bottom sediment sampling and reporting guidelines mean those guidelines developed by the Regional Board staff to provide for standard bottom sampling, laboratory, and reporting procedures.

D. SPECIFICATIONS FOR SAMPLING AND ANALYSES

The discharger is required to perform sampling and analyses according to the schedule in Part B in accordance with the following conditions:

1. Influent

a. Composite samples of influent shall be collected on varying days selected at random and shall not include any plant recirculation or other sidestream wastes. Deviation from this must be approved by the Executive Officer.

2. Effluent

a. Composite samples of effluent shall be collected on days coincident with influent composite sampling unless otherwise stipulated. At least one sampling day in each seven shall reflect one day of weekend discharge, one day of peak loading and during major unit operation shutdown or startup. The Board may approve an alternative sampling plan if it is demostrated to the Board's satisfaction that expected operating conditions for the facililty warrant a deviation from the standard sampling plan.

b. Grab samples of effluent shall be collected during periods of maximum peak flows and shall coincide with effluent composite sample days.

c. Fish bioassay samples shall be collected on days coincident with effluent composite sampling.

1) Bioassay sample should be collected after chlorination. Bioassay test should be performed on dechlorinated samples. Dechlorination may be performed at the laboratory before testing.

2) Total ammonia nitrogen shall be analyzed and un-ionized ammonia calculated whenever fish bioassay test results fail to meet the specified percent survival.

d. If two consecutive samples of a constituent monitored on a weekly or monthly basis in a 30 day period exceed the monthly average effluent limit for any parameter, (or if the required sampling frequency is once per month and the monthly sample exceeds the monthly average limit), the sampling frequency shall be increased to daily until the additional sampling shows that the most recent 30-day moving average is in compliance with the monthly average limit.

e. If any maximum daily limit is exceeded, the sampling frequency shall be increased to daily until two samples collected on consecutive days show compliance with the maximum daily limit.

f. If the final or intermediate results of any single bioassay test indicate a threatened violation (i.e. the percentage of surviving test organisms is less than the required survival percentage), a new test will begin and the discharger shall investigate the cause of the mortalities and report the finding in the next self-monitoring report.

g. Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be collected at least every 30 minutes until compliance is achieved.

h. When any type of bypass occurs, composite samples shall be collected on a daily basis for all constituents at all affected discharge points which have effluent limits for the duration of the bypass.

3. Sewage Sludge

a. Analysis of sewage sludge shall comply with the State Department of Health Service Article II of Title 22 (Section 66693 - 66670) procedures in order to determine proper disposal locations.

4. Receiving Waters

a. Receiving water sampling shall be conducted on days coincident with composite sampling of effluent.

b. Receiving water samples shall be collected at each station on each sampling day during the period within 1 hour following low slack water. Where sampling at lower slack water period is not practical, sampling shall be performed during higher slack water period. Samples shall be collected within the discharge plume and downcurrent of the discharge point so as to be representative, unless otherwise stipulated.

c. Samples shall be collected within one foot below the surface of the receiving water body, unless otherwise stipulated.

5. Bottom Sediment Samples and Sampling and Reporting Guidelines

a. Bottom sediment sample means: (1) a separate grab sample taken at each sampling station for the determination of selected physical-chemical parameters, or (2) four grab samples collected from different locations in the immediate vicinity of a sampling station while the boat is anchored and analyzed separately for macroinvertebrates.

Physical-chemical sample analyses include as a minimum:

1) pH

2) TOC (Total Organic Carbon)

3) Grease analysis:

(a) Mg grease per kg sediment

(b) Percent fraction of hydrocarbon in grease

4) Selected metals (depending on industrial input) mg/kg dry wt (and soluble metals in mg/l).

5) Particle size distribution, i.e. , % sand, % silt-clay

6) Depth of water at sampling station in meters

7) Water salinity and temperature in the water column within one meter of the bottom.

