

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION

ORDER NO. 87-49  
NPDES NO. CA 0104876

WASTE DISCHARGE REQUIREMENTS  
FOR  
MAGMA ELECTRIC COMPANY  
MAGMAMAX POWER PLANT  
COOLING POND BLOWDOWN  
East Mesa Area- Imperial County

The California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

1. Magma Electric Company (hereinafter also referred to as the discharger), P.O. Box 56, Holtville, California, 92250, submitted an NPDES Application for Permit to Discharge, dated June 15, 1987.
2. The discharger proposes to discharge a maximum daily flow of 700,000 gallons-per-operating day of cooling pond blowdown water from a 10 megawatt geothermal test plant into Warren II Drain in the NW $\frac{1}{4}$ , Section 13, T16S, R16E, SBB&M. The wastewater flows about 5 miles in Warren Drain to Alamo River, and then flows approximately 40 miles to Salton Sea.
3. The discharge has been subject to waste discharge requirements adopted in Order No. 82-29 (NPDES CA0104876) which allows discharge to Warren Drain.
4. The discharger utilizes Imperial Irrigation District water for cooling. Incoming water is treated with the following chemicals:

| <u>Chemical</u> | <u>Purpose of treatment</u> |
|-----------------|-----------------------------|
| Sulfuric Acid   | pH control                  |
| PL-3690 *       | algae control               |
| MPC-03 **       | scale control               |
| Chlorine        | anti-fouling                |

\* PL-3690 consists of ethylene oxide, propylene oxide, sodium hydroxide, and copolymers in a water base.

\*\* MPC-03 consists of sodium hydroxide and 1-H-Benzotriazole, methyl.

*Superseded*  
*3/31/93*  
*by* 93-008

5. The Water Quality Control Plan for the Colorado River Basin Region of California was adopted by the Regional Board on November 14, 1984.
6. The beneficial uses of water in Alamo River and Imperial Valley Drains are:
  - a. Freshwater replenishment for Salton Sea.
  - b. Freshwater habitat for fish and wildlife.
  - c. Recreation - non-water contact.
7. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.
8. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
9. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, Magma Electric Company, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. Wastewater discharged to Warren II Drain shall not contain constituents in excess of the following limits:

| Constituent                  | Unit | 30 Day<br>Average<br>Concentration | Maximum<br>Daily<br>Concentration |
|------------------------------|------|------------------------------------|-----------------------------------|
| a. Total Dissolved Solids    | mg/l | 4,000                              | 4,500                             |
| b. Suspended Solids          | mg/l | 30                                 | 100                               |
| c. Settleable Matter         | ml/l | 0.3                                | 1.0                               |
| d. Zinc (Zn)                 | mg/l | -                                  | 0.5                               |
| e. Hexavalent Chromium       | mg/l | -                                  | 0.05                              |
| f. Chlorine (Free Available) | mg/l | 0.1                                | 0.2                               |

2. There shall be no discharge in detectable amounts of ethylene oxide, propylene oxide, or any of EPA's designated 126 priority pollutants [40 CFR Part 423.15 (j) (i)], except as set forth for Zinc and Chromium in Effluent Limitation A.l.d. and A.l.e. (above).
3. The maximum daily flow of discharged wastewater shall not exceed 700,000 gallons per day.

B. Receiving Water Limitations

1. Wastewater discharged to Warren II Drain shall not:
  - a. Cause the temperature of the waters in said Drain to be increased by more than 5<sup>0</sup>F.
  - b. Contain any substances in concentrations toxic to human, animal, plant or aquatic life.
  - c. Cause concentration of zinc in Warren II Drain to exceed 0.5 mg/l.
  - d. Depress the dissolved oxygen content of water in Warren II Drain below 5.0 mg/l.
  - e. Cause the values for pH of Warren II Drain water to be outside the limits of 6.0 to 9.0.
2. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder.

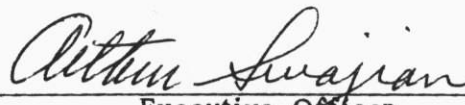
C. Provisions

1. Neither the treatment nor the discharge of waste shall create a pollution or a nuisance as defined in Division 7 of the California Water Code.
2. This Order includes the attached "Monitoring and Reporting Program No. 87-49", and future revisions thereto, as specified by the Executive Officer.
3. Any proposed change in corrosion control or biological control chemicals shall be reported to the Regional Board for approval prior to commencement of this change.
4. This Order expires September 17, 1992, and the discharger shall file a complete Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of this date as an application for issuance of new waste discharge requirements.
5. Adequate protective works shall be provided to assure that a flood which would be expected to occur on a frequency of once in a 100-year period, would not erode or otherwise render portions of the treatment and discharge facilities inoperable.

6. This Order supersedes Board Order No. 82-29.
7. Bioassays shall be performed quarterly to evaluate the toxicity of the discharged wastewater according to the following procedures:
  - a. Within 4 months of the effective date of this Order, the discharger shall begin conducting quarterly bioassays on the fish *Pimephales promelas* (fathead minnow) and on the plant *Lemnia*, sp. (duckweed). Fish bioassays shall be performed according to the protocol given in EPA/600/4-85/014, Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Plant bio-assays shall be performed according to the draft ASTM protocol, Proposed New Standard Guidelines for Conducting Static Toxicity Tests with Duckweed, February 1986\*.
  - b. The bioassay test specified above in 7.a shall be performed quarterly for a period of at least one year (minimum of four tests per organism). Effluent samples for bioassay testing shall be collected on the first day of discharge following the release of treated cooling water to the holding ponds.
  - c. When the program described above in 7.a and 7.b has been completed, this permit will be reopened. At that time, effluent variability will be calculated and a numerical effluent limit established for toxicity. Compliance monitoring shall be based on annual bioassays of the organism which showed greater sensitivity during the effluent characterization program. Selection of the more sensitive species will be made by the Regional Board.
8. Prior to any change of ownership of this operation, the discharger shall transmit a copy of this Order to the succeeding owner/operator, and forward a copy of the transmittal letter to this Board.

\* A draft EPA protocol for duckweed is scheduled to be available in September. The discharger may use this EPA protocol instead of the ASTM protocol, provided the substitution is so indicated when reporting the bioassay data.

I, Arthur Swajian, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on September 23, 1987.

  
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Executive Officer

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

**MONITORING AND REPORTING PROGRAM NO. 87-49**

**FOR**

**MAGMA ELECTRIC COMPANY  
MAGMAMAX POWER PLANT  
COOLING POND BLOWDOWN  
East Mesa Area - Imperial County**

Location of Discharge: NW¼, Section 13, T16S, R16E, SBB&M

**EFFLUENT MONITORING**

Wastewater discharged into Warren II Drain shall be monitored for the following constituents. The sampling station shall be constructed, maintained, and located where representative samples of the effluent can be obtained.

| <u>Constituent</u>                | <u>Unit</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|-----------------------------------|-------------|-----------------------|---------------------------|
| pH                                | pH units    | Grab                  | Daily                     |
| Flow discharge to Warren II Drain | GPD         | Daily                 | Daily                     |
| Free Available Chlorine           | mg/l        | Grab                  | Daily                     |
| Total Dissolved Solids            | mg/l        | Grab                  | Weekly                    |
| Total Suspended Solids            | mg/l        | Grab                  | Weekly                    |
| Settleable Matter                 | ml/l        | Grab                  | Weekly                    |
| Zinc                              | mg/l        | Grab                  | Quarterly                 |
| Hexavalent Chromium               | mg/l        | Grab                  | Quarterly                 |
| Bioassay                          | -           | -                     | Quarterly                 |
| Propylene Oxide                   | mg/l        | Grab                  | Quarterly                 |
| Ethylene Oxide                    | mg/l        | Grab                  | Quarterly                 |