E. Standard Observations

1. Receiving Water

a. Floating and suspended materials of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence, source, and size of affected area.

b. Discoloration and turbidity: description of color,source, and size of affected area.

c. Odor: presence or absence, characterization, source, distance of travel, and wind direction.

d. Evidence of beneficial water use: presence of water-associated waterfowl or wildlife, fishermen, and other recreational activities in the vicinity of the sampling stations.

e. Hydrographic condition:

1) Time and height of corrected high and low tides (corrected to nearest NOAA location for the sampling date and time of sample and collection).

2) Depth of water columns and sampling depths.

f. Weather condition:

1) Air temperatures.

2) Wind - direction and estimated velocity.

3) Precipitaton - totalprecipitation duringtheprevious five days and on the day of observation.

2. Wastewater Effluent

a. Floating and suspended material of waste origin (to include oil, grease, algae, and other macroscopic particulate matter): presence or absence.

b. Odor: presence or absence, characterization, source, distance of travel.

3. Beach and Shoreline

a. Material of waste origin: presence or absence, description of material, estimated size of affected area, and source.

b. Beneficial use: estimated number of people sunbathing, swimming, waterskiing, surfing, etc.

4. Land Retention or Disposal Area

This applies both to liquid and solid wastes confined or unconfined.

a. For each impoundment determine amount of the freeboard at lowest point of dikes confining liquid wastes.

b. Evidence of leaching liquid from area of confinement and estimated size of affected area. (Show affected area on a sketch and volume of flow (gpm, etc.))

c. Odor: presence or absence, characterization, source, and distance of travel.

d. Estimated number of waterfowl and other water-associated birds in the disposal area and vicinity.

5. Periphery of Waste Treatment and/or Disposal Facilities

a. Odor: presence or absence, characterization, source, and distance of travel.

b. Weather condition: wind direction and estimated velocity.

F. RECORDS TO BE MAINTAINED

1. Written reports, strip charts, calibration and maintenance records, and other records shall be maintained by the discharger and accessible (at the waste treatment plant), and retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board or Regional Administrator of the U.S. Environmental Protection Agency, Region IX. Such records shall show the following for each sample:

a. Identity of sampling and observation stations by number.

b. Date and time of sampling and/or obervations.

c. Method of composite sampling (See Section C - Definition of Terms)

d. Type of fish bioassay test (96 hour static or flow-through bioassay)

e. Date and time that analyses are started and completed, and name of personnel performing the analyses.

f. Complete procedure used, including method of preserving sample and identity and volumes of reagents used. A reference to a specific section of Standard Methods is satisfactory

g. Calculations of results.

h. Results of analyses and/or observations.

2. A tabulation shall be maintained showing the following flow data for influent and effluent stations and disposal areas:

a. Total waste flow or volume for each day.

b. Maximum and minimum daily flows for each month.

3. A tabulation shall be maintained showing the following information for all other plant wastes and disposal areas:

a. Total monthly volume of grit, skimmings, and undigested sludge (in cubic yards or cubic feet) from each treatment unit and the disposal site location.

b. Total monthly volume and solids content of dewatered sludge from each treatment unit (in cubic yards or cubic feet) and the disposal site location.

4. A tabulation reflecting to bypassing and accidental waste spills shall be maintained showing information items listed in Sections F -1 and F-2 for each occurrence.

5. A chronological log for each month shall be maintained of the effluent disinfection and bacterial analyses, showing the following:

a. Date and time each sample is collected and waste flow rate at time of collection.

b. Chlorine residual, contact time, and dosage (in kilograms per day and parts per million).

c. Coliform count for each sample.

d. Moving median coliform of the number of samples specified by waste discharge requirements.

G. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Spill Reports

A report shall be made of any spill of oil or other hazardous material. Spills shall be reported to this Regional Board, at (415) 464-1255 on weekdays during office hours from 8 AM to 5 PM, and to the Office of Emergency Services at (800) 852-7550 during non-office hours, and the U.S. Coast Guard at (415) 556-3741 by telephone immediately after occurrence. A written report shall be filed with the Regional Board within five (5) working days and shall contain information relative to:

a. nature of waste or pollutant,

b. quantity involved,

c. duration of incident,

d. cause of spilling,

e. SPCC Spill Prevention and Containment Plan in effect, if any

f. estimated size of affected area,

g. nature of effects (i.e., fishkill, discoloration of receiving water, etc.),

h. corrective measures that have been taken or planned, and a schedule of these activities, and

i. persons notified.