**RECEIVING WATER MONITORING**

Water in Warren II Drain shall be monitored for the following constituents. All samples shall be taken between 6 a.m. and 6 p.m. The existing sampling station shall be maintained where representative samples of mixed water can be obtained. Said sampling station shall continue to be located midstream in Warren II Drain at a point where the discharge and receiving waters have thoroughly mixed, but not to exceed 50 feet downstream from the point of discharge.

| <u>Constituent</u> | <u>Unit</u> | <u>Type of Sample</u> | <u>Sampling Frequency</u> |
|--------------------|-------------|-----------------------|---------------------------|
| Zinc               | mg/l        | Grab                  | Quarterly                 |
| Temperature*       | °F          | Grab                  | Weekly                    |
| pH                 | Unit        | Grab                  | Weekly                    |
| Dissolved Oxygen   | mg/l        | Grab                  | Weekly                    |

### REPORTING

The discharger shall inform the Regional Board concerning the location of all sampling stations for the above monitoring.

Daily, weekly, monthly and quarterly reports shall be submitted to the Regional Board by the 15th day of the following month.

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\*Temperature of the receiving water shall be taken within 30 feet of the point of discharge, both upstream and downstream of the point of discharge.

Forward monitoring reports to:

California Regional Water Quality Control Board  
Colorado River Basin Region  
73-271 Highway 111, Suite 21  
Palm Desert, CA 92260

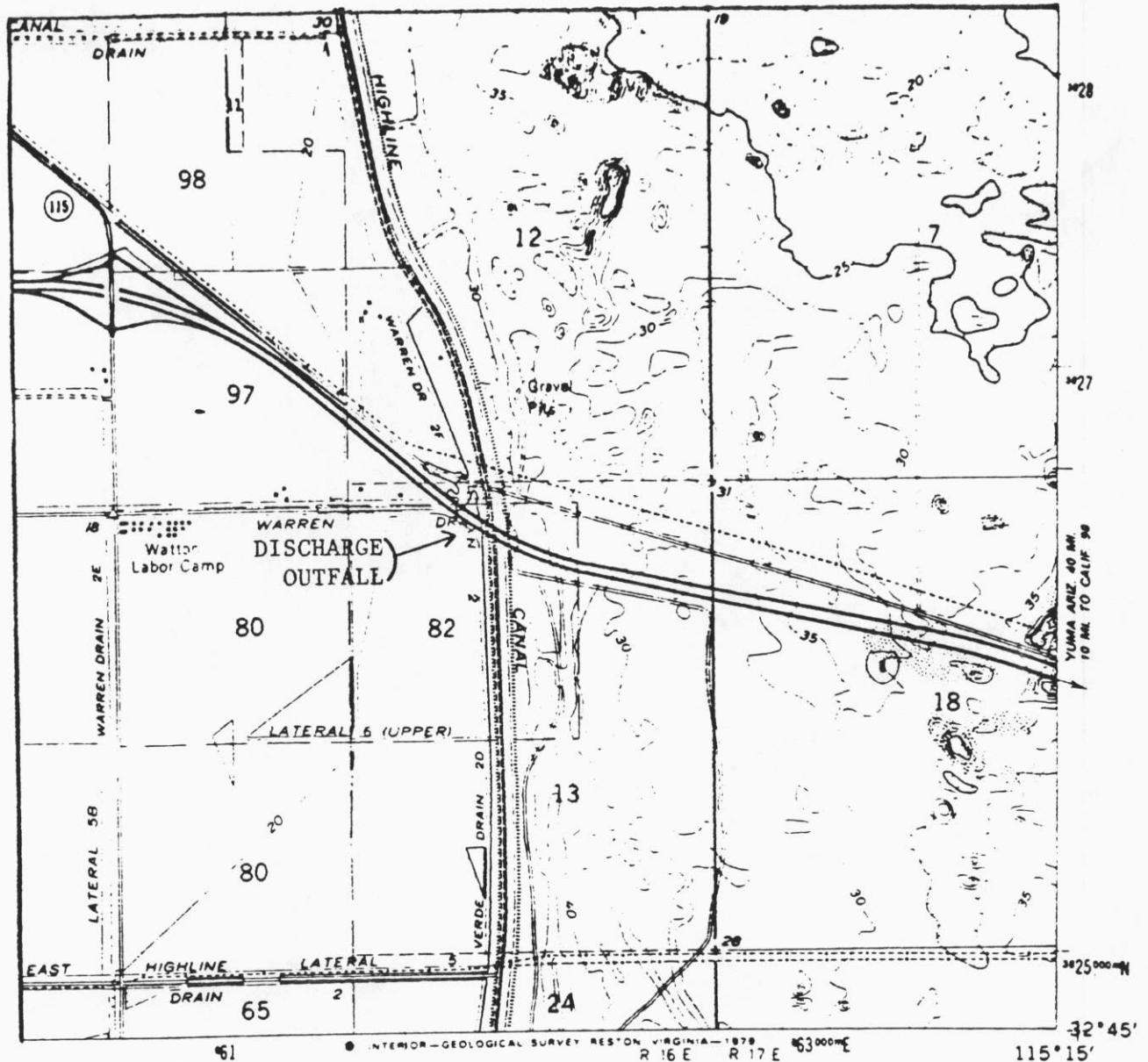
ORDERED BY:

  
Executive Officer

September 23, 1987

Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN



SITE MAP

MAGMA ELECTRIC COMPANY  
MAGMAMAX POWER PLANT  
COOLING TOWER BLOWDOWN  
East Mesa Area - Imperial County

NW¼ Section 13, T16S, R16E, SBB&M  
U.S.G.S. HOLTVILLE EAST 7.5 min. Topographic Map

Order No. 87-49



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
COLORADO RIVER BASIN REGION**

**STANDARD PROVISIONS  
FOR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT  
December 23, 1985**

1. The permittee must comply with all of the terms, requirements and conditions of this permit. Any violation of this permit constitutes violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof. [40 CFR 122.41 (a)]\*
2. The permittee shall comply with effluent standards or prohibitions established under section 307 (a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement. [40 CFR 122.41 (a) (1)]
3. The Clean Water Act (CWA) provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, or 308 of the CWA is subject to a civil penalty not to exceed \$10,000 per day of such violation. Any person who willfully or negligently violates permit conditions implementing these sections of the CWA is subject to a fine of not less than \$2500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both. [40 CFR 122.41 (a)(2)]

The California Water Code provides that any person who violates a waste discharge requirement (same as permit condition), or a provision of the California Water code is subject to civil penalties of up to \$5,000 per day, \$10,000 per day, or \$25,000 per day of violation, or when the violation involves the discharge of pollutants, is subject to civil penalties of up to \$10 per gallon per day or \$20 per gallon per day of violation; or some combination thereof, depending on the violation, or upon the combination of violations.\*

Violation of any of the provisions of the NPDES program or of any of the provisions of this permit may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the prosecuting authority; except that only one kind of penalty may be applied for each kind of violation.\*

4. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. [40 CFR 122.41 (b)]
5. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [40 CFR 122.41 (c)]

\*These paragraphs are added or modified pursuant to the California Water Code.



6. The permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment. [40 CFR 122.41 (d)]
7. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with this permit. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities, or similar systems that are installed by a permittee, only when necessary to achieve compliance with the conditions of this permit. [40 CFR 122.41 (e)]
8. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 122.41 (f)]
9. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 122.41 (g)]
10. The permittee shall furnish, within a reasonable time, any information the Regional Board or EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee shall also furnish to the Regional Board, upon request, copies of records required to be kept by this permit. [40 CFR 122.41 (h)]
11. The Regional Board, EPA, and other authorized representatives shall be allowed:
  - a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this permit;
  - b. Access to copy any records that are kept under the conditions of this permit;
  - c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
  - d. To photograph, sample, and monitor for the purpose of assuring compliance with this permit, or as otherwise authorized by the Clean Water Act. [40 CFR 122.41 (i)]

#### Monitoring and records

12. a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. The permittee shall retain records of all monitoring information, including all calibration and maintenance monitoring instrumentation, copies of all

reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by request of the Regional Board or EPA at any time.