2. Reports of Plant Bypass, Treatment Unit Bypass and Permit Violation

In the event the discharger violates or threatens to violate the conditions of the waste discharge requirements and prohibitions or intends to experience a plant bypass or treatment unit bypass due to:

a. Maintenance work, power failures, or breakdown of waste treatment equipment, or

b. accidents caused by human error or negligence, or

c. other causes, such as acts of nature,

the discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within 7 working days of the telephone notification. The written report shall include time and date, duration and estimated volume of waste bypassed, method used in estimating volume and person notified of the incident . The report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

In addition, the waste discharger shall promptly accelerate his monitoring program to analyze the discharge at least once every day (Section D.2.h). Such daily analyses shall continue until such time as the effluent limits have been attained, until bypassing stops or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

3. The discharger shall file a written technical report to be received at least 30 days prior to advertising for bid (a 60 days prior to construction) on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said report shall describe the nature, cost, and scheduling of all action necessary to preclude such discharge. In no case will any discharge of wastes in violation of permit and order be permitted unless notification is made to Executive Officer and approval obtained from the Regional Board.

4. Self-Monitoring Reports

Written reports shall be filed regularly for each calendar month (unless specified otherwise) and filed no later than the fifteenth day of the following month. The reports shall be comprised of the following:

a. Letter of Transmittal:

A letter transmitting self-monitoring reports should accompany each report. Such a letter shall include:

1) Identification of all violations of waste discharge requirements found during the reporting period,

2) Details of the magnitude, frequency, and dates of all violations,

3) The cause of the violations, and

4) Discussion of the corrective actions taken or planned and the time schedule for completion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory.

Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer or ranking elected official of the discharger, or by a duly authorized representative of that person.

The letter shall contain the following certification:

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information

submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

b. Compliance Evaluation Summary

Each report shall be accompanied by a compliance evaluation summary sheet prepared by the discharger. The report format will be prepared using the example shown in APPENDIX A (attached). The discharger will prepare the format using those parameters and requirement limits for receiving water and effluent constituents specified in his permit.

c. Map or Aerial Photograph

A map or aerial photograph shall accompany the report showing sampling and observation station locations.

d. Results of Analyses and Observations

Tabulations of the results from each required analysis specified in Part B by date, time, type of sample, detection limit and station, signed by the laboratory director. The report format will be prepared using the examples shown in APPENDIX B.

1) If the permittee monitors any pollutant more frequently than required by this permit using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the Self-Monitoring Report.

2) Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

e. Effluent Data Summary

Summary tabulations of the data to include for each constituent total number of analyses, maximum, minimum, and average values for each period. The report format will be the NPDES Discharge Monitoring Report, EPA Form 3320-1. Flow data shall be included. The original is to be submitted to EPA:

Regional Administrator
U.S. Environmental Protection Agency
Attention: Enforcement Division (W-5)
215 Fremont Street
San Francisco, CA 94105

with a copy to the Regional Board:

Executive Officer
California Regional Water Quality Control Board
San Francisco Bay Region
1111 Jackson Street, Room 6040
Oakland, CA 94607

f. List of Approved Analyses

1) Listing of analyses for which the discharger is approved by the State Department of Health Services.

2) List of analyses performed for the discharger by another approved laboratory (and copies of reports signed by the laboratory director of that laboratory shall also be sumitted as part of the report).

3) List of "waived" analyses, as approved.

g. Flow Data

1) The tabulation pursuant to Section F-2.

5. Annual Reporting

By January 30 of each year, the discharger shall sumbmit an annual report to the Regional Board covering the previous calendar year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the report shall contain a comprehensive discussion of the compliance record and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements. The report format will be prepared by the discharger using the examples shown in APPENDIX C (attached) and should be maintained and submitted with each regular self-monitoring report.