- c. Records of monitoring information shall include:
  - (i) The date, exact place, and time of sampling or measurements;
  - (ii) The individual(s) who performed the sampling or measurements;
  - (iii) The date(s) analyses were performed;
  - (iv) The individual(s) who perform the analyses;
  - (v) The analytical techniques or methods used; and
  - (vi) The results of such analyses.

- d. Monitoring must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this permit.

- e. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or be imprisonment for not more than six months per violation, or by both. [40 CFR 122.41 (j)]

- 13. All applications, reports, or information submitted to the Regional Board shall be signed and certified in accordance with 40 CFR 122.22 [40 CFR 122.41 (k) (1)]

- 14. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both. [40 CFR 122.41 (k)(2)]

15. Reporting requirements

- a. The permittee shall give advance notice to the Regional Board as soon as possible of any planned physical alterations or additions to the permitted facility.
- b. The permittee shall give advance notice to the Regional Board of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.
- c. This permit is not transferable to any person except after notice to the Regional Board. The Regional Board may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

- d. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (i) Monitoring results must be reported on a Discharge Monitoring Report (DMR).
  - (ii) 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 DMR.
  - (iii) Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- e. Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit, shall be submitted no later than 14 days following each schedule date.
- f. Twenty-four hour reporting.
- (i) The permittee shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
  - (ii) The following shall be included as information that must be reported within 24 hours under this paragraph:
    - (a) Any unanticipated bypass that exceeds any effluent limitation in the permit.
    - (b) Any upset that exceeds any effluent limitation in the permit.
    - (c) Violation of a maximum daily discharge limitation for any of the pollutants listed in this permit to be reported within 24 hours.
  - (iii) The Regional Board may waive the above-required written report on a case-by-case basis.
- g. The permittee shall report all instances of noncompliance not otherwise reported under the above paragraphs at the time monitoring reports are submitted. The reports shall contain all information listed in paragraph 13(f) above. [40 CFR 122.41 (1)]
16. Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against the discharger for bypass unless:

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production).
- b. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance; and
- c. The permittee submitted a notice at least ten days in advance of the need for a bypass to the appropriate Regional Board.

The permittee may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable.

The permittee shall submit notice of an unanticipated bypass as required in paragraph 13 (f) above.  
[40 CFR 122.41 (m)]

17. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper action. A permittee that wishes to establish the affirmative defense of an upset in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - a. an upset occurred and that the permittee can identify the cause(s) of the upset;
  - b. the permitted facility was being properly operated at the time of the upset;
  - c. the permittee submitted notice of the upset as required in paragraph 13(f) above; and
  - d. the permittee complied with any remedial measures required under paragraph 5.

No determination made before an action for noncompliance, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.



In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

[40 CFR 122.41 (n)]

18. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Regional Board as soon as they know or have reason to believe:

a. that any activity has occurred or will occur that would result in the discharge of any toxic pollutant that is not limited in this permit, if that discharge will exceed the highest of the following "notification levels:"

- (i) One hundred micrograms per liter (100 ug/l);
- (ii) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
- (iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
- (iv) The level established by the Regional Board in accordance with [40 CFR 122.44 (f)]

b. that they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant that was not reported in the permit application.

[40 CFR 122.42 (a)]

19. All POTWs must provide adequate notice to the Regional Board of:

- a Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the Clean Water Act, if it were directly discharging those pollutants.
- b Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

[40 CFR 122.42 (b)]

END